KNOWLEDGE, ATTITUDES, & PRACTICES TOWARDS IMMUNIZATION IN KYRGYZSTAN

MINISTRY OF HEALTH
OF THE KYRGYZ REPUBLIC

Gavi
The Vaccine Alliance

unicef

KNOWLEDGE, ATTITUDES, & PRACTICES TOWARDS IMMUNIZATION IN KYRGYZSTAN

MINISTRY OF HEALTH
OF THE KYRGYZ REPUBLIC

Gavi
The Vaccine Alliance

unicef

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan / A. Namazova, L. Minbaeva. – B: 2018 - 181 pages.

This report presents results of the Routine Immunisation Knowledge, Attitude and Practices Survey that was conducted in the Kyrgyz Republic in 2017. It was done by “Rebikon” Company for the Ministry of Health of the Kyrgyz Republic with technical support from UNICEF under the Global Alliance for Vaccines and Immunisation (GAVI) funding.

It was carried out with mothers and fathers of children under 5 years old, religious leaders, and healthcare professions. The data informed development of communication strategy on vaccination for 2018-2021 and can be further used by health promotion organisations in Kyrgyzstan to address vaccination hesitancy.

The opinions expressed in this document do not necessarily reflect the policies or views of the United Nations Children’s Fund and the organization does not bear any responsibility.

TABLE OF CONTENTS

ABBREVIATION

AEFI	Adverse events following Immunization
CAPI	Computer-Assisted Personal Interviewing
GAVI	Global Alliance for Vaccines and Immunization
HP	HealthCare Professionals
IM	Internal Migrant
IPC	Interpersonal communication
KAP	Knowledge, Attitude, and Practice
KR	Kyrgyz Republic
HSS	Health System Strengthening
MoH	Ministry of Health
PPS	Probability proportionate to size sampling
RCI	Republican Centre for Immunization
RI	Routine Immunization
RL	Religious Leaders
SSES	State Sanitary-Epidemiological Surveillance
UNICEF	United Nations Children's Fund
VPD	Vaccine Preventable Diseases
WHO	World Health Organization

ACKNOWLEDGMENT

The Ministry of Health of the Kyrgyz Republic expresses its gratitude to the UNICEF Office in Kyrgyzstan, the Health Systems Strengthening Project, the Global Alliance for Vaccines and Immunization (GAVI HSS) for providing technical support for this study and supporting the immunization program in Kyrgyzstan.

The Ministry of Health of the Kyrgyz Republic expresses its deep gratitude to the members of the MOH communication working group for their tireless efforts, support, comments and recommendations provided during the discussion, preparation and implementation of this survey. Special thanks and gratitude to Ismailova B.A., Head of the Public Health Department of the Ministry of Health, G. Aitmurzaeva, Director of the Republican Center for Health Promotion, G. Ishenapysova, Director of the Republican Center for Immunoprophylaxis, and to Plotnikova O.D., Alimahunov A., Taalaybekova A., Sheysheva N., Artykbaeva Zh., Jalimbekova A., and Ajgerchinova Zh.

The Ministry of Health would like to express particular thanks to the heads of healthcare facilities; healthcare professionals at family doctor groups, rural health points, territorial hospitals and maternity houses; immunologists and other healthcare professionals; and also, to the leaders of community and religious organizations that provide support and invaluable assistance in organizing and conducting the study on the ground.

The Ministry of Health thanks everyone who participated in the study for showing their interest in the study, their trust and their patience. The study results, opinions and recommendations are important for the Ministry to improve the quality and effectiveness of immunization services.

A huge thanks to the study company «Rebikon» that planned and executed the survey. Special thanks to the company director Namazova A. and the data processing specialist L. Minbaeva, and the team of interviewers for the timely and well-executed work in achieving the goals and objectives of the research.

This study would not have been possible without the generous contributions of Global Alliance for Vaccines and Immunization.

EXECUTIVE SUMMARY

A. BACKGROUND TO THE RESEARCH

In Kyrgyzstan, there is an established system of immunization with coverage rates of more than 96% of the population for the main types of antigens. The strong immunization program in the country has made it possible to achieve high coverage for vaccine preventable diseases (VPDs) in the country, leading to significantly reducing the incidence of infections such as diphtheria, tetanus, whooping cough, and hepatitis B.

During the past few years and despite the high nationwide immunization coverage, there has been a growing trend of refusals in different regions of the Kyrgyz Republic (KR). The Ministry of Health (MOH) launched the «Strengthening Health Systems» with the support of UNICEF to increase the credibility of vaccination among the general population and, in particular, among hard-to-reach groups of people.

The Ministry of Health represented by the Republican Centre for Immunization (RCI) acknowledging the growing number of refusals, decided to carry out a quantitative survey to assess knowledge, attitudes and practices of mothers, and caregivers of children in relation to vaccination. Additionally, the KAP survey included other respondents like influencers (fathers, and grandparents), healthcare professionals and religious leaders.

B. SAMPLING FRAME

The sampling frame was made up of 2,977 respondents in four target groups:

- Mothers or caregivers of children under five years of age: 2,500 respondents
- Influencers to caregiver's decisions about immunization of children aged under five years:
  - Fathers of children aged under five years: 100 respondents
  - Grandparents of children aged under five years: 200 respondents
- Religious Leaders (RL): 77 respondents
- Healthcare professionals (HP): 100 respondents

When developing the sample for the quantitative survey, multistage selection was used with stratification. The selection of settlements was carried out in each stratum by using the systematic probability-proportionate-to-size (PPS) sampling method. The selection of respondents was carried out using a method of route sampling with a fixed step.

C. AWARENESS ABOUT VACCINATION

The research revealed an extremely high level of awareness and knowledge about vaccination among members of all the survey respondents.

- Most of the respondents spontaneously mentioned vaccination as the best way to prevent dangerous diseases such as tuberculosis, hepatitis, diphtheria, rubella, poliomyelitis and so on among children.
- However, this understanding did not prevail in all target groups. About 50% of the RL held the opinion that contracting vaccine-preventable diseases could be avoided by maintaining a healthy lifestyle.

In the context of the general high level of awareness of vaccination among the target groups, the level of knowledge of vaccine-preventable diseases was seen as unsatisfactory.

- There is low awareness of the national immunization calendar.
- The three diseases most mentioned by all the groups of respondents were tuberculosis, measles and hepatitis B. The least well-known of the diseases in the national immunization calendar are mumps, pneumococcal infection, and haemophilus influenza type B.

D. ATTITUDES TO VACCINATION

The research revealed that respondents are positive about vaccination and are aware of the risk of contracting vaccine-preventable diseases and the need for vaccination of children.

- One of the indicators selected was the level of agreement that vaccination is necessary for children. The overwhelming majority of representatives of all categories of respondents agree that vaccination is necessary for their children.
- Another important indicator is healthcare professionals' perceptions of the need for, effectiveness of and safety of vaccination, based on their personal attitude towards vaccination. Most survey respondents fully agreed with the statements provided regarding vaccination. However, this opinion was not unanimous.
- The statements: "Vaccines are safe for children's health" and "The benefits of vaccination outweigh possible unwanted reactions" raise the greatest doubts among healthcare professionals.
- Most of the target groups have no concerns about vaccination, with the exception of RL, half of whom have such fears.
- Given that the target groups are poorly informed about vaccine-preventable diseases, including those included in the national immunization calendar, it can be concluded that a high proportion of those without concerns about vaccination do not have concerns because of ignorance. The main cause of concern is side effects following vaccination.
- Despite the fact that most RL are positive about vaccination, the indicators in this group on all issues relating to attitudes towards vaccination are lower than for other respondents.

E. VACCINATION PRACTICE

The overwhelming majority of children aged under five years are fully vaccinated as appropriate for their age.

- The main reasons why children are not vaccinated, or not fully vaccinated, are medical exemption after consultations with a doctor and worries about side effects after vaccination.
- Just 8.5% of mothers who refused to have their children vaccinated, did so for religious reasons. This result does not correspond with the prevailing view that the main reason for refusals is religious.
- The proportion of people in the category: "Mothers and caregivers of children under five years of age" who had decided not to vaccinate children without medical evidence plus those who made a final decision not to vaccinate amounted to 4% only.
- Most mothers do not face any problems when attending healthcare facilities for vaccination. Most of those who have encountered problems are dissatisfied with the long queues. However different satisfaction levels for different reasons were revealed in regions.

F. SOURCES OF INFORMATION ABOUT VACCINATION

The main and most reliable source of information about vaccination for parents of children under the age of five, grandparents and RL are healthcare professionals.

- Contrary to the assumptions, the internet and social networks are only used by a small proportion of individuals as a source of information about vaccination.
- The main sources used by HP to obtain information about vaccination are seminars, advanced training courses, information from higher-level organizations, specialized medical publications and academic literature. Despite the fact that almost everyone has access to sources of information about vaccination, there is a need for additional information about vaccination, including for healthcare professionals.

G. "INTERNAL LABOR MIGRANTS"

The category "internal labor migrants" was composed of mothers without permanent registration who had moved to their place of residence in search of work or housing.

- Most of the mothers in this category lived in Bishkek city.
- Only 62% of them stated that their children under five years of aged were registered at Family Doctor Groups (Rural Health Points) at their place of residence.
- On most indicators, there was no significant difference in the awareness of "internal labor migrants" and "non-migrants".
- The proportion of children aged under five living in the families of labor migrants who were fully immunized was 82%: 8% lower than the national average.
- The most significant problem faced by "internal labor migrants" when they visited healthcare facilities for vaccination was the long waits in queues.

H. GENDER

The research did not identify any significant differences in knowledge, practice and attitudes to vaccination between the mothers and fathers of children aged under five.

All the research questions were considered and disaggregated by sex of the children aged under five years in three groups:

- Mothers who only have boys;
- Mothers who only have girls; and
- Mothers who have boys and girls.

No significant differences were revealed in the knowledge, attitudes and practice of these three groups.

The main influential person on vaccination issues is the husband.

J. GEOGRAPHICAL ASPECTS

Analyzing the data by geographical indicators revealed a larger number of differences that the other socio-demographic indicators in all the target groups.

- Bishkek city and Talas and Chuy oblasts had more negative attitudes towards vaccination than the other regions. Satisfaction with the quality of vaccination services was also lowest in Talas and Chuy oblasts and Bishkek city.

- The places where mothers encountered most problems are the large cities: Bishkek and Osh. The biggest problem of large cities is queuing. For Osh and Jalalabad oblasts, the distance to vaccination rooms is the biggest problem.
- With regard to decision making about vaccinating children, Naryn and Issyk Kul oblasts stand out by being the most independent in decision making.
- Analysis of the results from new-built settlements in Bishkek city, disaggregated as a separate stratum, revealed that several indicators of attitudes and practice on vaccination differ in this category from the results for Bishkek city as a whole. Views on the necessity, benefits and safety of vaccinating children in new-built settlements is more positive, though they are faced with the same problems in receiving vaccination services as other mothers living in Bishkek city but to a still greater degree.

1. INTRODUCTION

The Ministry of Health (MoH) of the Kyrgyz Republic(KR) is the central authority responsible for managing public healthcare in the country. Its main tasks include healthcare and health promotion; sanitary and epidemiological welfare; health financing and economics; healthcare system staffing; provision of medicines to the population; medical science and education; and compulsory medical insurance.

The Republican Centre for Immunization (RCI) is the main responsible body for immunization services in the country. The center is responsible for planning and following up on Routine immunization(RI) services, building systems for immunization at the national and local levels, monitoring and tracking vaccine supply and cold chain. All vaccines are provided free of charge to all citizens. Immunization is held against 11 infections using 9 types of vaccines as shown in (Table 1.)[1]

Table 1: KR Immunoprophylaxis Programme

Antigens	Vaccine
Diphtheria	DPT3+HBV+HIB
Tetanus	DPT3+HBV+HIB
Pertussis	DPT3+HBV+HIB
Tuberculosis	BCG
Epidemic parotitis	MMR
Hepatitis B	DPT3+HBV+HIB
Poliomyelitis	bOPV
Measles	MMR
Rubella	MMR
Hib infection	DPT3+HBV+HIB PCV
Pneumococcal infection	PCV

A. IMMUNIZATION COVERAGE RATES

According to the RCI, Routine Immunization (RI) coverage rates for all antigens were over 96% in 2016.[2]

Kyrgyzstan enjoys very high immunization rates, even though these immunization coverage rates are extremely high, the system is witnessing a growing trend of refusals; as well as clusters of lower immunization coverage at some of the district levels. According to RCI records the below tables summarizes the number of vaccine refusals and reasons for 2016 and 2017.

1 Zh. Zhumagulova, Key Strategic Directions of Immunoprophylaxis—Kyrgyzstan, Republican Center for Immunoprophylaxis, 2017.
2 Zh. Zhumagulova, Key Strategic Directions of Immunoprophylaxis—Kyrgyzstan, Republican Center for Immunoprophylaxis, 2017.

B. VACCINE REFUSALS FOR VPDS IN THE KYRGYZ REPUBLIC 2016/2017

Table 2: Number of vaccine refusals by region of the Kyrgyz Republic (2016 – 2017)[3]

	Total number of refusals		Doubts about safety of immunization		Religious convictions		Lack of information about benefits of immunization		Other reasons	
	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017
Bishkek city	1,996	3,601	512	1,008	1,377	1,838	5	77	102	678
Chuy oblast	188	1214	25	359	135	760	3	29	25	66
Osh city	264	168	65	49	190	95	3		6	24
Talas oblast	86	357		33	86	324				
Naryn oblast	40	126			40	126				
Issyk Kul oblast	241	562	15	35	226	512		5		10
Osh oblast	859	387	84	23	766	335	5	7	4	22
Jalalabad oblast	556	992		60	556	913				19
Batken oblast	381	498			381	498				
Total	4,611	7905	701	1,567	3,757	5,401	16	118	137	819
Percentage of total			15.2	19.8	81.4	68.3	0.3	1.5	3	10.3

Table 3. Vaccination Coverage rates for children by antigen[4]

	2013	2014	2015	2016	2017
BCG	97.9	96.8	96.9	97.3	97
OPV-3	96.8	95.3	96.8	97.2	94.5
Penta-3	97.0	95.9	96.6	96.1	95.1
Hepatitis B	97.0	95.9	96.8	96.3	95.1
PCV-3					90.7
MMR-1	98.6	95.6	99.0	97	95.9
MM/MMR-2	97.3	96.8	95.6	97.5	95.4

To achieve this goal, the MOH with the support of UNICEF commissioned Rebicon to plan and implement a quantitative survey to assess knowledge, attitudes and practices towards RI in the KR. The sample encompassed mothers of children under 5, influencers (fathers & grandparent.), Religious Leader (RL), and Healthcare Professionals (HP).

3 Form 5 of the State Statistical Reporting “Report on the State of Vaccination Work”, section 8.
4 Отчетные данные РЦИ

2. OBJECTIVES OF THE KAP SURVEY

The objectives of the KAP SURVEY are summarized below:

- Assess Knowledge, Attitudes and Practices (KAP) of different respondents in relation to immunization.
- Serve as the official measurable baseline assessment for the RI communication strategy and communication campaign. This baseline data will be used to compare results with the post survey to assess the impact of the communication work.
- Obtain data to enable the Ministry of Health to assess knowledge, attitudes, and practices of mothers and caregivers, as well as, health care professional's skills and practices in relation to immunization.
- Gather information about the influence of the vaccination decision-making process.
- Identify the positive, and negative attitudes, and practices of providers in relation to immunization.
- Define the role of RL and the prevailing religious beliefs and its links to vaccination.

3. SAMPLE SIZE AND METHODOLOGY

STUDY RESPONDENTS

1. Mothers of children under five years of age/or caregivers of children under five years (including pregnant women);
2. Influencers to mothers and caregivers of children under five years of age (husbands and grandparents);
3. Healthcare professionals;
4. Religious Leaders.

DATA COLLECTION METHOD

Formal face-to-face individual interviews with respondents in their places of residence. During the survey, the interviewers asked the questions orally and recorded the answers, noting the corresponding coded numbers in the survey form.

GEOGRAPHICAL COVERAGE

Kyrgyzstan's seven oblasts, in addition to Bishkek and Osh cities

- Batken
- Chui
- Issyk-Kul
- Jalal-Abad
- Naryn
- Osh and
- Talas
- The capital, Bishkek
- The city of Osh

SAMPLE FRAME AND SELECTION OF RESPONDENTS

Stratified multistage sampling was used to develop the sampling frame for the quantitative analysis.

The following indicators were used to create the strata:

- Type of respondent
- Oblasts of Kyrgyzstan, Osh city or Bishkek city.
- Urban or rural location

The sample distribution was calculated based on National Statistical Committee data on the number of permanent residents aged 18 and over at the beginning of 2016, as there is no publicly available data on the number of households with children under five years of age. Data on women aged 18-49 years were

not used to calculate the sample, as respondents in the first category may be other family members who provide care for a child under the age of five who do not belong to this age and gender group.

Table 1. Population aged 18 years and older in urban and rural locations and oblasts, Bishkek and Osh cities

	Total In thousands	Urban (thsd. people)	Rural (thsd. people)	Proportion of Kyrgyzstan's population	Urban	Rural
Kyrgyz Republic	3 806.8	1 368.5	2 438.3	100%	36%	64%
Batken oblast	299.1	69.9	229.1	8%	23%	77%
Jalalabad oblast	701.2	157.5	543.7	18%	22%	78%
Issyk Kul oblast	297.4	84.5	212.9	8%	28%	72%
Naryn oblast	166.9	23.4	143.5	4%	14%	86%
Osh oblast	755.9	58.4	697.5	20%	8%	92%
Talas oblast	147.7	23.7	123.9	4%	16%	84%
Chuy oblast	588.7	101.1	487.5	15%	17%	83%
Bishkek city	666.3	666.3	0	18%	100%	0%
Osh city	183.5	183.5	0	5%	100%	0%

Meanwhile, to calculate the sample it was also essential to estimate the population in areas with concentrated populations of internal migrants in the cities of Bishkek and Osh (new-built settlements).

Table 2. List of new-built settlements in Bishkek included in the stratum "Bishkek new-built settlements"

#	New-built settlement
1	Kelechek
2	Ak Bata
3	Kalys Ordo
4	Dordoy 1
5	Dordoy 2
6	Jenish
7	Ak Bosogo
8	Altyn Kazyk
9	Ak Jar

In Osh city there are no areas with concentrated population of internal migrants that have administrative status. Electoral districts (covered by single polling stations) were chosen as the initial sampling unit.

DISTRIBUTION AND SAMPLE SIZE

- Mothers/Caregivers of children under five years of age, including pregnant women: 2,500 interviews
- Influencers of mothers and caregivers in the decision making about immunizing children: 300 interviews.
    - Fathers of children aged under five years – 100 interviews;
    - Parents of mothers of children aged under five years – 100 interviews; and

- Parents of fathers of children aged under five years – 100 interviews.

- HP (doctors who receive children under the age of five and pregnant women in state healthcare institutions: family doctor groups, rural health points and maternity houses) - 100 interviews;
- RL – 75 interviews

In order to interview 2,500 mothers / caregivers, it was proposed to select 125 initial sampling units for 20 interviews in each.

Table 3. Proportionate sample distribution for mothers / caregivers

	Distribution of initial sampling units	Including		Sample allocation
		Urban	Rural	
Kyrgyz Republic	125	45	80	2,500
Batken oblast	10	2	8	200
Jalalabad oblast	23	5	18	460
Issyk Kul oblast	10	3	7	200
Naryn oblast	6	1	5	120
Osh oblast	24	2	22	480
Talas oblast	5	1	4	100
Chuy oblast	19	3	16	380
Bishkek city	22	22	0	440
Osh city	6	6	0	120

In order to obtain comparable estimates by region and to obtain representative data for regions with relatively small populations, we proposed that the sample be adjusted. Thus, the sample was not self-weighted, and sample weights were calculated when analyzing of the data.

Table 4. Actual sample distribution for mothers / caregivers.

	Distribution of initial sampling units			Sample allocation
		Urban	Rural	
Kyrgyz Republic	125	55	70	2500
Batken oblast	12	3	9	240
Jalalabad oblast	14	4	10	280
Issyk Kul oblast	12	3	9	240
Naryn oblast	12	2	10	240
Osh oblast	14	2	12	280
Talas oblast	12	2	10	240
Chuy oblast	12	2	10	240
Bishkek city	14	14	0	280
Bishkek city new-built settlements	10	10	0	200
Osh city	13	13	0	260

Table 5. Proportionate sample allocation for the categories: Influencers, Healthcare professionals, and RL

	Family members or members of society who influence the mothers in their decision making about immunizing the children			Healthcare professionals	RL
	Fathers of the children	Parents of the mothers	Parents of the fathers		
Kyrgyz Republic	100	100	100	100	75
Batken oblast	8	8	8	8	6
Jalalabad oblast	18	18	18	18	14
Issyk Kul oblast	8	8	8	8	6
Naryn oblast	4	4	4	4	3
Osh oblast	20	20	20	20	14
Talas oblast	4	4	4	4	3
Chuy oblast	15	15	15	15	12
Bishkek city	18	18	18	18	13
Osh city	5	5	5	5	4

Table 6. Actual sample allocation for the categories influencers, Healthcare professionals, and RL

	Family members or members of society who influence the mothers in their decision making about immunizing the children			Healthcare professionals	RL
	Fathers of the children	Parents of the mothers	Parents of the fathers		
Kyrgyz Republic	100	100	100	100	75
Batken oblast	10	10	10	10	7
Jalalabad oblast	10	10	10	10	9
Issyk Kul oblast	10	10	10	10	7
Naryn oblast	10	10	10	10	7
Osh oblast	10	10	10	10	9
Talas oblast	10	10	10	10	7
Chuy oblast	10	10	10	10	7
Bishkek city	10	10	10	10	9
Bishkek city new-built settlements	10	10	10	10	6
Osh city	10	10	10	10	7

Table 7. Sample allocation for the categories influencers, Healthcare professionals, and RL disaggregated by type of locality

	Family members or members of society who influence the mothers in their decision making about immunizing the children						Healthcare professionals		RL	
	Fathers of the children		Parents of the mothers		Parents of the fathers					
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Kyrgyz Republic	43	57	43	57	43	57	43	57	32	43
Batken oblast	2	8	2	8	2	8	2	8	2	5
Jalalabad oblast	2	8	2	8	2	8	2	8	2	7
Issyk Kul oblast	3	7	3	7	3	7	3	7	2	5
Naryn oblast	1	9	1	9	1	9	1	9	1	6
Osh oblast	1	9	1	9	1	9	1	9	1	8
Talas oblast	2	8	2	8	2	8	2	8	1	6
Chuy oblast	2	8	2	8	2	8	2	8	1	6
Bishkek city	10	0	10	0	10	0	10	0	9	0
Bishkek city new-built settlements	10	0	10	0	10	0	10	0	6	0
Osh city	10	0	10	0	10	0	10	0	7	0

TESTING OF THE INSTRUMENTS

Pilot testing of the survey instruments was planned aiming at:

- To test the questionnaires for the clarity of formulation of questions and proposed options of answers;
- To test the logical links between the survey questions and transitions;
- To measure the length of the interview;
- To reveal problems linked to the methodology of the survey.

The sample size for the pilot study was 20 interviews in Russian and Kyrgyz language, with five interviews in each category.

QUALITY CONTROL

To ensure the required quality of work several levels of measures were taken as follows:

1. Use of Geolocation. Each interviewer was provided with a geolocation device to determine the coordinates of the interviewed household. The coordinates were sent to the central office and overseen by a Rebikon technical specialist in an on-line mode. Through geolocation, the company tracked the interviewers' routes and their movement in the survey areas.
2. Checking if the interview had taken place. This was done through two ways:
    a. Randomly following up by a phone call to the respondents by an inspector
    b. A random repeated visit on the ground

For telephone monitoring, 10 % of the questionnaires of each interviewer were randomly selected and checked. The check established that the interview had taken place, confirmed the length of the interview. Three control questions were asked, the answers to which were compared with the data in the questionnaire form.

3. Review of the questionnaires to ensure that there are no missing sections, Regional supervisors, the field department manager and an assistant carried out all the control. The completeness of the questionnaire completion, and the arithmetic and logical connections between the indicators were checked.
4. Automated checking of data. All of the data were checked automatically by SPSS.

ETHICAL NORMS

Before conducting the field work, the entire toolkit, including the methodology, questionnaires and executive summary, was submitted for evaluation to the institutional oversight Commission. The Ethics Review Commission for obtaining permission for conducting it to the Bioethics Committee under the Ministry of Health of the Kyrgyz Republic.

MANAGEMENT OF THE STUDY

The coordinating body for developing and conducting the study was the Ministry of Health Working Group, established by Ministry of Health Decree 348 of 25 April 2017

The Working Group included heads and leading specialists from structural divisions of the Ministry of Health - the Republican Immunoprophylaxis Centre, the Republican Centre for Health Promotion, the National Centre for Maternal and Child Health, the Department for Disease Prevention, the State Sanitary and Epidemiological Service, and the Ministry of Health Press Service – as well as partners: the State Commission for Religious Affairs under the President, civil society and international organizations: GAVI, UNICEF and WHO Europe Country Office. The Public Health Division of the Ministry of Health played the leading role.

Planning and implementation of every stage of the quantitative research was reviewed, agreed and approved with the Working Group members, taking into account the priorities and challenges of the healthcare system in the field of immunization.

At all stages of developing and conducting the research, UNICEF consultants provided great support, recommendations and comments, and introduced corrections which meant that the research could be conducted in line with international experience on immunization issues.

4. KNOWLEDGE OF VACCINATION

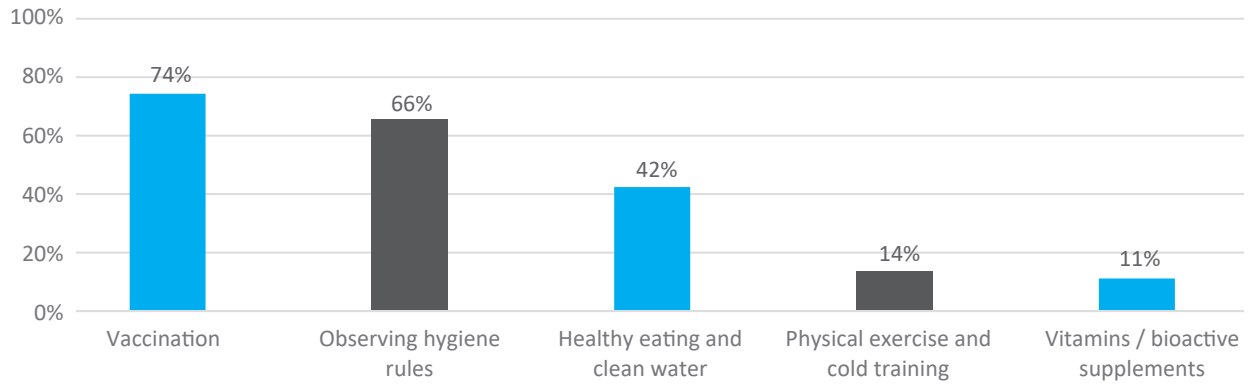
This section presents the results of research evaluating the knowledge of survey respondents about vaccination of children and vaccine-preventable diseases.

4.1 MOTHERS AND CAREGIVERS OF CHILDREN UNDER 5 YEARS OF AGE

MEASURES TO PREVENT CHILDREN FROM CATCHING DANGEROUS INFECTIONS (SPONTANEOUSLY)

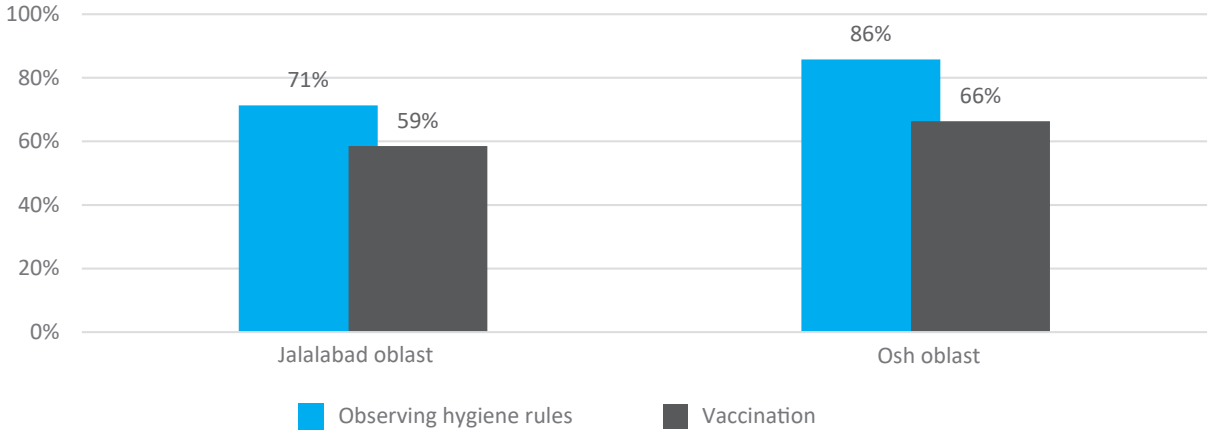
To assess levels of awareness of vaccination the respondents were asked to spontaneously list the measures that can be used to prevent children from catching dangerous infections, such as tuberculosis, hepatitis, measles, diphtheria, polio and so on?" The most frequent response was vaccination (74 per cent), Good hygiene (66 per cent), healthy eating and clean water (42 per cent).

Figure 4.1.1 Measures that can be used to prevent children from catching dangerous infections, (spontaneous) (Mothers and caregivers of children under five years)



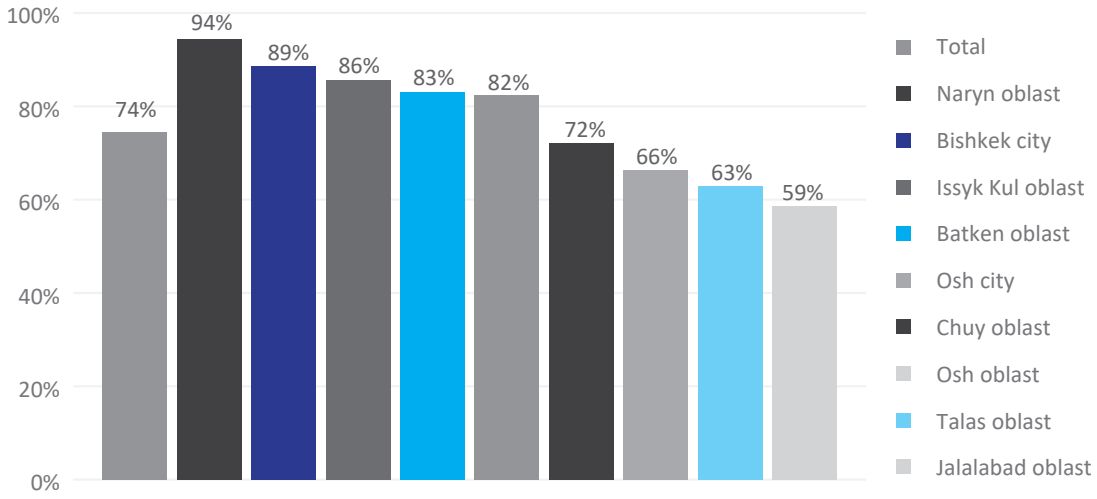
Generally, mothers named vaccination as a method to prevent vaccine-preventable diseases more often than any other means. However, in Jalalabad and Osh oblasts, respondents mentioned good hygiene was more frequently mentioned than vaccination.

Figure 4.1.2 Jalalabad and Osh oblasts spontaneous mentioning of Measures to prevent children from catching dangerous infections (tuberculosis, hepatitis, measles, diphtheria, polio and so on)- (Mothers and caregivers of children under five years)



There are differences in the level of spontaneous mentioning of vaccination among various social and demographic groups. The most significant difference is by region. The range of values by region was 35 percentage points: from 59 per cent in Jalalabad oblast to 94 per cent in Naryn oblast. Other regions apart from Naryn oblast with high levels of spontaneous mentioning of vaccination (higher than the average for Kyrgyzstan) were Bishkek, Osh city, Issyk Kul, and Batken oblasts.

Figure 4.1.3 Distribution of mothers and caregivers who mentioned vaccination as a method for preventing dangerous infections (spontaneously) by oblast



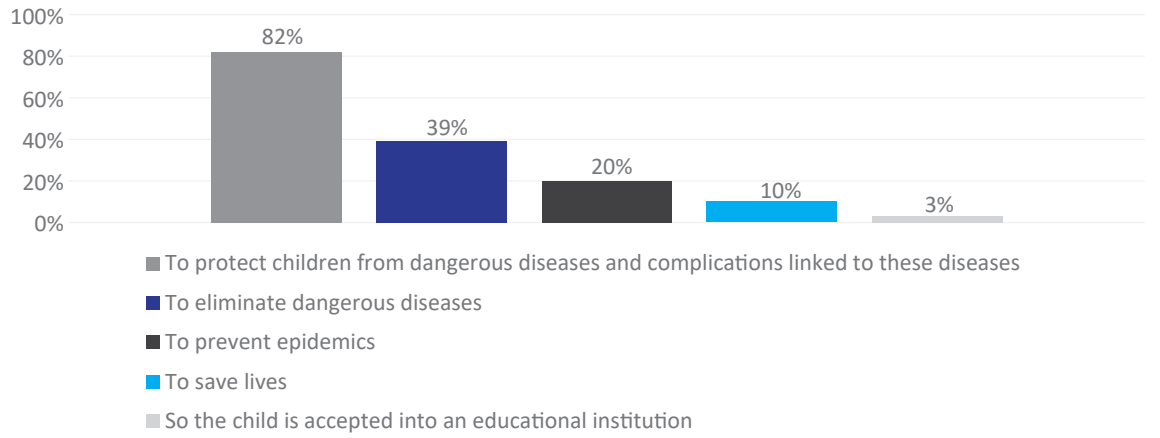
In addition, a significant correlation was found between this indicator and the mother's age: among mothers aged 30-39 years and 40 years and older, spontaneous mention of vaccination as a method to prevent vaccine-preventable diseases was 77-78 per cent, while in the age group 18-24 it was 69 per cent.

There is also a relationship between the subjective assessment of wellbeing and the level of spontaneous mentioning of vaccination. The proportion of mothers who spontaneously mentioned vaccination in a group who considered themselves to have high wellbeing levels was 83 per cent, while for those with low with low self-perceptions of wellbeing it was 65 per cent.

THE PURPOSE OF VACCINATION

82 per cent of mothers believed that vaccination is needed to protect children from dangerous diseases and related complications.

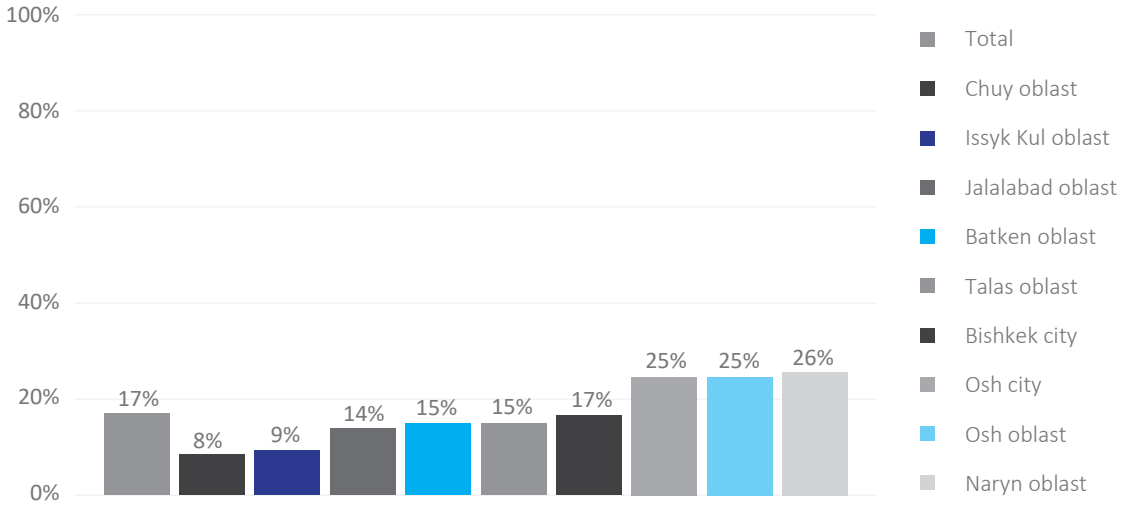
Figure 4.1.4 Mothers' opinions about the purpose of vaccination, percentages



OTHER WAYS TO PROTECT CHILDREN FROM VACCINE-PREVENTABLE DISEASES THAT ARE AS EFFECTIVE OR EVEN MORE EFFECTIVE THAN VACCINATION

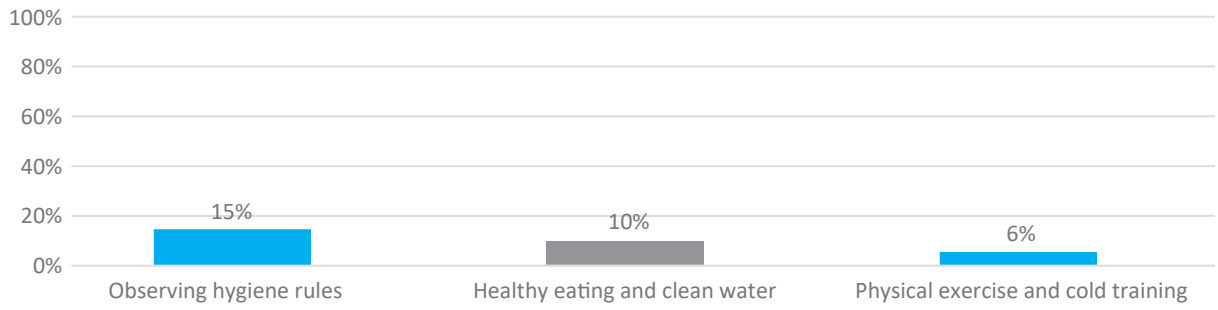
Most of the mothers believe that vaccination is the most effective method to prevent vaccine-preventable diseases. However, a significant proportion of mothers (17 per cent) believe that there are other methods to protect children against vaccine-preventable diseases that are more effective than vaccination. In Osh, Naryn oblasts and Osh city, a quarter of mothers believe that there are other ways to protect children against VPDs.

Figure 4.1.5 Distribution of mothers and caregivers who believe that there are other methods to prevent vaccine-preventable diseases that are more effective than vaccination



Most of the mothers mentioned following good hygiene and healthy nutrition as the most effective methods to prevent VPDs.

Figure 4.1.6 Methods to prevent vaccine-preventable diseases that are more effective than vaccination, in the opinion of mothers

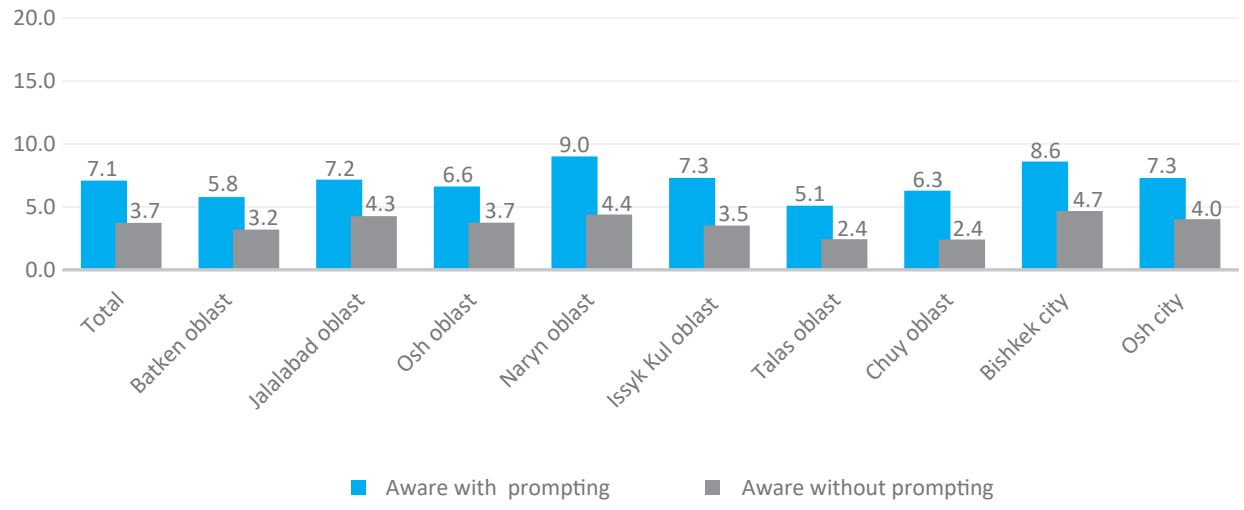


DISEASES THAT CAN BE PREVENTED BY VACCINES (SPONTANEOUS THEN PROBED)

To assess knowledge about different VPDs, the respondents were asked to name these diseases. Four per cent of the mothers could not name any without hints, and 0.2 per cent could not after being given a hint.

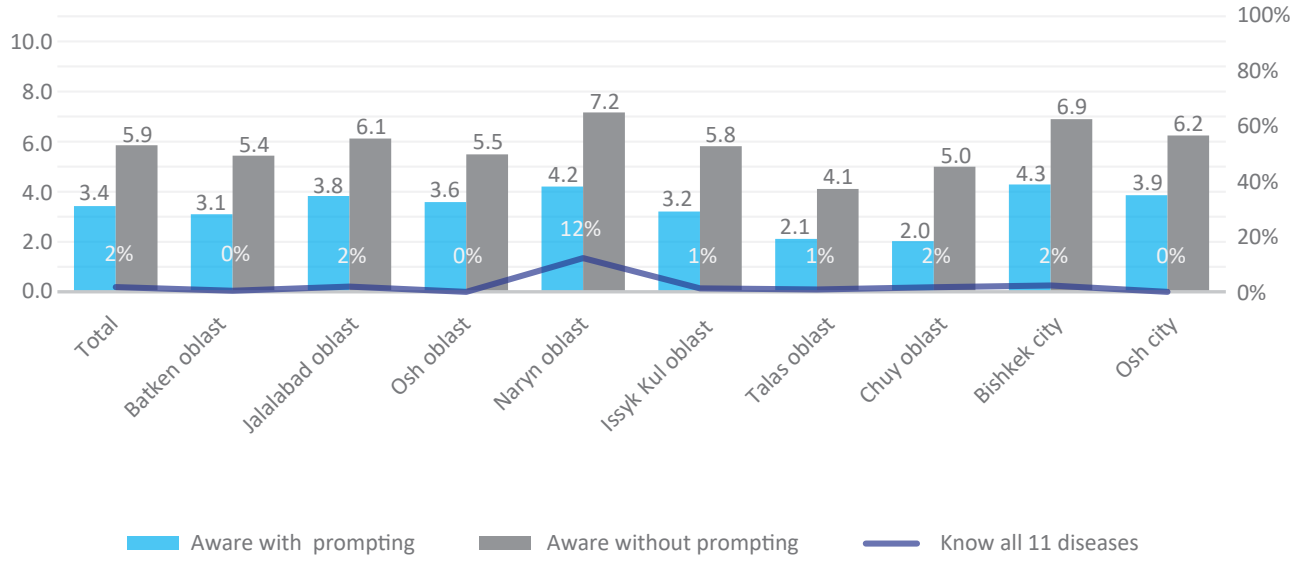
Bishkek mothers had the best spontaneous knowledge of diseases. They named a mean of 4.7 infections. Residents of Talas and Chuy oblasts named the fewest diseases without a hint – 2.4 on average – but after hearing hints the result increased to 5.1 in Talas oblast and 6.3 in Chuy oblast. At 13 per cent, Chuy oblast had the highest proportion of mothers who, without a hint, did not name any diseases for which vaccinations are carried out. With hints, residents of Naryn oblast and Bishkek city named the most vaccine-preventable diseases: 9 on average. However, 8.8 per cent of Naryn residents had no spontaneous knowledge about diseases.

Figure 4.1.7 Number of VPDs mentioned by mothers spontaneously and after probing, by oblast (Mothers and caregivers of children under five years of age)



Only one respondent could name without hints all 11 of the diseases against which vaccines are included in the national calendar of preventive vaccinations: with hints only 2 per cent of mothers could do so. On average, only 5.9 infections from this list were identified with hints. Residents of Naryn oblast had the best knowledge and named most diseases: a mean of 7.2. In addition, in this area the proportion who named all 11 infections with a hint was 12 per cent, while in other regions the share was never more than 2 per cent, while in Osh oblast and Osh city no one named all these infections even with a hint.

Figure 4.1.8 Number of VPDs included in the national calendar immunization mentioned by mothers spontaneously and after hints, by oblast (Mothers and caregivers of children under five years of age)

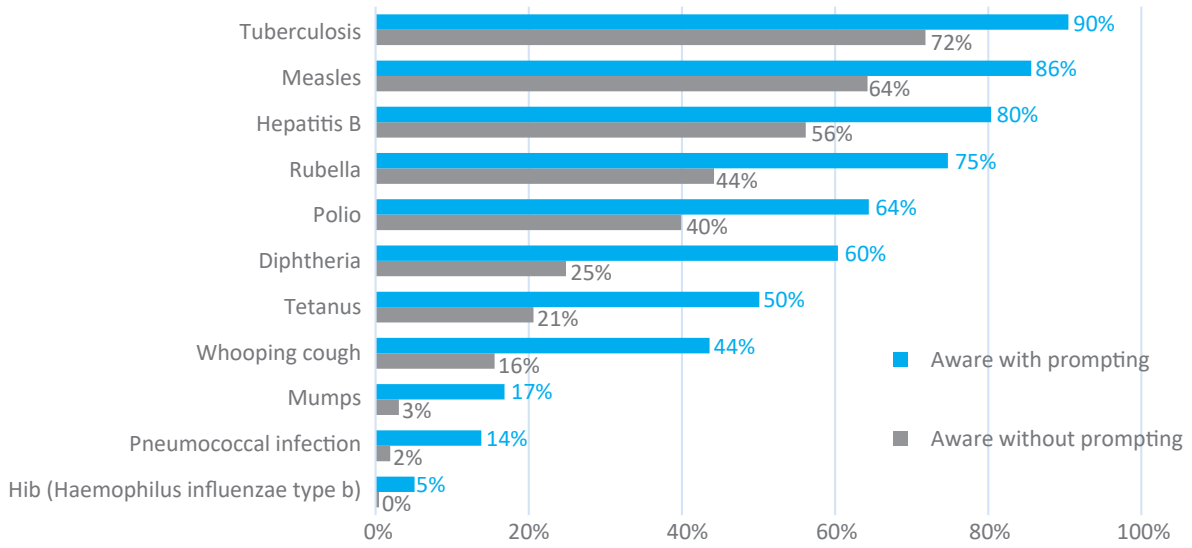


The three infections that mothers were most aware of as VPDs were tuberculosis, measles and hepatitis B. The level of spontaneous knowledge of these infections was more than 50 per cent (tuberculosis 72 per cent, measles 64 per cent, and hepatitis B 56 per cent). The level of spontaneous awareness was not higher than 50 per cent for any other vaccine-preventable disease.

Following hints, the level of knowledge of the best-known diseases exceeded 80 per cent: hepatitis B - 80 per cent, measles - 86 per cent, and tuberculosis 90 per cent. In addition, the 50 per cent threshold was exceeded for four more of the eleven diseases included in the immunization calendar: rubella (75 per cent), poliomyelitis (64 per cent), diphtheria (60 per cent), and tetanus (50 per cent).

Of the diseases included in the national immunization calendar, the most “unknown” vaccines for mothers were mumps, pneumococcal infection, and haemophilus influenza type b. The level of spontaneous knowledge of these diseases did not exceed 3 per cent, while the level of knowledge with a hint was also significantly lower than for other infections: mumps - 17 per cent, pneumococcal infection - 14 per cent, and haemophilus influenza type b - 5 per cent. Mothers living in Bishkek newbuild settlements did not mention any of these three infections without a hint. Residents of Osh city only named mumps and pneumococcal infection after hints. The level of spontaneous mention of haemophilus influenza type b infection was 0 per cent in Batken, Osh and Chuy oblasts.

Figure 4.1.9 Spontaneous knowledge and knowledge following hints of diseases included in Kyrgyzstan's national immunization calendar (Mothers and caregivers of children under five years of age)



THE ESSENTIAL VACCINES

The study findings show that the level of knowledge among mothers of the diseases for which vaccines are essential is unsatisfactory. Only 9 of the 2,500 respondents named all 11 diseases when answering the question: "Vaccines against which diseases are essential?" Vaccination against tuberculosis, the best "known" infection, is considered essential by 79 per cent of mothers. The shares of poliomyelitis, diphtheria, tetanus and whooping cough did not exceed 50 per cent: poliomyelitis 43 per cent, diphtheria 33 per cent, tetanus 27 per cent, and pertussis 23 per cent. It could be said that mothers generally do not know that children should be vaccinated against mumps, pneumococcal infection, and haemophilus influenza type b. They were only mentioned as diseases that had to be vaccinated against by 7 per cent, 3 per cent and 1 per cent respectively.

Table 8. Essential vaccines for diseases included in Kyrgyzstan's immunization calendar by oblast (Mothers and caregivers of children under five years of age)

	Tuberculosis	Hepatitis B	Poliomyelitis	Measles	Rubella	Tetanus	Diphtheria	Whooping cough	Mumps	Haemophilus influenza type b	Pneumococcal infections / pneumonia
Total	79%	65%	43%	69%	51%	27%	33%	23%	7%	1%	3%
Batken oblast	78%	66%	65%	59%	42%	11%	17%	20%	1%	0%	0%
Jalalabad oblast	74%	60%	29%	57%	57%	23%	29%	13%	5%	2%	4%
Osh oblast	95%	90%	19%	77%	42%	12%	29%	8%	4%	0%	2%
Naryn oblast	84%	83%	75%	88%	68%	48%	67%	51%	15%	0%	4%
Issyk Kul oblast	72%	61%	49%	64%	35%	14%	31%	16%	9%	2%	3%
Talas oblast	54%	32%	11%	41%	43%	11%	8%	4%	2%	0%	3%
Chuy oblast	60%	55%	42%	64%	35%	28%	25%	23%	10%	1%	5%
Bishkek city	87%	46%	76%	85%	80%	59%	57%	54%	15%	1%	5%
Osh city	88%	88%	37%	73%	51%	32%	36%	24%	0%	2%	2%

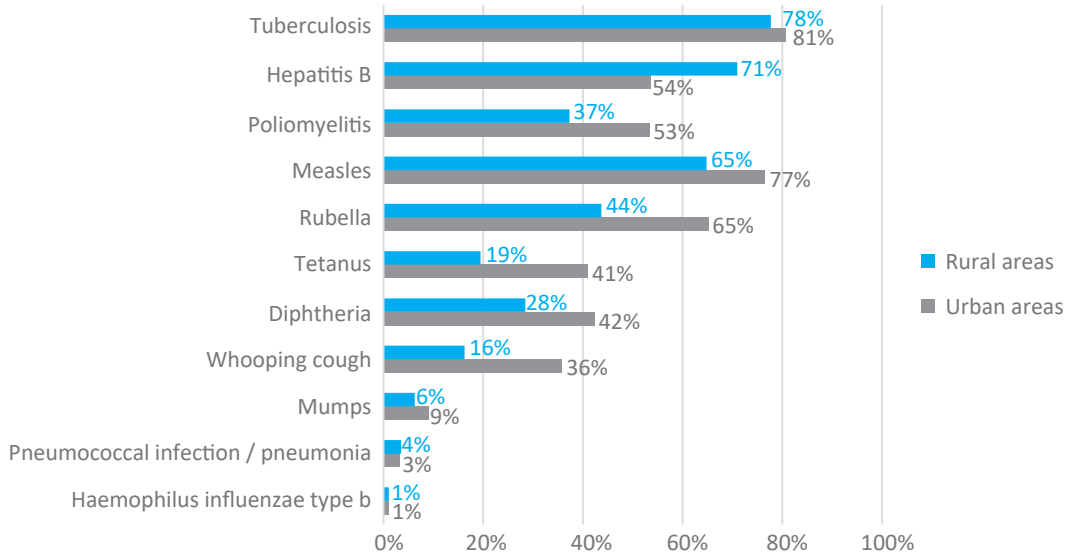
Differences between regions

When assessing the knowledge of mothers about essential diseases, differences were revealed concerning some of the respondents' socio-demographic characteristics. Residents of Talas oblast where the least knowledgeable than residents of other regions. The proportion of respondents who mentioned 7 out of 11 infections in Talas oblast were the lowest: 54 per cent for tuberculosis, 32 per cent for hepatitis, 11 per cent for poliomyelitis, 11 per cent for measles, 11 per cent for tetanus, 8 per cent for diphtheria, and 4 per cent for whooping cough. In Batken oblast and Osh city, less than 1 per cent of mothers mentioned mumps as a disease that it is essential to vaccinate children against.

Difference between urban and rural regions

Several differences were revealed between urban and rural regions in knowledge of essential VPDs. The proportion of mothers living in urban areas who mentioned diseases such as poliomyelitis, rubella, tetanus, diphtheria, whooping cough and measles was significantly higher in urban areas than in rural areas. However, rural dwellers were significantly more likely to mention hepatitis B than urban residents.

Figure 4.1.10 "Essential vaccines" for diseases included in Kyrgyzstan's national immunization calendar urban and rural (Mothers caregivers of children under five years of age)



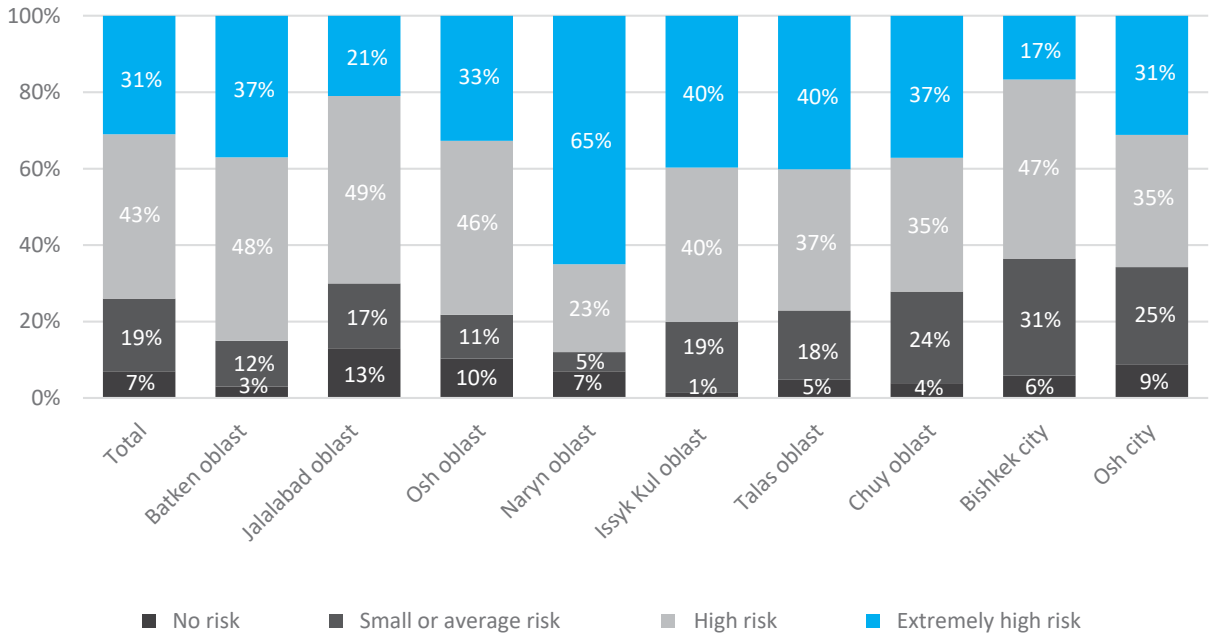
Differences linked to subjective perception of wellbeing

Mothers with high wellbeing ratings are better informed about VPDs, and for some diseases this difference is very significant. Thus, the proportion of mothers with high wellbeing ratings that referred to whooping cough was 35 per cent, compared to just 7.7 per cent of mothers with low self-perceived wellbeing.

PERCEIVED RISK OF CONTRACTING VACCINE-PREVENTABLE DISEASES IF UNIMMUNIZED

Mothers are generally knowledgeable of the risks of children contracting vaccine-preventable diseases: 74 per cent believe this risk to be high or very high. Only 7 per cent of mothers believe that there is no such risk. Regional differences in assessment of risk should be noted. The mothers most concerned about the possibility of their children contracting vaccine-preventable diseases live in Batken and Naryn oblasts, where the proportion who rate the risk as high or very high is 85 per cent and 88 per cent respectively. At the other extreme, in Jalalabad oblast, 13 per cent of mothers believe that there is no such danger for their children, while 70 per cent consider the risk to be high and very high.

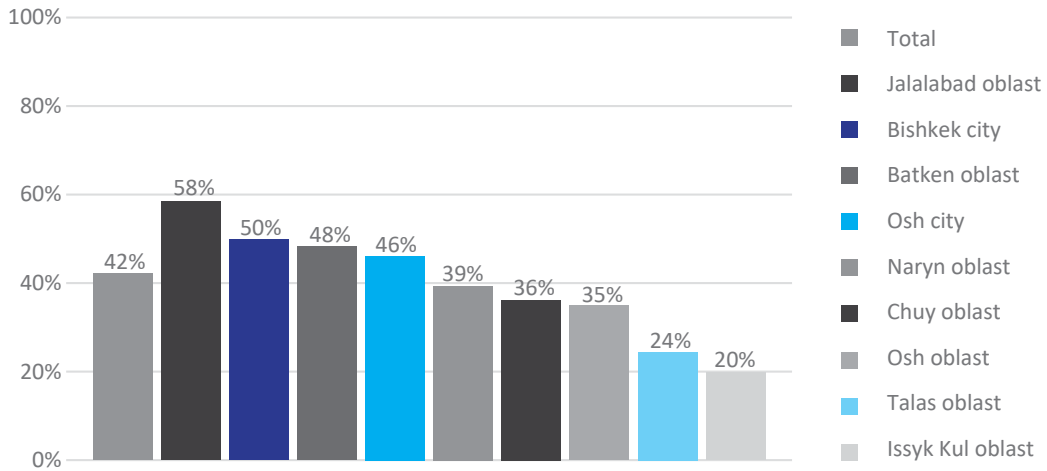
Figure 4.1.11 Perceived risk of contracting vaccine-preventable diseases by non-vaccinated children by oblast (Mothers and caregivers of children under five years of age)



KYRGYZSTAN'S IMMUNIZATION CALENDAR

The level of knowledge of mothers about Kyrgyzstan's immunization calendar is relatively low: 42 per cent. This indicator varies considerably by region. In Jalalabad oblast and Bishkek city, the proportion of mothers who had heard about the immunization calendar was highest: 58 and 50 per cent respectively. It was lowest in Issyk Kul and Talas oblasts, at 20 and 24 per cent respectively.

Figure 4.1.12 Level of knowledge of Kyrgyzstan's preventive immunization calendar, by oblasts (Mothers and caregivers of children under five years of age)

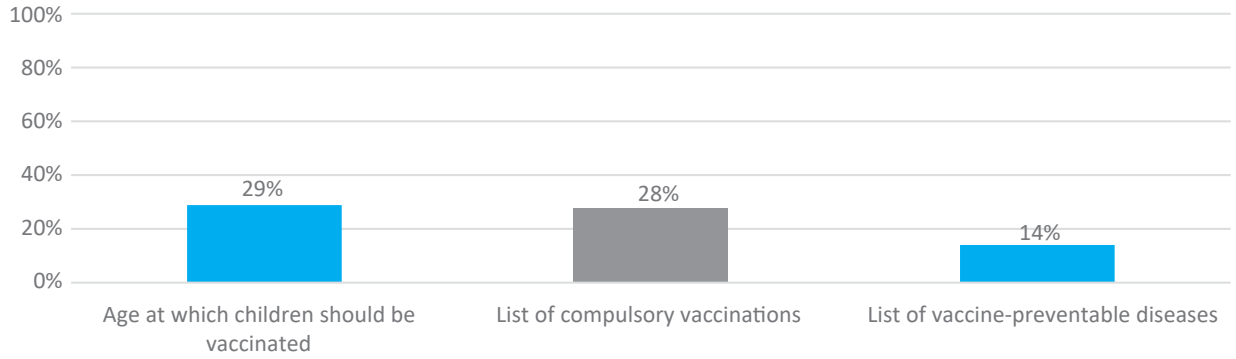


It should be noted that the level of awareness about the immunization calendar in Bishkek's newbuild settlements is much lower than in the city as a whole. Only 29 per cent of mothers living in these districts of Bishkek have heard about the document.

INFORMATION PROVIDED IN THE IMMUNIZATION CALENDAR

Two-thirds of the mothers who were aware of the immunization calendar (29 per cent and 28 per cent) noted that it contains information about the ages at which children should be given vaccinations, and also a list of essential vaccinations.

Figure 4.1.13 Knowledge among mothers of the information included in Kyrgyzstan's immunization calendar (Mothers and caregivers of children under five years of age)

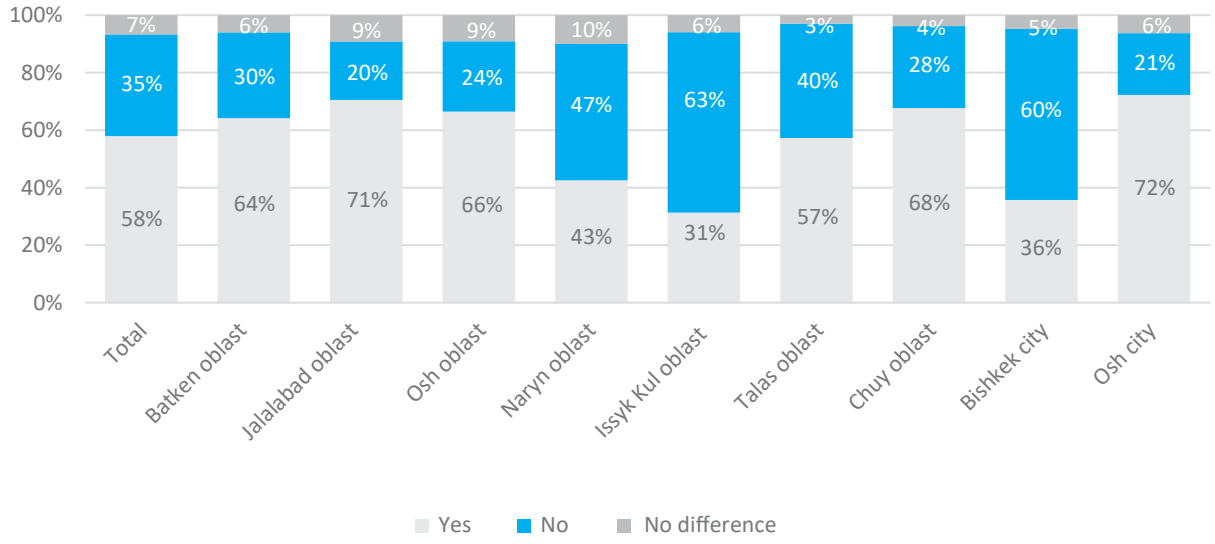


NEED FOR VACCINATION CARD TO BE KEPT WITH PARENTS AT HOMES

More than half caregivers of children (58 per cent) believed that the child's immunization calendar/card should be stored at home. However, there are significant differences by region:

The proportion who think they should be stored at home is lowest in issyk kul and Bishkek city (31 and 36 per cent). In other regions, most mothers are interested in keeping the vaccination card at home.

Figure 4.1.14 Is it necessary to store a vaccination card at home, by oblast (Mothers and caregivers of children under five years of age)

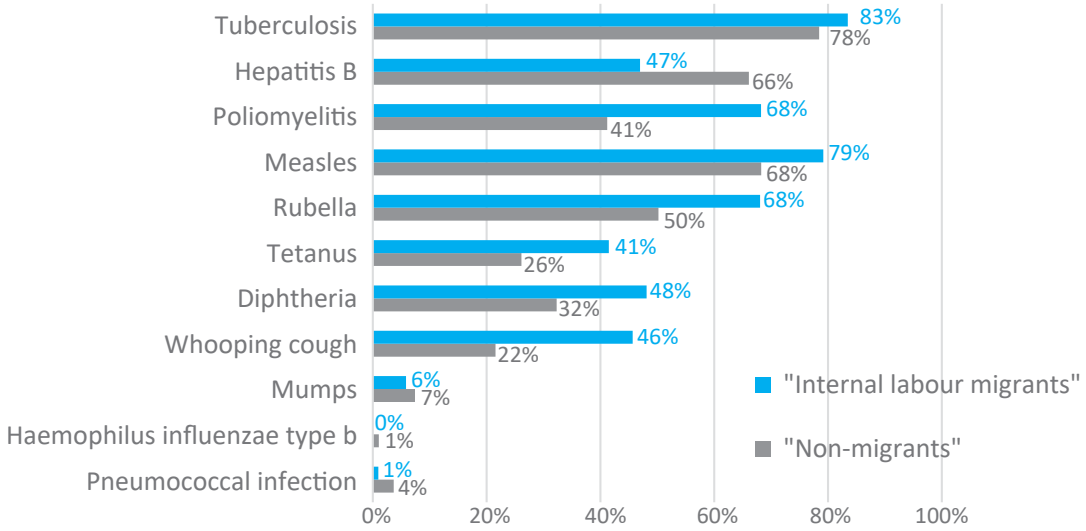


4.2 INTERNAL LABOR MIGRANTS

In general, the differences in awareness of vaccination between mothers who are “internal labor migrants” and “non-migrants” are insignificant, with a few exceptions:

- The level of spontaneous mentioning of vaccination as a method to preventing vaccine-preventable diseases does not differ significantly between “migrants” and “non-migrants” - 82 and 74 per cent respectively.
- There are no significant differences in spontaneous level of knowledge of vaccine-preventable diseases, except for hepatitis B and poliomyelitis. The proportion of “internal labor migrants” who mentioned hepatitis B without probing was 37 per cent, while for “non-migrants” the figure was 58 per cent. The percentage of “internal labor migrants” who mentioned poliomyelitis without probing was 59 per cent, compared to 38 per cent of “non-migrants”. As for the average number of vaccine-preventable diseases mentioned spontaneously and after probing, this indicator among “migrants” and “non-migrant” mothers also did not differ significantly.
- Awareness of “migrants” about diseases that it is essential to vaccinate against is higher than that of “non-migrants”.

Figure 4.2.1 “Essential Vaccinations included in Kyrgyzstan’s immunization calendar (“internal labor migrants” and “non-migrants”)



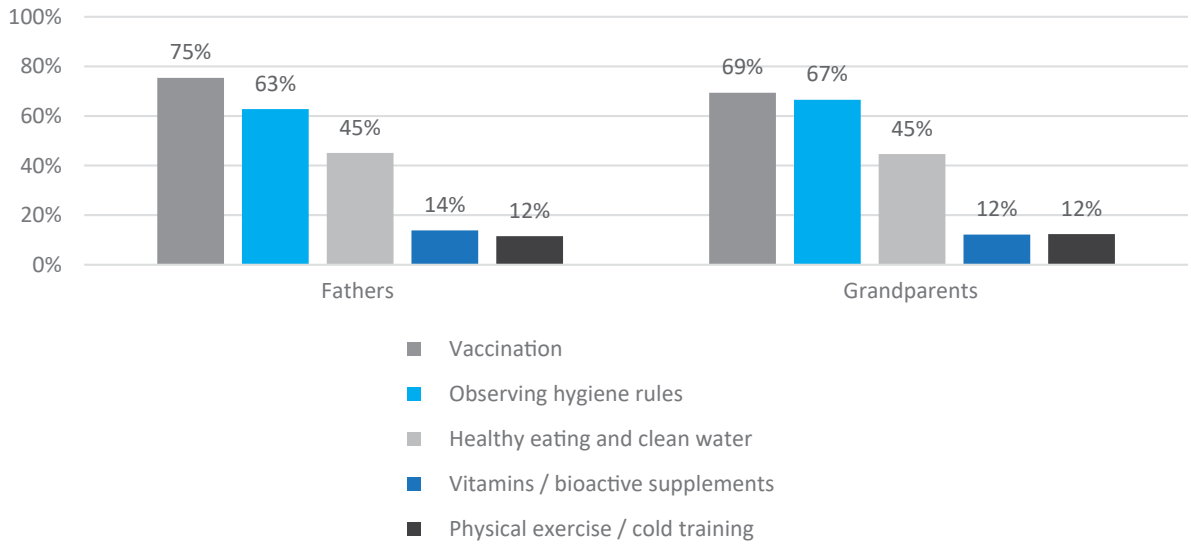
- The opinions of “migrants” and “non-migrants” about the degree of risk to children of contracting vaccine-preventable diseases did not differ significantly.
- There was a significant difference in opinion between “internal labor migrants” and “non-migrants about the need for home storage of vaccination cards. Sixty per cent of “non-migrants” believed it was essential to store vaccination cards at home, while among “internal labor migrants” only a third of mothers held this opinion.

4.3 INFLUENCERS (FATHERS & GRANDPARENTS)

PREVENTING CHILDREN FROM CATCHING DANGEROUS INFECTIONS, SUCH AS TUBERCULOSIS, HEPATITIS, MEASLES, DIPHTHERIA, POLIO AND SO ON (SPONTANEOUS MENTIONS)

The level of spontaneous mentioning of vaccination as a method to protect children against diseases among fathers and grandparents was 75 and 69 per cent respectively.

Figure 4.3.1 Measures to prevent children from catching dangerous infections (tuberculosis, hepatitis, measles, diphtheria, polio and so on) (spontaneously) (Influentials)



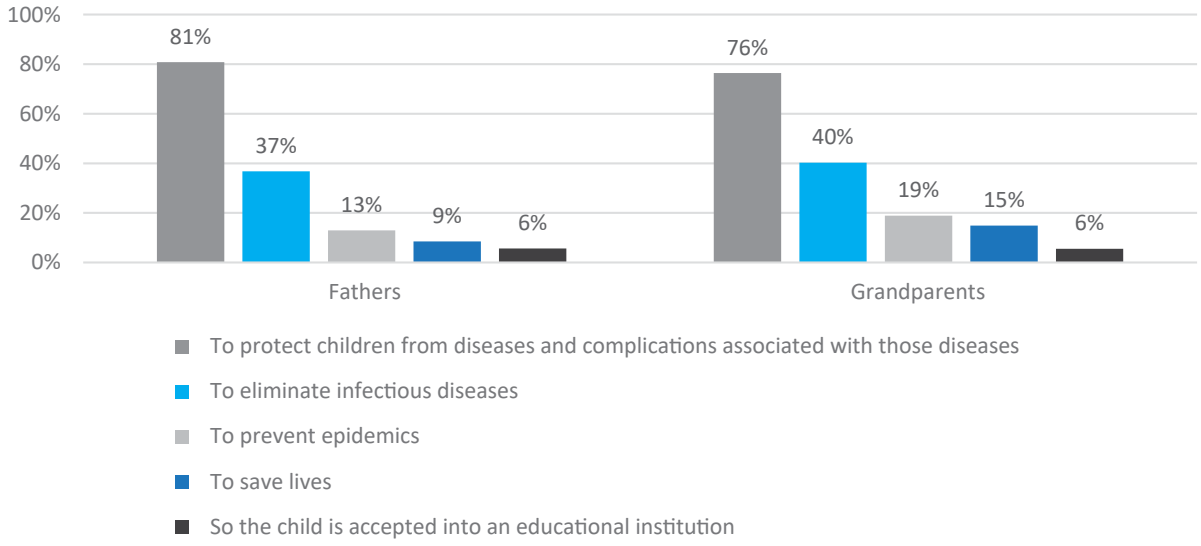
The sample size for influencers is relatively small, thus does not allow disaggregating the results by oblast; but, respondents can be divided into two groups: the northern region (Bishkek city, and Issyk Kul, Naryn, Talas and Chuy oblasts) and the southern region (Osh city and Osh, Jalalabad and Batken oblasts). The level of spontaneous mentioning of vaccination was higher in the northern region than the southern region. A total of 84 per cent of grandparents living in the northern region mentioned vaccination, compared to 55 per cent in the southern region. The vast majority of fathers in the northern region (88 per cent) also spontaneously mentioned vaccination, while in the southern region the figure was 63 per cent.

There was also a difference in the level of spontaneous mentioning of vaccination as a measure to prevent vaccine-preventable diseases among grandparents in relation to levels of education. Eighty-two per cent of grandparents who had higher or vocational education mentioned vaccination, compared to those who left education after secondary school.

THE PURPOSE OF VACCINATION

The overwhelming majority of fathers and grandparents agree to the necessity of vaccination. For this category, like for mothers, the prevailing opinion is that vaccination is essential to protect children from dangerous diseases and related complications (fathers: 81 per cent; grandparents: 76 per cent)

Figure 4.3.2 Opinions of influentials about the purpose of vaccination

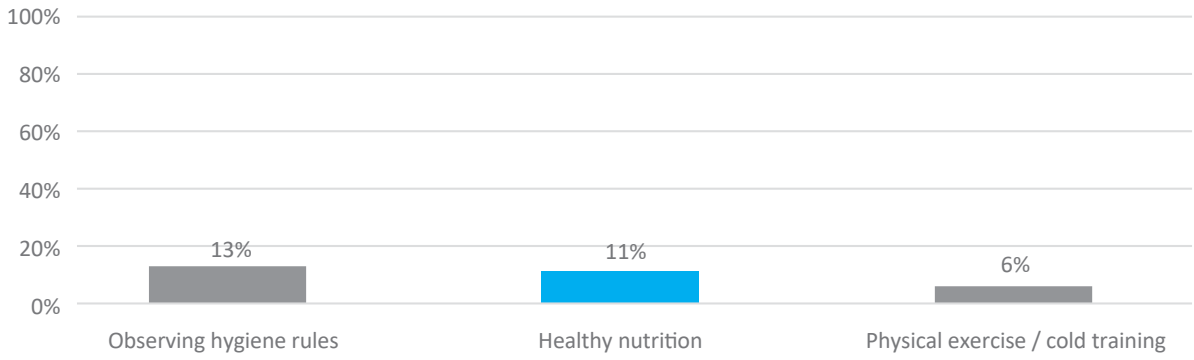


OTHER WAYS TO PROTECT CHILDREN FROM VPDS AS EFFECTIVE OR EVEN MORE EFFECTIVE THAN VACCINATION

The percentage of grandparents who believe that there are more effective ways to protect children against vaccine-preventable diseases is relatively small (13 per cent), while 23 per cent for “fathers”. The percentage of urban fathers who stated that they knew more effective methods to protect children against vaccine-preventable diseases was 42 per cent, compared to 12 per cent in rural areas.

The vast majority of grandparents who believed that vaccination is not the most effective means to protect against vaccine-preventable diseases believed that good hygiene and healthy nutrition are a more effective measure of protection.

Figure 4.3.3 Methods to protect children against VPDs that are more effective than vaccination (Influencers)



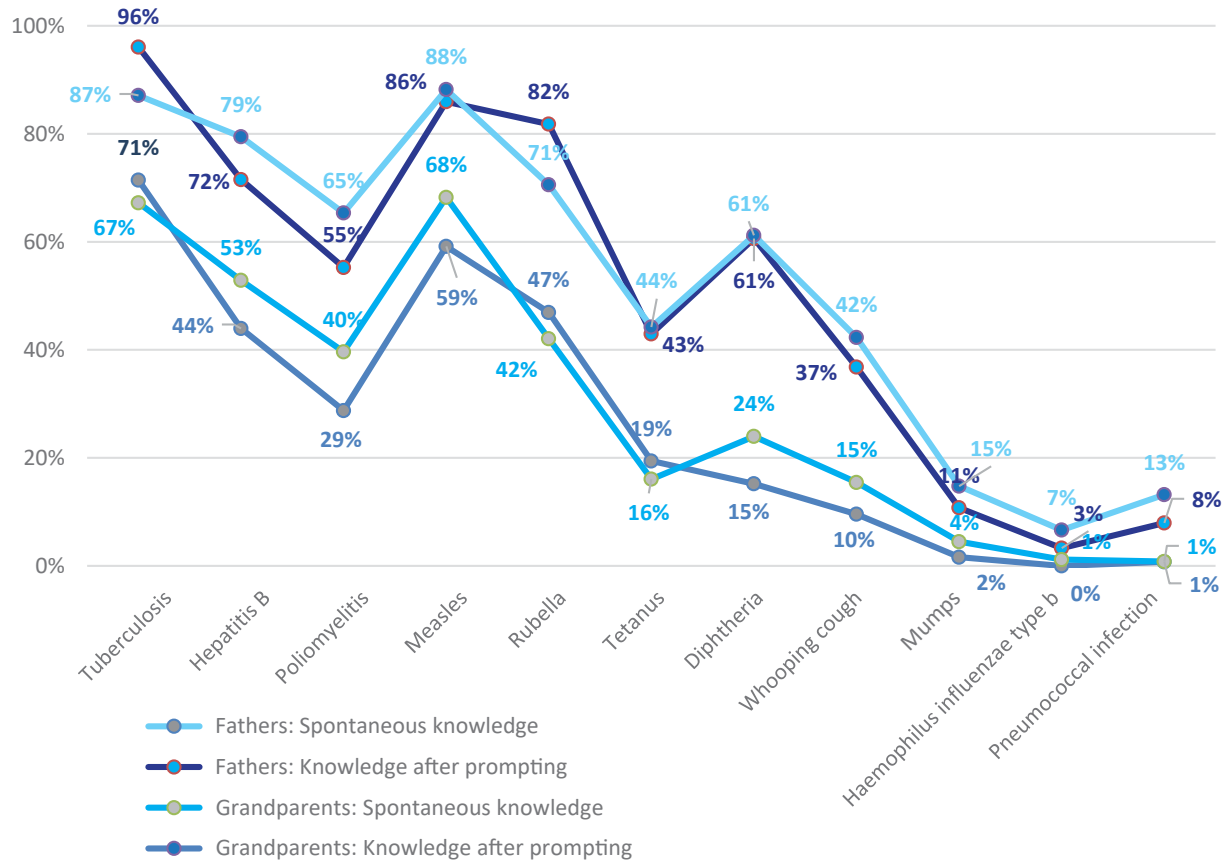
DISEASES THAT CAN BE PREVENTED BY VACCINES (SPONTANEOUS AND PROBED)

In general, the level of awareness of influentials about vaccine-preventable diseases does not differ significantly from that of mothers. Fathers named 3.4 diseases without probing on average, and grandparents 3.7, while after probing both groups named seven diseases. Ten per cent of fathers who were not prompted could not name any such diseases, but with a hint all of them remembered at least

one. The proportion of grandparents who could not recall any vaccine-preventable diseases was less than one per cent.

Like for mothers, the vaccine-preventable diseases the influentials were most aware of was tuberculosis and measles. Ninety-six per cent of fathers and 87 per cent of grandparents mentioned tuberculosis (spontaneously and prompted). Awareness of measles was 88 per cent among grandparents and 86 per cent among fathers. The least known diseases were haemophilius influenza type b and pneumococcal infection. Without prompting, not one of the fathers named haemophilius influenza type b, while prompted just 1 per cent. Without prompting no-one named all 11 infections included in the national immunization calendar, and after probing only 2 per cent of fathers and 2 per cent of grandparents were able to name diseases.

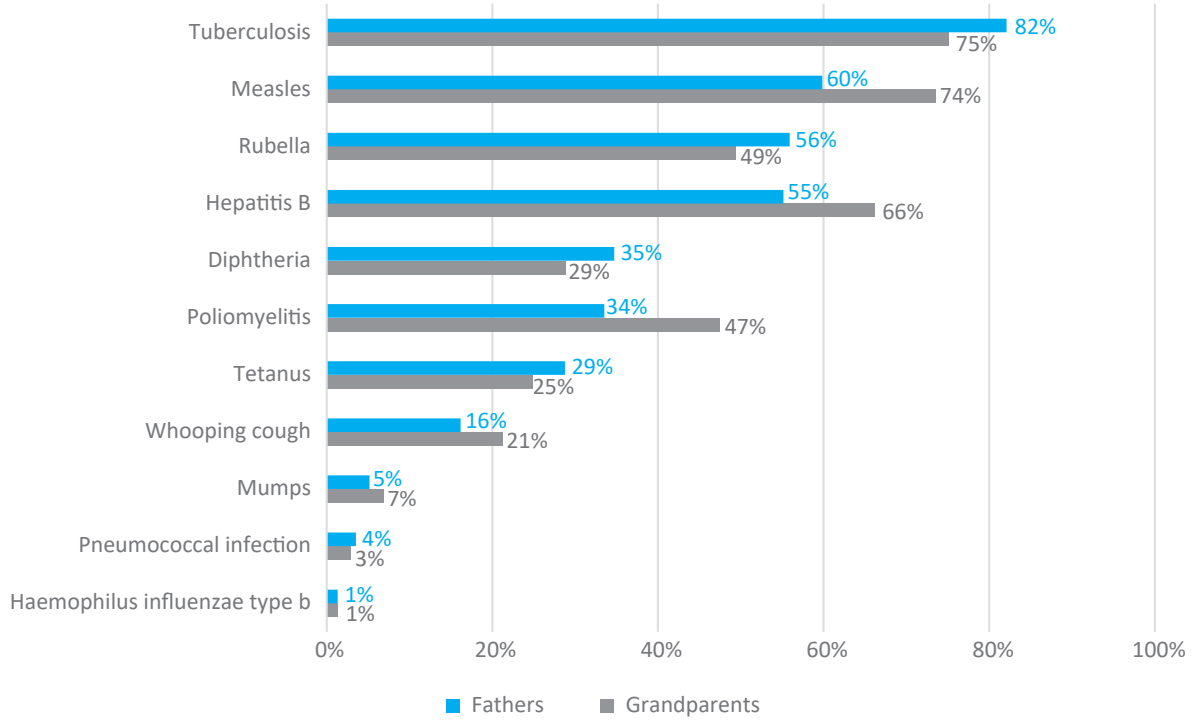
Figure 4.3.4 Knowledge of diseases included in Kyrgyzstan's national immunization calendar (spontaneous and probed knowledge) (Influentials)



THE ESSENTIAL VACCINES

Knowledge among influentials about essential diseases was not satisfactory. 82 per cent of fathers and 75 per cent of grandparents mentioned tuberculosis. This is the most well-known disease. In addition to tuberculosis, more than 50 per cent of respondents knew about hepatitis B (55 per cent of fathers, 66 per cent of grandparents), measles (60 per cent of fathers, 74 per cent of grandparents), and rubella (56 per cent of fathers). Just like mothers, influentials practically do not know that haemophilius influenza type b infection and pneumococcal infection.

Figure 4.3.5 Essential Vaccines included in Kyrgyzstan's immunization calendar (influentials,)

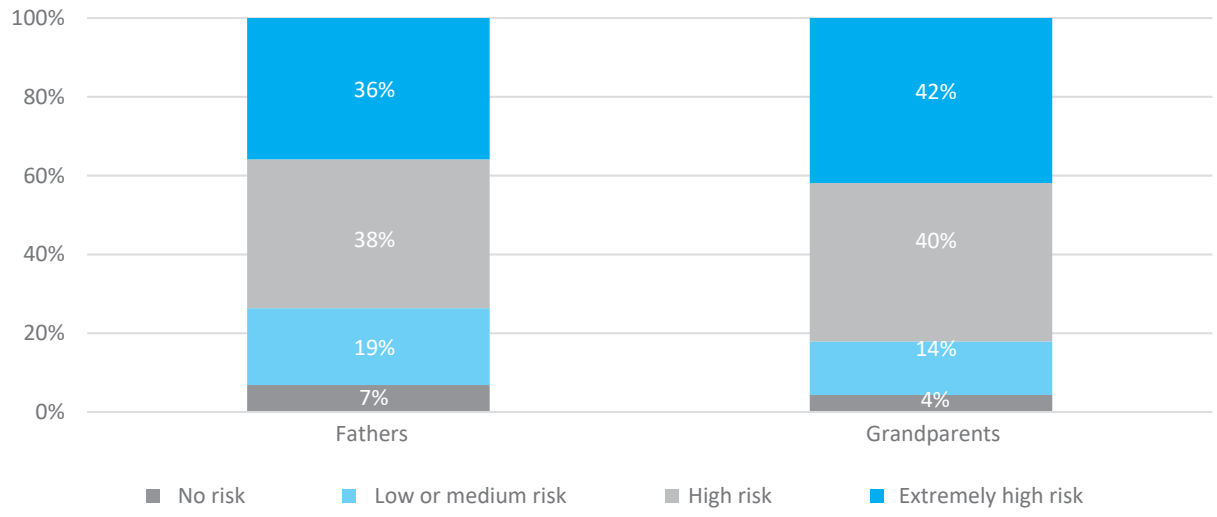


It should be noted that the level of knowledge in relation to which diseases require vaccination is generally higher among those who received higher or vocational education than among those who only received general education. In general knowledge of influentials living in urban areas is higher than those in rural areas. 63 per cent of grandparents living in urban areas mentioned rubella as a disease that children must be vaccinated against, compared to 42 per cent in rural areas.

PERCEIVED RISK FOR NON-VACCINATED CHILDREN OF CONTRACTING VPDS

Belief in the risk of infection with vaccine-preventable diseases for children among fathers and mothers are almost identical. The overwhelming majority of fathers (93 per cent) recognize this, and three-quarters (74 per cent) consider the risk to be high or very high. Grandparents have an even higher assessment of the risk. 96 per cent of them believe that there is such a risk, and 82 per cent consider this to be high or very high.

Figure 4.3.6 Assessment of risk of contracting vaccine-preventable diseases for non-vaccinated children (Influentials)

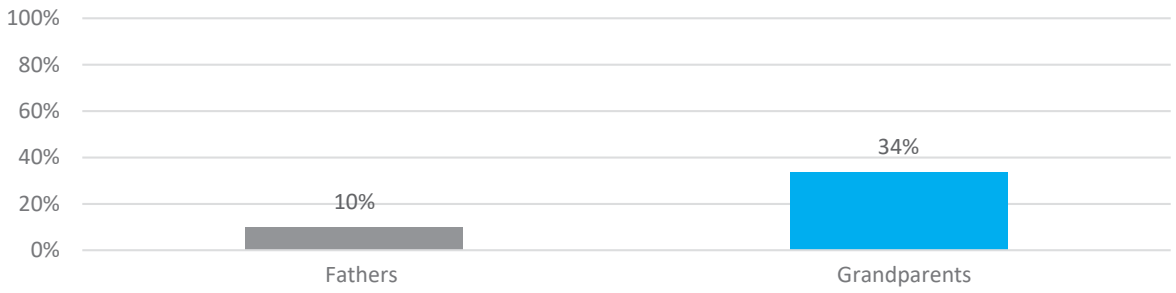


41 per cent of religious leaders believe that there are more effective ways to prevent vaccine-preventable diseases than vaccination. This is the highest figure among any of the groups of respondents. Most of them believe that a more effective way to prevent vaccine-preventable diseases than vaccination is maintaining a healthy lifestyle: complying with good hygiene, healthy eating and physical exercise. 10 per cent of religious leaders mentioned other ways, and in particular the performance of religious rituals (prayer).

KYRGYZSTAN'S IMMUNIZATION CALENDAR

The level of knowledge of influentials about the immunization calendar is even lower than that of mothers. Only 10 per cent of fathers and 34 per cent of grandparents had heard of this document.

Figure 4.3.7 Level of knowledge among influentials about Kyrgyzstan's immunization calendar

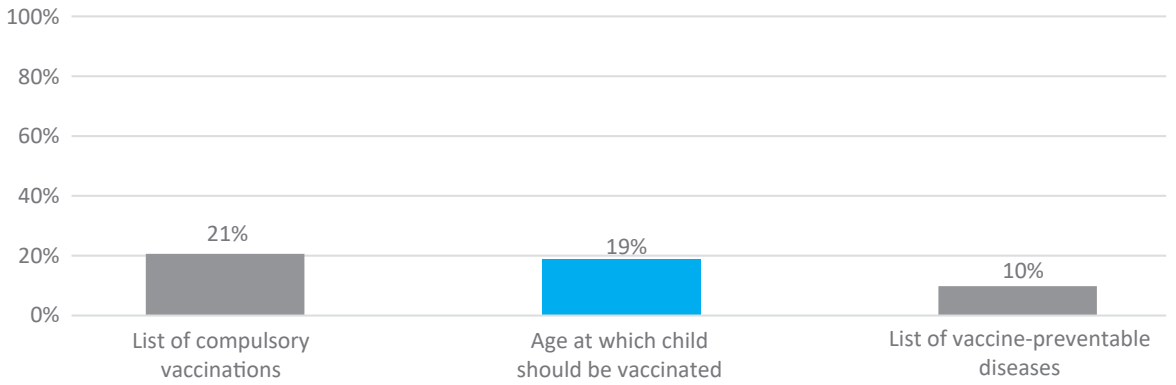


It should be pointed out that the level of awareness of immunization calendar among grandparents who had received higher or vocational education was relatively high at 50 per cent, compared to 20 per cent for those who only received general education.

INFORMATION PROVIDED IN KYRGYZSTAN'S IMMUNIZATION CALENDAR

The number of respondent fathers who were aware of the existence of Kyrgyzstan's immunization calendar was insufficient to identify their knowledge levels of what information it contains.

Figure 4.3.8 Level of knowledge among grandparents of Kyrgyzstan's immunization calendar

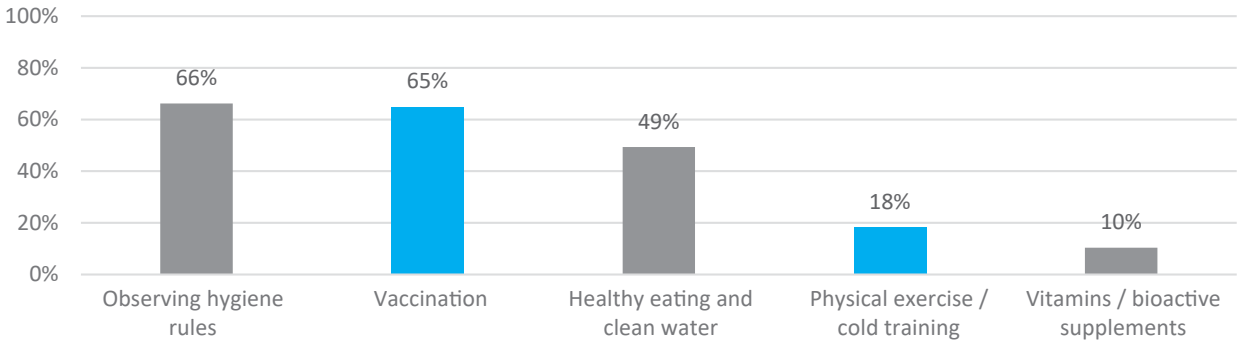


4.4 RELIGIOUS LEADERS

MEASURES THAT CAN BE USED TO PREVENT CHILDREN FROM CATCHING DANGEROUS INFECTIONS, SUCH AS TUBERCULOSIS, HEPATITIS, MEASLES, DIPHTHERIA, POLIO AND SO ON

The results of the survey of religious leaders and, in particular, the assessment of knowledge differs significantly from the results for all other survey respondents. The level of spontaneous mentioning of vaccination as a method to protect against diseases was the lowest among religious leaders, at 65 per cent. Given that 41 per cent of religious leaders do not consider vaccination to be the most effective way to prevent vaccine-preventable diseases, religious leaders can be considered the most sceptical of the four target groups concerning vaccination. While most religious leaders acknowledged the need for vaccination, 7 per cent of them believe that vaccination is unnecessary.

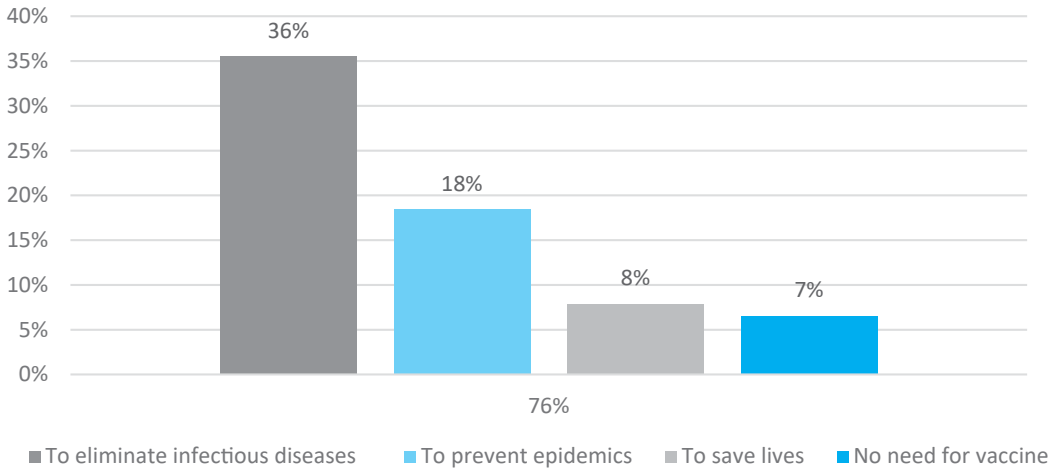
Figure 4.4.1 Measures to prevent children from catching dangerous infections, such as tuberculosis, hepatitis, measles, diphtheria, polio and so on (spontaneously) (Religious leaders)



THE PURPOSE OF VACCINATION

Most of the religious leaders acknowledge the need for vaccination. 76 per cent of them noted that vaccination is needed to protect children from dangerous diseases and related complications. It should be noted that 7 per cent of religious leaders believe that vaccination is not needed.

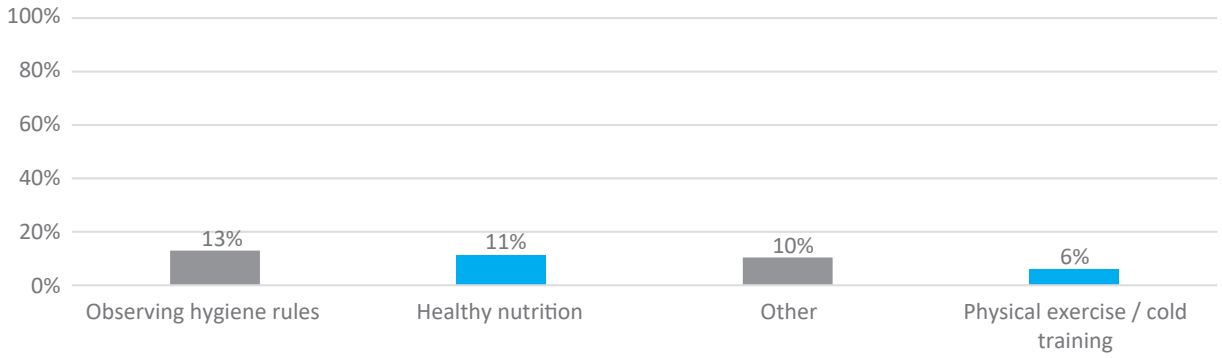
Figure 4.4.2 Opinions of religious leaders about the purpose of vaccination



WAYS TO PROTECT CHILDREN FROM VPDS AS EFFECTIVE OR EVEN MORE EFFECTIVE THAN VACCINATION

41 per cent of religious leaders believe that there are more effective ways to prevent vaccine-preventable diseases than vaccination. This is the highest figure among any of the groups of respondents. Most of them believe that a more effective way to prevent vaccine-preventable diseases than vaccination is maintaining a healthy lifestyle: complying with good hygiene, healthy eating and physical exercise. 10 per cent of religious leaders mentioned other ways, and in particular the performance of religious rituals (prayer).

Figure 4.4.3 Methods to prevent diseases that are more effective than vaccination (grandparents)



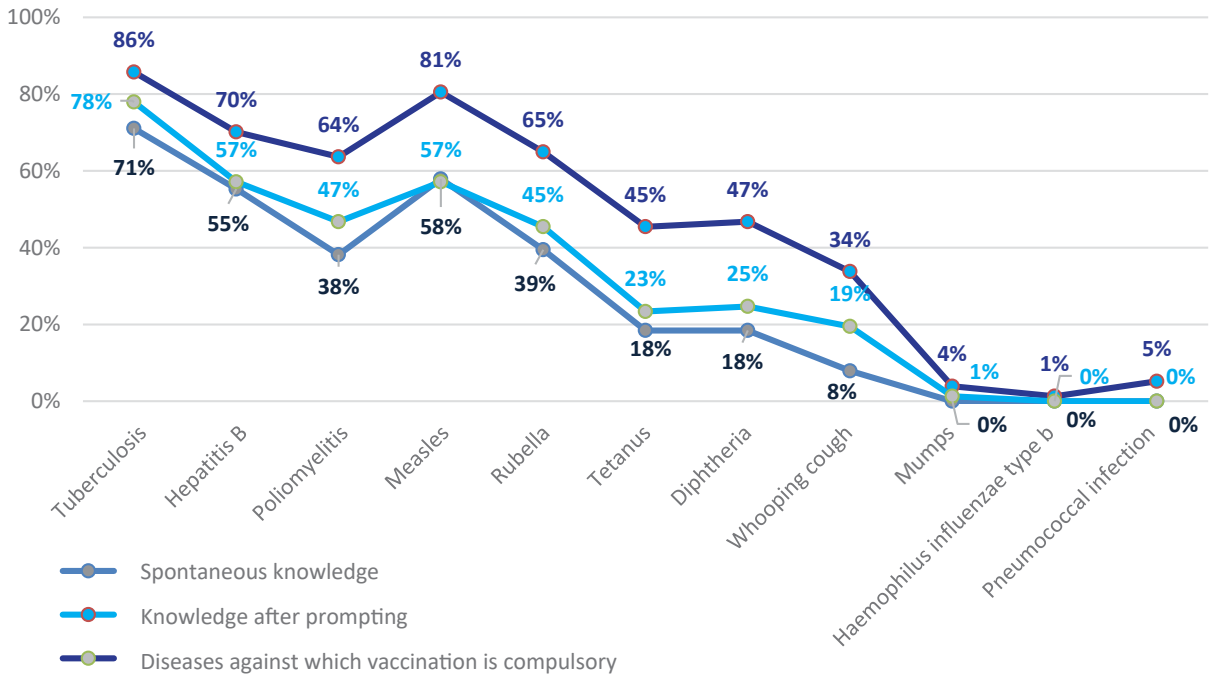
DISEASES THAT CAN BE PREVENTED BY VACCINES (SPONTANEOUSLY AND PROBED)

The awareness of religious leaders about the disease that vaccination is used against is slightly lower than other target groups. Without probing, religious leaders mentioned a mean of 3.3 diseases, while with probing this indicator grew slightly to 5.6 diseases on average. 7 per cent of religious leaders could not name any diseases without probing, and 5 per cent could not recall any diseases even after probing.

Like other target groups, the VPDs most known to religious leaders was tuberculosis. The level of knowledge of this disease with a hint was 86 per cent. There was also a relatively high level of mention following probing of measles (81 per cent), hepatitis B (70 per cent), rubella (65 per cent), and poliomyelitis (64 per cent). Without probing none of the religious leaders mentioned mumps, haemophilius influenza type b or pneumococcal infection. However, even with a hint, the level of knowledge of these diseases is low, at no more than 5 per cent.

Like those surveyed from other target groups, religious leaders were the least knowledgeable of vaccine-preventable diseases. Only 3 diseases were mentioned by more than 50 per cent of the respondents in this group: tuberculosis (78 per cent), measles (57 per cent) and hepatitis B (57 per cent). Haemophilius influenza type b and pneumococcal infection were not mentioned at all.

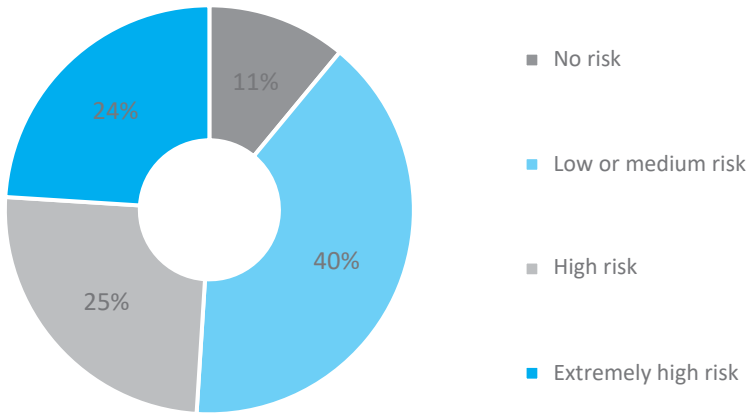
Figure 4.4.4 Level of knowledge of diseases included in Kyrgyzstan's immunization calendar (Religious leaders)



PERCEIVED RISK FOR NON-VACCINATED CHILDREN OF CONTRACTING INFECTIOUS DISEASE

With regard to the perceived risk of contracting vaccine-preventable disease, 11 per cent of those who answered this question believe that there is no such risk. 89 per cent recognize the existence of such a risk, and 49 per cent consider it to be high or very high.

Figure 4.4.5 Assessment of risk of contracting vaccine-preventable diseases for non-vaccinated children (Religious leaders)

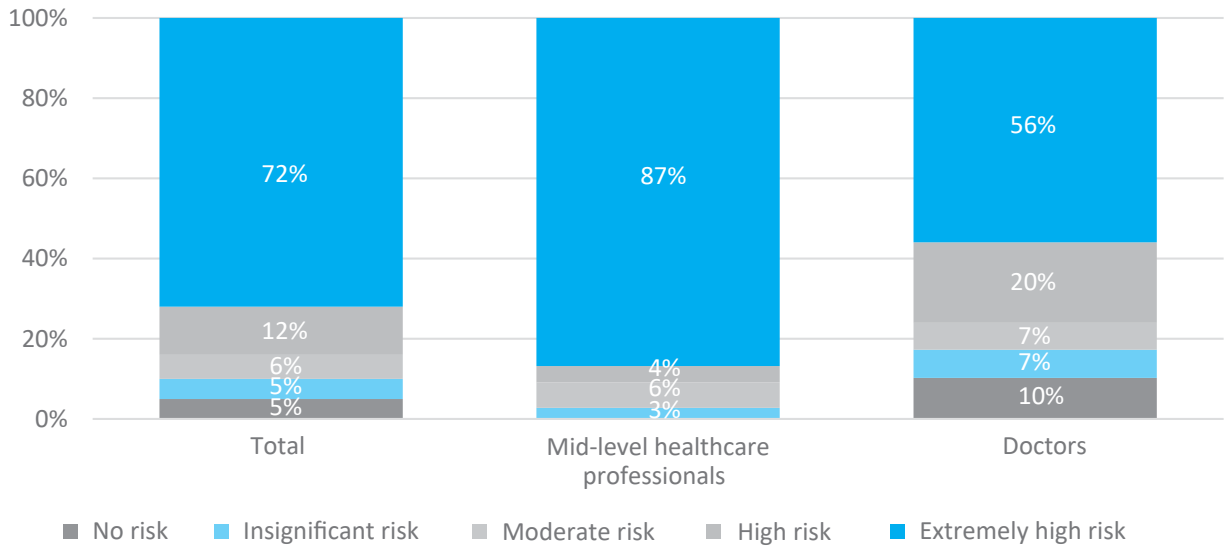


4.5 HEALTHCARE PROFESSIONALS

HOW HIGH DO YOU THINK IS THE RISK FOR NON-VACCINATED CHILDREN IN THE TOWN/ VILLAGE WHERE YOU LIVE OF CONTRACTING AN INFECTIOUS DISEASE THAT COULD BE PREVENTED BY VACCINATION?

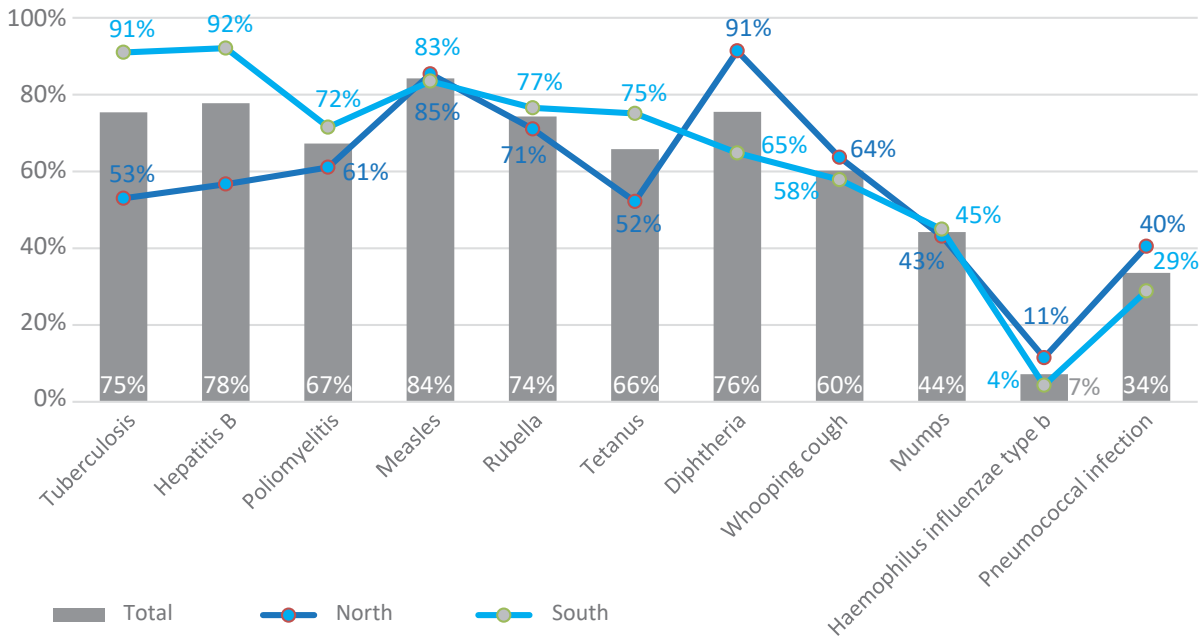
Healthcare professionals are undoubtedly the most informed group of respondents on matters relating to the immunization situation in Kyrgyzstan. Ninety-five per cent of healthcare professionals believe that there is a risk for children from vaccine-preventable diseases, and 84 per cent believe that this risk is high or very high. Some differences in opinion should be noted on this issue between senior and secondary medical professionals. Doctors perception of the risk of contracting vaccine-preventable diseases, 10 per cent of doctors believe that there is no risk, compared to none among mid-level healthcare professionals. The vast majority (91 per cent) of mid-level healthcare personnel rated the risk as high and very high, while among doctors this opinion is held by 76 per cent.

Figure 4.5.1 Assessment of risk of contracting vaccine-preventable diseases for non-vaccinated (Health care professionals)



During the survey, we asked the healthcare professionals that assessed the risk of vaccine-preventable diseases among children with managed infections as high and very high to name these diseases. All the diseases that require vaccinations received a high percentage of mentions (more than 50 per cent), except for mumps, haemophilius influenza type b and pneumococcal infection. However, there are some differences by region. For example, healthcare professionals in southern Kyrgyzstan (Osh, Jalalabad and Batken oblasts and Osh city) are more concerned than in the north (Issyk Kul, Naryn, Talas and Chuy oblasts and Bishkek) about the threats of tuberculosis and hepatitis B. More than 90 per cent of healthcare professionals in southern Kyrgyzstan mentioned these diseases, while in the north the percentage of mentioning these diseases was 53 and 57 per cent respectively. On the other hand, healthcare professionals in northern Kyrgyzstan are more concerned about diphtheria (91 per cent), while in the south only 65 per cent of health workers mentioned this disease.

Figure 4.5.2 Vaccine-preventable diseases, the risk of which for non-vaccinated children is considered high or very high (Healthcare professionals)



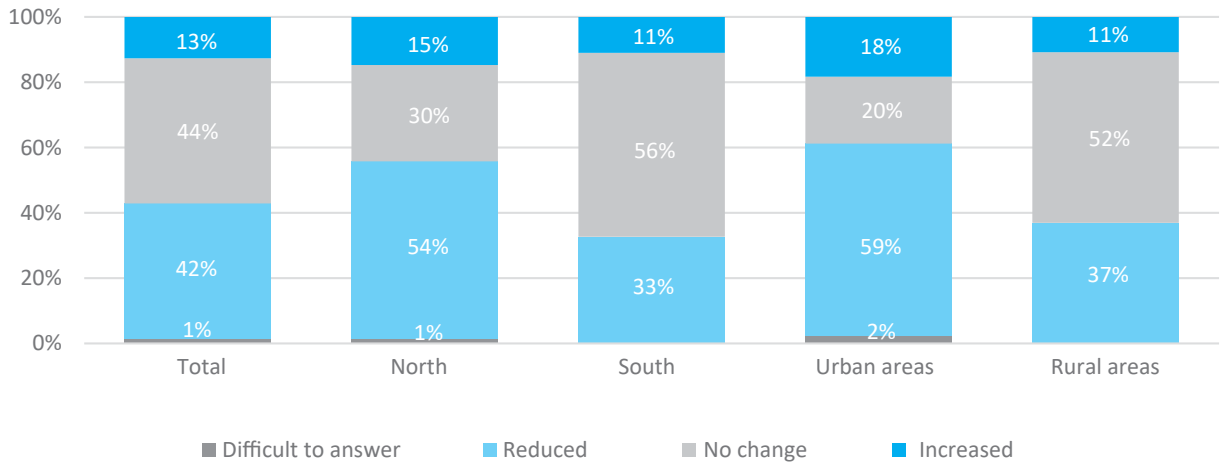
TRENDS OF VACCINE PREVENTABLE DISEASES AMONG CHILDREN UNDER FIVE YEARS OLD

Only 13 per cent of healthcare professionals noted an increase in prevalence of vaccine-preventable diseases in the territories they had worked over the past five years. A significant proportion (42 per cent) believed that prevalence had decreased.

Some differences in the assessment of incidence of morbidity should be noted between urban and rural healthcare professionals, and by type of location. More than half of healthcare professionals practising in the northern region (54 per cent) reported a decrease in morbidity, while among their colleagues practicing in the south this opinion was only held by a third of specialists.

Twenty per cent of urban healthcare personnel and 52 per cent of their rural counterparts noted no change in prevalence of vaccine-preventable diseases in their areas. More than half of urban healthcare professionals (59 per cent) compared to only 37 per cent of those working in rural areas noted a decline in prevalence over the past five years.

Figure 4.5.3 Trends in vaccine-preventable diseases over the last five years (Healthcare professionals)



The overwhelming majority of healthcare professionals who noted a decrease in prevalence of vaccine-preventable diseases over the past five years (93 per cent) believe that this positive result was achieved through timely vaccination. The number of respondents who noted increase in morbidity was not enough to analyse.

5. ATTITUDES TOWARDS VACCINATION

This section presents results of the study concerning attitudes of respondents in relation to vaccination of children.

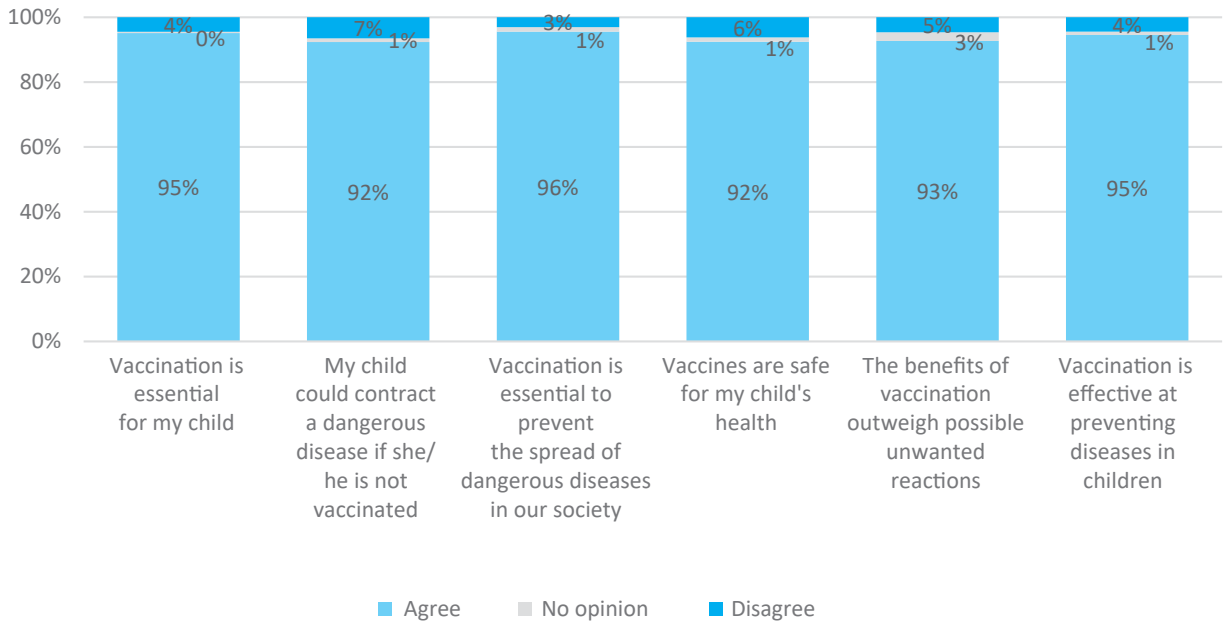
5.1 MOTHERS AND CAREGIVERS OF CHILDREN UNDER FIVE YEARS OF AGE

The respondents were asked to evaluate their level of agreement with the following statements about vaccination:

- Vaccination is essential for my child
- My child may contract a dangerous disease if he/she does not get vaccinated
- Vaccination is essential to prevent the spread of diseases in our society
- Vaccines are safe for my child's health
- Vaccination benefits outweigh its side effects / reactions
- Vaccination is effective at preventing childhood diseases

The results of the study showed that in general mothers have positive attitudes towards vaccination. The overwhelming majority recognise the necessity, effectiveness and safety of vaccination.

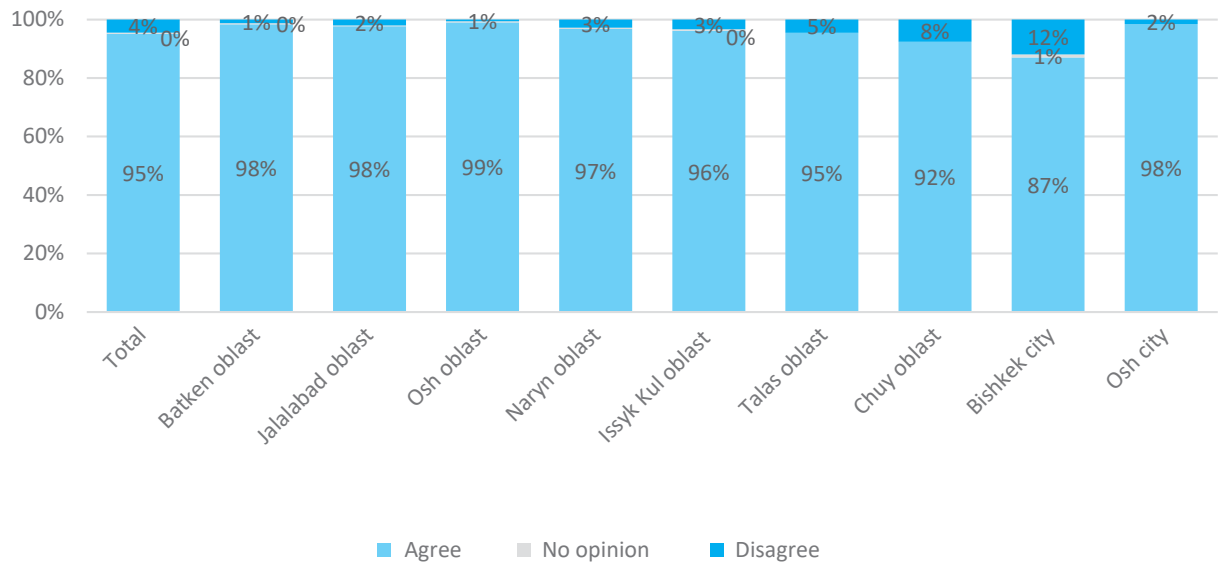
Figure 5.1.1 Assessment of level of agreement with statements about vaccination (Mothers and caregivers of children below five years)



"VACCINATION IS ESSENTIAL FOR MY CHILD"

The vast majority of mothers both in Kyrgyzstan as a whole and in all regions agree that vaccination is necessary for their children. Only 4 per cent of mothers do not agree that vaccination is necessary. However, the proportion denying the need for vaccination is slightly higher in Bishkek (12 per cent) than in other regions. There were no significant differences in the perception of the need for vaccination of children for other demographic indicators.

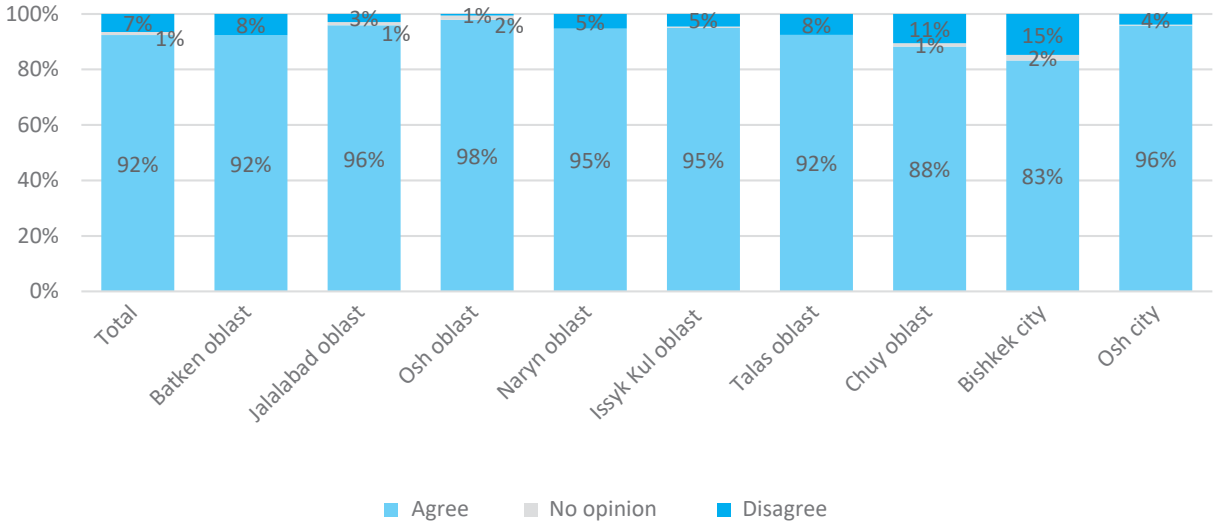
Figure 5.1.2 Agreement with the statement “Vaccination is essential for my child” by Oblast (Mothers and caregivers of children under five years)



“MY CHILD MAY CONTRACT A DANGEROUS DISEASE IF HE/SHE DOES NOT GET VACCINATED”

The vast majority of mothers are aware of the risk of children contracting vaccine-preventable disease if they refuse to have them vaccinated. Nationally 92 per cent of mothers agree with the statement: “My child may contract a dangerous disease if he/she is not vaccinated.” However, as with the answer to the previous question, the largest proportion of those who disagree with this is among those living in Bishkek and in Chuy oblast (15 and 11 per cent respectively). No significant differences have been identified in the perceived need for vaccination for children for other demographic indicators.

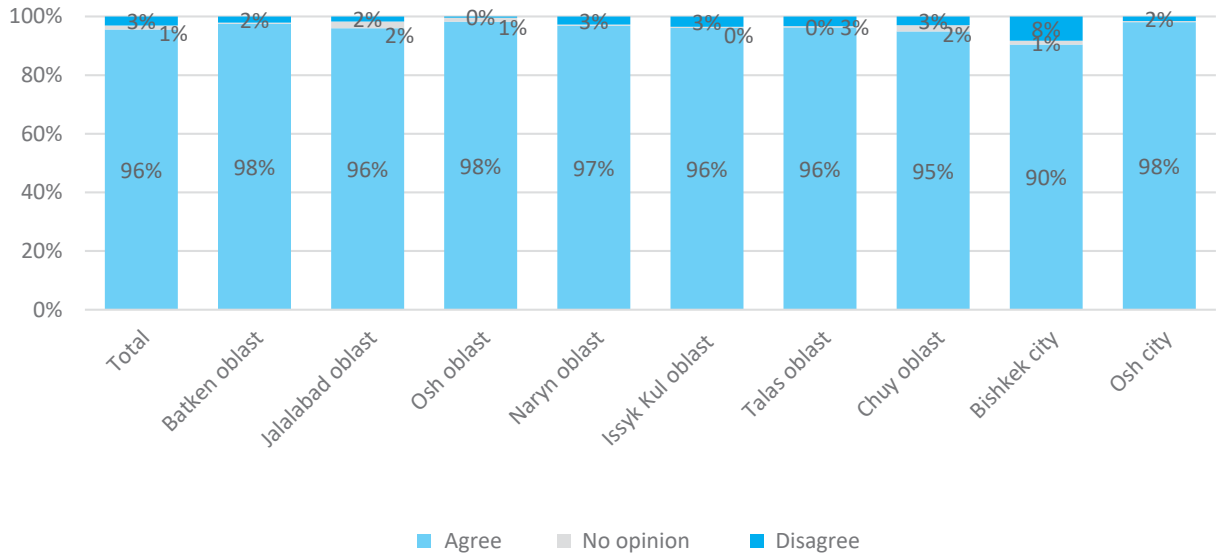
Figure 5.1.3 Agreement with the statement “My child may contract a dangerous disease if he/she is not vaccinated” by oblast (Mothers and caregivers of children under 5 years)



«VACCINATION IS ESSENTIAL TO PREVENT THE SPREAD OF DISEASES IN OUR SOCIETY»

The overwhelming majority of mothers (96 per cent) also agree that vaccination is necessary to prevent the spread of diseases in our society. On this statement, there are no significant differences in agreement for any socio-demographic characteristics of the respondents.

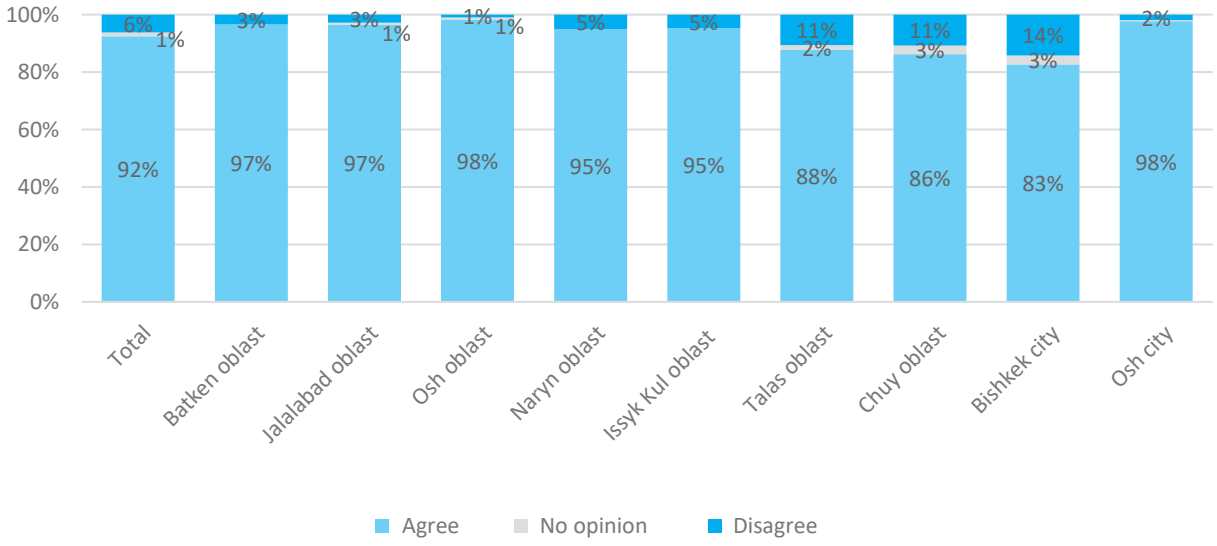
Figure 5.1.4 Agreement with the statement: "Vaccination is essential to prevent the spread of diseases in our society" by oblast (Mothers and caregivers of children under five years)



"VACCINES ARE SAFE FOR MY CHILD'S HEALTH"

Ninety-two per cent of mothers agree with this statement. However, three regions can be identified where the proportion of mothers doubting the safety of vaccines for children's health is slightly higher than in other regions: Bishkek city (14 per cent), and Talas and Chuy oblasts (11 per cent each). In other regions, the proportion of those who do not agree that vaccines are safe for children's health does not exceed five per cent. There were no significant differences in this indicator for other demographic features.

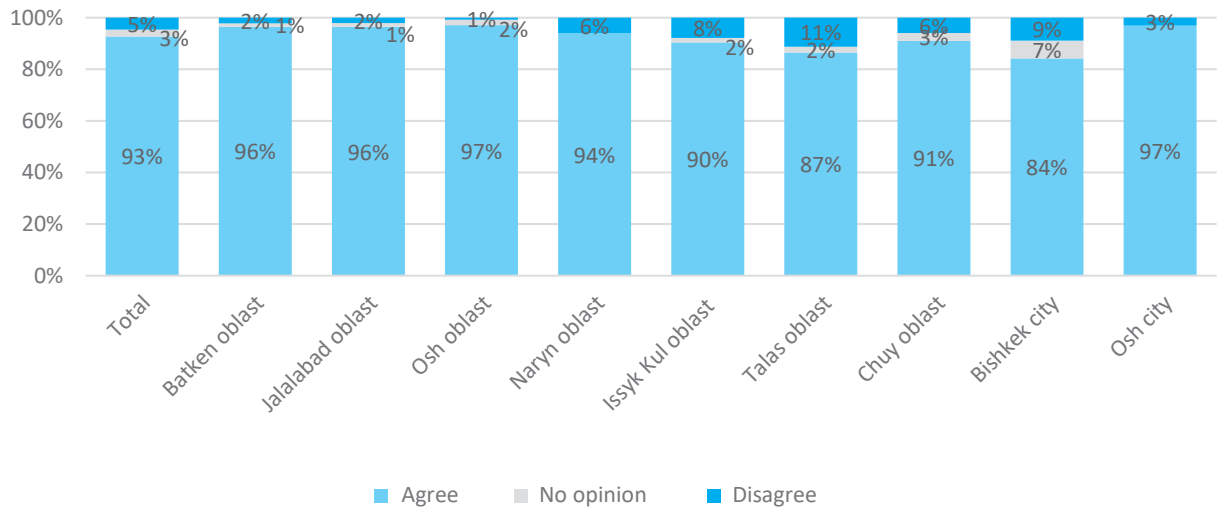
Figure 5.1.5 Agreement with the statement: "Vaccines are safe for my child" by oblast (Mothers and caregivers of children under 5 years)



"VACCINATION'S BENEFITS OUTWEIGH ITS POSSIBLE SIDE EFFECTS /REACTIONS"

In general, the vast majority of mothers (93 per cent) agree that the benefits of vaccination outweigh possible side effects with minor regional differences: In Talas oblast and Bishkek city, agreement with this statement is slightly lower than in other regions (87 and 84 per cent, respectively).

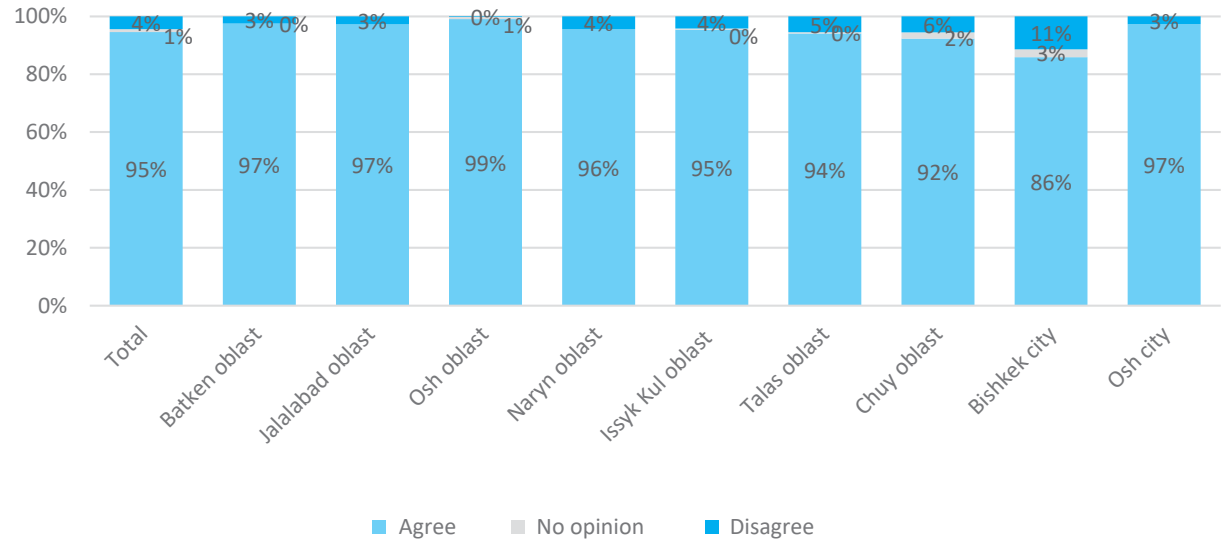
Figure 5.1.6 Agreement with the statement: "The benefits of vaccination outweigh possible side effects" by oblast (Mothers and caregivers of children under five years)



"VACCINATION IS EFFECTIVE TO PREVENTING CHILDHOOD DISEASES"

The findings suggest that mothers generally consider vaccination as an effective way to prevent disease in children, 95 per cent agreed with this statement. While differences between regions are insignificant, the city of Bishkek still records the lowest level of agreement, at 86 per cent.

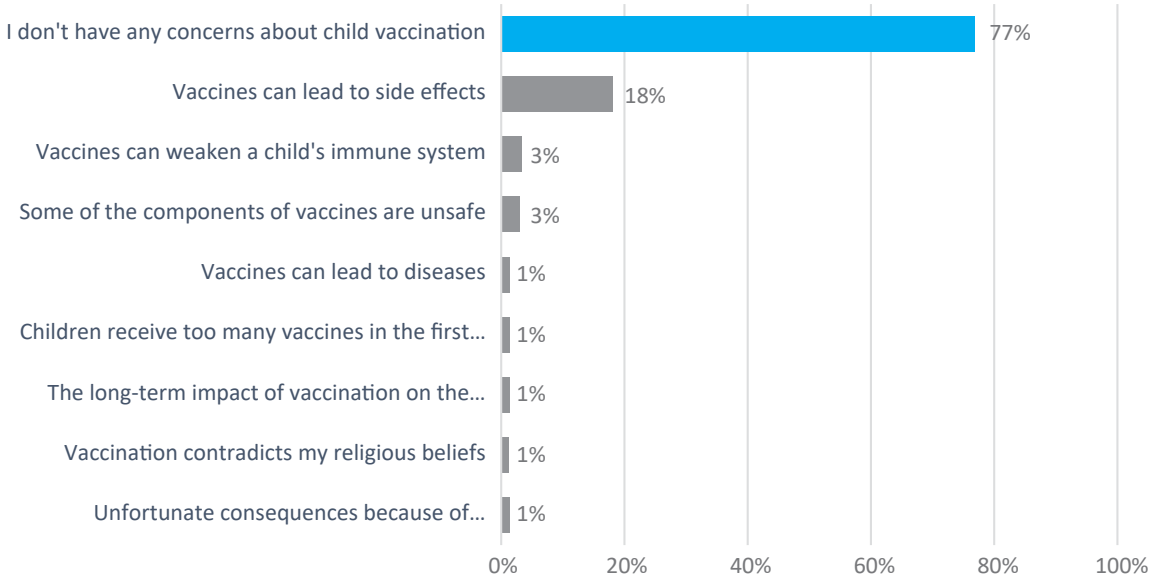
Figure 5.1.7 Agreement with the statement: "Vaccination is effective at preventing childhood diseases" by oblast (Mothers and caregivers of children under 5 years)



DO YOU HAVE ANY DOUBTS ABOUT VACCINATING CHILDREN?

Most mothers (77 per cent) have no doubts about vaccinating children. Mothers who have doubts are afraid of unwanted reactions following vaccination (18 per cent). Other reasons include: doubts about weakening the child's immune system, harm from vaccines components, severe consequences of vaccination (paralysis, possible disability and death), contradicting religious beliefs and others – were mentioned by no more than three per cent of respondents each.

Figure 5.1.8 Doubts of mothers and caregivers of children under 5 years



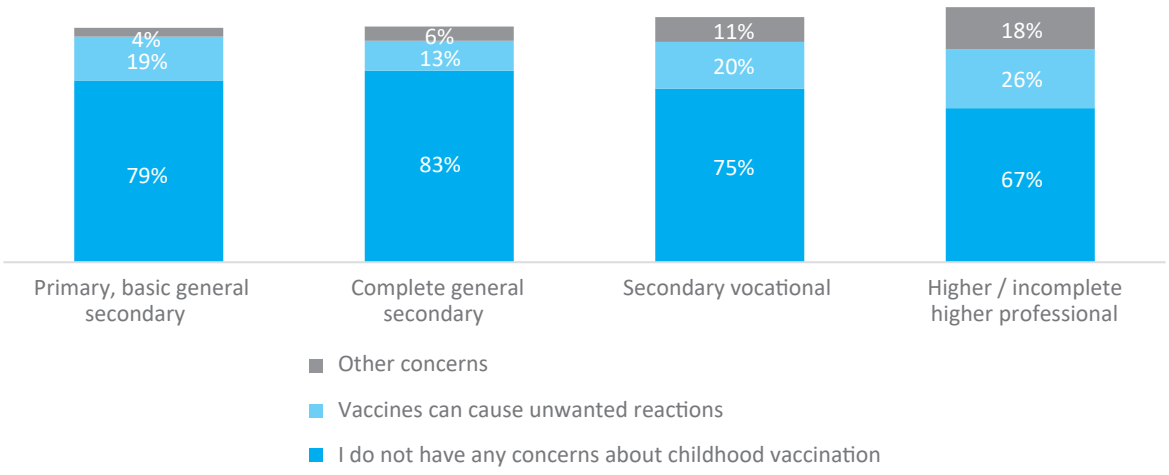
Doubts about vaccination of children: regional differences

Despite the fact that, in general most mothers have no doubts about vaccination, there are some differences related to the socio-demographic characteristics of respondents. The largest of these are regional differences. However, the differences for this indicator are very significant. In most regions, more than 85 per cent of mothers have no doubts about vaccination. Three regions are relatively low in this indicator: Talas oblast (77 per cent), Chuy oblast (64 per cent), and Bishkek city (48 per cent). In all regions, the fears of mothers are mostly associated with unwanted reactions following vaccination. In Bishkek, the proportion is the highest, at 41 per cent. It should be noted that the results obtained in newbuild settlements in Bishkek differ significantly from those for the city as a whole. In Bishkek's newbuild settlements, 79 per cent of mothers have no doubts about vaccination.

Doubts about vaccination of children: differences linked to level of education

Differences in answers by level of education were also revealed. Among mothers with higher education, the proportion fearing the effects of vaccination is higher.

Figure 5.1.9 Doubts of mothers and caregivers of children under 5 years related to vaccination of children in relation to level of education



Doubts about vaccination of children: differences linked to geographical location

The proportion of mothers living in rural areas who do not fears vaccination is 84 per cent, compared to 64 per cent in urban areas. In part, this is connected to the level of education. At the same time, for both urban and rural residents, the main cause of concern is possible unwanted reactions following vaccination (27 and 13 per cent respectively).

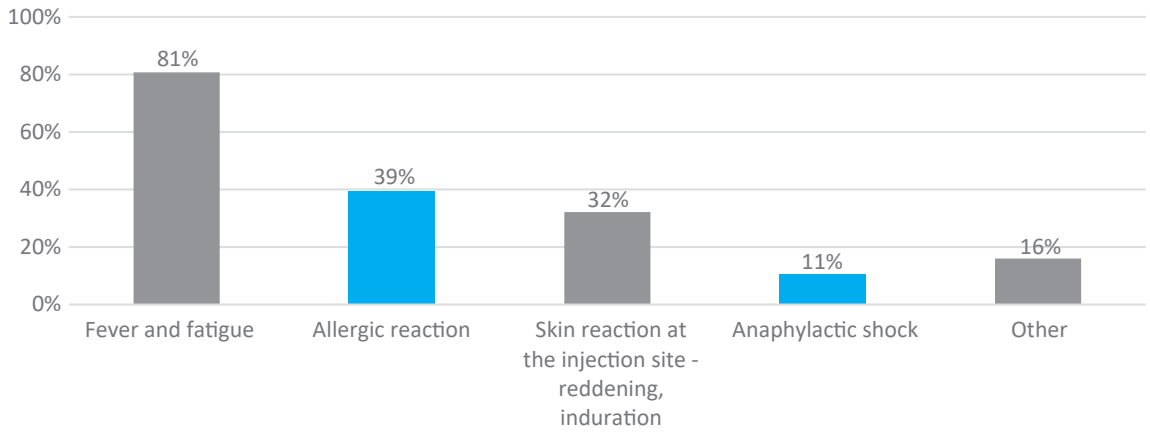
Doubts about vaccination of children: differences linked to subjective perception of wellbeing

An inverse relationship was revealed wellbeing and the absence of doubts connected to vaccination. Among those with higher wellbeing, a smaller proportion do not have doubts associated with vaccination than among those with low wellbeing ratings (69 and 80 per cent respectively).

UNWANTED REACTIONS THAT COULD BE CAUSED BY VACCINES AND SOURCES OF THIS INFORMATION

Respondents who stated that vaccination can lead to unwanted reactions or diseases where asked to specify the types of reaction. The reaction that was most commonly feared was fever and fatigue. This was stated by 81 per cent of mothers who feared unwanted reactions. Sixteen per cent of the mothers suggested that after vaccination there could be serious complications, such as various forms of paralysis, development delays and fatalities.

Figure 5.1.10 Unwanted reactions that could be caused by vaccination, percentages of total number of mothers with doubts about unwanted reactions



The respondents who stated that vaccination could cause diseases were asked to specify the sources from which they received the information; however, the number of cases were insufficient for analysis.

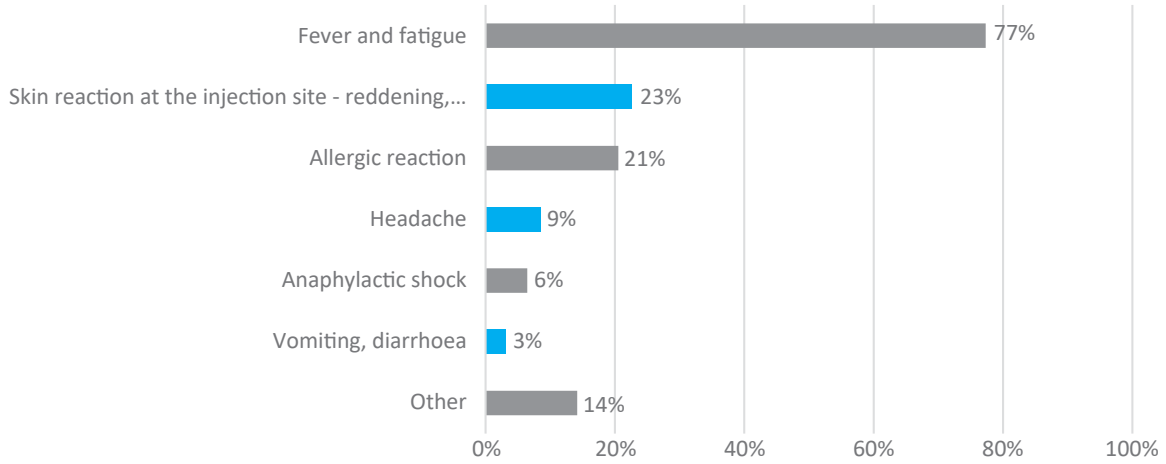
HEARING ABOUT CASES OF UNWANTED REACTIONS IN CHILDREN CAUSED BY VACCINATION/ WHICH UNWANTED REACTIONS

Information about cases of adverse reactions to vaccinations in children is quite common among mothers: 44 per cent had heard of such cases. Moreover, the emergence of fears about vaccination is not related to whether the mothers know of diseases being prevented by vaccination or not, but rather is related to information about the cases they hear from various sources about unwanted reactions to vaccination.

The overwhelming majority of cases of adverse reactions after vaccination that respondents heard of were expected reactions - fever and fatigue (77 per cent), skin reactions at the injection site (23 per cent), and allergic reactions (21 per cent).

Fourteen per cent of mothers who had received such information noted that they had heard of difficult complications after vaccination, including paralysis, mental development disorders and so on.

Figure 5.1.11 Unwanted reactions to vaccination which mothers had heard of, percentage of all mothers who had heard of cases of unwanted reactions



FACING SITUATIONS IN WHICH A CHILD WAS SICK BECAUSE HE/SHE HAD NOT BEEN VACCINATED

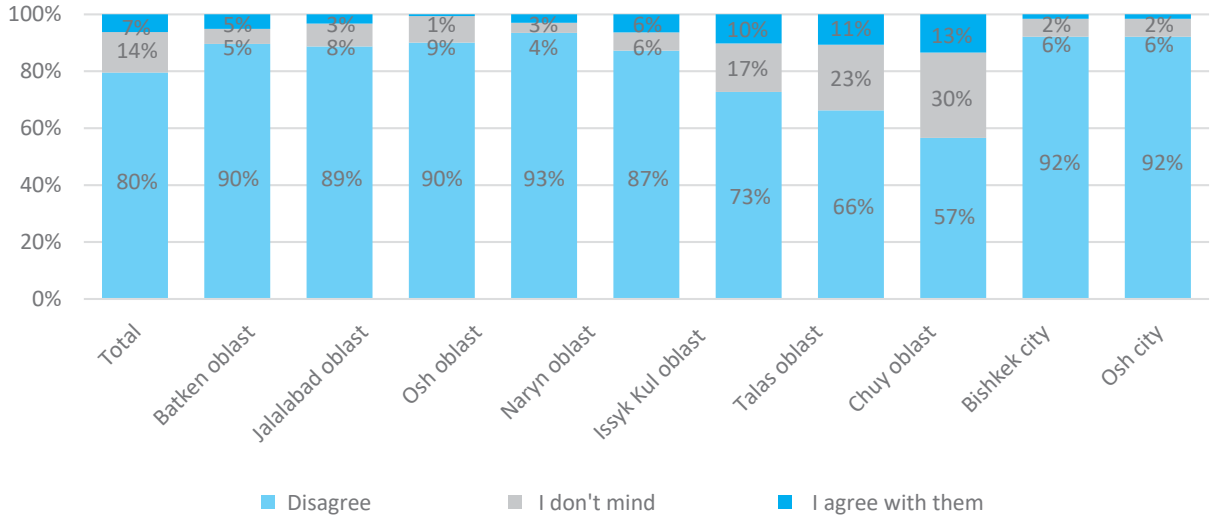
Eight per cent of mothers had dealt with cases in which their unvaccinated children, or the children of their relatives/friends, had fallen sick. For the most part, according to the mothers, these were diseases included in the national immunization calendar: measles, hepatitis B and rubella. It should be noted that these experiences had had virtually no effect on their attitudes towards vaccination in general.

PERCEPTIONS OF GROUPS OF PEOPLE THAT REFUSE TO HAVE THEIR CHILDREN VACCINATED

One of the means of implementing the vaccination strategy may be to shape public opinion about the need for vaccination, not only to protect one's own children, but also the community as a whole. In the survey only 20 per cent of mothers noted that vaccination is necessary to prevent epidemics.

Survey respondents were asked to express their attitudes towards those who refuse to have their children vaccinated. Most mothers (80 per cent) disagree with this decision. Six per cent support the refusal to vaccinate; together with those without a fixed opinion (who chose the option "I don't mind"), they make up a relatively significant group of mothers (20 per cent) who show tolerance for those who refuse vaccination.

Figure 5.1.12 Attitudes of mothers and caregivers of children under five to people/groups of people who refuse to have their children vaccinated by oblast



Attitudes towards people who refuse to have their children vaccinated – regional differences

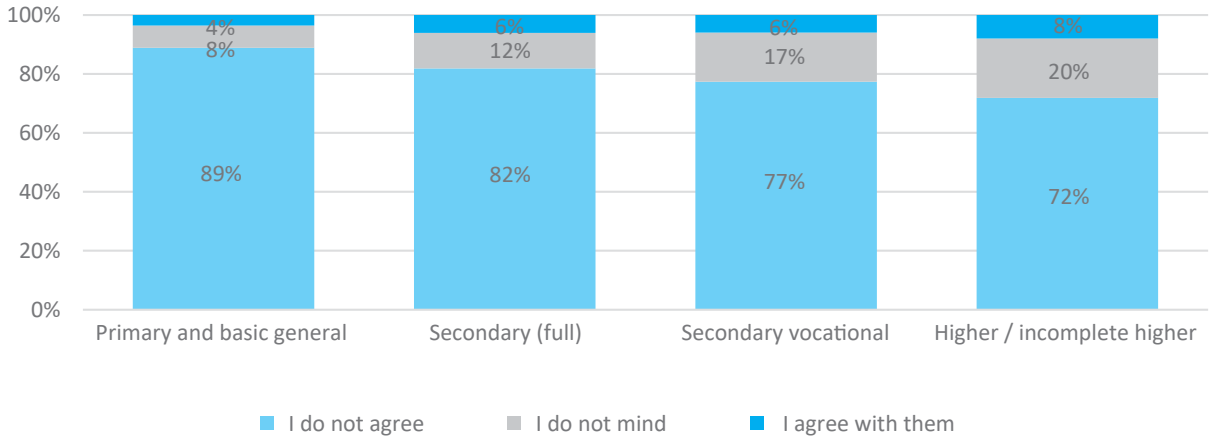
By region, residents of Bishkek city, Chuy and Talas oblasts are the most supportive of "people who refuse vaccination": the proportion that do not support refusals to vaccination is lower than in other regions at 57, 66 and 73 per cent respectively. In these regions, the proportion of mothers who supported refusal to vaccinate is higher, as well as those who did not express a view either way.

In Bishkek city, 30 per cent of mothers did not express either a positive or negative attitude toward "people who refuse to vaccinate". It should be noted that the distribution of answers to this question by mothers living in Bishkek's newbuild settlements – 76 per cent of whom do not support refusal to vaccinate – is significantly different from the result for the city as a whole.

Attitudes towards people who refuse to have their children vaccinated –differences linked to level of education, geographical location and perception of wellbeing

In addition to regional differences in attitudes towards people who refuse to vaccinate, significant differences have also been identified for other socio-demographic features. In groups with higher education the proportion of mothers who disagree with refusal to vaccinate is lower. This lower figure is not so much because of greater support, but because a higher proportion of mothers expressed no preference.

Figure 5.1.13 Attitudes of mothers and caregivers of children under five to people/groups of people who refuse to have their children vaccinated by level of education

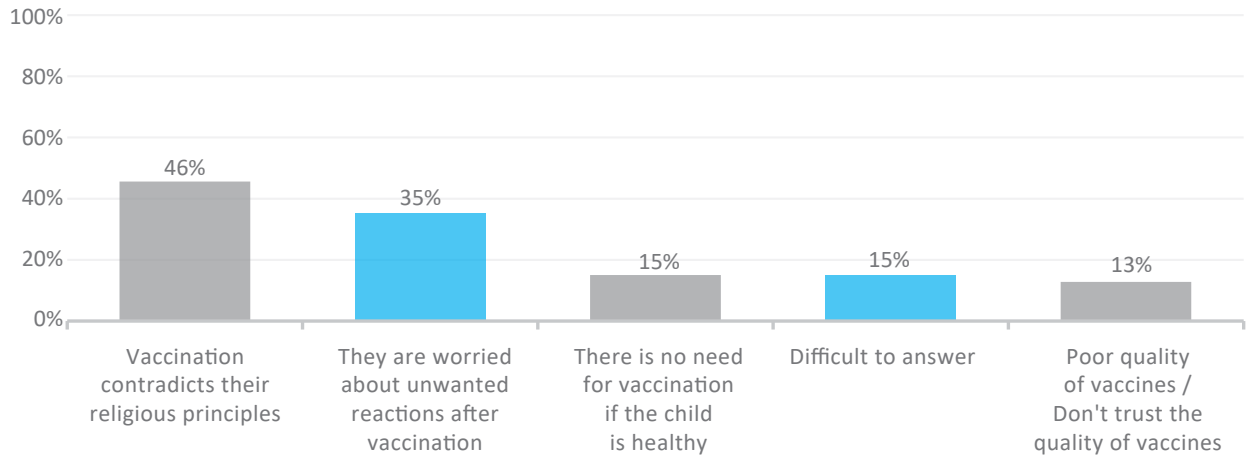


There is a similar result when considering the relationship between the indicator and the perception of wellbeing. In groups with higher wellbeing, the proportion of mothers who disagree with parents' refusal to vaccinate children is lower. Also, in general, residents of urban settlements are more supporters to "parents refusing to vaccinate": the share of those who do not support refusals to vaccinate is 67 per cent, compared to 87 per cent in rural areas.

WHY PARENTS REFUSE TO HAVE THEIR CHILDREN VACCINATED

The distribution of opinions about the reasons to why some parents may refuse vaccination generally refutes the prevailing view that the main reason for refusal is the contradiction of vaccination with religious principles. Forty-six per cent of mothers adhere to this opinion. The second most frequent mentioned cause is concern about side effects (35 per cent).

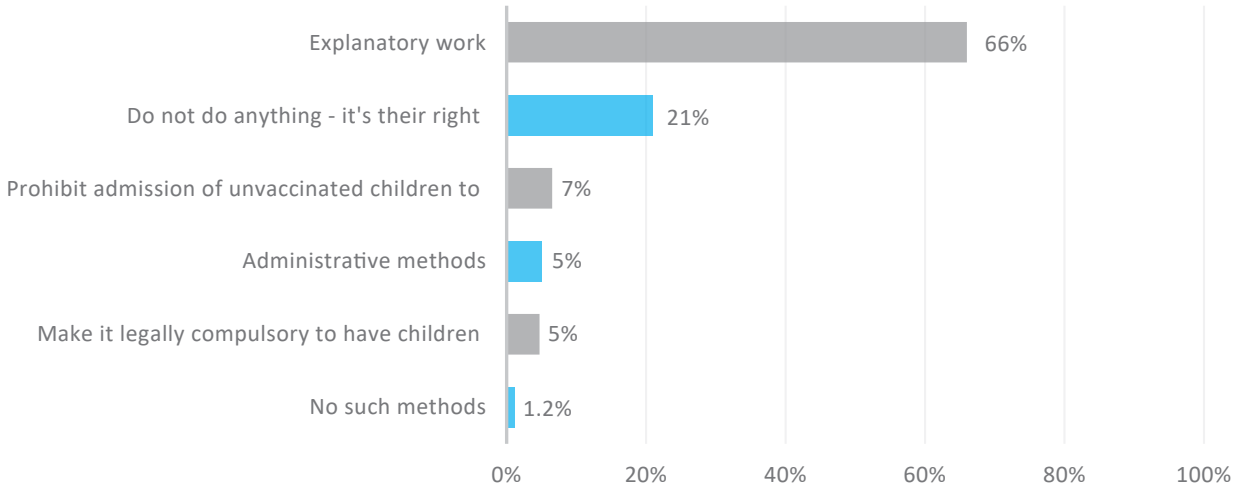
Figure 5.1.14 Reasons why groups of people refuse to have their children vaccinated in the opinion of mothers and caregivers of children under five years of age



HOW CAN WE INFLUENCE PEOPLE WHO REFUSE TO HAVE THEIR CHILDREN VACCINATED

Most mothers (66 per cent) believe that explanatory discussions should be held with parents who refuse to have their children vaccinated. In addition, some survey respondents proposed more radical measures to influence them, such as the ban on admitting unvaccinated children without medical evidence to educational institutions, administrative measures, and legislation to make vaccination mandatory. However, the proportion that supports such measures is small: no more than 7 per cent. A fairly significant group of mothers (21 per cent) believe that there is no need to influence "people who refuse to vaccinate" in any way: they believe they are entitled to their own decisions.

Figure 5.1.15 Methods to influence parents who refuse to have their children vaccinated, and caregivers of children under five years of age



WHO DO YOU THINK CAN INFLUENCE PEOPLE WHO REFUSE TO HAVE THEIR CHILDREN VACCINATED?

According to the survey findings, healthcare professionals are the most likely to influence parents who refuse to have their children vaccinated. Seventy per cent of mothers have this opinion. The proportions of those who mentioned others as influential are significantly lower: a third of mothers believe that relatives can exert such influence, and 21 per cent mentioned religious leaders.

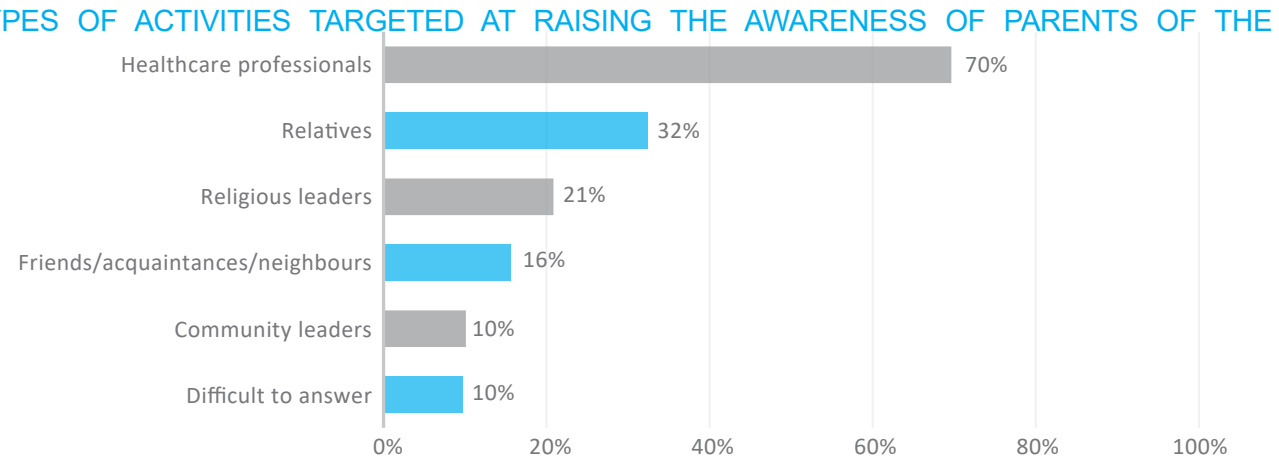
There were several regional differences in the answers to this question. In Jalalabad, Osh oblasts and Osh city society also exerts a great influence, and in particular community leaders. They were mentioned

less than healthcare professionals, but the proportion that indicated relatives, friends, acquaintances and community leaders on vaccination issues are higher in these than in other regions.

It would be fully justifiable to involve religious leaders in awareness/educational work with parents who refuse to vaccinate for religious reasons. However, the proportion of mothers who noted these as persons who could exert such influence is relatively low (21 per cent), while in Batken, Talas and Chuy oblasts it is even lower (10-12 per cent).

In Talas oblast only 45 per cent of mothers believe that healthcare professionals can influence vaccination to “refusing parents”, while in other regions this indicator lies in the range of 62-85 per cent.

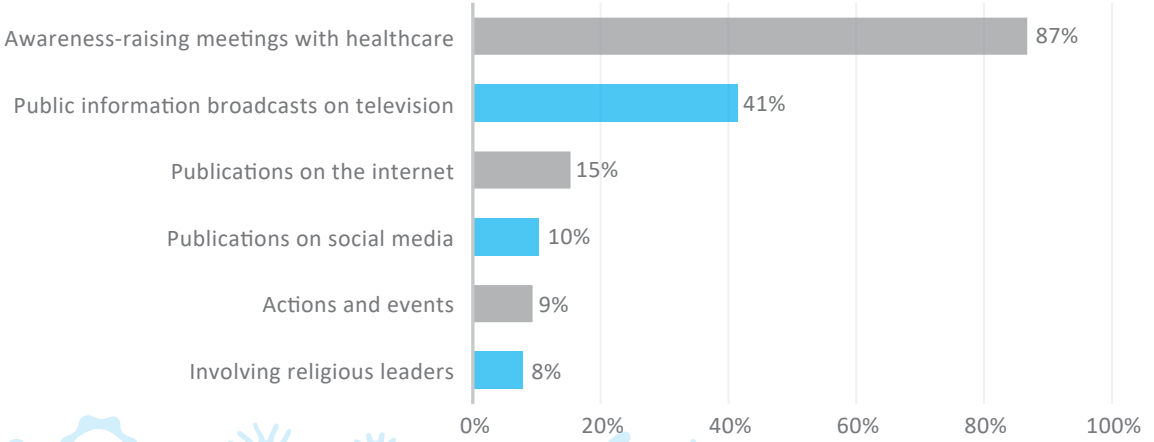
Figure 5.1.16 Persons who can influence parents who refuse to have their children vaccinated (Mothers and caregivers of children under5 years of age)



IMPORTANCE OF TIMELY VACCINATION WOULD BE MOST EFFECTIVE

The most effective form of awareness/educational work is face to face discussions with healthcare professional (87 per cent of mothers). Television must also be used to conduct awareness raising activities. Forty-one per cent of mothers noted the effective impact of public information videos. In our times, information campaigns cannot be conducted without the internet and social networks. It was assumed that most mothers use the internet to search for information, and it would be advisable to use this resource for awareness raising work. However, the proportion of mothers who believe them to be effective tools for these purposes is relatively small: 15 per cent and 10 per cent respectively. The frequency of mentioning the internet and social media networks is higher in groups with higher level of education and wellbeing, but there are no significant differences between age groups.

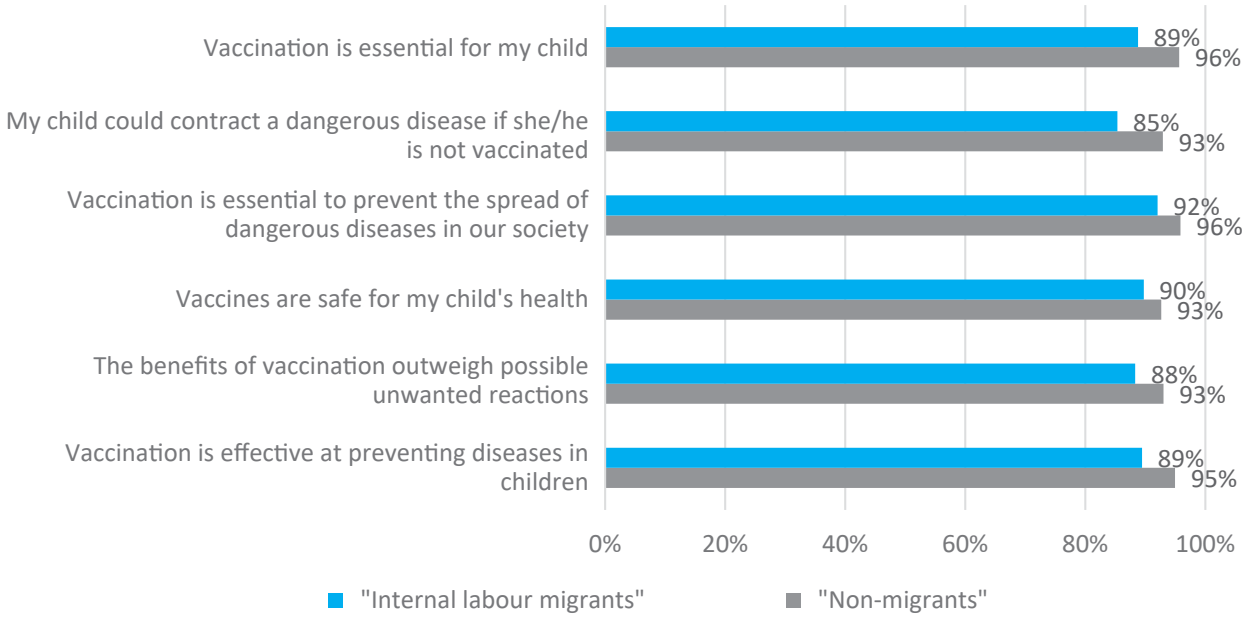
Figure 5.1.17 The most effective forms of awareness-raising work with parents about the need for timely vaccination (Mothers and caregivers of children under five years of age)



5.2 INTERNAL LABOR MIGRANTS

The vast majority of “internal labor migrants”, like mothers as a whole, agree that vaccination is essential, effective and safe for children. No significant difference was revealed between “internal labor migrants” and “non-migrants” with regard to the statements on vaccination.

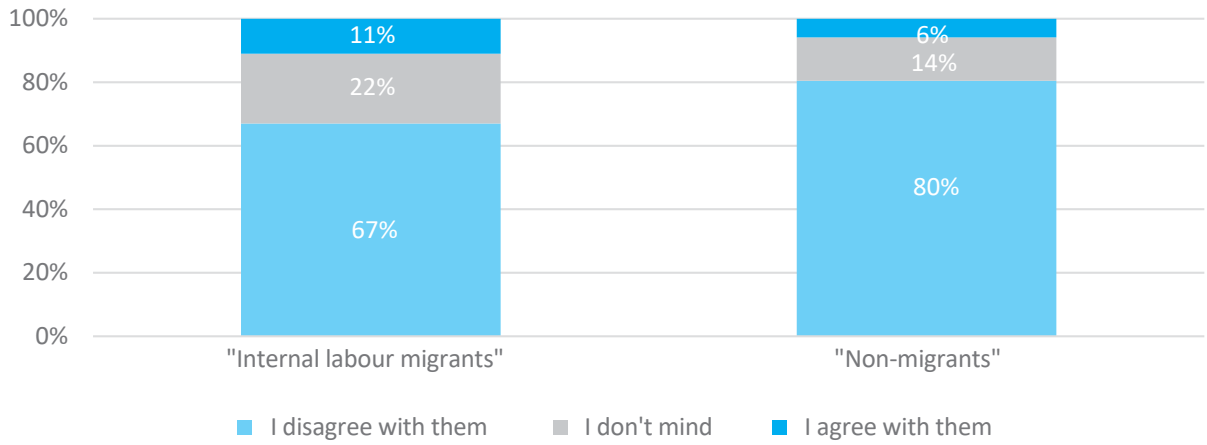
Figure 5.2.1 Level of agreement with statements about vaccination among “internal labor migrants” and “non-migrants”



The Majority of “internal labor migrant” mothers, are like non-migrant mothers in general, have no doubts about vaccination (64 per cent). Of those who have concerns, a large proportion are mothers whose fears are linked to unwanted reactions (27 per cent).

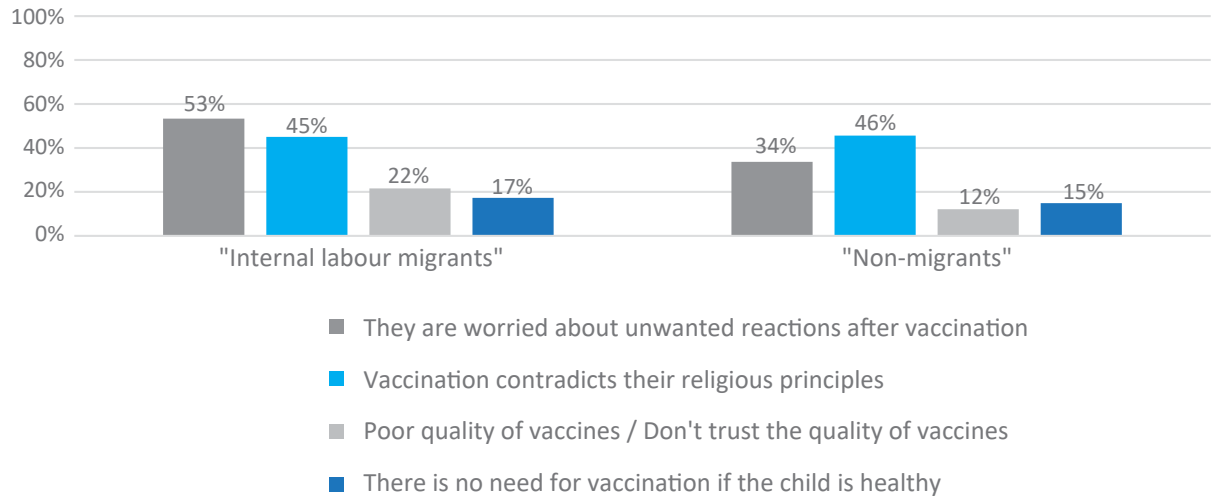
The attitude of “internal labor migrants” to parents who refuse to vaccinate children, in general, is more supportive than that of “non-migrants”. The proportion of “internal labor migrants” who disagreed with parents who refuse to vaccinate was 67 per cent, compared to 80 per cent among “non-migrants”.

Figure 5.2.2 Attitudes towards parents who refuse to have their children vaccinated



Reasons for refusal of vaccinations among “internal labor migrants” as a whole differs somewhat from the answers of “non-migrant: mothers. “Internal labor migrants” were most likely to say vaccines are refused because of fears associated with side effects (53 per cent), while “non-migrants” rank first refusal to vaccinate for religious reasons (46 per cent).

Figure 5.2.3 Reasons why people / groups of people refuse vaccination for their children



The opinions of “internal labor migrants” and “non-migrants” about methods to influence parents who refuse to have their children vaccinated do not differ significantly.

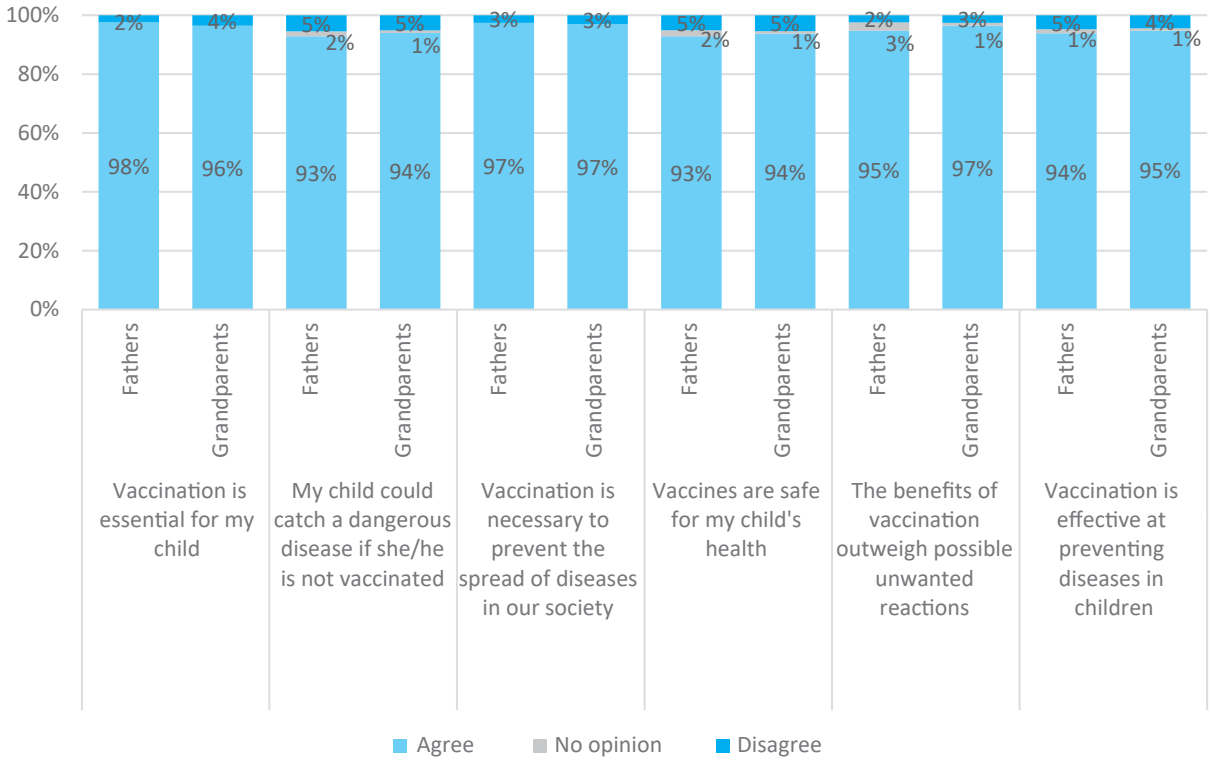
5.3 INFLUENCERS (FATHERS & GRANDPARENTS)

LEVEL OF AGREEMENT WITH THE FOLLOWING STATEMENTS ABOUT VACCINATION:

- Vaccination is essential for children
- A child may contract a dangerous disease if he/she does not get vaccinated
- Vaccination is essential to prevent the spread of diseases in our society
- Vaccines are safe for children's health
- Vaccination benefits outweigh its side effects / reactions
- Vaccination is effective at preventing childhood diseases

The vast majority of influentials, more than 93 per cent agree to the necessity, effectiveness and safety of vaccination. A total of 98 per cent of fathers and 96 per cent of grandparents believe that vaccination is essential for children.

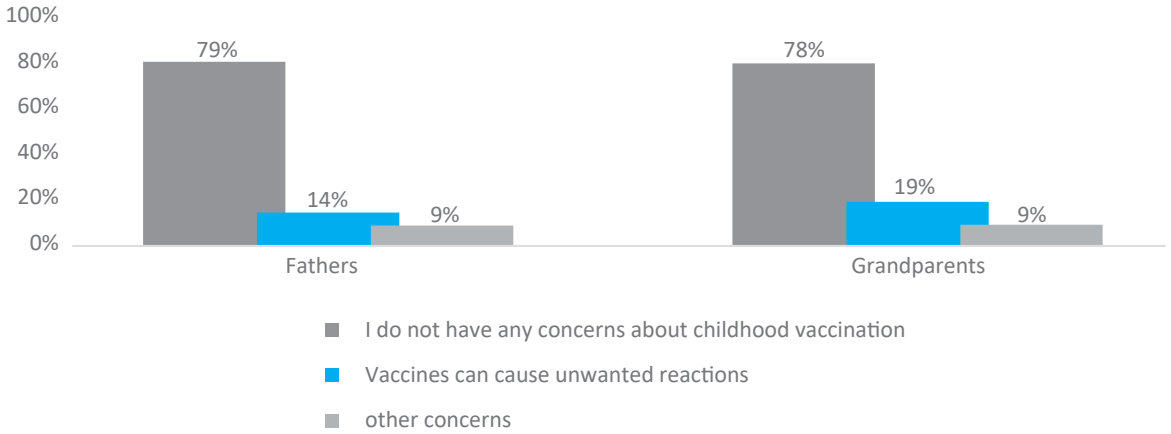
Figure 5.3.1 Level of agreement with statements about vaccination, percentages



DOUBTS ABOUT THE VACCINATION OF YOUR CHILDREN

Most of influentials (79 per cent of fathers and 78 per cent of grandparents) have no doubts about vaccination. Just like for mothers, the main concern of influentials is unwanted reactions. The religious beliefs of influentials are virtually not obstacles to vaccination: the frequency of mentioning of this cause did not exceed 1 per cent.

Figure 5.3.2 Doubts about the vaccination of children among influential



Significant differences were revealed on the basis of the respondents' socio-demographic characteristics: the type of locality, the region, and level of education. These differences are typical for both fathers and grandparents.

Doubts about vaccination of children: differences by type of location

The proportion of respondents who do not have doubts about vaccination is higher in rural areas. Among "fathers" 88 per cent of rural residents have no doubts about vaccination, while the figure is 63 per cent for rural areas.

The vast majority of "grandparents" living in rural areas (89 per cent) also stated that they have no doubts about vaccination of children. The proportion in urban areas, however, was 59 per cent.

Doubts about vaccination of children: regional differences

Doubts about vaccination also correlate to level of education. Of those who have only received general secondary education, 90 per cent of fathers and 88 per cent of grandparents have no doubts about vaccination, while for those with higher or vocational education the figures are 68 and 67 per cent respectively.

UNWANTED REACTIONS THAT CAN BE CAUSED BY VACCINES/ SOURCES OF GETTING THIS INFORMATION

Respondents who stated that they had doubts from unwanted reactions after vaccination were given an additional question about which unwanted reactions a vaccine can cause.

The number of respondent fathers who had doubts about vaccination was insufficient to analyse the reasons. The vast majority of grandparents who had doubts about unwanted reactions stated that vaccines can lead to fever and fatigue.

CASES OF UNWANTED REACTIONS IN CHILDREN CAUSED BY VACCINATION

Less than half of the influentials heard of cases of unwanted reactions among children caused by vaccination: 29 per cent of fathers and 40 per cent of grandparents. Such information undoubtedly caused concerns about vaccination among influentials, the proportion of influentials who received such information is significantly higher among those who have concerns about vaccination, than among those that have no doubts. In addition, fathers with doubts about vaccination displayed better knowledge about vaccine preventable diseases.

Influentials who had heard of cases of unwanted reactions in children were asked to specify what these reactions were. The number of respondent fathers was insufficient to provide information on this topic. The vast majority of grandparents (85 per cent of those who had heard of cases) stated that they were cases of fever and fatigue.

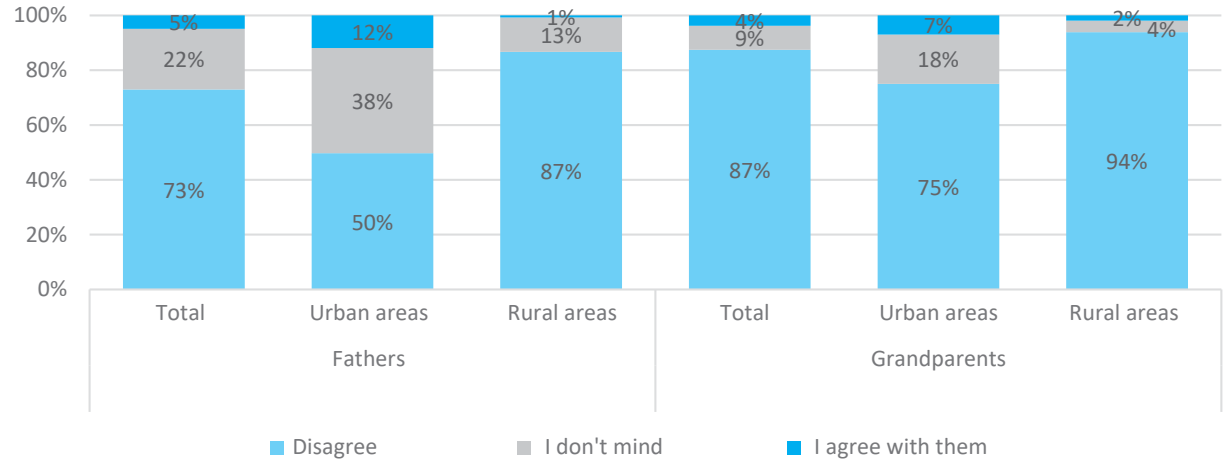
FACING SITUATIONS OF CHILD BEING SICK BECAUSE HE/SHE HAD NOT BEEN VACCINATED

Nine per cent of fathers and 10 per cent of grandparents had faced situations in which children fell ill with vaccine-preventable diseases.

PERCEPTION OF PEOPLE WHO REFUSE TO HAVE THEIR CHILDREN VACCINATED

Most influentials do not support the decisions of individuals / groups who refuse to vaccinate their children (73 per cent of fathers, 87 per cent of grandparents). Residents of urban settlements and those living in the north are more supportive of "people who refuse to vaccinate", with larger proportions both of persons who support parents who have refused vaccination and persons with neutral attitudes. Thus, only half of fathers living in urban areas do not agree with refusals to have children vaccinated, while the figure is 87 per cent in rural areas. Among influentials living in the south, none would agree with the "people who refuse to vaccinate", while in the north 9 per cent of fathers and 8 per cent of grandparents support them.

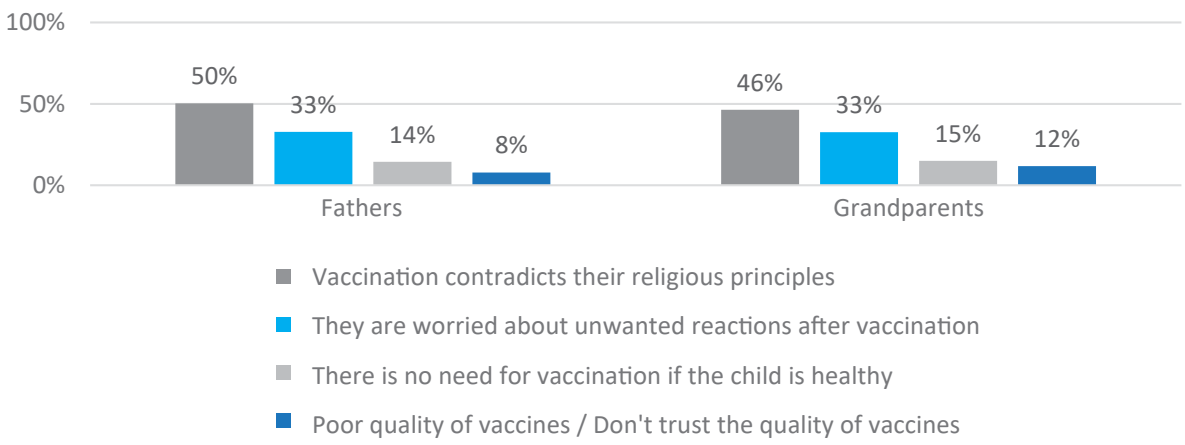
Figure 5.3.3 Attitudes of influentials to persons/groups who refuse to have their children vaccinated, by type of location



WHY DO PARENTS REFUSE TO HAVE THEIR CHILDREN VACCINATED

The opinions of influentials about the reasons for refusals to vaccinate generally coincide with the opinion of mothers. Half of fathers and 46 per cent of grandparents believe the decision is based on religion. Refusal because of the possibility of unwanted reactions was suggested by a third of the influentials. Among urban residents, this was much more likely to be mentioned than in rural areas. A total of 53 per cent of fathers living in urban areas mentioned refusal of vaccination because of fear of unwanted reactions, while the equivalent figure for fathers in rural areas was 22 per cent.

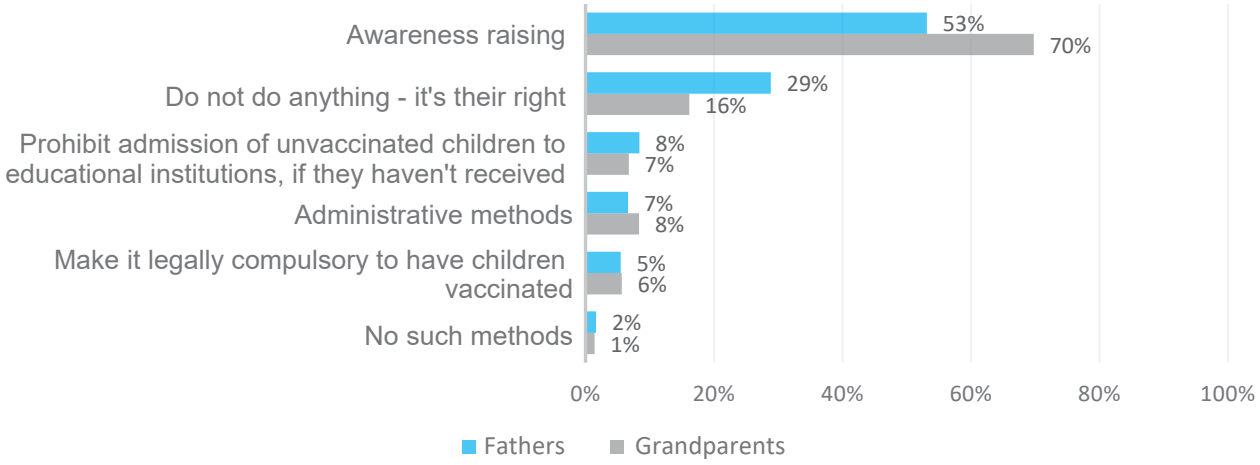
Figure 5.3.4 Reasons why persons/groups of persons refuse to have their children vaccinated (Influential persons)



HOW CAN WE INFLUENCE PEOPLE WHO REFUSE TO HAVE THEIR CHILDREN VACCINATED

Most of the influentials (53 per cent of fathers and 70 per cent of grandparents) believe that awareness raising interpersonal communication meetings can influence parents who refuse to have their children vaccinated. It should be noted that a significant proportion of influentials believe that nothing should be done to influence parents who refuse to have their children vaccinated (29 per cent of fathers and 16 per cent of grandparents). It is highly likely that most of those with this opinion support parent who refuse to vaccinate or are neutral towards them.

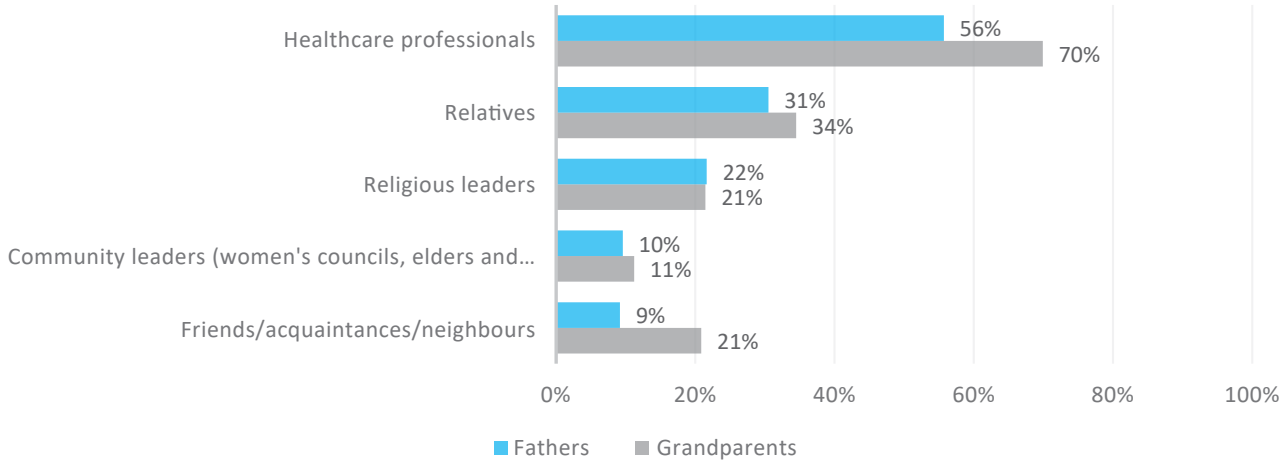
Figure 5.3.5 Ways to influence parents who refuse to have their children vaccinated-Influentials



WHO CAN INFLUENCE PERSONS WHO REFUSE TO HAVE THEIR CHILDREN VACCINATED

Most of the influentials (56 per cent of fathers and 70 per cent of grandparents) believe that healthcare professionals can influence parents who refuse to have their children vaccinated. A significant proportion of the influentials (22 per cent of fathers and 21 per cent of grandparents) believed that religious leaders could exert this influence.

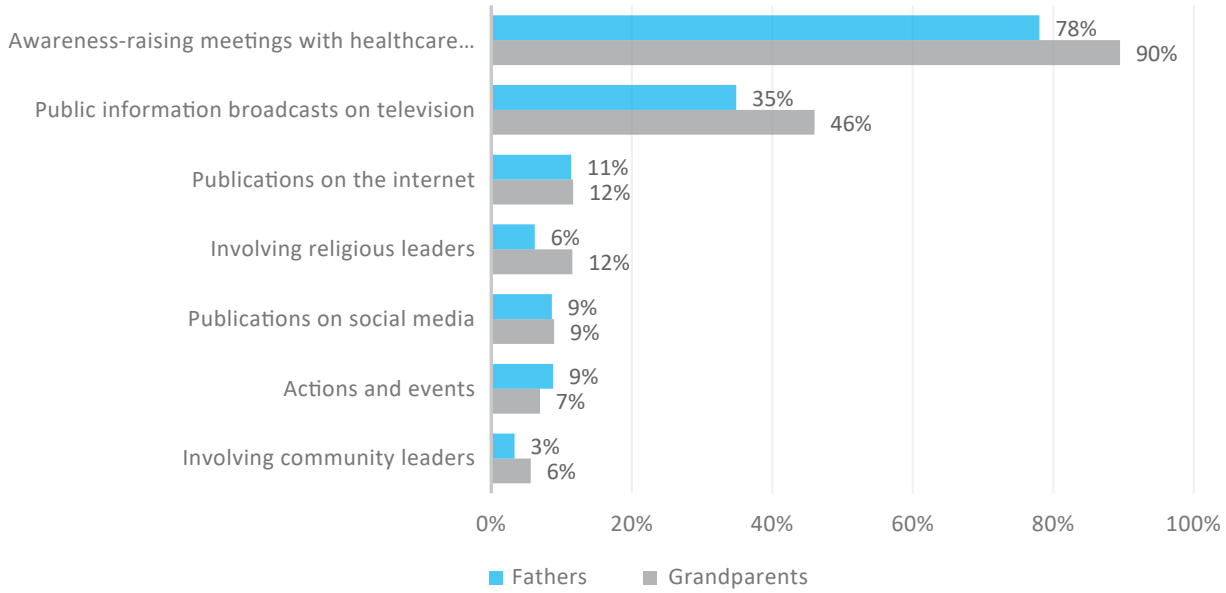
Figure 5.3.6 Persons who can influence parents who refuse to have their children vaccinated, Influentials



TYPES OF ACTIVITIES TARGETED AT RAISING AWARENESS OF PARENTS ABOUT THE IMPORTANCE OF TIMELY VACCINATION THAT IS MOST EFFECTIVE

The level of trust in healthcare professionals is rather high. Therefore, discussions with healthcare professionals is the absolute leader in terms of number of mentions among the forms of awareness raising work with parents about the need for timely vaccination. Seventy-eight per cent of fathers and 90 per cent of grandparents are of this opinion. A significant proportion of influentials mentioned the effectiveness of advertising on television: 35 per cent of fathers and 46 per cent of grandparents. The other forms of awareness raising were mentioned significantly less often 12 per cent or less.

Figure 5.3.7 Effective forms of awareness raising with parents about the need for timely vaccination (Influentials)



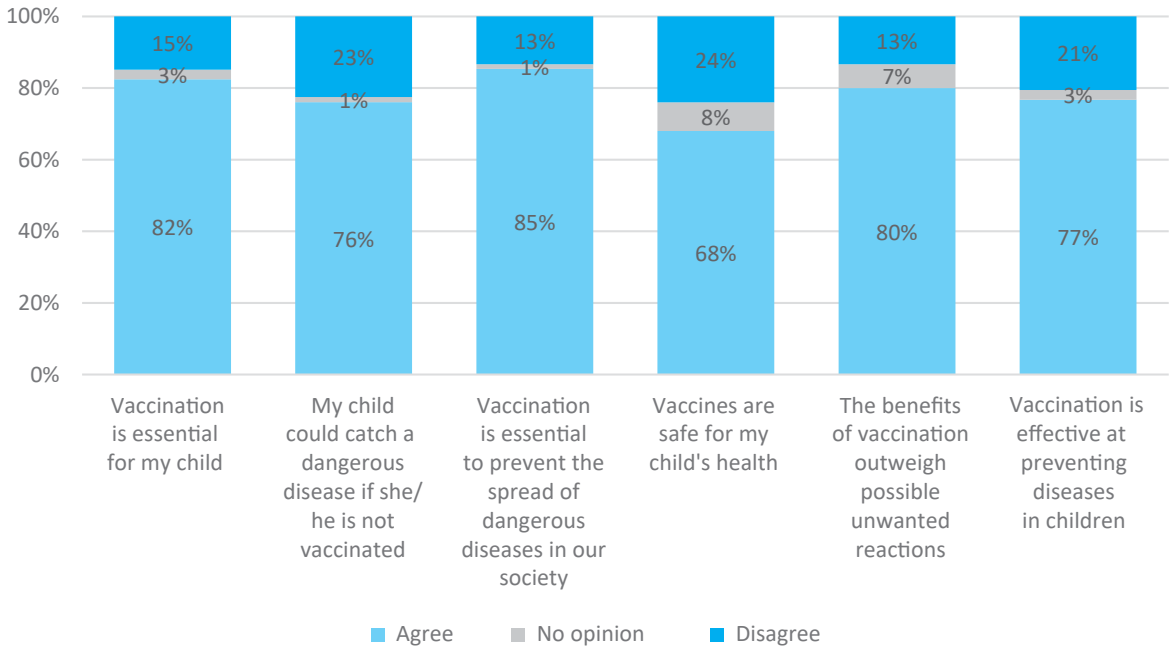
5.4 RELIGIOUS LEADERS

LEVEL OF AGREEMENT ON THE FOLLOWING STATEMENTS ABOUT VACCINATION

- Vaccination is essential for children;
- A child may contract a dangerous disease if he/she does not get vaccinated;
- Vaccination is essential to prevent the spread of diseases in our society;
- Vaccines are safe for children's health;
- Vaccination benefits outweigh its side effects / reactions; and
- Vaccination is effective at preventing childhood diseases

Despite the fact that most religious leaders agree on the need for, effectiveness and safety of vaccinations, the level of agreement in this target group is lower than other groups. Only 68 per cent of religious leaders believe that vaccines are safe for children's health. It should be noted that religious leaders living in urban settlements, as well as those living in the north, are most critical about vaccination. Thus, 41 per cent of respondents living in the northern region disagreed with the statement that vaccines are safe for children's health, while in the south there were no dissenters to this statement. Eighty-one per cent of religious leaders living in rural areas agreed that vaccines are safe, while for urban residents only half the respondents thought this.

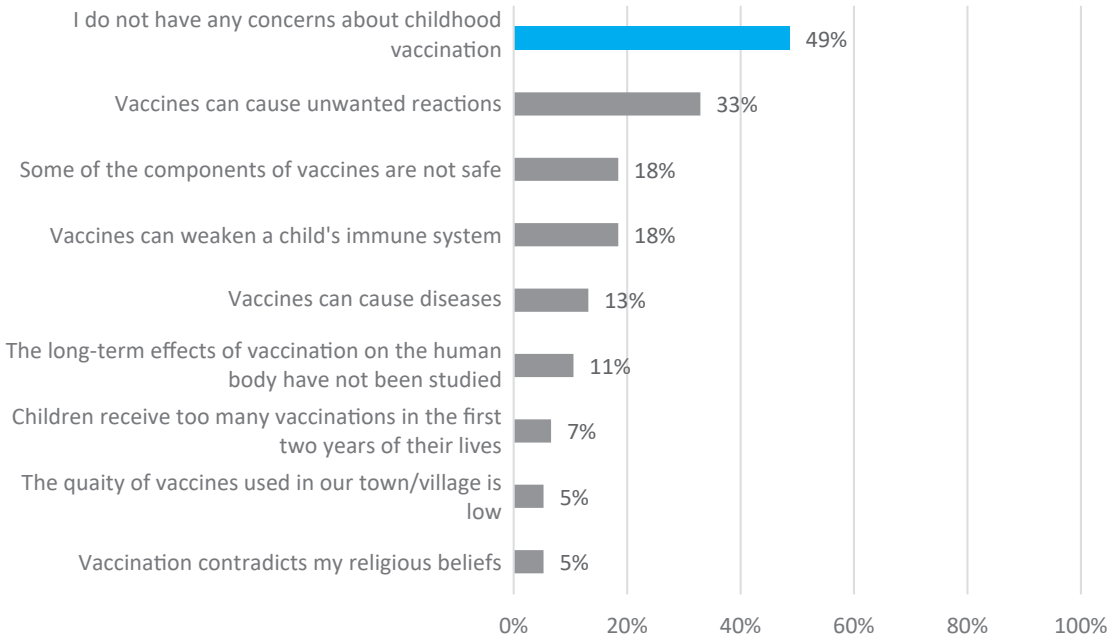
Figure 5.4.1 Level of agreement of religious leaders with statements about vaccination



DOUBTS ABOUT VACCINATION OF CHILDREN

Half of the religious leaders (49 per cent) have no doubts about vaccination. Most of those who have such fears are afraid of unwanted reactions (33 per cent). Only 5 per cent of the religious leaders claimed that their religious convictions led them to oppose vaccination.

Figure 5.4.2 Doubts about vaccination-Religious leaders



UNWANTED REACTIONS THAT CAN BE CAUSED BY VACCINES AND SOURCES OF THIS INFORMATION

Respondents who stated that they had doubts about unwanted reactions after vaccination were given an additional question about which unwanted reactions a vaccine can cause. The unwanted reactions that religious leaders had in mind when answering the question about their doubts about vaccination are mostly related to reactions, such as fever and fatigue. However, some religious leaders stated that vaccination could lead to infertility, mental retardation and death.

RELIGIOUS CANONS/POSTULATES THAT CONTRADICTS VACCINATION

Respondents who stated that vaccination is contrary to their religious principles was asked to clarify exactly which religious canons / postulates that vaccination contradicts. Only 5 per cent of religious leaders (four respondents) affirmed this contradiction, and so this number of answers is not enough for analysis. The answers given below by the respondents to this question are not representative and only reflect their opinions. These religious leaders could not explain what the contradiction is. One respondent noted that he did not trust the composition of the vaccine. The rest gave vague answers like according to Islam, Quran and Sunnah, all diseases come from God.

CASES OF UNWANTED REACTIONS IN CHILDREN CAUSED BY VACCINATION

Just over half of the religious leaders (54 per cent) had heard of cases of unwanted reactions in children after vaccination. Most of them (78 per cent of those who had heard such information) noted that this was the expected reaction: fever and fatigue.

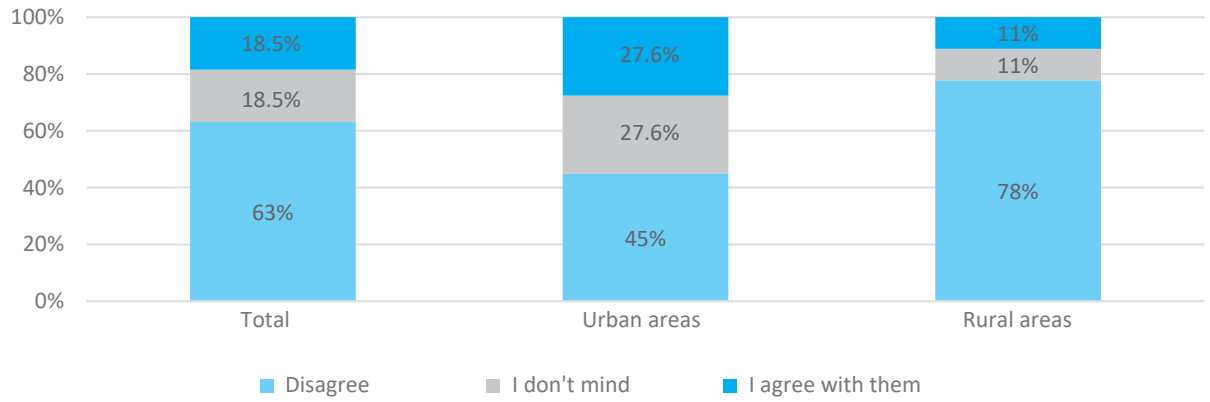
FACING SITUATIONS IN WHICH A CHILD WAS SICK BECAUSE HE/SHE HAD NOT BEEN VACCINATED

Only 3 per cent of religious leaders had faced cases of vaccine-preventable diseases among non-vaccinated children.

PERCEPTIONS TOWARDS PEOPLE WHO REFUSE TO HAVE THEIR CHILDREN VACCINATED

Given the survey findings religious leaders are the group least supportive of vaccination, it is natural that this group has the largest proportion of persons who support parents who refuse to vaccinate their children. While 63 per cent of religious leaders disagree with “people who refuse to vaccinate”, the rest are divided into two equal groups: 18.5 per cent of religious leaders agree with the decision, while 18.5 per cent are neutral. It should be noted that the proportion of urban residents who do not agree with refusals to vaccinate is significantly lower than among rural residents (45 and 78 per cent respectively).

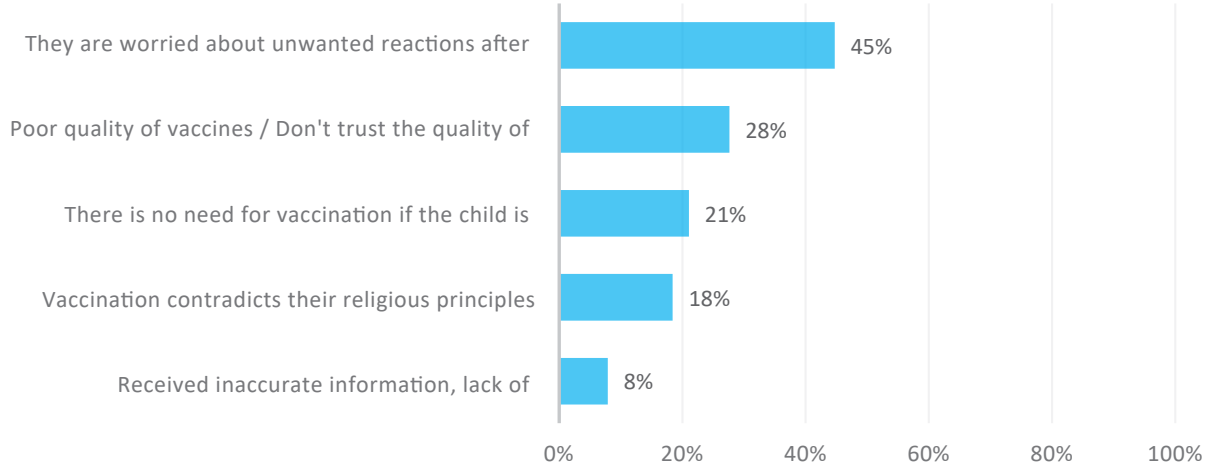
Figure 5.4.3 Attitudes of religious leaders to persons/groups who refuse to have their children vaccinated (Religious leaders)



REFUSING VACCINATION

Unlike the other target groups, the religious leaders most often mentioned fear of unwanted reactions as the reason to refuse to vaccinate, rather than contradiction to religious principles 45 per cent. Contradiction to religious principles was mentioned as a reason to refuse by 18 per cent of religious leaders.

Figure 5.4.4 Reasons to refuse vaccination in the opinion of religious leaders (percentages)



RELIGIOUS CANONS THAT GUIDE PARENTS TO REFUSE VACCINATION

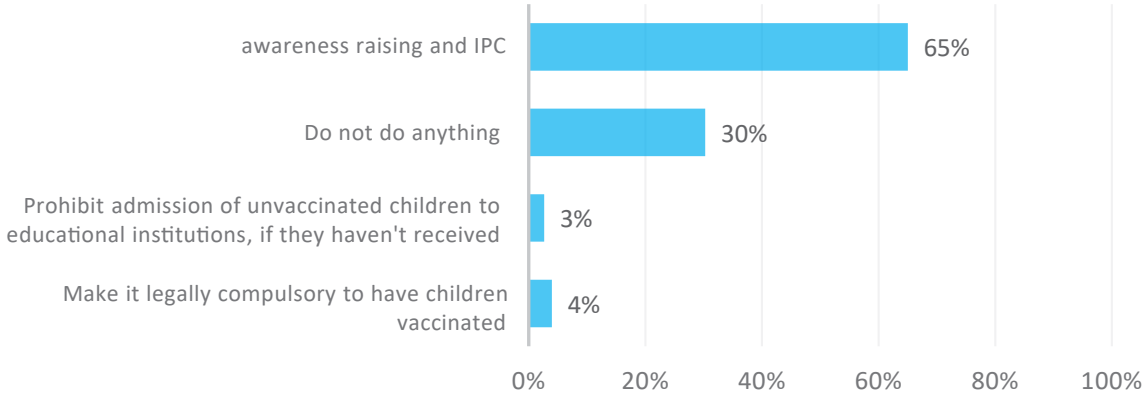
Respondents who noted that the reason to refuse vaccination is related to contradiction to religious principles were asked to clarify which religious postulates parents are guided by in such cases. The number of answers to this question is not enough for analysis. The answers given below by the respondents to this question are not representative and only reflect their opinions.

Six of the fourteen respondents who answered this question believe that parents who are against vaccination believe that the vaccine contains pig fat. Four respondents noted that there is no such contradiction. The rest did not give specific answers.

HOW CAN WE INFLUENCE PERSONS WHO REFUSE TO HAVE THEIR CHILDREN VACCINATED

Almost two thirds of the religious leaders believe that parents who refuse vaccination for their children can be influenced by awareness raising, communication and discussions. It should be noted that a significant proportion (30 per cent) believe that no form of influence is needed on such parents.

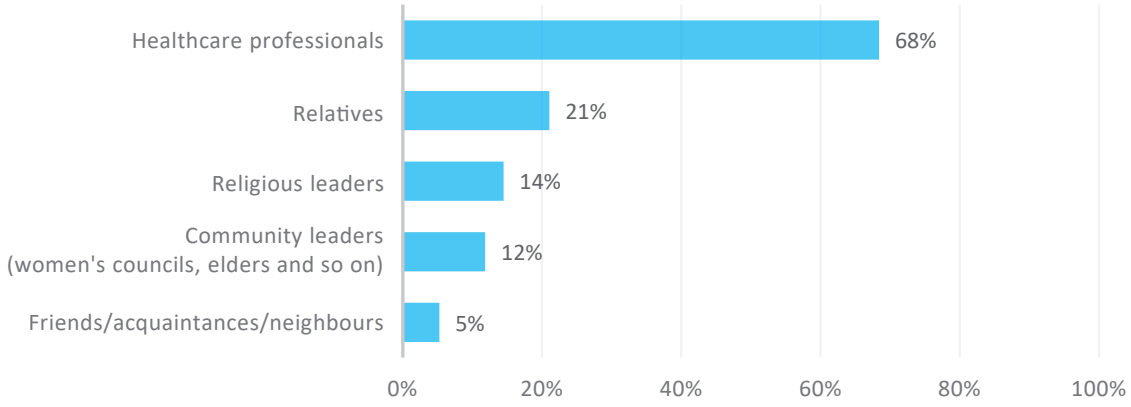
Figure 5.4.5 Ways to influence parents who refuse to have their children vaccinated (Religious leaders)



WHO CAN INFLUENCE PERSONS WHO REFUSE TO HAVE THEIR CHILDREN VACCINATED

Most of the religious leaders (68 per cent) believe that healthcare professionals can influence parents who refuse to have their children vaccinated. The proportion who mentioned other influential persons is significantly smaller: 21 per cent or less. Only 14 per cent of respondents believe that religious leaders can have such influence.

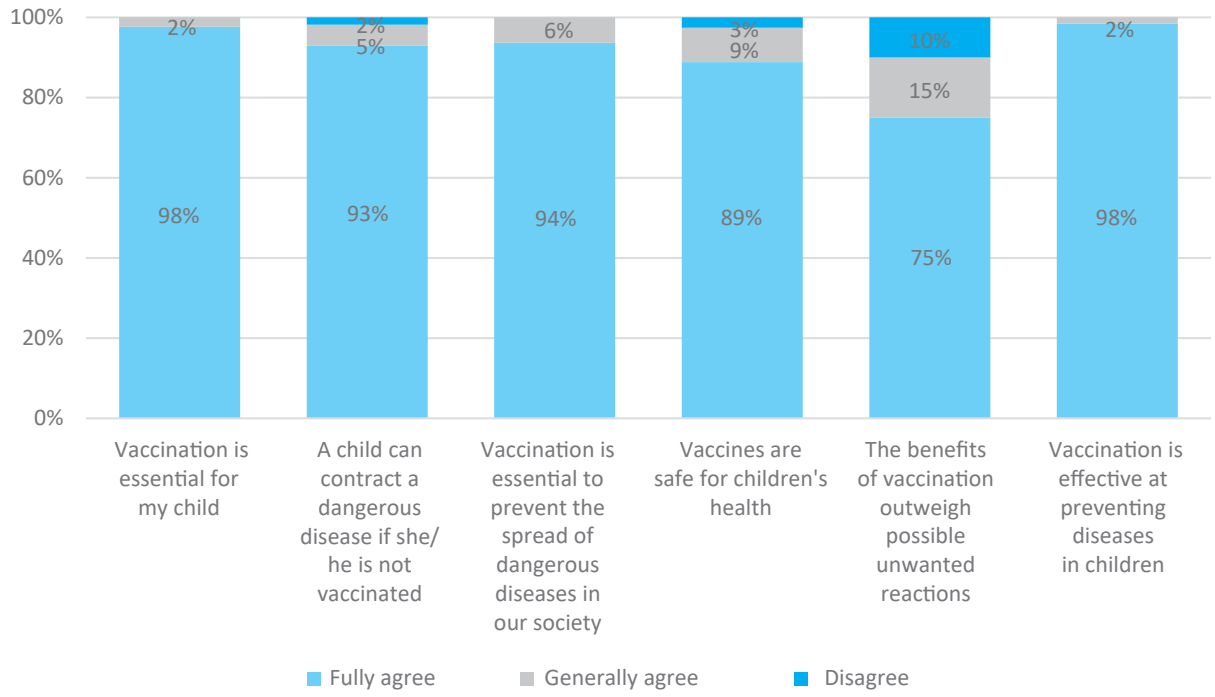
Figure 5.4.6 Persons who can influence parents who refuse to have their children vaccinated (Religious leaders)



TYPES OF ACTIVITIES TARGETED AT RAISING THE AWARENESS OF PARENTS ABOUT THE IMPORTANCE OF TIMELY VACCINATION

Like other target groups, most religious leaders (82 per cent) consider communication with healthcare professionals to be one of the most effective forms of awareness raising with parents about the need to vaccinate. Only 24 per cent see a role for themselves in the awareness-raising campaign.

Figure 5.4.7 Effective forms of awareness raising with parents about the need for timely vaccination (Religious leaders)



5.5 HEALTHCARE PROFESSIONALS

LEVEL OF AGREEMENT WITH THE FOLLOWING STATEMENTS ABOUT VACCINATION:

- Vaccination is essential for children
- A child may contract a dangerous disease if he/she does not get vaccinated
- Vaccination is essential to prevent the spread of diseases in our society
- Vaccines are safe for children's health
- Vaccination benefits outweigh its side effects / reactions
- Vaccination is effective at preventing childhood diseases

The study found that the target groups trust healthcare professionals with regard to vaccination issues. In the mass media, and internet there are many materials about harms caused by vaccination, including information specifically from doctors. Several respondents referred to information from healthcare professionals about harms from vaccinations. In this connection it is important to understand the importance of personal attitudes of healthcare professionals to vaccination. Therefore, questions about agreeing with the statements were also asked to respondents in this group. With a certain degree of likelihood, it could be assumed that the "right" answers would be received from healthcare professionals. Nevertheless, there was not total agreement with the statements. When considering the answers of healthcare professionals to questions about attitude towards vaccination, we did not combine the options "agree" and "generally agree", because, the choice of "generally agree" by the healthcare professional reflects some doubt about the correctness of the statement about vaccination.

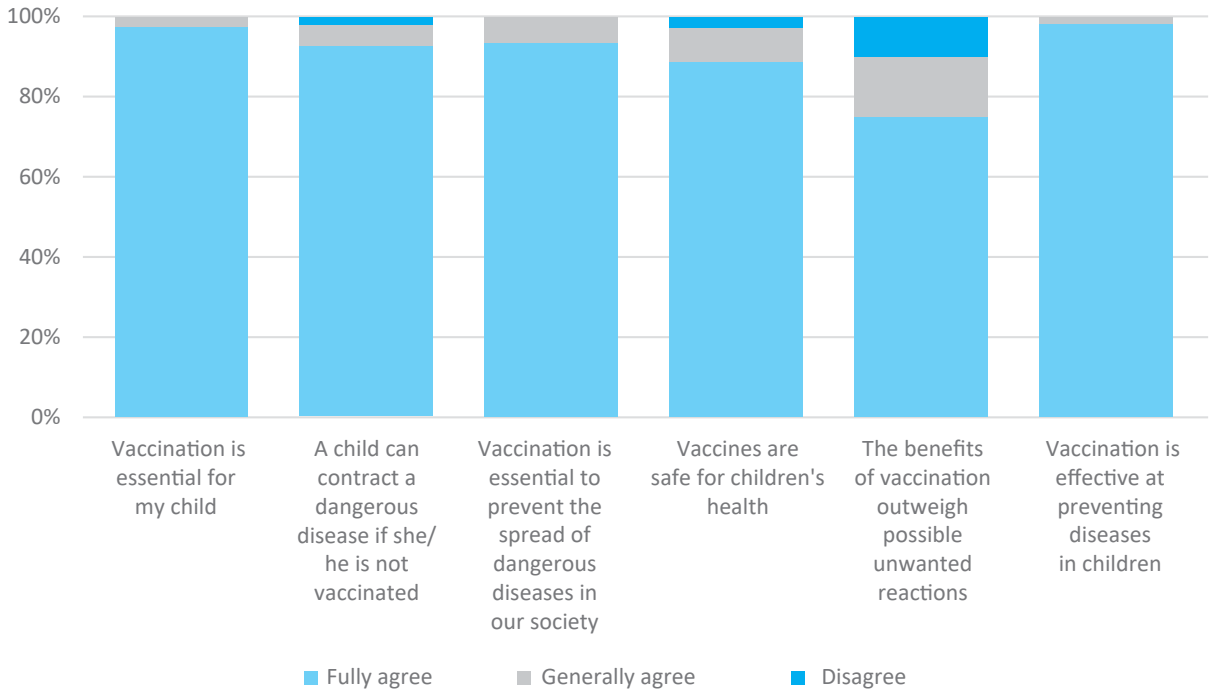
Most of healthcare professionals completely agreed with the statements. Ninety-eight per cent of them fully agree that vaccination is necessary for children and is effective at preventing diseases.

All healthcare professionals to one extent or another agree that there is a risk for unvaccinated children of contracting vaccine-preventable diseases, while 93 per cent fully agree.

The research findings show that not all healthcare professionals are confident about the safety of vaccines for children's health. Three per cent of healthcare professionals did not believe they are safe, while 8 per cent did not express opinions on this issue.

The healthcare professionals were most doubtful about the statement: "The benefits of vaccination outweigh the possible unwanted reactions". Ten per cent of them disagree with this statement. It should be noted that all these specialists work in rural areas. The level of dissent among mid-level healthcare professionals is 11 per cent, while among doctors the figure is 2 per cent.

Figure 5.5.1 Level of agreement of healthcare professionals with the statements about vaccination



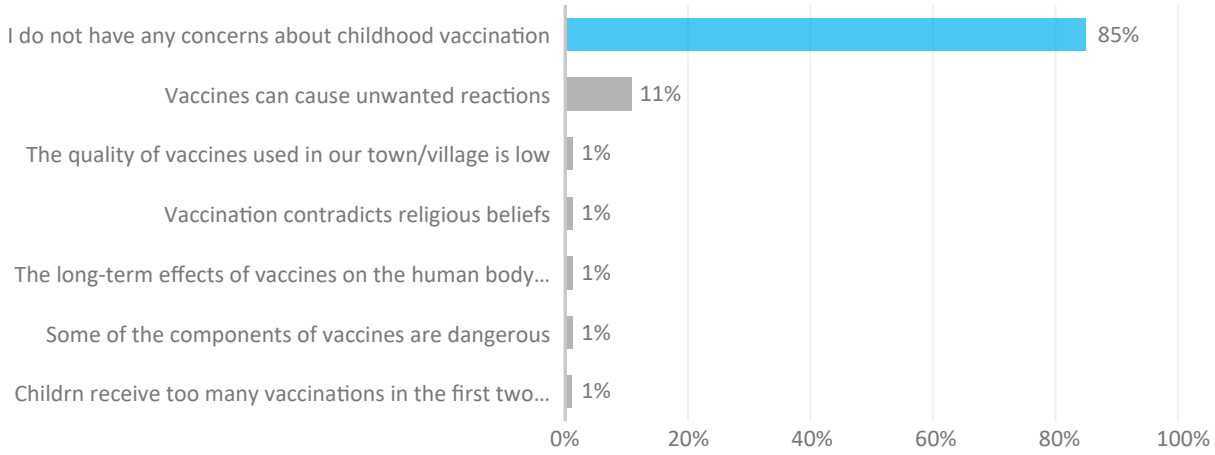
WAYS TO PROTECT CHILDREN FROM VACCINE-PREVENTABLE DISEASES THAT ARE AS EFFECTIVE OR EVEN MORE EFFECTIVE THAN VACCINATION

One per cent of the healthcare professionals believed that healthy lifestyles is a more effective way of protecting children from vaccine preventable diseases than vaccination.

DOUBTS ABOUT VACCINATING CHILDREN

Healthcare professionals in general do not have doubts about vaccination. However, while among those in the south there an overwhelming majority (94 per cent), in the north the figure is 74 per cent. The main worry concerning vaccination among healthcare professionals is unwanted reactions after vaccination. While fears of unwanted reactions are the only concern for healthcare professionals practicing in the south, among healthcare professionals in the north, in addition to worries about unwanted reactions (17 per cent), there are also concerns that children receive too many vaccines in the first two years of life, that the contents of vaccines are unsafe, the quality of the vaccines are low, the long-term effects of vaccines on the human body have not been studied, and vaccination is contrary to religious postulates. The proportion of such healthcare professionals is minimal, and generally does not exceed two per cent. However, the fact that some specialists are not sure of the necessity and safety of this procedure is alarming. After all, it is negative attitudes about vaccination expressed by healthcare professionals in the media or in private conversations that is perceived and disseminated by parents as an indisputable argument in favour of refusing vaccination.

Figure 5.5.2 Doubts about vaccination of children (Healthcare professionals)



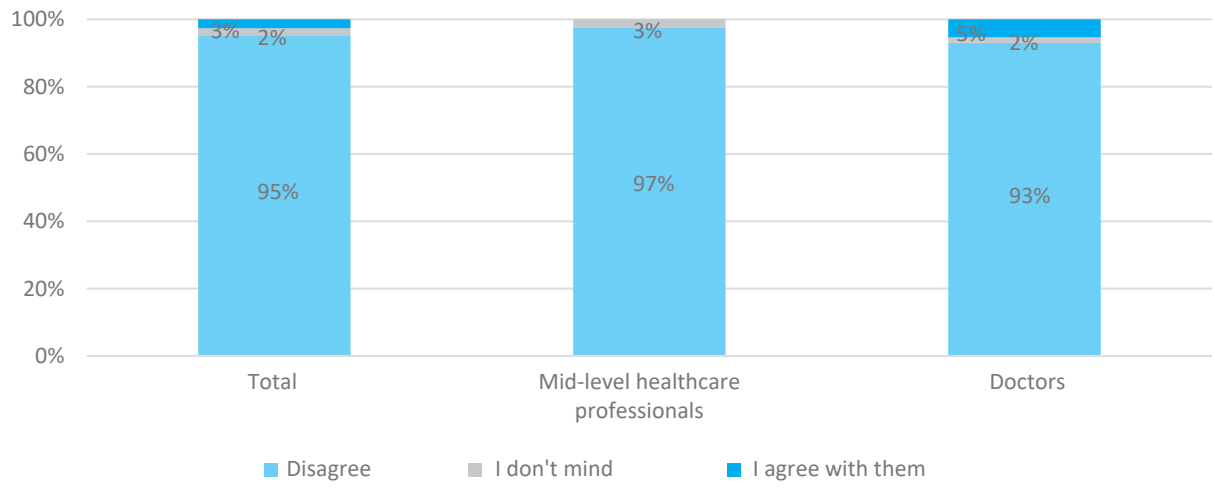
UNWANTED REACTIONS THAT COULD BE CAUSED BY VACCINES

This question was asked of respondents who stated that they had worries about unwanted reactions to vaccination. The number of answers was too small to be analyzed.

PERCEPTIONS TOWARDS GROUPS OF PEOPLE THAT REFUSE TO HAVE THEIR CHILDREN VACCINATED

Compared to other target groups, healthcare professionals are least supportive of parents who refuse to have their children vaccinated. Most of them (95 per cent) do not agree with this decision. However, the survey respondents included a small number of healthcare professionals who expressed support of or neutrality towards “people who refuse to vaccinate” (3 and 2 per cent respectively). It is worth noting that the only healthcare professionals who agreed with this decision were doctors with high academic degrees.

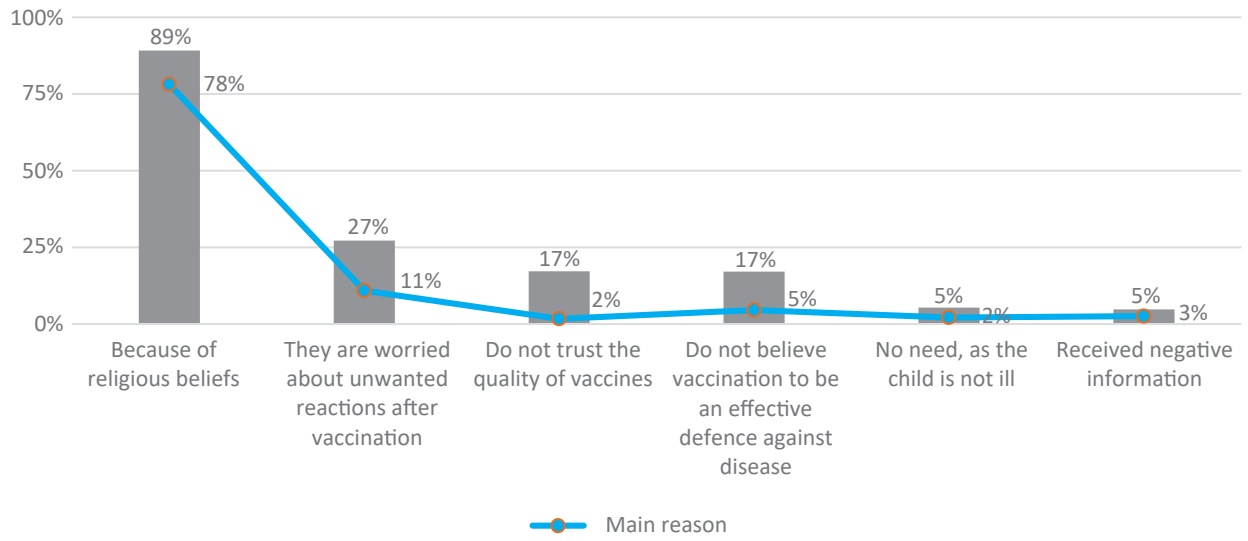
Figure 5.5.3 Attitudes of healthcare professionals to people/groups who refuse to have their children vaccinated



WHY PARENTS REFUSE TO HAVE THEIR CHILDREN VACCINATED

The vast majority of healthcare professionals (89 per cent) believe that one of the reasons for refusal to vaccinate is contradiction of religious principles, while 78 per cent think this is the main reason. The frequency of mentioning other reasons is significantly lower, with the second most frequent reason being worries about vaccine side effects mentioned by 27 per cent of the healthcare professionals.

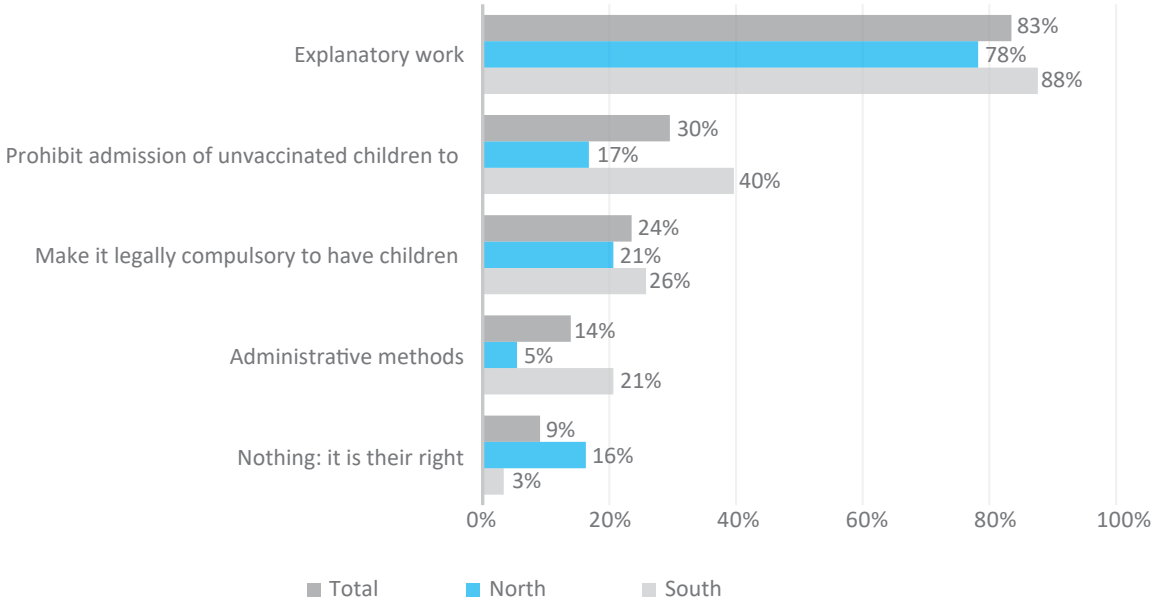
Figure 5.5.4 Reasons why, in the opinion of healthcare professionals, people / groups of people refuse to have their children vaccinated



HOW TO INFLUENCE PEOPLE WHO HAVE REFUSE TO HAVE THEIR CHILDREN VACCINATED

Healthcare professionals are more decisive than the other target groups about parents who refuse to have their children vaccinated. While most of the healthcare professionals (83 per cent) believe that awareness raising and interpersonal communication can have an impact on “people who refuse to vaccinate”, a fairly high proportion advocate more radical measures. Thirty per cent of healthcare professionals believe that children who are not vaccinated without medical grounds should not be allowed to join educational institutions, while 24 per cent call for the adoption of legislation to make vaccination compulsory. A fifth of healthcare professionals are in favour of applying administrative sanctions against them. It should be noted that the supporters of measures such as prohibiting admission to educational institutions and administrative punishment mostly work in the south, while their colleagues from the north are less judgmental. Thus, 16 per cent of healthcare professionals from the north believe that parents who refuse to have children vaccinated are entitled to make this decision, and that there is no need to influence them, compared to 3 per cent in the south.

Figure 5.5.5 Methods to influence parents who refuse to have their children vaccinated (Healthcare professionals)



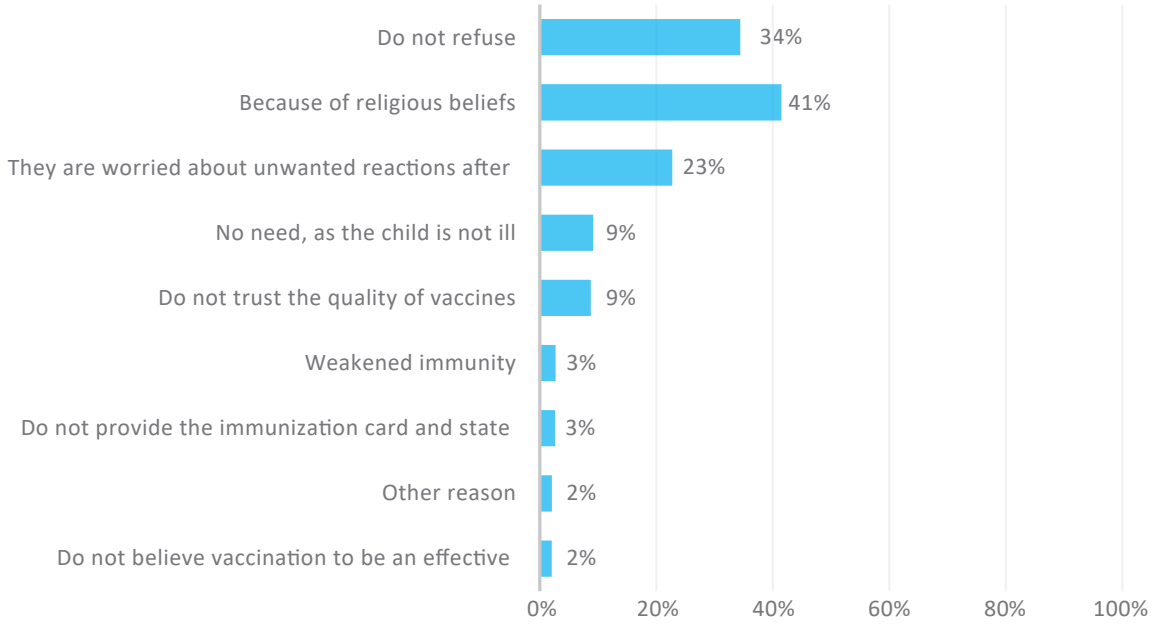
THE PROPORTION OF PERSONS WITHOUT PERMANENT REGISTRATION

Most of the healthcare professionals (69 per cent) deal with persons who do not have permanent registration. The proportion of persons living without permanent registration, according to the healthcare professionals, was 7 per cent on average.

MOST COMMON REASONS PEOPLE WITHOUT PERMANENT REGISTRATION REFUSE TO HAVE THEIR CHILDREN VACCINATED

It should be noted that a third of the healthcare professionals who serve this category of persons explained that people without registration do not refuse vaccination. Nevertheless, the main reason for refusals, is the same as that of other “who refuse to vaccinate”: religious beliefs. Forty-one percent of healthcare professionals believe so. The second most frequent cause is concerns about unwanted reactions (23 per cent).

Figure 5.5.6 Reasons why “internal labor migrants” refuse vaccination (Healthcare professionals)



6. PERCEIVED QUALITY OF VACCINATION SERVICES

This section examines how the survey respondents evaluate the vaccination services quality and process in Kyrgyzstan.

6.1 MOTHERS AND CAREGIVERS OF CHILDREN UNDER FIVE YEARS OF AGE

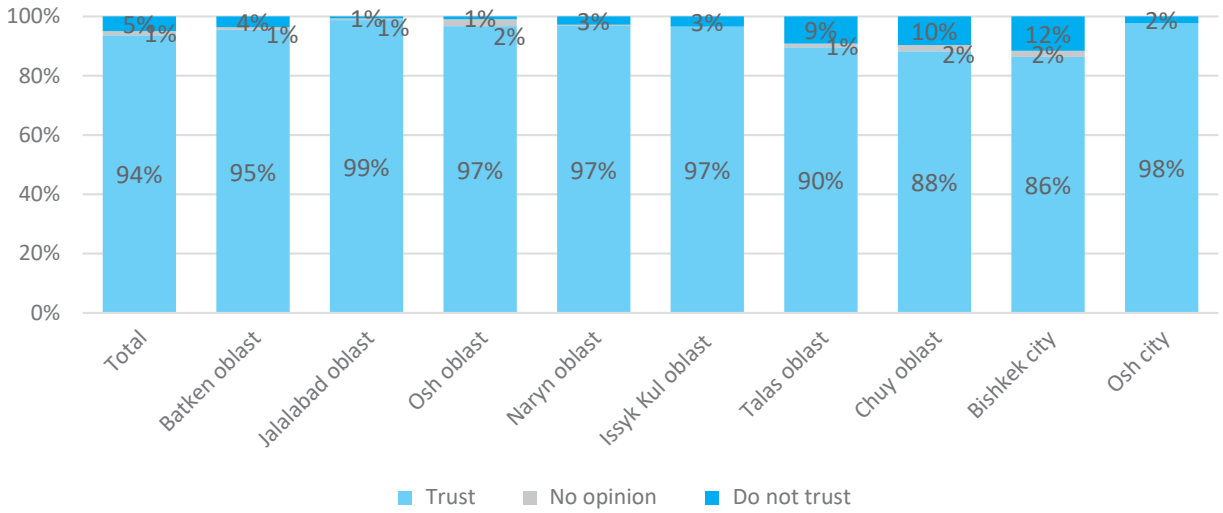
WHERE DO YOU HAVE YOUR CHILDREN VACCINATED

Almost all children receive vaccination services in public healthcare facilities. Only 1 per cent of mothers attend private healthcare facilities to have their children vaccinated.

TRUST IN HEALTHCARE PROFESSIONALS ADMINISTERING VACCINATIONS

The level of trust in healthcare professionals administering vaccination is quite high, at 94 per cent, and does not significantly differ by socio-demographic indicators, except for region of residence. The lowest level of trust in healthcare professionals is found in Bishkek city and Chuy oblast, at 86 and 88 per cent respectively.

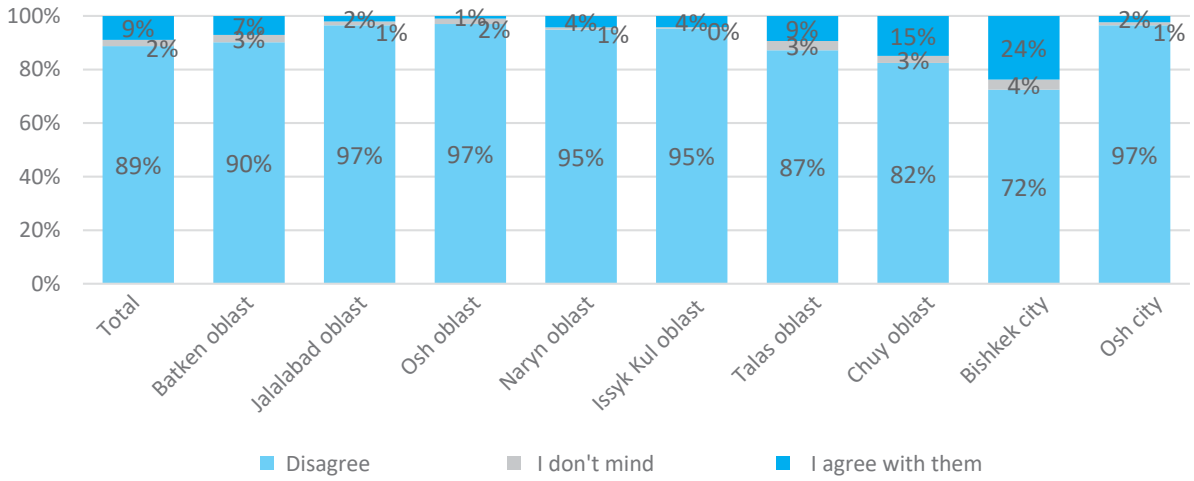
Figure 6.1.1 Level of trust in healthcare professionals by oblast (Mothers and caregivers of children under 5 years)



TRUST IN THE QUALITY OF VACCINES

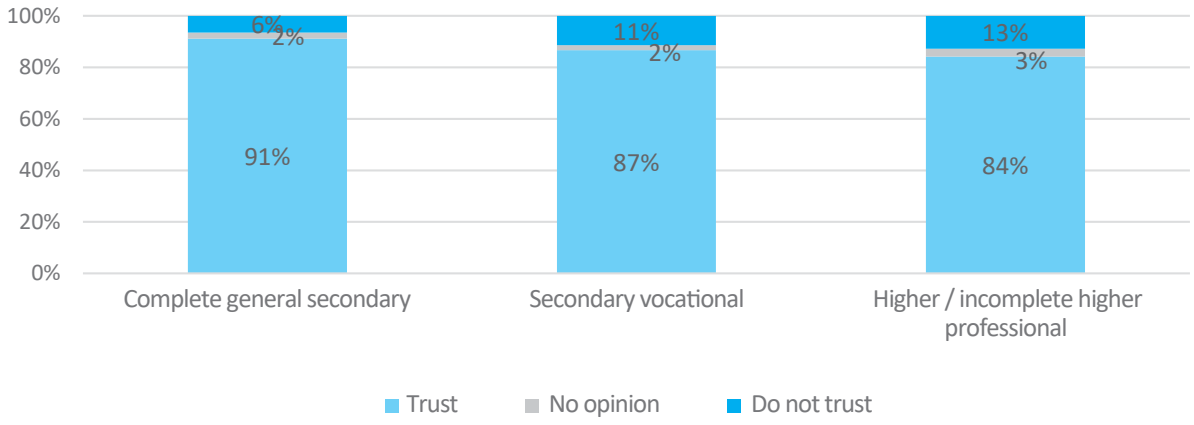
Most mothers both in Kyrgyzstan as a whole and in the regions trust the quality of vaccines. The level of trust was 89 per cent. In three regions the value is below the national average: Bishkek city (72 per cent), Chuy oblast (82 per cent) and Talas oblast (87 per cent). It should be noted that in Bishkek's newbuild settlements, allocated to a separate stratum, trust in the quality of vaccines was 15 points higher than in Bishkek city: 87 per cent.

Figure 6.1.2 Level of trust in the quality of vaccines by oblast (Mothers and caregivers of children under five years of age)



A significant inverse relationship was also revealed between confidence in the quality of vaccines and level of educational - in groups with higher education, the level of confidence in the quality of the vaccines is lower.

Figure 6.1.3 Level of trust in the quality of vaccines by level of educational (Mothers and caregivers of children under five years)



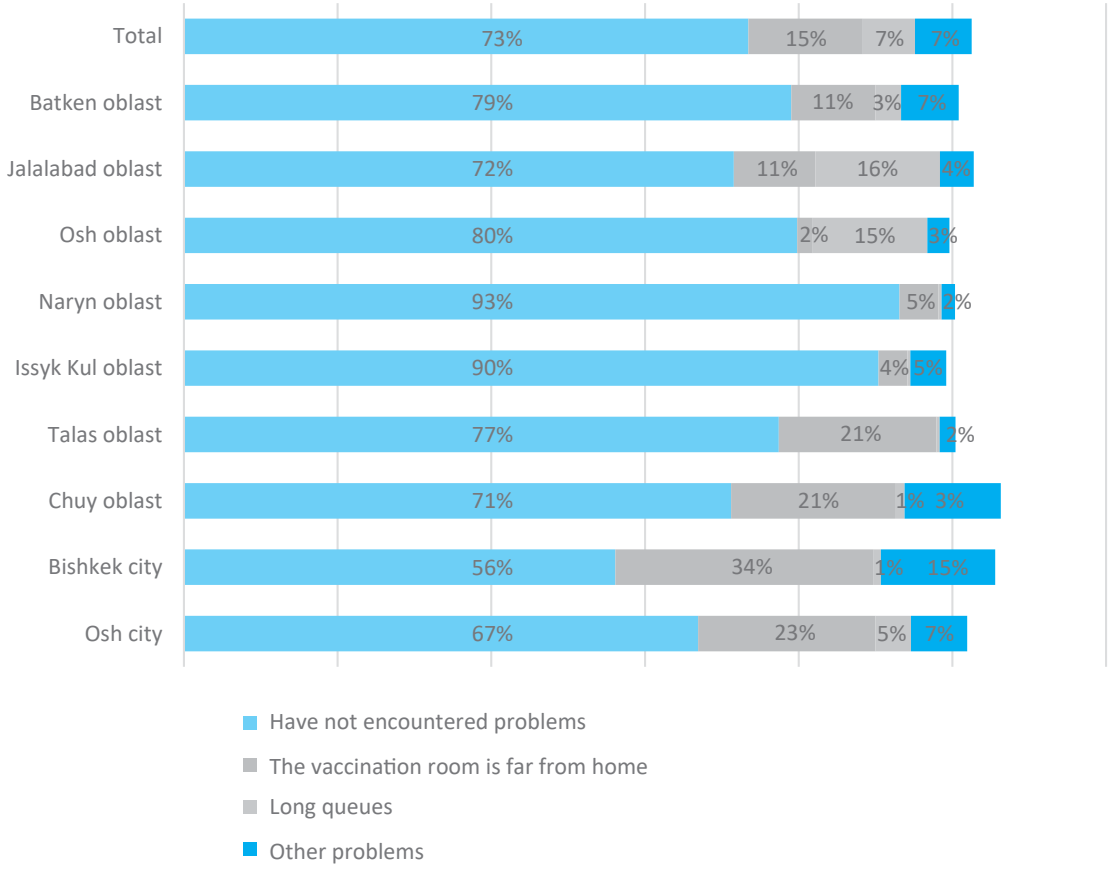
PROBLEMS FACED WHEN YOU ATTEND HEALTHCARE FACILITIES FOR VACCINATION

Most mothers who attended health facilities for vaccination of their children (73 per cent) did not face any problems at all. However, the study showed that the problems are regional. First, the percentage of people who reported no problems varies significantly between regions. In Naryn and Issyk-Kul oblasts, the figure is the highest – 92 and 90 per cent respectively, whereas in Bishkek only 56 per cent of mothers did not face problems when having their children vaccinated. The main problem in most regions (except for Osh and Jalalabad oblasts) was long queues. In total, 15 per cent of mothers faced this problem, with the figure rising to 34 per cent in Bishkek. This problem is especially acute in Bishkek's newbuild settlements, where 52 per cent of mothers face considerable time costs when receiving vaccinations. The problem of queues in vaccination rooms is more typical of urban areas. Twenty-seven percent of urban residents face this problem, while in rural areas the share is much lower: 8 per cent.

In Osh and Jalalabad oblasts, the most common problem is the remoteness of the vaccination rooms,

which was faced by 15 and 16 % of mothers respectively. In addition, the respondents indicated other problems, each of which nationally received no more than three per cent of mentions. However, for Bishkek's newbuild settlements, the second most frequent problem mentioned after the queues was complaints about the work of healthcare personnel. Non-professionalism and rudeness from the medical staff during vaccination were noted by 16 per cent of mothers.

Figure 6.1.4 Problems faced by mothers when attending healthcare facilities for vaccination, by oblast (Mothers and caregivers of children under five years)



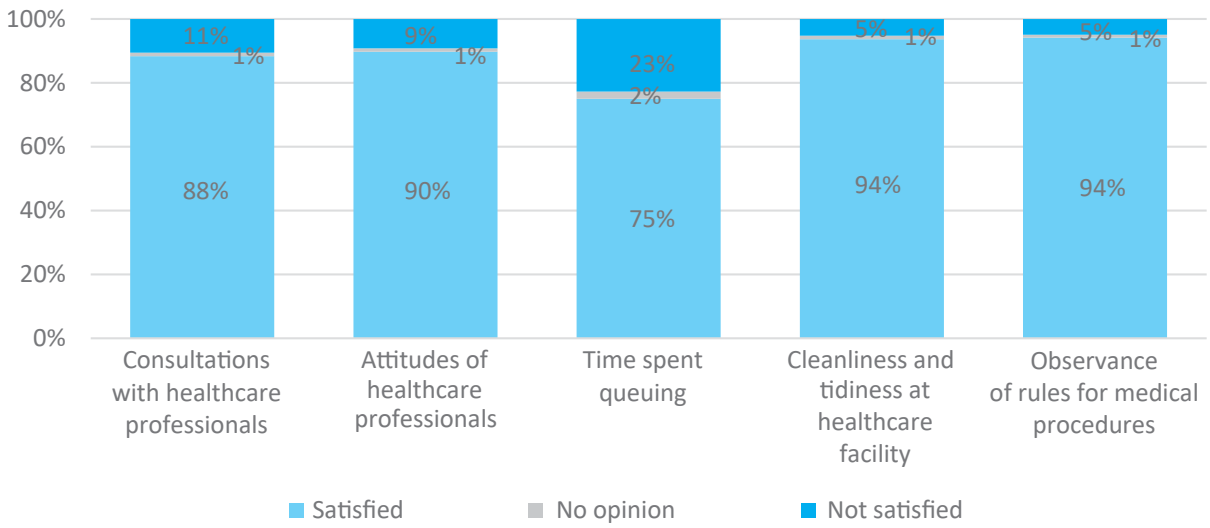
EVALUATION OF SATISFACTION WITH THE QUALITY OF VACCINATION SERVICES

During the study the respondents were asked to assess their level of satisfaction with the quality of vaccination services provided under the following indicators:

1. Consultations with medical personnel
2. Attitudes of medical personnel
3. Time spent queuing
4. Cleanliness and tidiness of the healthcare facility
5. Compliance with the rules of medical procedure

In general, the level of satisfaction with all indicators was rather high, but there were differences in evaluations linked to the socio-demographic characteristics of the respondents.

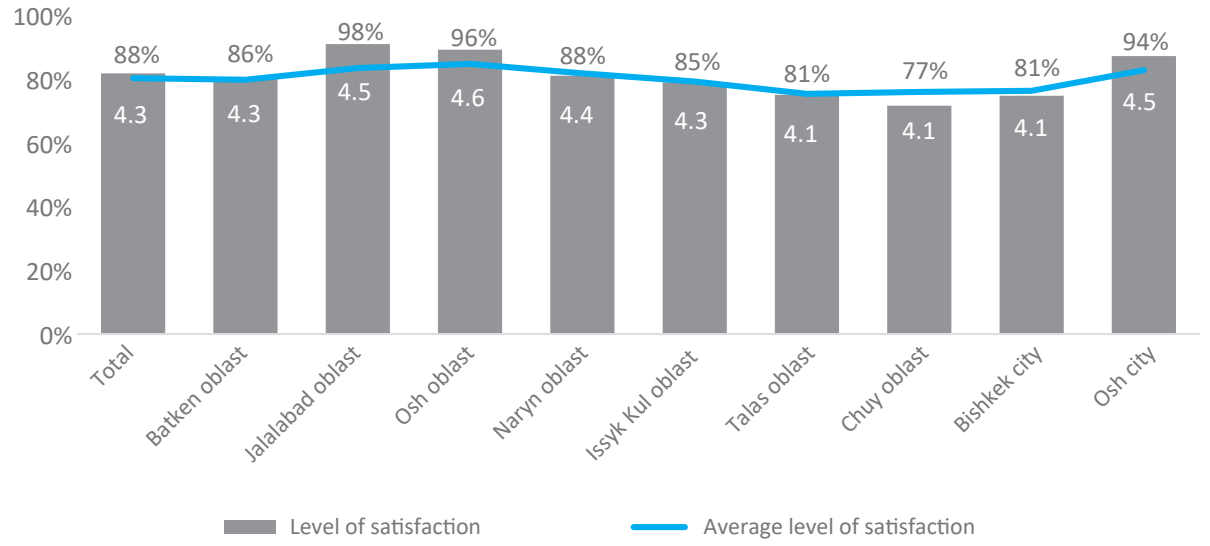
Figure 6.1.5 Level of satisfaction[1] with the quality of vaccination services (Mothers and caregivers of children under five years)



CONSULTATIONS WITH HEALTHCARE PROFESSIONALS

The level of satisfaction with the advice given by healthcare professionals was 88 per cent overall. This figure is 14 percentage points higher in the south than in the north. Healthcare professionals in Jalalabad and Osh oblasts received the highest rating, with levels of satisfaction exceeding 96 per cent, and an average score of 4.5-4.6 points out of five. The people of Chuy oblast are least satisfied with the attitude of healthcare professionals. While the figure in Bishkek is one of the lowest, in newbuild settlements the level of satisfaction is even lower. Only three quarters of mothers living there are satisfied with the advice from healthcare personnel, and the average satisfaction score was four points. Satisfaction rates in urban areas (83 per cent) are generally lower than in rural areas (91 per cent).

Figure 6.1.6 Level of satisfaction and average rating on a five-point scale of consultations with medical personnel, where 1 is fully dissatisfied and 5 is fully satisfied, by oblasts (Mothers and caregivers of children under five years)

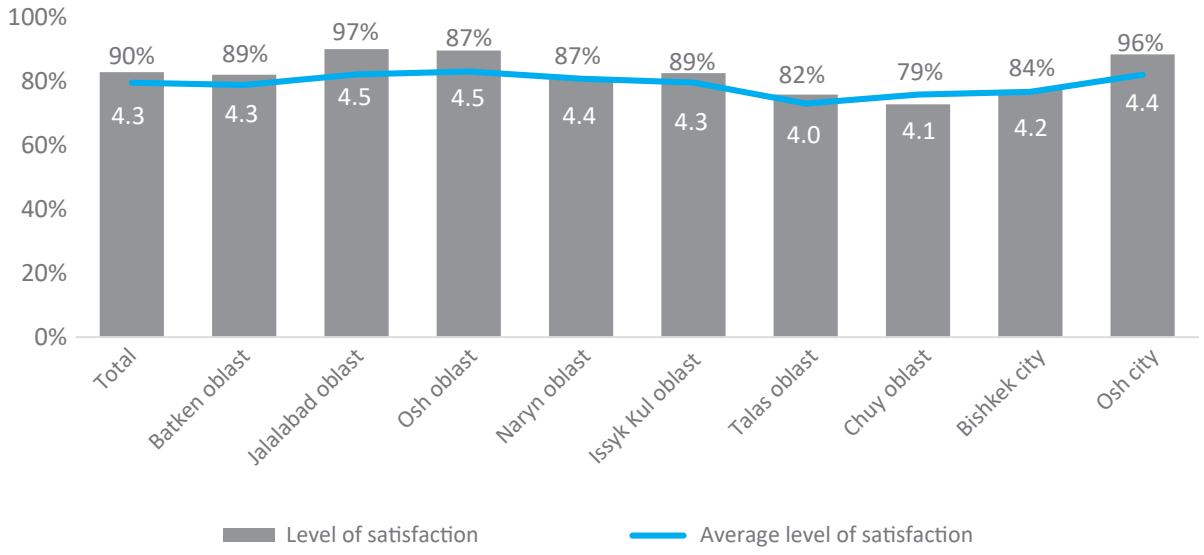


1 The calculation for the indicator includes the responses “Completely satisfied” and “Generally satisfied”

ATTITUDES OF MEDICAL PERSONNEL

The level of satisfaction with the attitudes of healthcare professionals was 90 per cent. Like for the evaluation of the healthcare professionals' advice, healthcare professionals in Jalalabad and Osh oblasts received the highest ratings. The residents of Talas and Chuy oblasts were less satisfied for this indicator. Residents of newbuild settlements had 77 per cent satisfaction with healthcare professionals' attitudes compared to 84 per cent for the city as a whole. The average satisfaction among newbuild settlements' residents was below four points: 3.9 points on average..

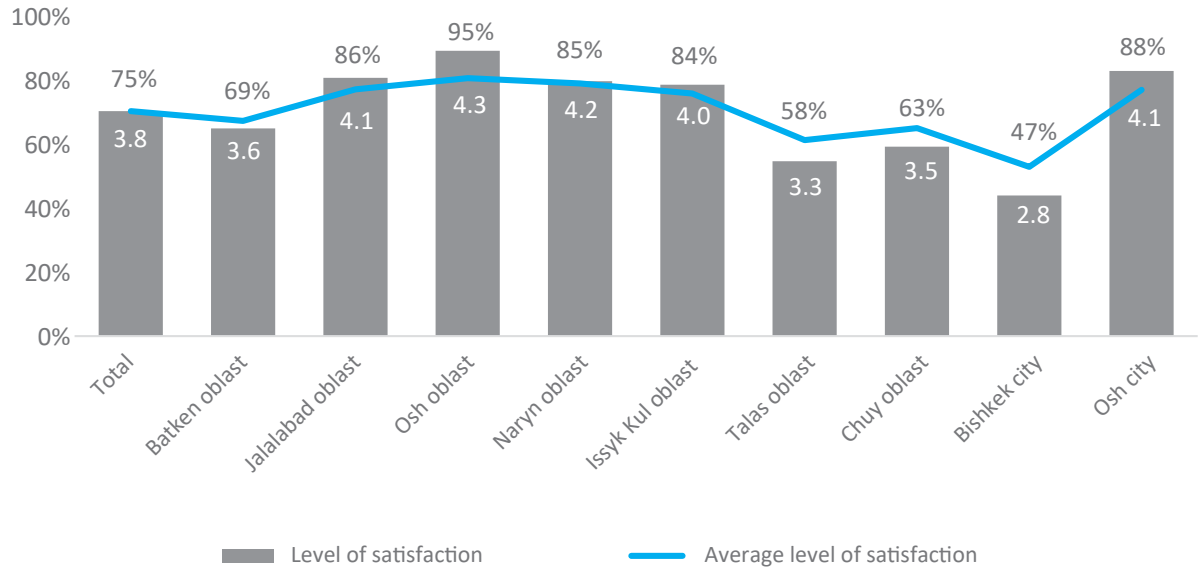
Figure 6.1.7 Level of satisfaction and average rating on a five-point scale of attitudes of medical personnel, where 1 is fully dissatisfied and 5 is fully satisfied, by oblasts (Mothers and caregivers of children aged under five years)



TIME SPENT QUEUING

Of the five indicators given to respondents for evaluation was the time spent queuing, and it was the most problematic. Only three quarters of mothers were satisfied with the time spent, however, result varies considerably between regions. The regions can be divided to some degree into two groups. In Osh, Jalalabad, Naryn and Issyk Kul oblasts and Osh city, the results are relatively good, with satisfaction above 80 per cent, and an average score of 4 points or higher. In Batken, Talas and Chuy oblasts, less than 70 per cent are satisfied with the time spent waiting. In Bishkek city, this applied to less than half the mothers (47 per cent), and the average score was 2.8 points out of five. In Bishkek's newbuild settlements the score is even lower - only 36 per cent of mothers are satisfied with the time spent queuing. The study findings indicate that the problem of queueing is particularly characteristic of urban areas. While in rural areas the proportion satisfied with the time spent waiting was 83 per cent, in urban areas the figure was 61 per cent.

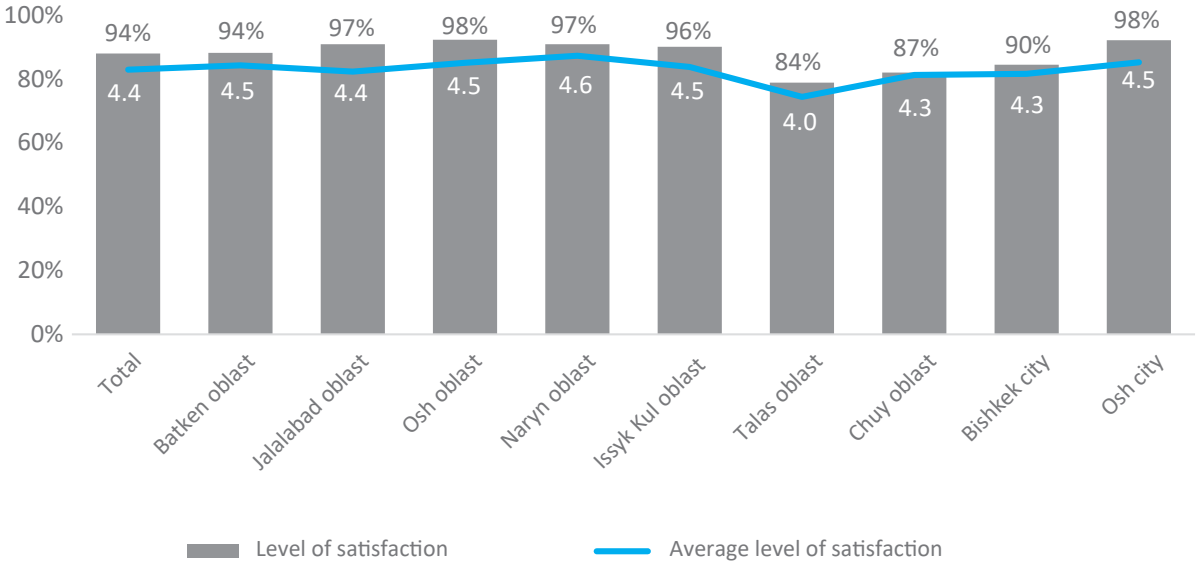
Figure 6.1.8 Level of satisfaction and average rating on a five-point scale of time spent queuing, where 1 is fully dissatisfied and 5 is fully satisfied, by oblasts (Mothers and caregivers of children aged under five years)



CLEANLINESS AND TIDINESS IN HEALTHCARE FACILITIES

The mothers' assessment of the cleanliness and tidiness of the healthcare facilities was slightly higher than those for the indicators discussed above. Nationally, 94 per cent of mothers are satisfied with this indicator. The poorest result was in Talas oblast: 84 per cent.

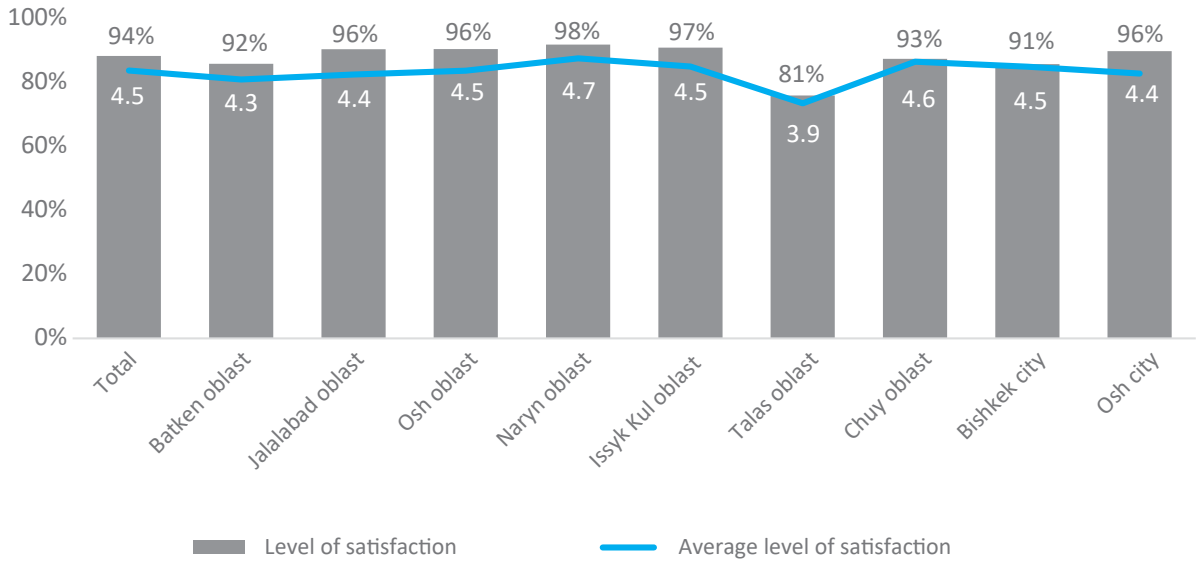
Figure 6.1.9 Level of satisfaction and average rating on a five-point scale of cleanliness and tidiness, where 1 is fully dissatisfied and 5 is fully satisfied, by oblasts (Mothers and caregivers of children aged under five years)



COMPLYING WITH THE RULES FOR CONDUCTING MEDICAL PROCEDURES

The level of satisfaction with compliance with the rules for medical procedures was also high both in general (94 per cent) and in the regions. In all regions, except Talas oblast, the level of satisfaction exceeded 90 per cent, and the average score was more than four points. In Talas oblast satisfaction was at 81 per cent, 13 points lower than the national average. It should be noted that a rather high proportion of those unsatisfied with compliance with the rules of medical procedures were residents of newbuild settlements in Bishkek city - 16 per cent, compared to the total of 8 per cent of mothers expressing dissatisfaction under this indicator.

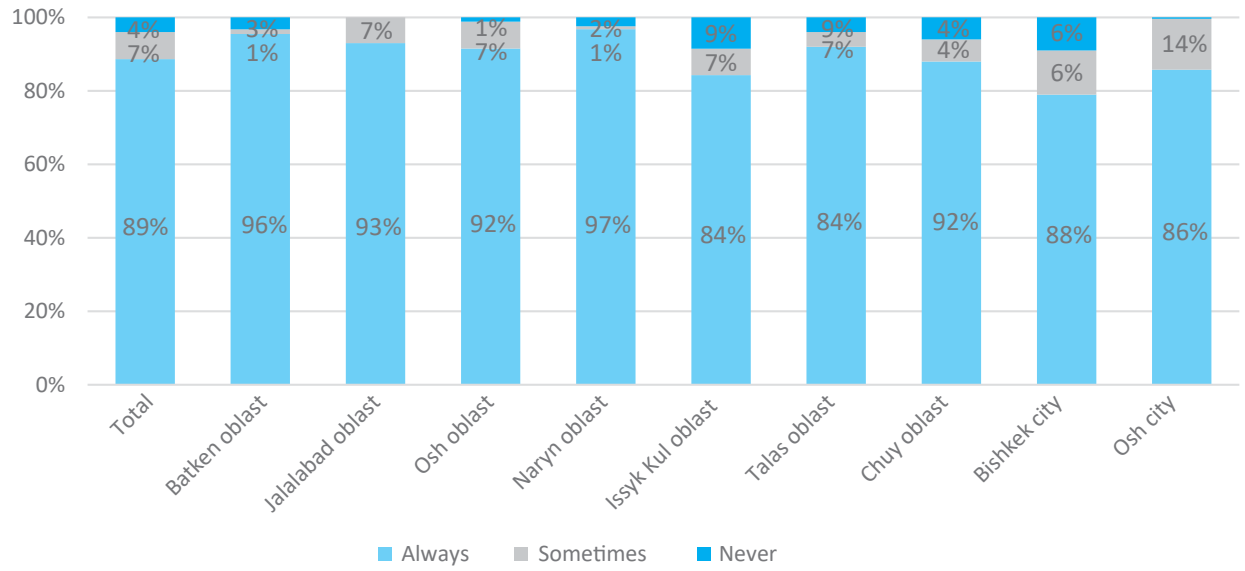
Figure 6.1.10 Level of satisfaction and average rating on a five-point scale of complying with the rules for conducting medical procedures, where 1 is fully dissatisfied and 5 is fully satisfied, by oblasts (Mothers and caregivers of children aged under five years, percentages)



REMINDERS TO BRING IN CHILDREN FOR ROUTINE IMMUNIZATION

Routine vaccinations are conducted at specified times. Therefore, to ensure their timely delivery, healthcare professionals notify mothers or carers. The study showed that in general the notification system works. The overwhelming majority of mothers receive reminders, and 89 per cent always receive them. However, in some regions the notification process is worse than in others. Nine per cent of mothers living in Bishkek city and Issyk Kul oblast said they never receive such an alert, and in Bishkek's newbuild settlements, the proportion was 10 per cent. In Bishkek, only 79 per cent of mothers always receive reminders of vaccinations, while in Naryn and Batken oblasts this figure is 97 and 95 per cent, respectively.

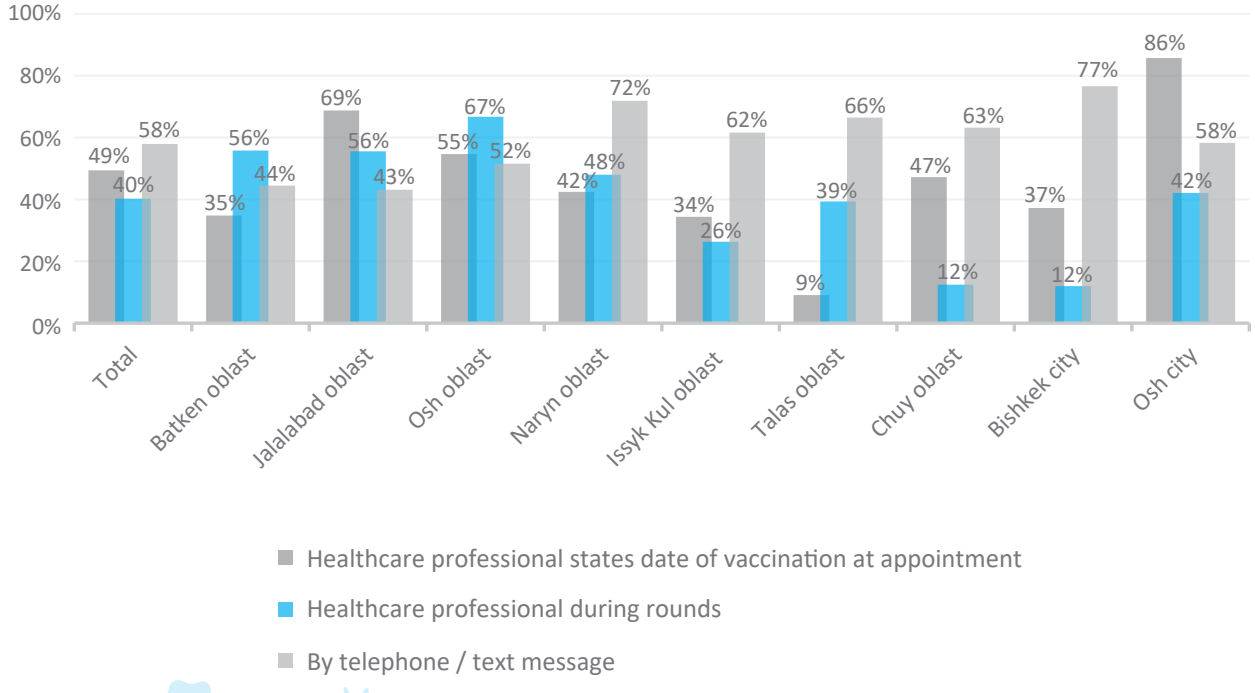
Figure 6.1.11 receiving a reminder that your child should come for routine vaccination by oblasts (Mothers and caregivers of children aged under five years)



HOW ARE YOU REMINDED ABOUT ROUTINE VACCINATION

The survey found that reminders of routine vaccination are made in different ways, but most often telephone is used: 58 per cent learn about routine vaccinations by phone / SMS. The ways of reminding about vaccinations vary considerably between regions. In the north, the main medium is telephone. More than 60 per cent of mothers in Bishkek, Naryn, Issyk Kul, Talas and Chuy receive information about upcoming vaccinations by phone. It should be noted that in Bishkek city and Chuy oblast, the proportion who receive information about routine vaccinations during the rounds of a healthcare professional is significantly lower than in other regions: 12 per cent. In contrast, in Osh and Batken oblasts - this is the main method, reported by more than half of mothers (67 and 56 per cent respectively). In Osh city and Jalalabad Oblast, most receive a reminder at a doctor's appointment (86 and 69 per cent respectively).

Figure 6.1.12 Means of reminding about routine vaccinations, by oblasts (Mothers and caregivers of children aged under five years)

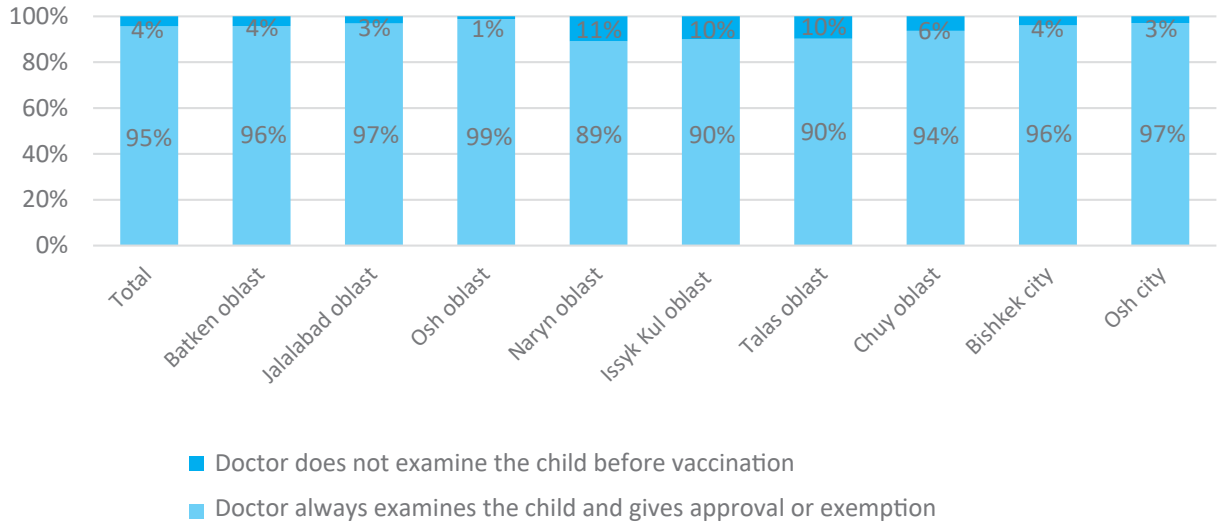


However, in rural areas, in addition to alerting about vaccination during appointments and by mobile phone, healthcare professionals often frequently provide information during rounds. In rural areas, 48 per cent of mothers receive information about routine vaccinations in this way, compared to 26 per cent of mothers living in urban areas.

MEDICAL EXAMINATION BEFORE THE VACCINATION

Before vaccination, it is essential that the child undergoes a medical examination. Ninety-five per cent of mothers noted that without fail they attend the doctor's examination before the vaccination. The other 5 per cent of children do not undergo a medical examination. Some respondents noted that a nurse conducts a physical examination. One healthcare professional working in a rural area expressed concern that there was no doctor in the village to examine the children before vaccination. The highest proportions of mothers who stated that doctors do not examine their children before vaccination were in Naryn, Issyk Kul and Talas oblasts: 9-11 per cent.

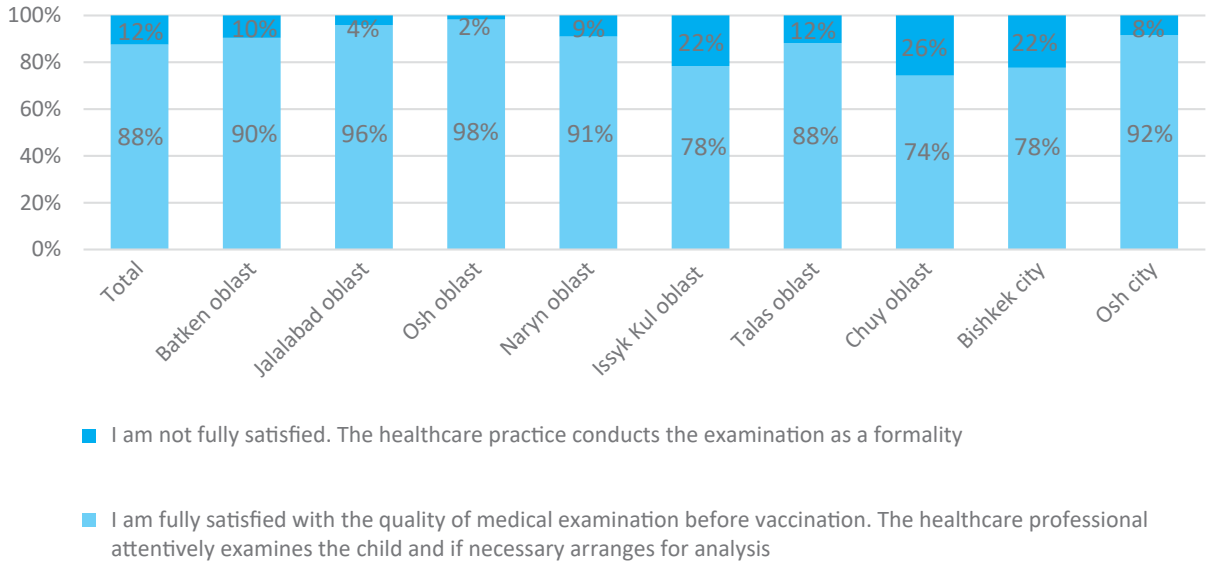
Figure 6.1.13 Medical examination before vaccination by oblasts (Mothers and caregivers of children under five years)



QUALITY OF MEDICAL EXAMINATION YOUR CHILD RECEIVED BEFORE VACCINATION

Despite the fact that, in general, most mothers (88 per cent) are satisfied with how medical examinations are performed before the child's vaccination, the level of satisfaction varies by region. The overwhelming majority of mothers living in the south (96 per cent) are satisfied with the quality of the medical examination, whereas in the north the value of the indicator is much lower (79 per cent). In Chuy and Issyk Kul oblasts and Bishkek, the proportion of mothers satisfied with the quality of medical examination before their children's vaccination is the lowest (74-78 per cent). The remaining mothers believe that the examination is carried out perfunctorily.

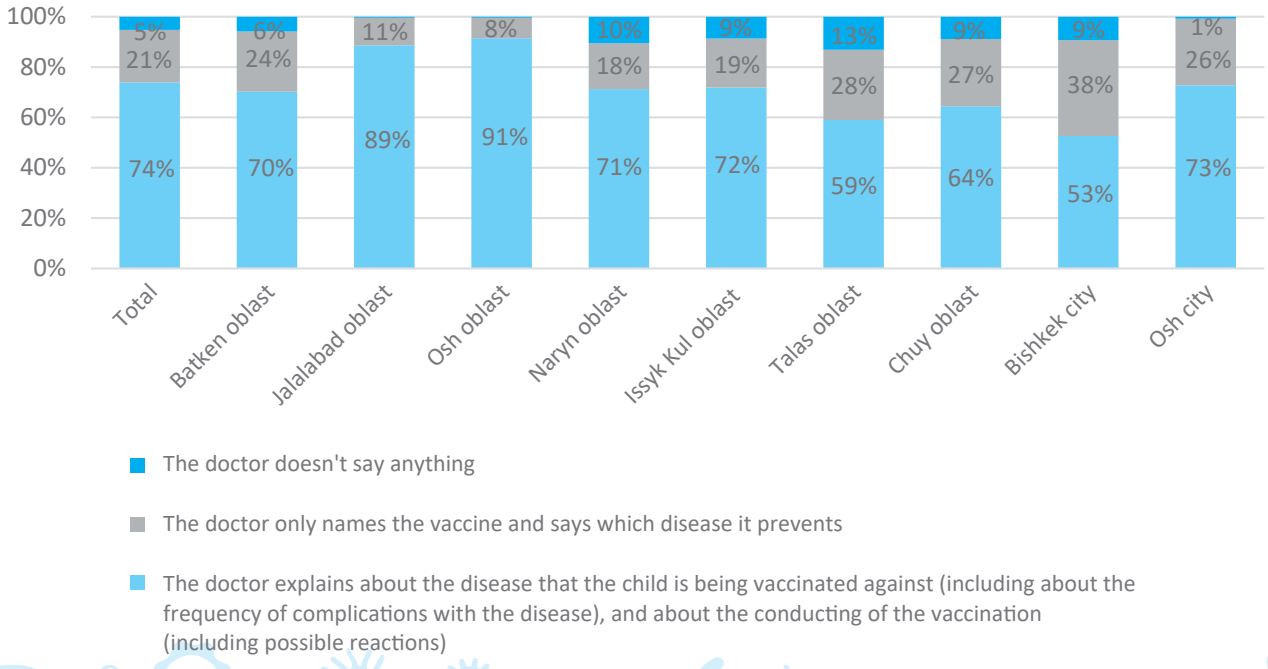
Figure 6.1.14 Satisfaction with medical examination before vaccination of children, by regions, percentage of total number of mothers whose children undergo medical examination before vaccination



RECEIVING INFORMATION ABOUT VACCINES BEFORE ADMINISTRATION

Seventy-four per cent of mothers stated that they receive full information about vaccines, including unwanted reactions and the diseases they protect from, before vaccination. The healthcare professionals from Jalalabad and Osh oblasts, in the opinion of the respondents as a whole, are better than others at doing this. All mothers living in these areas receive information about vaccinations before it takes place. Also, in these areas, the proportion of mothers who receive full information is higher than in other regions: 91 per cent in Osh oblast and 89 per cent in Jalalabad. The most problematic regions from this point of view are Bishkek city and Talas oblast, where only slightly more than half of mothers receive full information before vaccination (53 and 59 per cent respectively). In Bishkek's newbuild settlements, informing mothers before vaccination is even worse. Sixteen per cent of mothers living in newbuild settlements said they do not receive any information about vaccination before it takes place, while in Bishkek as a whole this figure was 9 per cent.

Figure 6.1.15 Information about vaccines provided by healthcare professionals before administration by oblast (Mothers and caregivers of children aged under five years)



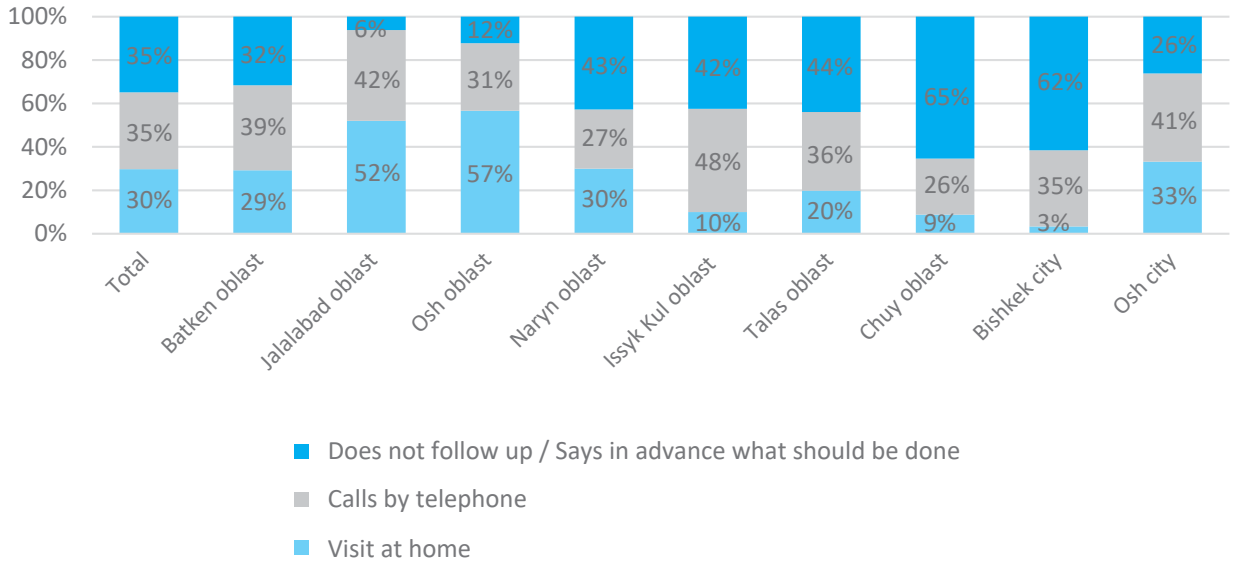
It should be noted that parents do not always feel the need for full information about vaccination. Fifteen per cent of mothers are fully satisfied with the quality of the medical examination before conducting the vaccination, and only need to know the name of the vaccine and disease.

ASSESSING THE CONDITION OF THE CHILD AFTER VACCINATION

Thirty-five per cent of mothers stated that healthcare professionals usually do not conduct follow-up visits after vaccinations but explain in advance how to monitor the child's condition and ask them to call if there are problems. In Bishkek city and Chuy oblast 62 per cent and 65 per cent respectively of mothers gave these answers. Eighty-two per cent of mothers reported this in newbuild settlements around Bishkek. Bishkek city had the lowest proportion of mothers whose healthcare professionals visit their children after inoculation (3 per cent). By comparison, in Osh oblast the figure was 57 per cent.

The most frequent method of conducting post-vaccination care and follow up is for healthcare professionals to call by phone. This was reported by 35 per cent of mothers. This practice is quite common in all regions. Home visits for post-vaccination follow up are more frequent in rural areas. Thirty-six per cent of mothers living in rural areas noted that after vaccination their children are visited by healthcare professionals, compared to 18 per cent in urban areas.

Figure 6.1.16 Post-vaccination follow up visits, by oblasts-Mothers and caregivers of children aged under five years



6.2 INTERNAL LABOR MIGRANTS

The most significant problem that “internal labor migrants” encounter when attending healthcare facilities for vaccination purposes, is a long wait time (35 per cent), compared to an average for “non-migrants” of 13 per cent. This situation is practically the same as that in Bishkek city as a whole and is reflected in the level of satisfaction with the time spent waiting in line, which was only 52 per cent.

When evaluating other aspects of vaccination, such as advice from healthcare professionals, the attitude of healthcare professionals, cleanliness and tidiness in healthcare facilities, and adherence to medical procedures, the level of satisfaction of “internal labor migrants” and “non-migrants” does not differ significantly from results of mothers and caregivers.

The vast majority of “internal labor migrants”, as well as other mothers, receive a reminder of planned vaccinations, and 87 per cent always receive it. In most cases (70 per cent), an alert is provided by telephone. Unlike non-migrant mothers, 43 per cent of whom receive a vaccination reminder during rounds, only 8 per cent of “internal labor migrants” receive the information in this way. Almost all children of “internal labor migrants” (98 per cent) receive medical examinations before vaccination, the quality of which is fully satisfactory for 81 per cent of mothers.

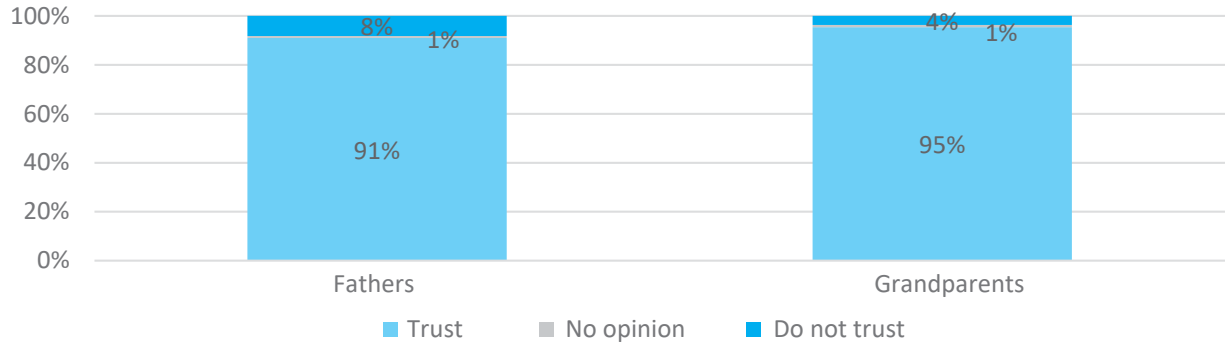
The methods for providing post-vaccination follow up and care for children of labor migrants in general is analogous to the results for Bishkek city, where most of them live. Like the city as a whole, the proportion of mothers who are “internal labor migrants” that noted that there is no post-vaccination care or healthcare professionals who tell them in advance about possible reactions and who asked to call in case of problems, was 58 per cent. Five per cent of mothers stated that after receiving vaccinations their children are visited by healthcare professionals at home.

6.3 INFLUENCERS (FATHERS & GRANDPARENTS)

TRUST IN HEALTHCARE PROFESSIONALS ADMINISTERING VACCINATION

The level of trust of influentials in healthcare professionals administering vaccination is high: 91 per cent (fathers) and 95 per cent (grandparents). It should be noted that if there are no significant differences in the "grandparents" category related to socio-demographic characteristics, but in the "fathers" category such differences are revealed. The proportion of fathers who received vocational or higher education who did not trust the healthcare professionals who administered vaccination was 15 per cent, while among fathers who received only secondary education, only 2 per cent expressed distrust in healthcare professionals. Accordingly, in urban areas where the level of education of fathers is higher, the level of trust in healthcare professionals is lower. Seventeen per cent of fathers living in urban areas do not trust healthcare professionals who administer vaccination, while in rural areas this figure was 3 per cent. All fathers living in southern Kyrgyzstan trust healthcare professionals, while 17 per cent of northerners expressed their distrust.

Figure 6.3.1 Trust in healthcare professionals-Influentials

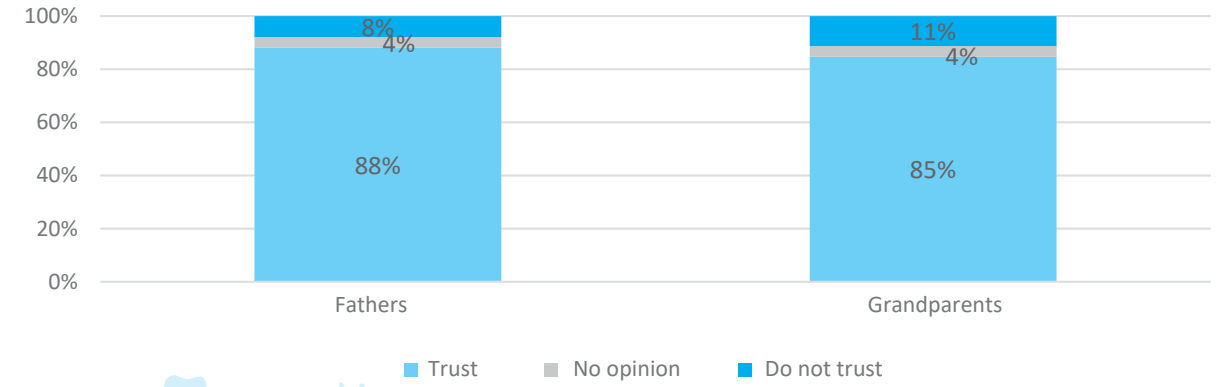


TRUST THE QUALITY OF VACCINES

The level of trust of influentials in the quality of vaccines is also quite high: 88 per cent (fathers) and 85 per cent (grandparents).

The difference in trust by type of locality should be noted: in urban areas this indicator is much lower. Thus, in the "grandparents" category 92 per cent of rural residents trust the quality of vaccines compared to 72 per cent of urban residents. In the "fathers" category, the overwhelming majority of rural residents (93 per cent) trust the quality of vaccines, compared to 79 per cent of urban residents. While there are no significant differences in the level of trust by level of education in the "grandparents" category, in the "fathers" category, the level of trust among those with higher education is lower. Ninety-six percent of fathers with a general education trust the quality of vaccines, while among fathers with vocational or higher education the figure was 80 per cent.

Figure 6.3.2 Trust in healthcare professionals (Influentials)



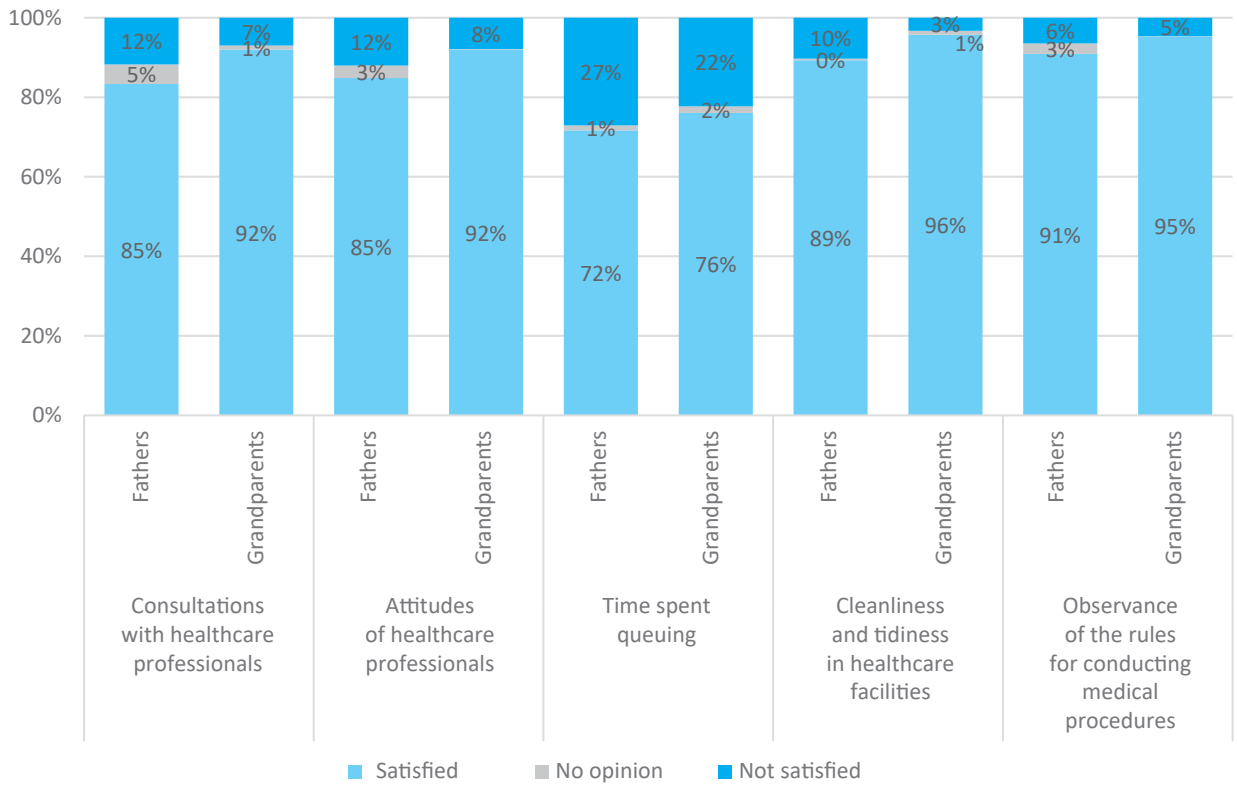
SATISFACTION WITH THE QUALITY OF VACCINATION SERVICES

During the study the respondents were asked to assess their level of satisfaction with the quality of vaccination services provided under the following indicators:

1. Consultations with medical personnel
2. Attitudes of medical personnel
3. Time spent queuing
4. Cleanliness and tidiness of the healthcare facility
5. Compliance with the rules of medical procedure

The level of satisfaction of influentials with aspects of the quality of vaccination services such as consultations with medical personnel, attitudes of medical personnel, time spent queuing, cleanliness and tidiness of the healthcare facilities, and compliance with the rules of medical procedure was rather high, like among mothers. The influentials were least satisfied with the time spent in health canters, and the differences in ratings was very significant. Only 72 per cent of fathers were satisfied with this indicator, while for other indicators the level of satisfaction was 85 per cent or higher. For influentials living in the north, queues for vaccination were more problematic, than for those in the south: the proportion of fathers living in the north satisfied with the time spent queuing was 64 per cent, while in the south the figure was 80 per cent. For grandparents the figure was 62 per cent in the north, and 90 per cent in the south.

Figure 6.3.3 Satisfaction of influentials with aspects of provision of vaccination services (Influential persons)

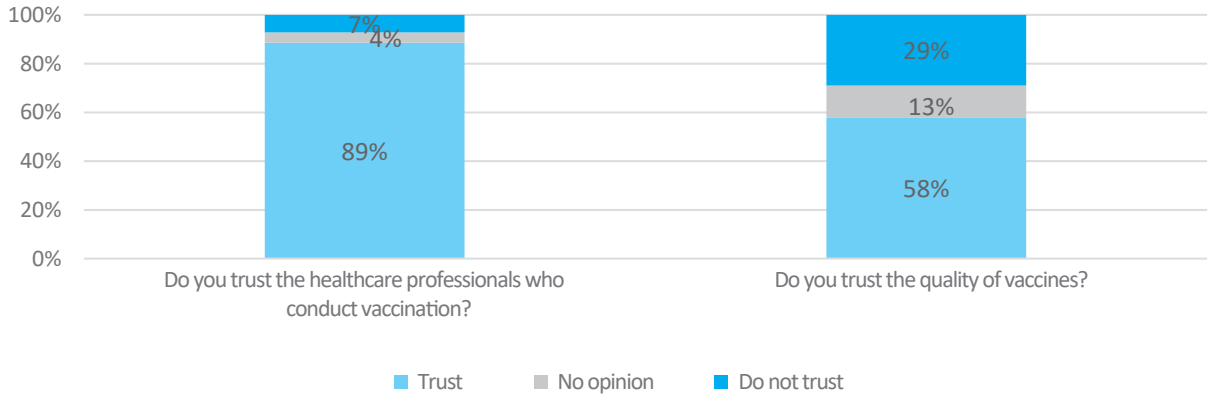


6.4 RELIGIOUS LEADERS

TRUST HEALTHCARE PROFESSIONALS WHO ADMINISTER VACCINATION AND TRUST IN THE QUALITY OF VACCINES

The level of trust in healthcare professionals among religious leaders is quite high (89 per cent), while the level of trust in the quality of vaccines is significantly lower, and also lower than other target groups. Only 58 per cent of religious leaders trust the quality of the vaccine, and 29 per cent do not trust them. The others did not express opinions.

Figure 6.4.1 Level of trust in the healthcare professionals who vaccinate and the quality of vaccines (Religious leaders, percentages)

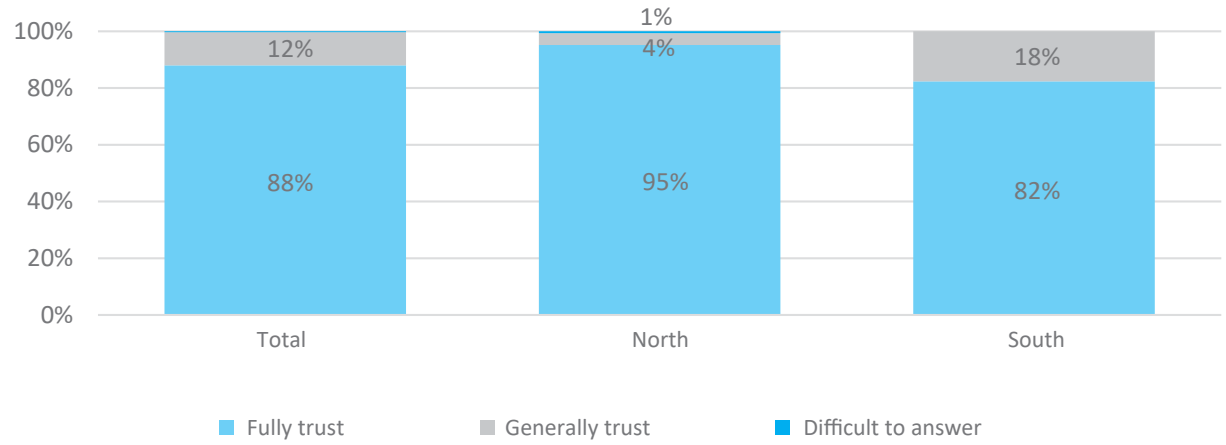


6.5 HEALTHCARE PROFESSIONALS

TRUST IN THE QUALITY OF VACCINES USED?

The research findings show that not all healthcare professionals are confident about the quality of vaccines they use. Twelve per cent of them chose the option "I generally agree" when answering this question, and the percentage of such practitioners in the south (18 per cent) is much higher than in the north (4 per cent).

Figure 6.5.1 Evaluation of quality of vaccines used in practice (Healthcare professionals)



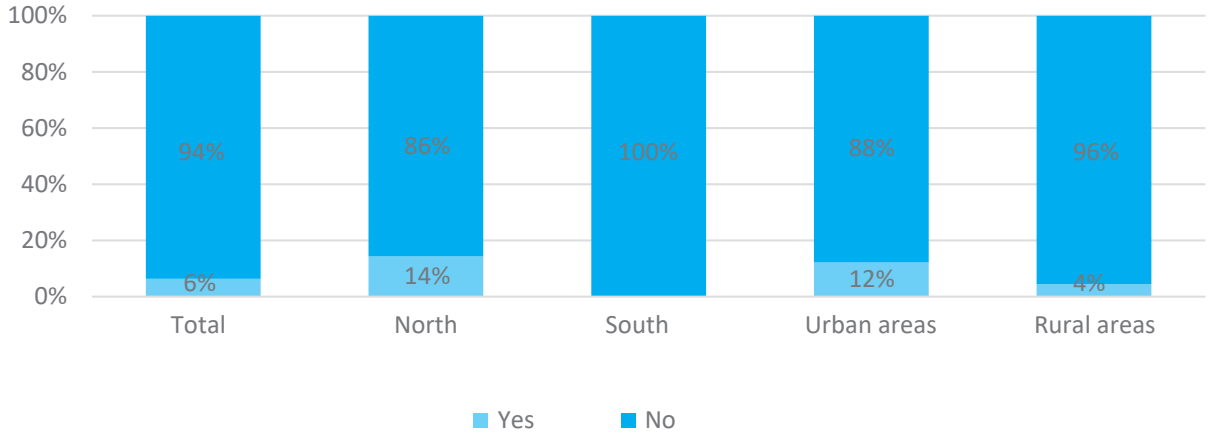
HEALTHCARE PROFESSIONALS BELIEFS THAT VACCINES USED HAVE BEEN TESTED FOR QUALITY AND SAFETY

The overwhelming majority of the healthcare professionals (96 per cent) believe that all the vaccines they use in their practice have been tested for quality and safety. However, four per cent found it difficult to answer this question.

FACING COMPLAINTS ABOUT THE QUALITY OF VACCINES IN PRACTICE

The overwhelming majority of healthcare professionals (94 per cent) had not faced complaints about the quality of vaccines. All the healthcare professionals who reported complaints were practising in the north, where 14 per cent gave this response. The number of complaints about the quality of vaccines was not sufficient for analysis. However, most healthcare professionals who noted such cases in their practice stated that the parents' complaints were groundless.

Figure 6.5.2 Answers to the question: "Have you in your practice encountered complaints about the quality of vaccines?" by region and type of location (Healthcare professionals)



FAMILIES WHO USE PRIVATE HEALTHCARE FACILITIES FOR VACCINATION

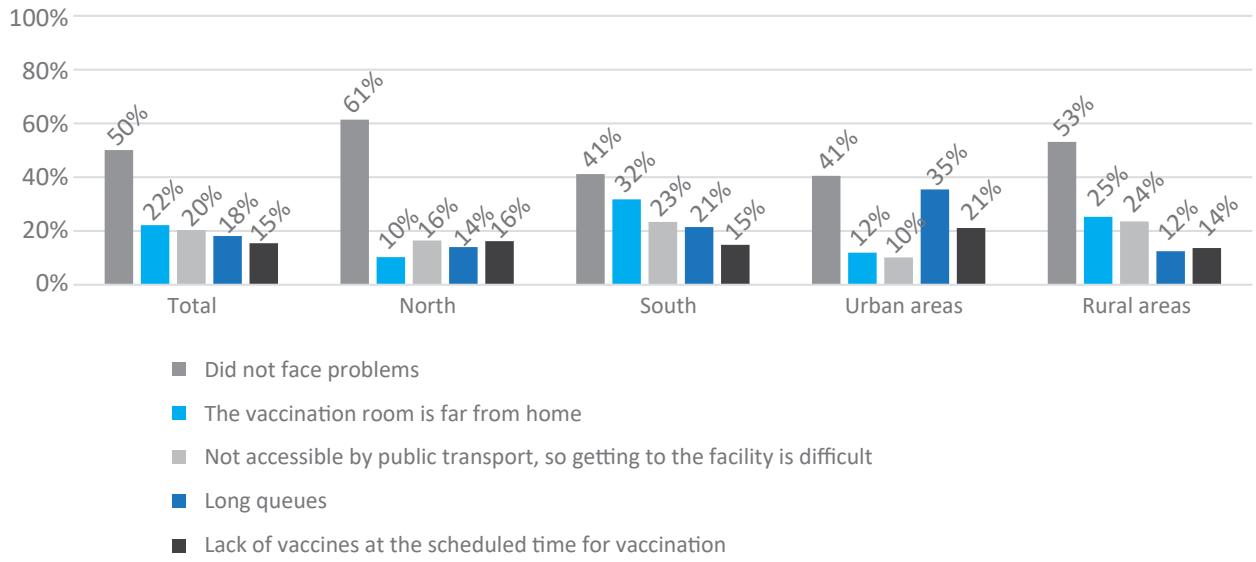
The vast majority of healthcare professionals (87 per cent) noted that in the areas they serve all children are visited by public healthcare facilities for vaccination. All the healthcare professionals practising in the south stated this; while 25 per cent of those in the north noted that some children in the areas they serve attend private healthcare facilities for vaccination. The number of such cases is not enough to analyze the reasons for choosing private medical institutions.

DO FAMILIES FACE PROBLEMS LINKED TO VACCINATION OF CHILDREN

Fifty per cent of the healthcare professionals believe that families living in the areas they serve do not face problems linked with vaccination.

The opinion of healthcare professionals and other target groups about the main problem coincide in urban areas. This problem is long queues. This was noted by 35 per cent of specialists working in urban settlements. The main problem in rural areas is the remoteness of vaccination rooms. A quarter of healthcare professionals practising in the villages believe that parents face this problem. This is particularly acute in the south, where 32 per cent of healthcare professionals noted this problem. A fifth of healthcare professionals believe that parents experience difficulties due to a shortage of public transport, which is also more characteristic of rural areas. However, only 1 per cent of mothers living in rural areas indicated that they faced this problem.

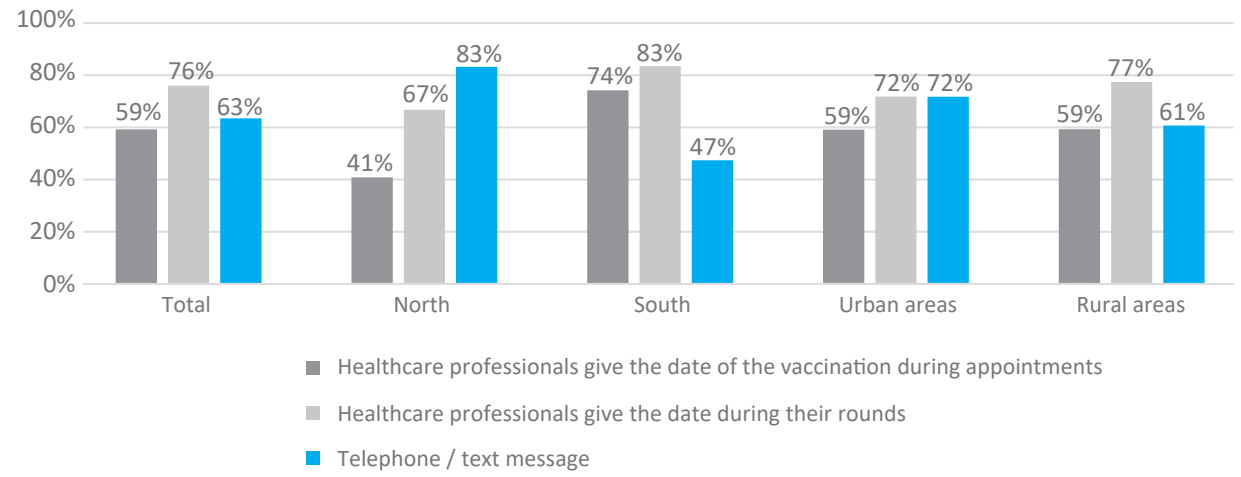
Figure 6.5.3 Main problems linked to vaccination of children faced by parents, by region and type of location (Healthcare professionals, percentages)



REMINDERS ABOUT SCHEDULED VACCINATIONS

Almost all healthcare professionals (99 per cent) said that parents receive reminders of routine immunization, only one respondent noted that his patients did not receive such notifications. According to healthcare professionals, the main channel of reminding patients about routine immunization is informing them during rounds, both in rural and urban areas. Seventy-six per cent of healthcare professionals stated that they inform parents about routine immunization in this way. Healthcare professionals also often inform families of the date of the forthcoming vaccination by telephone (63 per cent), or at appointments (59 per cent). In the north, telephone communication is used more often to inform parents (83 per cent), while in the southern region the most common means of reminding about vaccinations is medical rounds (83 per cent).

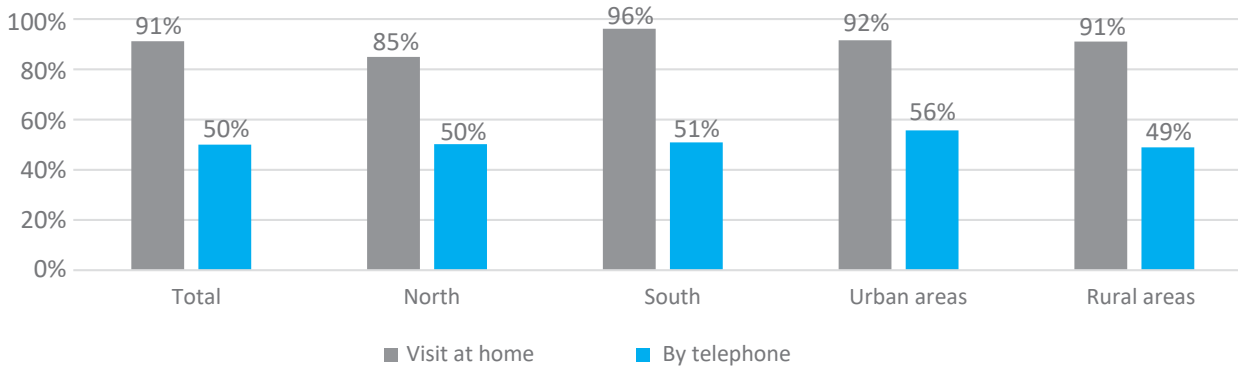
Figure 6.5.4 Ways of reminding about routine immunization, by region and type of location (Healthcare professionals)



FOLLOW UP OF CHILDREN AFTER VACCINATION

According to healthcare professionals, home visits are the main method of conducting post-vaccination follow up, 91 per cent of them use this in their practice. In addition, 50 per cent find out about the children's condition after the vaccination by phone (multiple answers were possible).

Figure 6.5.5 Ways of conducting post-immunization follow up by region and type of location (Healthcare professionals)



7. THE PRACTICE OF VACCINATION

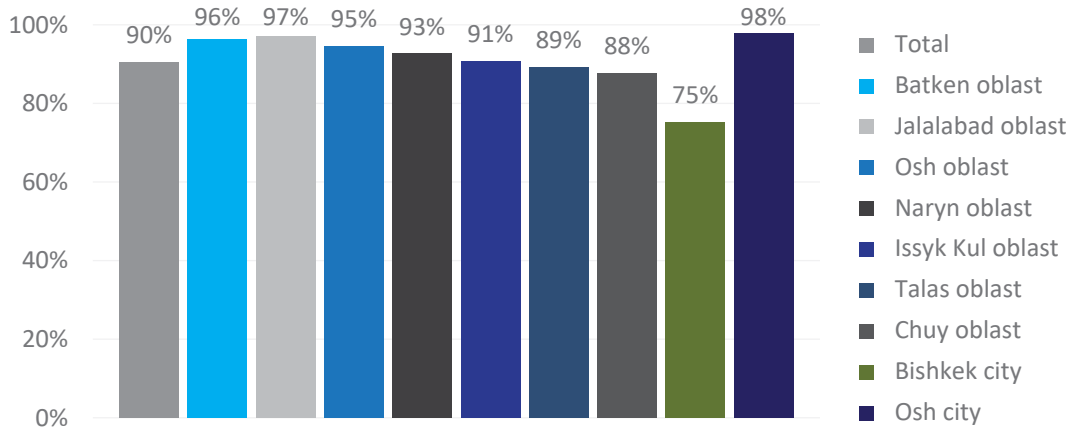
This section explores issues related to parents' practices of vaccinating their children and ways of effectively communicate with parents about the need for vaccination.

7.1 MOTHERS AND CAREGIVERS OF CHILDREN UNDER 5 YEARS OF AGE

PRACTICE OF VACCINATION ACCORDING TO THE IMMUNIZATION CALENDAR

According to mothers, 90 per cent of children under five years of age are completely up-to-date with their vaccinations, while other children are either partially vaccinated or not vaccinated at all. At the same time, vaccination coverage is significantly higher in southern Kyrgyzstan than in the north. Ninety-six per cent of children under the age of five in the southern region are fully vaccinated, compared to 84 per cent in the north. The most concerning vaccination situation is in Bishkek city, where only 75 per cent of children are fully vaccinated. It should be noted that the proportion of fully vaccinated children living in newbuild settlements is higher than the figure for the city as a whole (at 83 per cent).

Figure 7.1.1 Percentage of children fully immunized in accordance with their age, by oblast (Mothers and caregivers of children aged under five years)



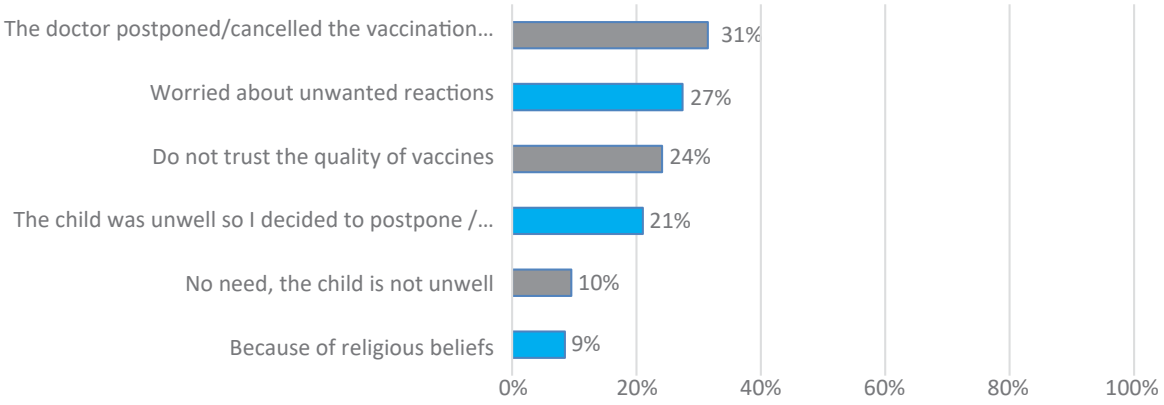
In addition to regional difference, there are also differences in the level of vaccination coverage by type of locality. Ninety-four per cent of children under the age of five living in rural settlements had received all vaccinations appropriate for their age, compared to 85 per cent in urban areas.

REASONS FOR WHY CHILDREN MAY NOT BE FULLY VACCINATED

Looking at the responses from the mothers, four main reasons why children under the age of five have not received all the vaccines appropriate for their ages can be determined:

1. Medical exemption following a doctor's appointment: 31 per cent;
2. Worries about side effects following vaccination: 27 per cent;
3. Lack of trust in the quality of vaccines: 24 per cent; and
4. Parental decision to postpone the vaccination because of the child's illness: 21 per cent.

Figure 7.1.2 Main reasons for in complete vaccination / non-vaccination of children aged under five years, Bishkek and Osh cities- Mothers and caregivers of children aged under five years, percentages of total number of partially vaccinated / non-vaccinated children (multiple responses possible).

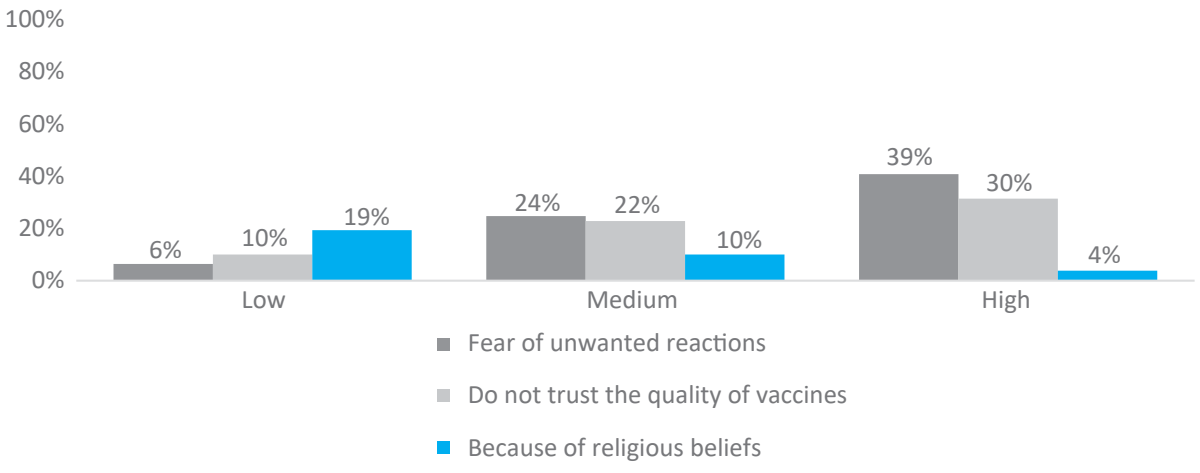


In Bishkek, where the proportion of fully vaccinated children is the lowest, the order of the reasons by frequency of mention is somewhat different: Forty per cent of mothers living in Bishkek whose children had not received all vaccinations appropriate for their ages said that the reason for this was fears of unwanted reactions. A high proportion decided not to have their children vaccinated because of lack of confidence in the quality of vaccines: 37 per cent. Medical exemption was mentioned as the reason that the child was not vaccinated / partially vaccinated by 29 per cent of mothers. The main reason in urban areas that children did not receive all vaccinations was because of fears of unwanted reactions, while this only accounted for 14 per cent of non-vaccination in rural areas. In these areas, the main reason for non-vaccination was medical exemption (36 per cent).

Nine per cent of mothers who refused to vaccinate did so for religious reasons. This runs contrary to the beliefs of healthcare professionals and the stated general opinion of mothers that religious considerations are the main reason to refuse vaccinations.

The reasons for not vaccinating differ according to the assessment of wellbeing. The higher the wellbeing assessment, the higher the proportion of mothers who refused to vaccinate children because of fear of unwanted reactions and distrust of vaccine quality, and the lower the proportion who refused for religious reasons.

Figure 7.1.3 Distribution of mothers and caregivers of children, by reasons for refusal and assessment of wellbeing, percentages of total number of partially vaccinated / non-vaccinated children

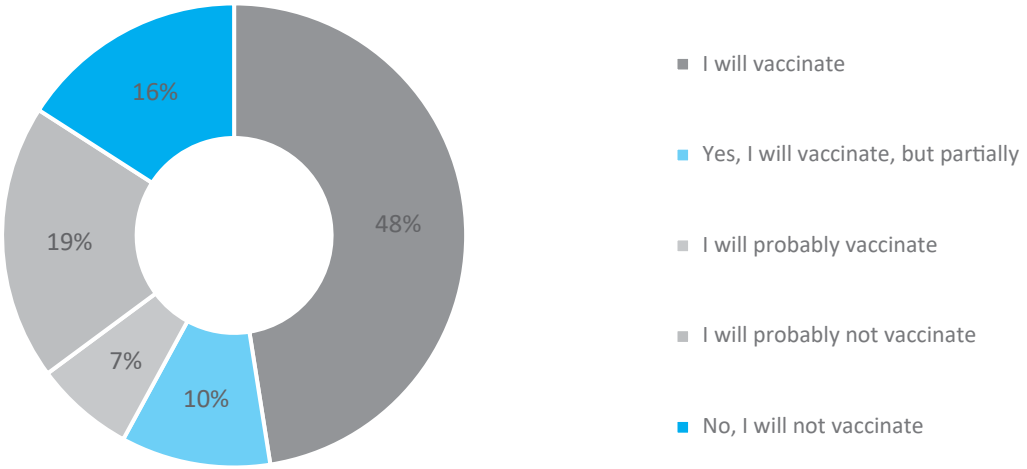


PLANS TO HAVE CHILDREN IMMUNIZED

Mothers whose children are not vaccinated or partially vaccinated, can be divided into four groups with regard to their intentions concerning have their children vaccinated in the future:

- Will definitely have their children vaccinated in the absence of medical contraindications: 48 per cent (it should be noted that 14 per cent of these noted that currently their children have not been immunized because of refusal to vaccinate)
- May have their children vaccinated or will have their children partially vaccinated: 17 per cent
- “hesitant parents”: that will probably will not have their children vaccinated: 19 per cent
- “Refusing parents” definitely decided to refuse vaccination: 16 per cent.

Figure 7.1.4 Distribution of mothers and caregivers of children, by intention to have their children vaccinated, percentages of total number of mothers whose children are partially vaccinated / not vaccinated



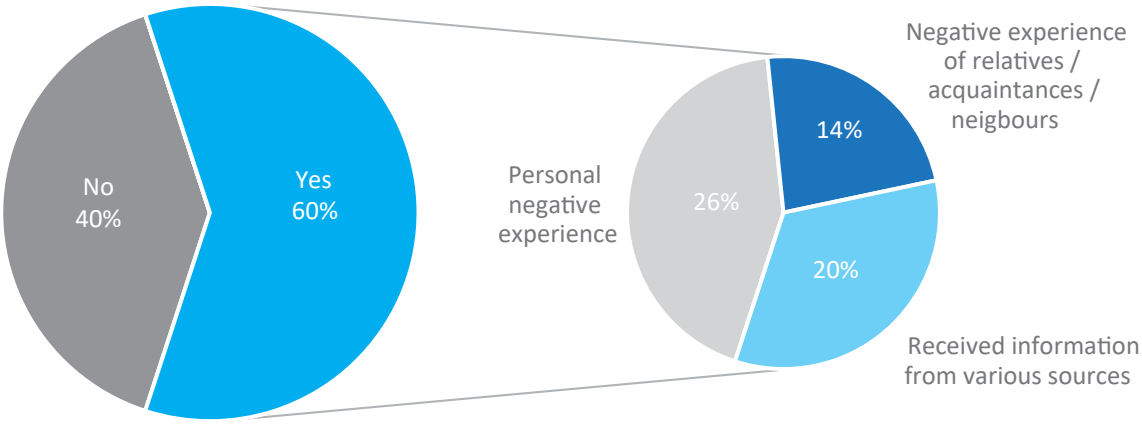
The category “mothers or caregivers of children” can be divided into three groups:

- The vast majority (96 per cent) are prepared to have their children vaccinated if there are no medical contraindications. This group includes mothers whose children are fully immunized, and also mothers of partially vaccinated / non-vaccinated children who intend to have their children vaccinated. In all regions, the proportion of such mothers is 95 per cent or higher, except for the city of Bishkek, where 90 per cent of mothers are firmly committed to having their children vaccinated.
- The second group consists of “doubting” mothers of partially vaccinated / unvaccinated children who have not taken a decision whether to vaccinate the children or not or intend to partially vaccinate children: they account for 2.9 per cent.
- The third group is refusing mothers who have declared their decision not to have their children vaccinated. The proportion of such mothers is 1.1 per cent.

EVENTS AND INCIDENTS THAT INFLUENCED TRUST IN VACCINATION

Mothers who refused vaccination for their children were asked to explain if any specific events had influenced their trust in vaccination. Most of them (60 per cent) linked their refusal with such an event. Most of these had had personal experience or had heard both of unwanted reactions after vaccination and of severe consequences that they associate with vaccination, while the rest believed negative information obtained from various sources. There were isolated cases in which healthcare professionals were also sources of negative information about vaccination.

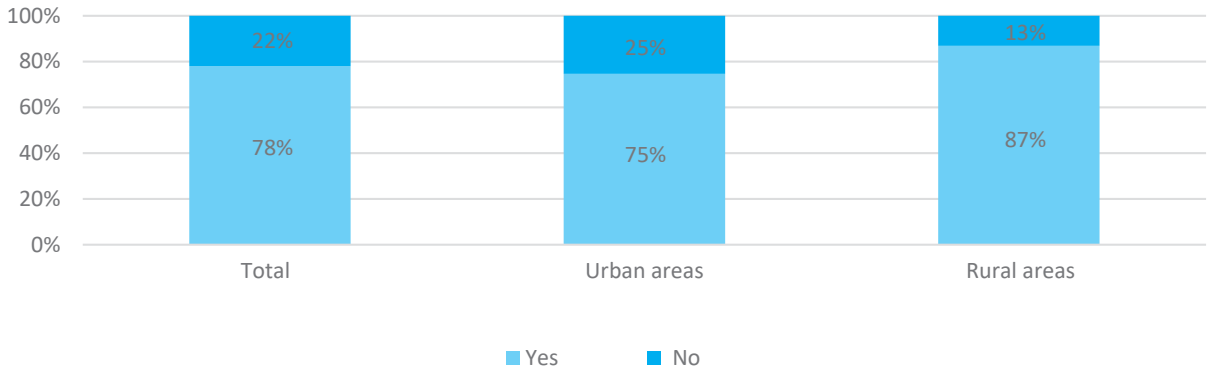
Figure 7.1.5 Events that have affected trust in vaccination among mothers whose children are not vaccinated / partially vaccinated, percentage of all mothers whose children are partially vaccinated / not vaccinated



COUNSELLING REFUSING PARENTS

According to the study findings, the most effective way of influencing parents who refuse to vaccinate their children is interpersonal communication with healthcare professionals. It is possible that arguments from healthcare professionals about the need for vaccination would convince "refusing parents". Respondents whose children were partially vaccinated or not vaccinated were given a supplementary question about whether healthcare professionals had conducted such explanatory work with them. The results showed that such explanatory work does not always occur. Twenty-two per cent of mothers whose children are unvaccinated / partially unvaccinated without medical exemption said that healthcare professionals did not talk with them about the need for timely vaccination after they failed to attend the vaccine room at the set time or refused vaccinations. This is particularly typical for urban areas, where the proportion of "refusing parents" with whom explanatory work was not carried out was 25 per cent, compared to 13 per cent in rural areas.

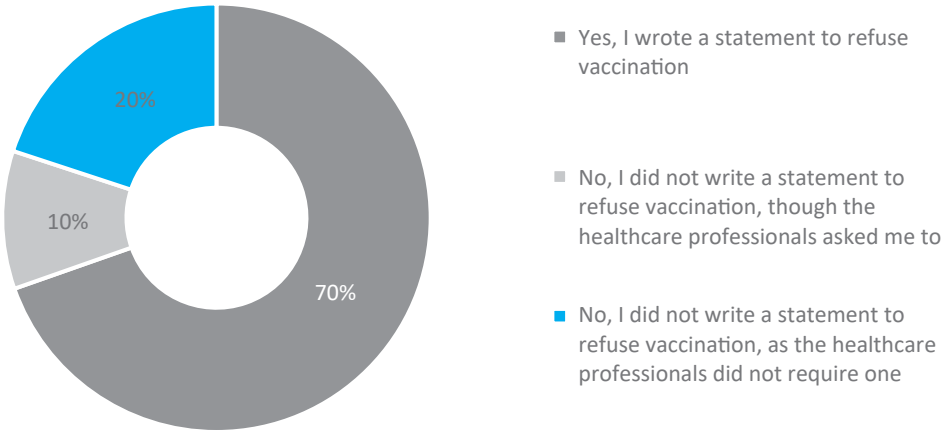
Figure 7.1.6 communication and counselling parents whose children are partially vaccinated / not vaccinated without medical exemption, percentage of all mothers whose children are partially vaccinated / not vaccinated



DOCUMENTATION OF REFUSALS OF VACCINATION AT A HEALTHCARE FACILITY

Documentation of refusal to vaccinate should be obligatory, as evidence that the parents deliberately decided to refuse and accepted responsibility for the possible consequences. However, only 70 per cent of mothers who refused to vaccinate their children said they had documented their refusal. In other cases, the refusal was not documented, though 10 per cent of mothers noted that they did not write a statement despite demands from healthcare professionals.

Figure 7.1.7 Documented refusal of vaccination, percentage of all mothers whose children are partially vaccinated / not vaccinated



7.2 INTERNAL LABOR MIGRANTS

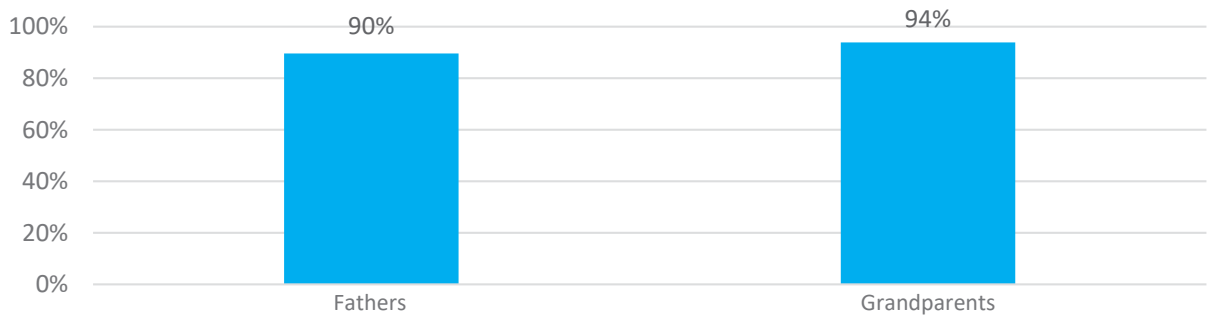
While in general 90% per cent of children under the age of five are fully vaccinated to the requirements of their age, this figure is slightly lower among “internal labor migrants” (82 per cent). The number of unweighted cases of non-vaccination / partial vaccination of children among labor migrants is not enough to analyses this category for reasons of refusals. However, it should be noted that in five cases the child was not immunized because of a lack of documents: a birth certificate or vaccination card.

7.3 INFLUENCES (FATHERS & GRANDPARENTS)

PRACTICE OF VACCINATION ACCORDING TO IMMUNIZATION CALENDAR

Most fathers (90 per cent) and grandparents (94 per cent) stated that all their children / grandchildren under the age of five are vaccinated according to the immunization schedule. The weighted number of cases of unvaccinated / partially vaccinated children in these categories is not enough to analyse the reasons.

Figure 7.3.1 Proportion of influentials whose children/grandchildren under the age of five are fully immunized to their ages



7.4 RELIGIOUS LEADERS

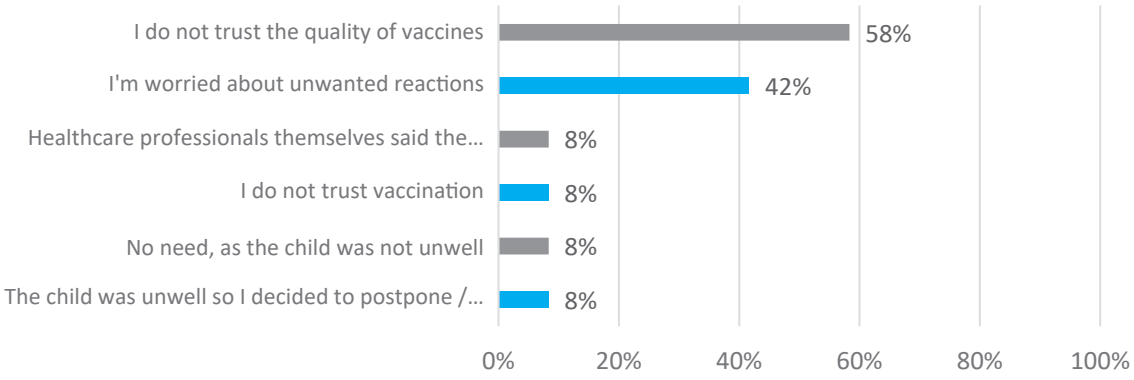
PRACTICE OF VACCINATION ACCORDING TO THE IMMUNIZATION CALENDAR

The proportion of religious leaders whose children under five years of age was 61 per cent. The proportion whose children were fully vaccinated was 73 per cent. This is the lowest rate among all the target groups. The unweighted number is too small for analysis. The results in this section are not representative for religious leaders but just reflect the opinions of the respondents.

REASONS FOR NON-VACCINATION/PARTIAL VACCINATION OF CHILDREN

It should be noted that more than half of the religious leaders whose families include partially vaccinated / unvaccinated children stated that this was because of fears associated with unwanted reactions. None of the respondents noted a contradiction to religious postulates as a reason.

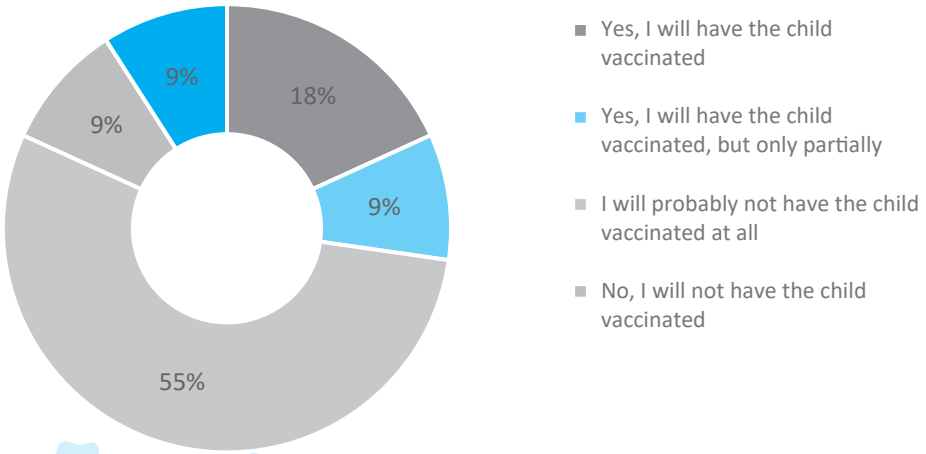
Figure 7.4.1 Reasons why children under five years of age within the families of religious leaders are partially vaccinated / not vaccinated, percentages of total number of religious leaders whose families include partially vaccinated / non-vaccinated children.



PLANS TO HAVE CHILDREN VACCINATED

More than half religious leaders whose children/families are partially vaccinated/unvaccinated children stated that they would most likely not have their children vaccinated.

Figure 7.4.2 Intentions of religious leaders concerning vaccination of children in the future, percentages of the total number of religious leaders in whose families partially vaccinated/ unvaccinated children

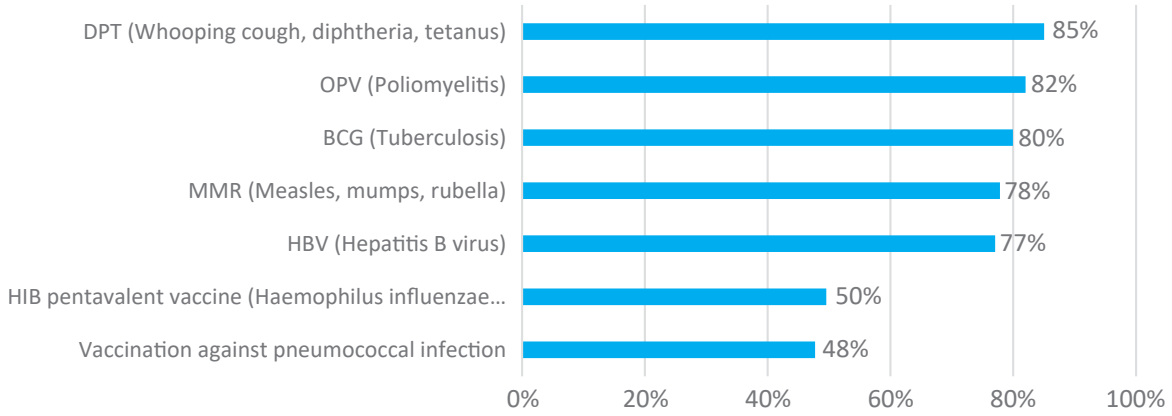


7.5 HEALTHCARE PROFESSIONALS

VACCINES RECOMMEND TO PATIENTS UNDER THE NATIONAL IMMUNIZATION CALENDAR

Healthcare professionals were asked: “Which vaccines do they usually recommend to patients under the calendar?” The question was open, with no answers offered. The survey was not intended to assess the knowledge of healthcare professionals. However, not all respondents listed all the vaccinations included in the calendar of preventive vaccinations of the Kyrgyz Republic in their responses. Only 24 per cent of health professionals named all mandatory vaccinations, (34 per cent in urban areas and 20 per cent in rural areas. Only half the healthcare professionals mentioned penta vaccine for the HIB response, and 48 per cent - from the pneumococcal influenza.

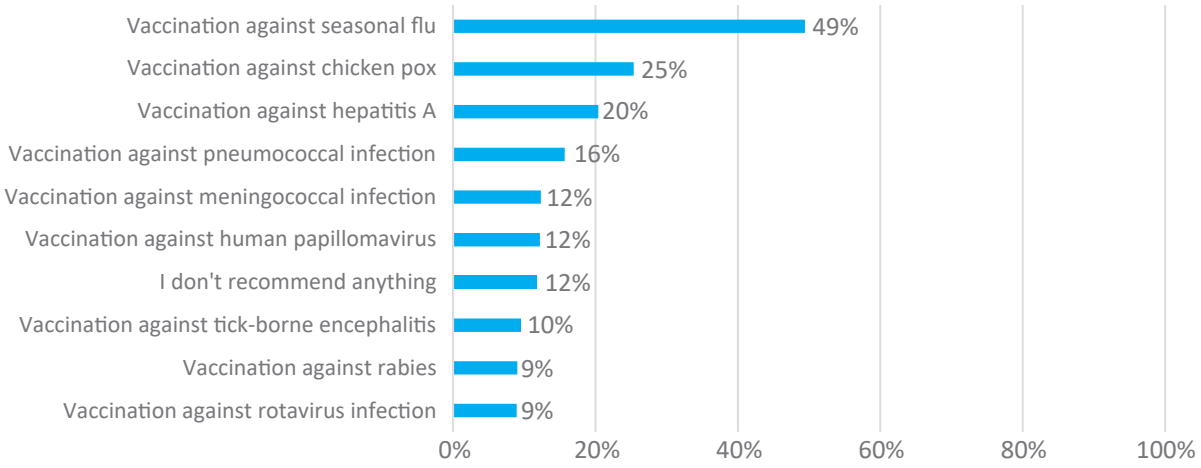
Figure 7.5.1 Vaccinations recommended by healthcare professionals from the national immunization calendar, percentages



ADDITIONAL VACCINATIONS RECOMMEND

In addition to vaccines included in the national immunization calendar, healthcare professionals recommend additional vaccinations to their patients. Most often, vaccine against seasonal influenza was recommended (49 per cent of healthcare professionals). Twelve per cent of specialists noted that they do not recommend additional vaccinations.

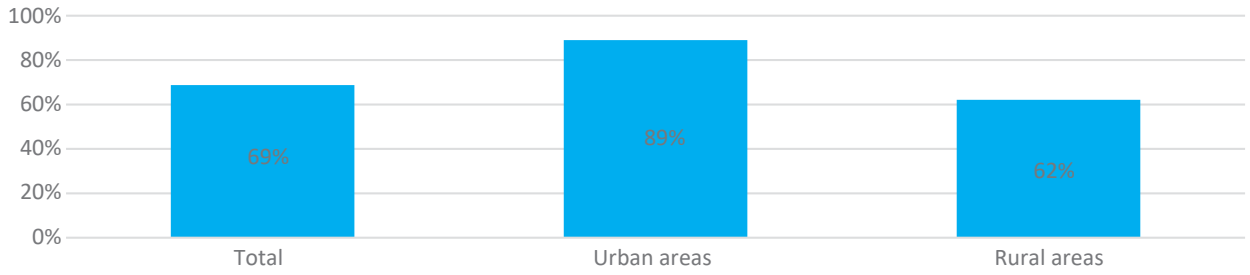
Figure 7.5.2 Additional vaccinations recommended by healthcare professionals, percentages



ENCOUNTERING CASES OF UNVACCINATED PARTIALLY VACCINATED CHILDREN

Most of the healthcare professionals (69 per cent) encounter unvaccinated or partially vaccinated children under the age of five in their practice. In urban areas this is more frequent (89 per cent, compared to 62 per cent in rural areas). The proportion of healthcare professionals with such experience is higher in the north than in the south (79 and 60 per cent respectively).

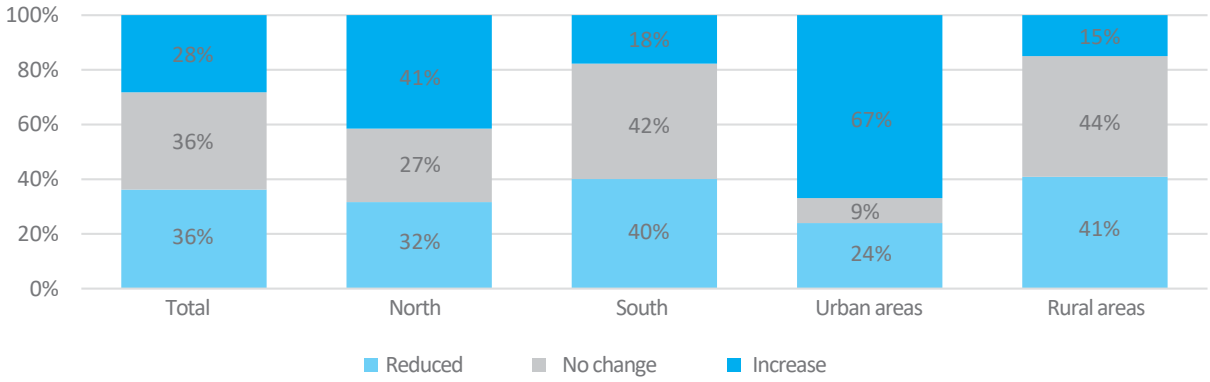
Figure 7.5.3 The proportion of healthcare professionals who encounter in their practice cases in which children aged under five years are not vaccinated / partially vaccinated, percentages



STATUS OF VACCINATION OF CHILDREN IN THE LAST FIVE YEARS

Based on the healthcare professionals' evaluations of the areas they serve, it would be difficult to assess the trend in the number of unvaccinated / partially vaccinated nationally over the past five years. Thirty-six per cent believe that the number of unvaccinated / partially unvaccinated children in their areas has fallen, 28 per cent reported an increase, and 36 per cent did not notice any changes. However, the trend in vaccination coverage in urban areas is rather negative. Sixty-seven per cent of healthcare professionals practicing in urban areas report an increase in the number of non-vaccinated / partially unvaccinated children in the last five years. In rural areas the plurality did not notice any change (44 per cent). An increase in the number of unvaccinated / partially unvaccinated children was noted by 15 per cent of healthcare professionals.

Figure 7.5.4 Trends in numbers of unvaccinated / partially-vaccinated children in the last five years, as assessed by healthcare professionals

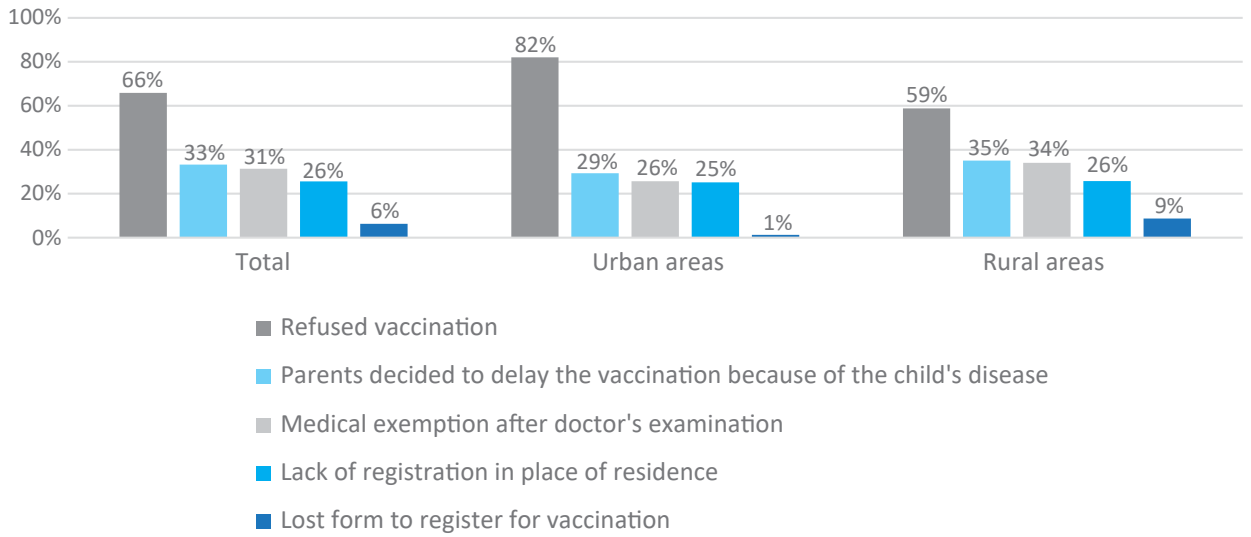


WHY ARE CHILDREN NOT VACCINATED / PARTIALLY VACCINATED?

Healthcare professionals gave five main reasons why children under the age of five are not vaccinated or only partially vaccinated. The main reason, according to the healthcare professionals, is refusal of vaccination. This reason was noted by most of them, in the country as a whole (66 per cent), and in both urban and rural areas. The second most frequently mentioned cause is the child's health status. Sometimes parents themselves decide to postpone or cancel the vaccination, referring to the child's health. A third

of the healthcare professionals have faced this situation. Thirty-one per cent medical exemption after a doctor's appointment. In addition, healthcare professionals named two more administrative reasons: lack of registration at the place of residence (26 per cent) and loss of the vaccination registration form (6 per cent).

Figure 7.5.5 Main reasons why children under five years are not vaccinated / partially vaccinated, by type of location, percentages



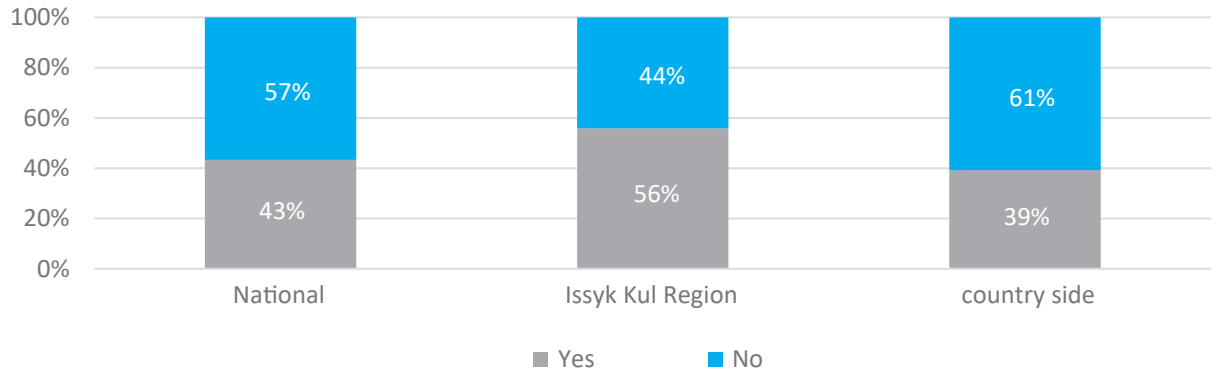
DOCUMENTS TO CERTIFY REFUSALS TO VACCINATION

Most healthcare professionals (89 per cent) stated that refusals to vaccinate must be documented. Parents should write an application to refuse in free form. The other healthcare professionals stated that they do not require parents to fill out any documents if vaccination is refused.

ENCOUNTERING UNWANTED REACTIONS IN CHILDREN TO VACCINATION

Only 43 per cent of healthcare professionals noted that they had encountered unwanted reactions following vaccination in their practice. Among healthcare professionals serving urban areas, the figure was higher (56 per cent) than in rural areas (39 per cent).

Figure 7.5.6 encountering unwanted reactions in children to vaccination by type of location



Most of the cases of adverse reactions after vaccination that the healthcare professionals experienced were the normal minor side effects: fever, fatigue and skin reaction at the injection site. These were noted by 78 per cent of healthcare professionals who reported unwanted reactions after vaccination. Eighteen per cent of the healthcare professionals with such experience noted that the last incident of unwanted reactions in their practice was seizure in a child. Only one respondent reported a case of anaphylactic shock in a child as a result of vaccination.

ENCOUNTERING CASES IN WHICH CHILDREN FELL ILL BECAUSE THEY HAD NOT BEEN VACCINATED

The proportion of healthcare professionals who encountered cases of unvaccinated children in their practice contracting vaccine-preventable diseases is quite high (30 per cent). Most of them mentioned the outbreak of measles that occurred in Kyrgyzstan in 2015.

HANDLING REFUSALS

All the healthcare professionals who took part in the survey stated that they conduct counselling and communication efforts with parents who refuse to have their children vaccinated.

VACCINATION CONSENT FORM

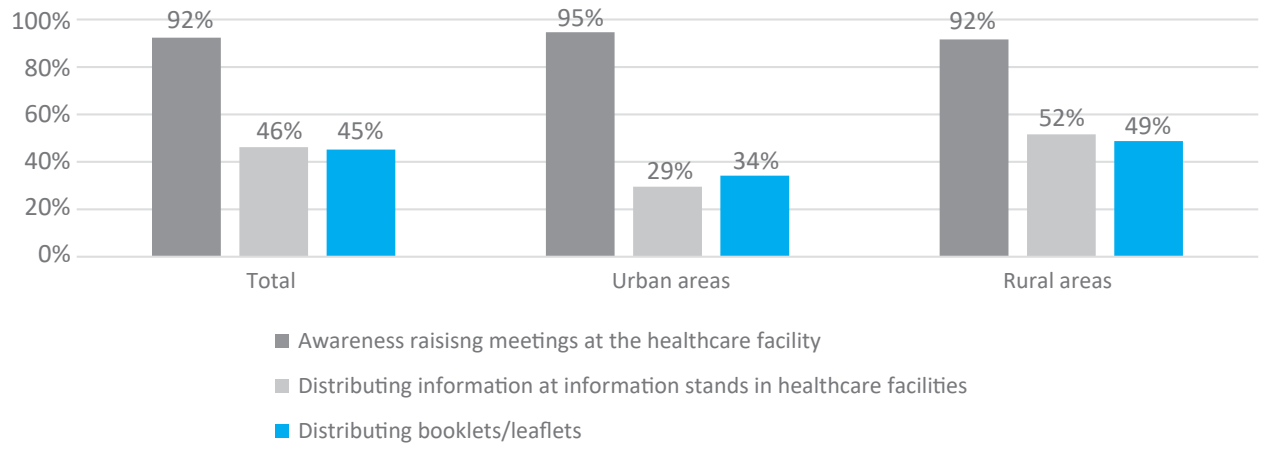
Parents do not complete consent statements about their children's vaccination. Three participants stated that they sign the immunization card.

CONDUCTING AWARENESS RAISING FOR PARENTS / PREGNANT WOMEN ABOUT THE NEED FOR TIMELY VACCINATION AND METHODS USED

All the healthcare professionals who took part in the survey stated that they conduct awareness raising activities with parents / pregnant women about the need for timely vaccination.

The main method of awareness-raising which is used by 92 per cent of specialists is communication and counselling during patients' appointments. Another rather widespread activity, particularly in rural areas, is placing information on information boards at healthcare facilities. In addition, 45 per cent of healthcare professionals noted that they give parents booklets with information about vaccination.

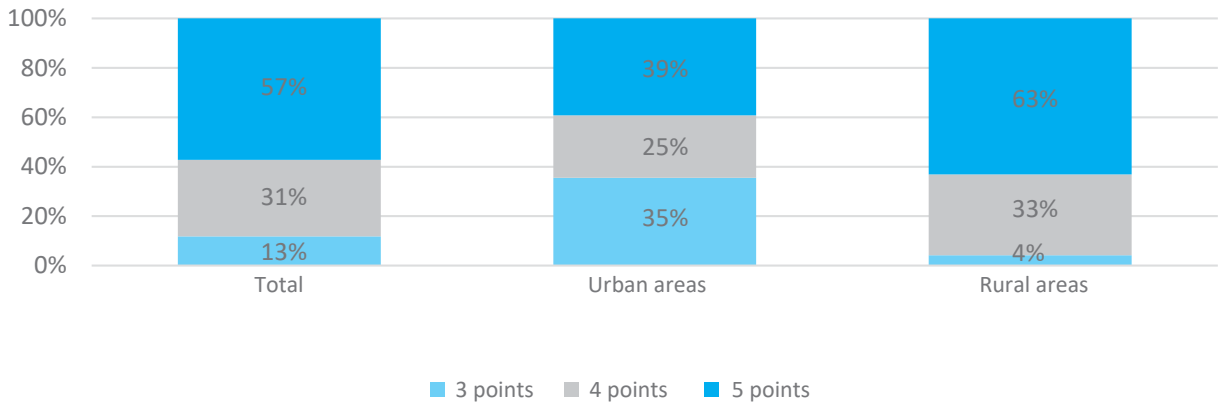
Figure 7.5.7 Forms of awareness raising work about the need for vaccination by type of location



THE EFFECTIVENESS OF AWARENESS RAISING ABOUT THE NEED FOR VACCINATION

Most of the healthcare professionals (88 per cent) consider the IPC work they conduct with parents about the need for vaccination to be effective (4 or 5 points), while 57 per cent of specialists rated it as very effective. The lowest score that the survey participants set for their effectiveness of IPC work was three points on a five-point scale. However, specialists working in urban healthcare facilities were more critical when assessing counselling work they carry out. Thirty-five per cent of them estimated the effectiveness to be three points (average), whereas only 4 per cent of healthcare professionals in rural areas had this opinion.

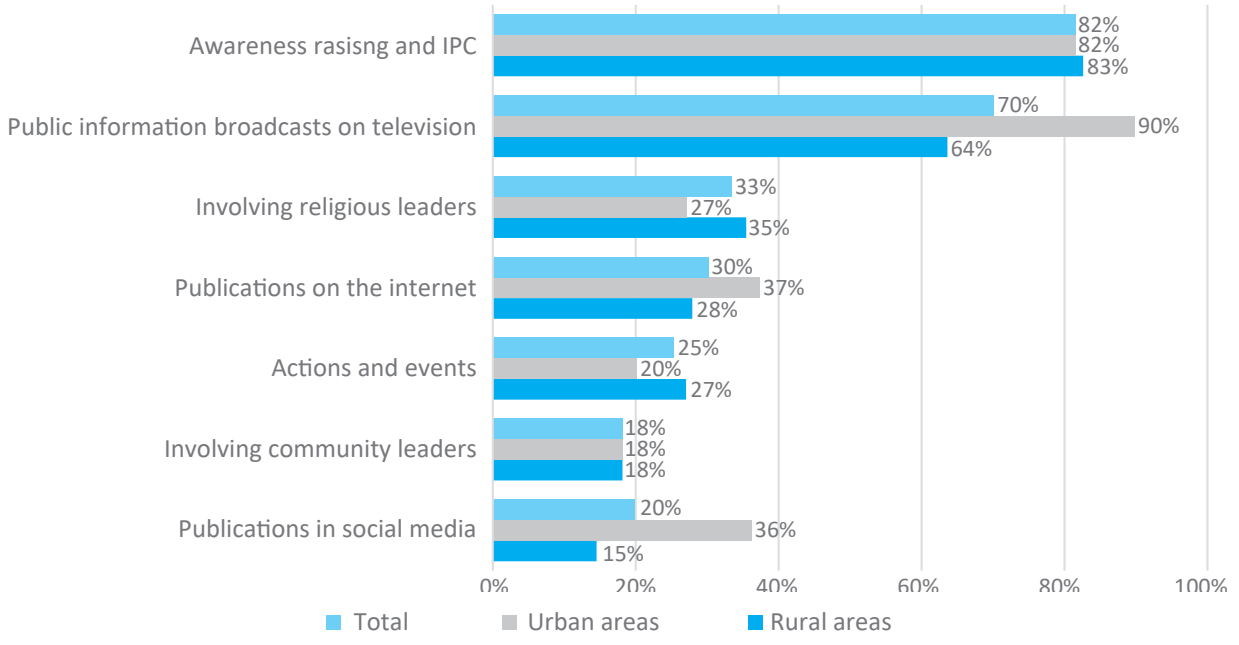
Figure 7.5.8 Forms of awareness raising work about the need for vaccination, by type of location



FORMS OF AWARENESS RAISING WORK WITH PARENTS / PREGNANT WOMEN ABOUT THE NEED FOR TIMELY VACCINATION THAT IS SEEN AS MORE EFFECTIVE

In general, most of the healthcare professionals (82 per cent) believe that the most effective form of awareness raising is meeting face-to-face. Another effective way to raise awareness about the need for vaccinations could be to use of advertising on television: this was supported by 70 per cent of the healthcare professionals, and 90 per cent in urban areas. A third of the respondents believe that religious leaders should be engaged in this task. Other suggestions were promotional events (25 per cent) and more active use of the internet and social networks (30 and 20 per cent respectively).

Figure 7.5.9 Effective forms of awareness raising work about the need for vaccination, by type of location



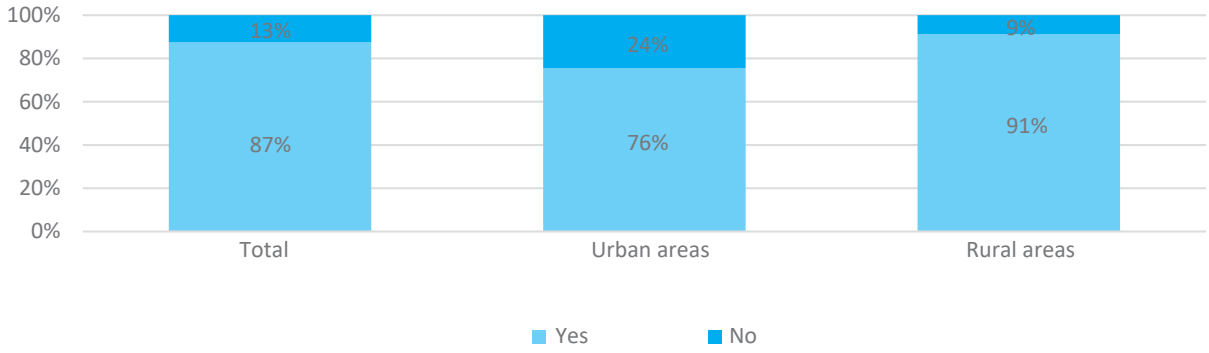
USEFUL MATERIALS FOR AWARENESS RAISING OF PARENTS

The vast majority of healthcare professionals (88 per cent) stated that booklets and brochures are required for awareness-raising work, while 26 per cent of them would like to use video materials.

PARENTS/PREGNANT WOMEN SEEK INFORMATION ABOUT VACCINATION FROM HEALTH PROFESSIONALS

Most of the healthcare professionals (87 per cent) reported that parents / pregnant women come to them for information about vaccination. Specifically, for healthcare professionals in rural areas the figure is 91 per cent, compared to just 76 per cent in urban areas.

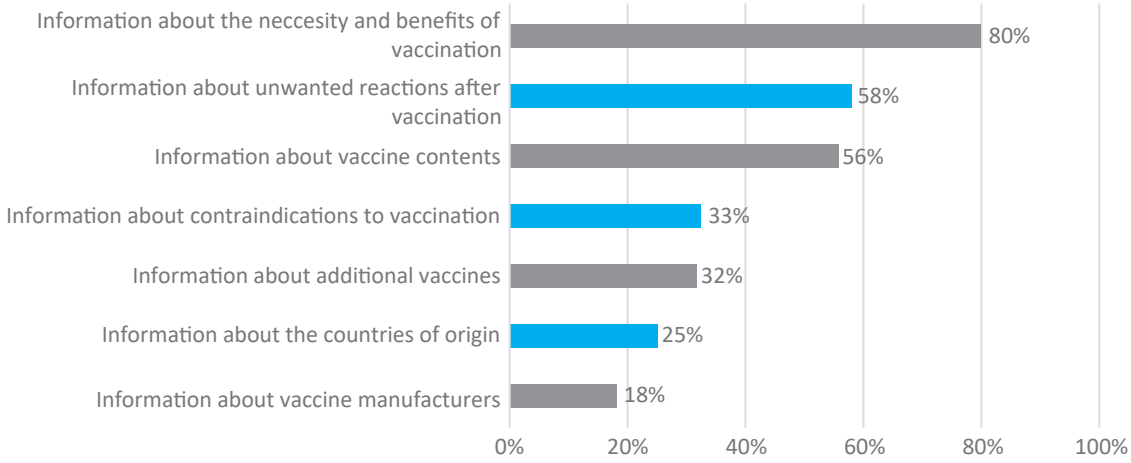
Figure 7.5.10 Parents / pregnant women coming to healthcare professionals for information about vaccination, percentages.



QUESTIONS ABOUT VACCINATION THAT ARE MOST LIKELY TO BE ASKED BY PARENTS/ PREGNANT WOMEN

The most requested information by parents / pregnant women is about the need for and benefits of vaccination. This was noted by 80 per cent of healthcare professionals. In addition, more than half of the specialists noted that information about unwanted reactions after vaccination (58 per cent) and the composition of vaccines (56 per cent) was requested by parents / pregnant women.

Figure 7.5.11 The questions about vaccination that are most frequently asked by parents / pregnant women, percentages of total number of healthcare professionals to whom parents / pregnant women came with questions about vaccination



TELLING PARENTS/PREGNANT WOMEN ABOUT UNWANTED REACTIONS OF VACCINATION

The overwhelming majority of medical workers (93 per cent) stated that they tell parents / pregnant women about possible unwanted reactions after vaccination.

8. VACCINATION DECISION MAKING

This section explores who makes the decision of vaccination and who influences this decision.

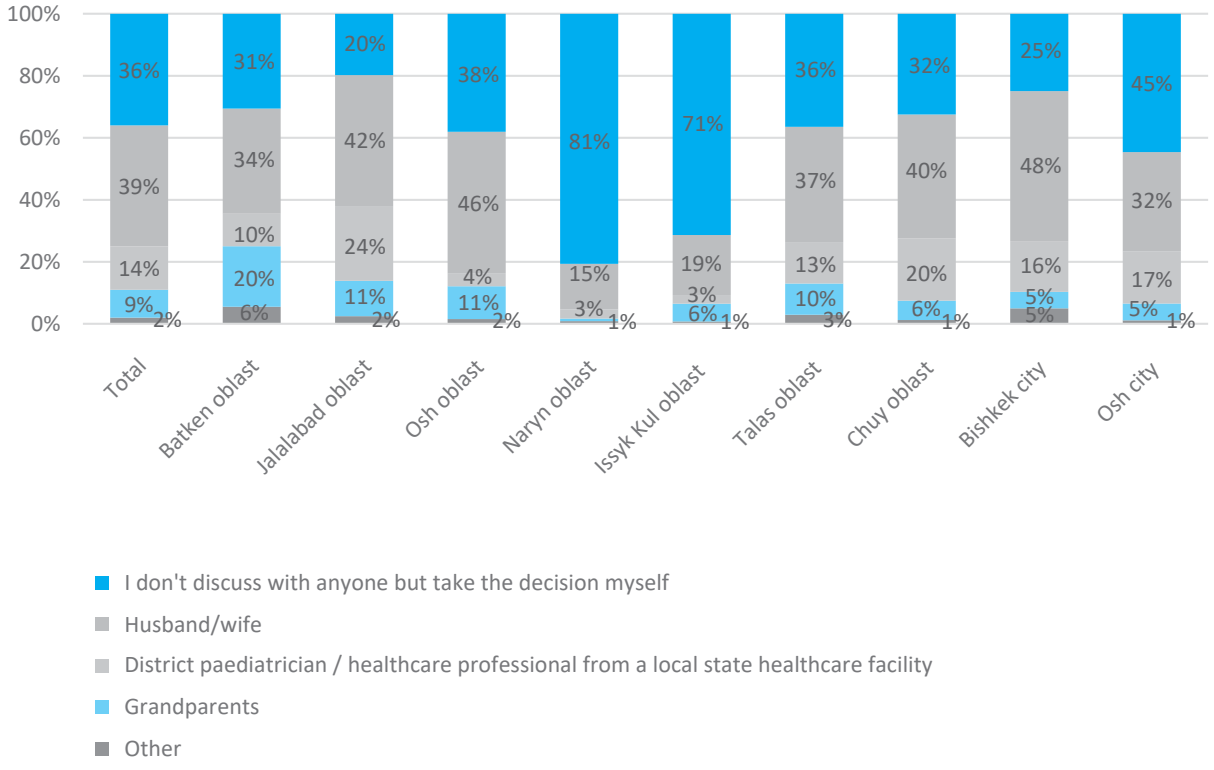
8.1 MOTHERS AND CAREGIVERS OF CHILDREN AGED UNDER FIVE YEARS

WHO INFLUENCE THE VACCINATION DECISION

One of the research goals was to reveal influencers of mothers or caregivers when making decisions about vaccination. For this they were asked to name not more than three options, beginning with the most influential.

Thirty-six per cent of mothers made the decisions about vaccinating children on their own, not consulting with anyone. In Naryn and Issyk Kul oblasts these groups make up the majority (81 and 71 per cent respectively), while in other regions such mothers accounted for less than half. A relatively high proportion of mothers who did not consult anyone to decide on their children's vaccination was found among residents of Bishkek's newbuild settlements (51 per cent, compared to 25 per cent for the city as a whole). The decision-making process for vaccinating children in Kyrgyz and Uzbek families is somewhat different. Among ethnic Kyrgyz, 39 per cent of mothers make these decisions on their own, compared to 19 per cent among Uzbeks. No other socio-demographic differences were found for this indicator.

Figure 8.1.1 People who influence the vaccination decision making, first mentioned, by oblasts (Mothers and caregivers of children aged under five years)



The most important person that mothers consult with is their husbands. Forty-nine per cent of mothers consulted with their husbands, with 39 per cent turning to them in the first place. Husbands have the greatest influence over the decision to vaccinate in Bishkek city, Chuy, Osh and Jalalabad oblasts. In addition, the influence of husbands on "younger" age groups is higher. Mothers living in Bishkek's newbuild settlements consult virtually no influentials other than their husbands. Forty-four per cent of them turn to their husbands when deciding whether to vaccinate.

Despite the fact that healthcare professionals are the most competent on vaccination issues, just 24 per cent of mothers turn to them for advice on vaccination, and only 14 per cent consider them the most influential. Healthcare professionals have the greatest impact in Jalalabad oblast, where 24 per cent of mothers turn to them first, and 44 per cent named them among the three most influentials. Healthcare professionals have limited influence on mothers in Bishkek's newbuild settlements on the issue of vaccination. Only 6 per cent of them consult with specialists when making decisions, and just 2.5 per cent consider them the most influential persons. In Bishkek city these indicators are much higher: 31 and 16 per cent respectively.

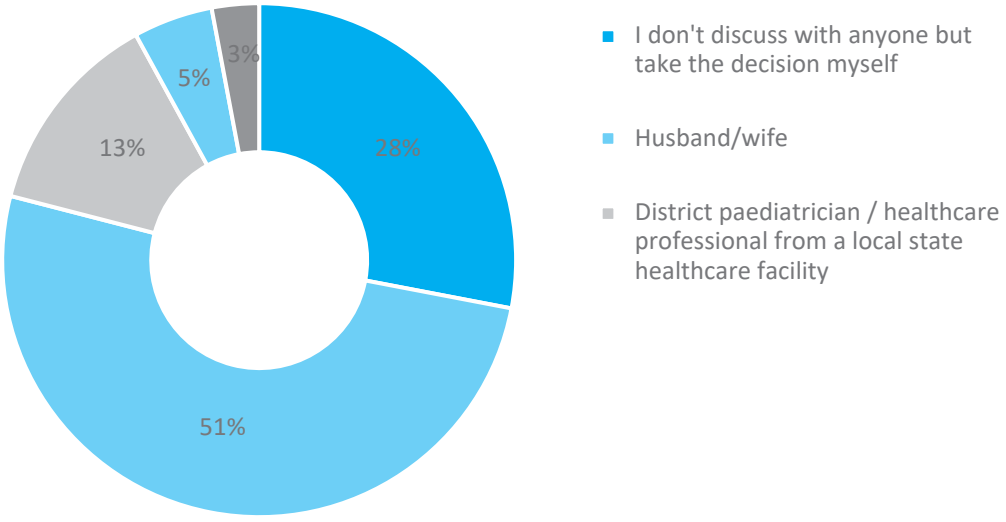
The third most important persons influencing decision making about vaccination are grandparents. Nine per cent of mothers turn to them first when deciding if to vaccinate children, and in Batken oblast this figure reaches 20 per cent. The father's parents exert more influence on this decision. The influence of the husband's parents on decision-making concerning vaccination is particular high in Uzbek families. Forty-seven per cent of ethnic Uzbeks named them among the three most influentials, while the figure for ethnic Kyrgyz was only 13 per cent.

The frequency of mention of other persons, such as friends, relatives and acquaintances; religious leaders as influentials in the decision making about vaccination is low: less than 3 per cent.

8.2 INTERNAL LABOR MIGRANTS

Only 28 per cent of “internal labor migrant” mothers make the decision to vaccinate children independently. In this category husbands have the strongest influence. Half the “internal labor migrant” mothers decide on vaccination issues primarily with their husbands, while 65 per cent consider husbands among the three most influentials concerning the decision. Grandparents have a weak influence on vaccination among “internal labor migrants”. Only 3 per cent of these mothers primarily consult with grandparents in this case.

Figure 8.2.1 Influentials on decision making about vaccination, first mentioned (“Internal labor migrants”)



8.3 INFLUENCERS (FATHERS & GRANDPARENTS)

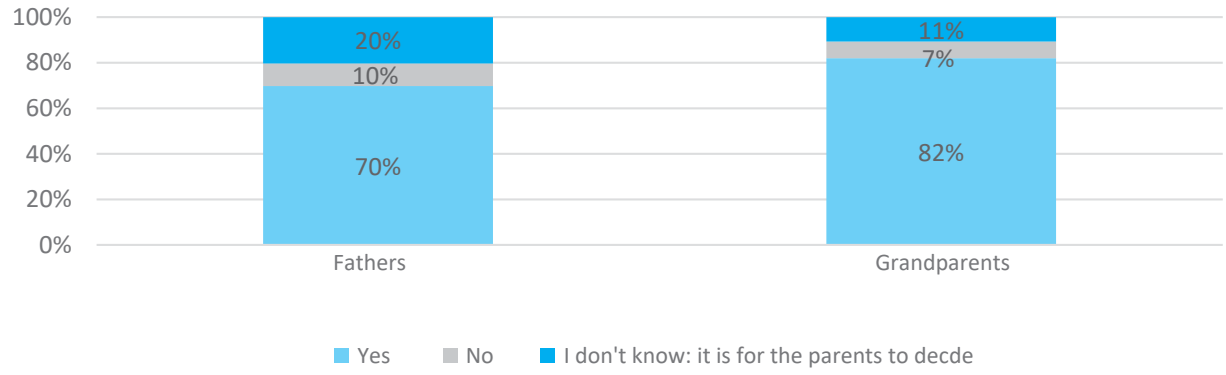
ADVICE ABOUT VACCINATION OF CHILDREN

Ten per cent of fathers and 27 per cent of grandparents noted that they are asked for advice/information about the vaccination of children. Seventy-six per cent of the grandparents who are asked for advice/information about vaccination stated that parents are interested in information about the necessity and benefit of vaccination. Twenty-three per cent of grandparents stated that they answered questions about unwanted reactions and how to care for children if they occur.

RECOMMENDING VACCINATION

Despite the fact that fathers who are the most influential in making decisions about their children's vaccination, generally expressed positive attitudes towards vaccination, only 70 per cent of them would advise that the children be vaccinated if asked for advice. Twenty per cent of fathers would prefer not to give advice and leave the decision to the discretion of the primary caregivers; while 10 per cent will advise not to vaccinate. The vast majority of grandparents (82 per cent) would advise to vaccinate children.

Figure 8.3.1 recommending vaccination



8.4 RELIGIOUS LEADERS

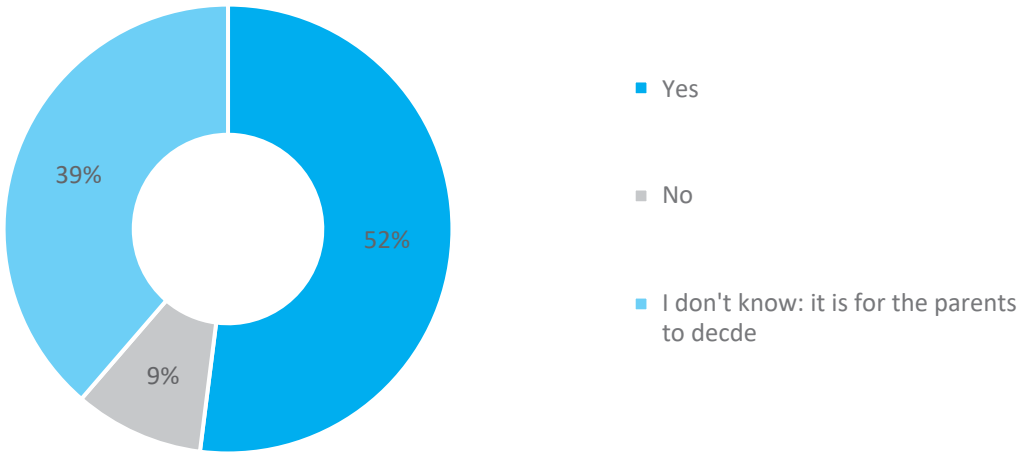
ADVICE ABOUT VACCINATION OF CHILDREN

Thirty-two per cent of religious leaders noted that they were approached for advice/information about vaccination. The overwhelming majority of religious leaders who are asked for such information (83 per cent) noted that people are mostly interested in the questions: “Can I get vaccinated?” and “Does vaccination not contradict religious principles?»

RECOMMENDING VACCINATION

Slightly over half the religious leaders (52 per cent) said they would advise vaccination if asked for advice. A significant proportion took a neutral position. Thirty-nine per cent of religious leaders preferred leaving the decision to the parents’ discretion, while the rest would advise against.

Figure 8.4.1 recommending vaccination



9. SOURCES OF INFORMATION ABOUT VACCINATION

This section explores the main sources of information and trusted information for the different survey respondents.

9.1 MOTHERS AND CAREGIVERS OF CHILDREN AGED UNDER FIVE YEARS

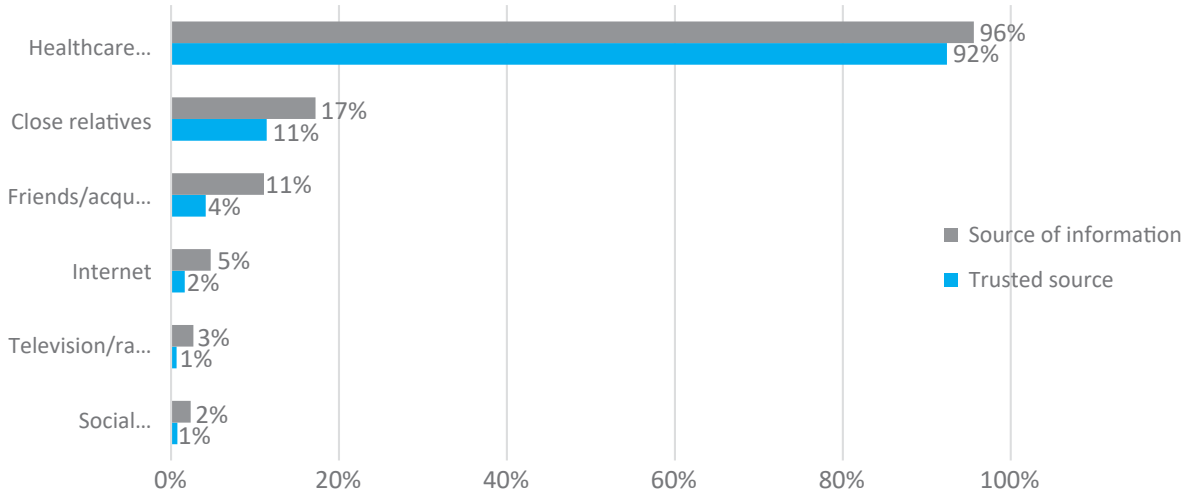
SOURCES OF INFORMATION ABOUT VACCINATION AND TRUSTED SOURCES

The research findings indicate that searching for information about vaccinations is not a problem for respondents, and in particular for mothers. Only 0.5 per cent of the mothers stated that they did not have access to information about vaccination.

The main – and most trusted – source of information about vaccinations, in the mothers' opinion, is healthcare professionals. Ninety-six per cent of mothers receive information about vaccination from healthcare professionals, and 92 per cent trust this information.

Other sources of information about vaccination were mentioned much less. A total of 17 per cent of the mothers received information from relatives, and 11 per cent from friends and acquaintances. Contrary to assumptions, the internet and social media networks are only used as a source of information about vaccination by a small proportion of mothers, even in the age group under 30 years. In general, the proportions who receive information about vaccination through the internet and social networks were 5 and 2 per cent respectively.

Figure 9.1. Main sources of information about vaccination-Mothers and caregivers of children aged under five years

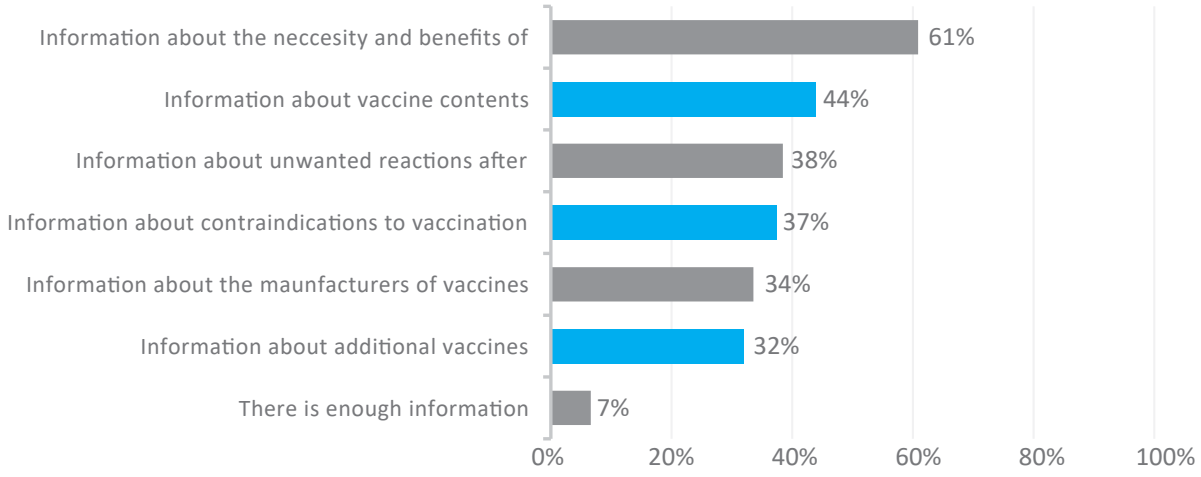


DEMAND FOR INFORMATION ABOUT VACCINATION

While sources of information about vaccination are accessible to everyone, mothers have information needs on many aspects of vaccination. Only 7 per cent of mothers do not require any additional information. More than half the mothers (61 per cent) want to know more about the necessity and benefits of vaccination. Up-to-date information about the contents of vaccines was required by 44 per cent of mothers: this requirement was higher among mothers with higher wellbeing.

Slightly more than a third of the mothers would like to receive additional information on contraindications to vaccination and unwanted reactions after vaccination. In urban areas, the demand for this information is significantly higher than in rural areas. More than half of mothers living in urban settlements would like to know more about these aspects, while in rural areas no more than 30 per cent of mothers showed interest.

Figure 9.1.2 Demand for information about vaccination-Mothers and caregivers of children aged under five years



9.2 INTERNAL LABOR MIGRANTS

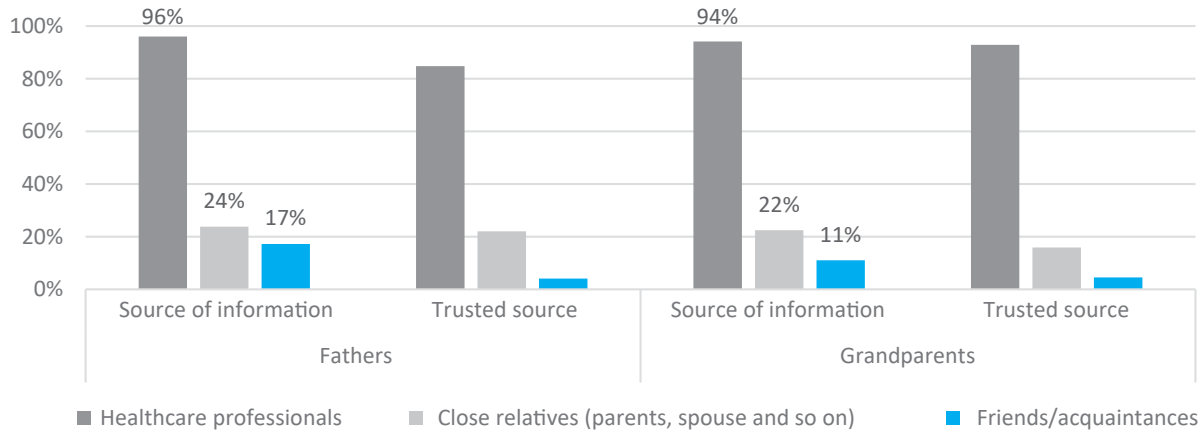
The main source of trusted information about vaccinations for “internal labor migrants” – like for other mothers – is healthcare professionals. The demand for informational does not differ significantly from the informational requirements of mothers living in Bishkek city. Majority demand information about contraindications to vaccination (62 per cent), and there is also a high need for information about the contents of vaccines and side effects of vaccination (53 and 56 per cent respectively).

9.3 INFLUENCERS (FATHERS & GRANDPARENTS)

SOURCES OF INFORMATION ABOUT VACCINATION AND TRUSTED SOURCES

The main source of information about vaccinations among influentials is healthcare professionals (96 per cent of fathers and 94 per cent of grandparents). Eighty-five per cent of fathers and 93 per cent of grandparents trust the information received from healthcare professionals.

Figure 9.3.1 Sources of information about vaccination (Influentials)

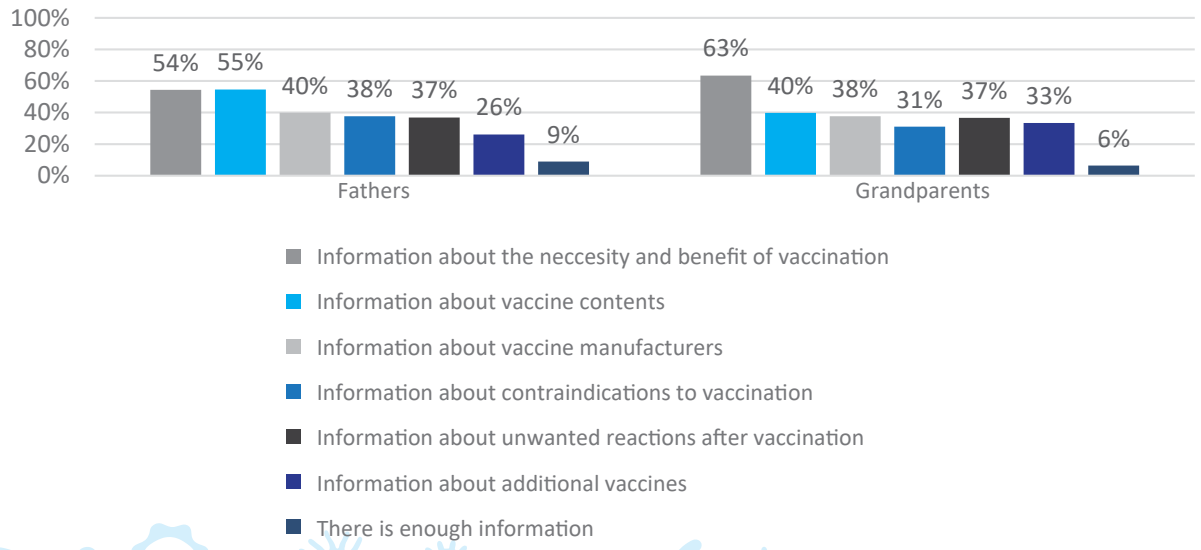


Like other target groups, the frequency of reference to other information sources, such as friends, acquaintances and relatives; other religious leaders; the internet; and civil society is significantly lower, at between 7 and 24 per cent.

DEMAND FOR INFORMATION ABOUT VACCINATION

Only 9 per cent of fathers and 6 per cent of grandparents do not require additional information about vaccination. The information most requested by “influentials” is about the need for and benefits of vaccination, and the composition of vaccines. However, other aspects of vaccination, such as vaccine manufacturers, contraindications to vaccination, and information on side effects after vaccination, are of interest to more than a third of influentials. It should be noted that urban residents have significantly higher demand for information on these issues than rural residents.

Figure 9.3.2 Demand for information about vaccination (Influentias)



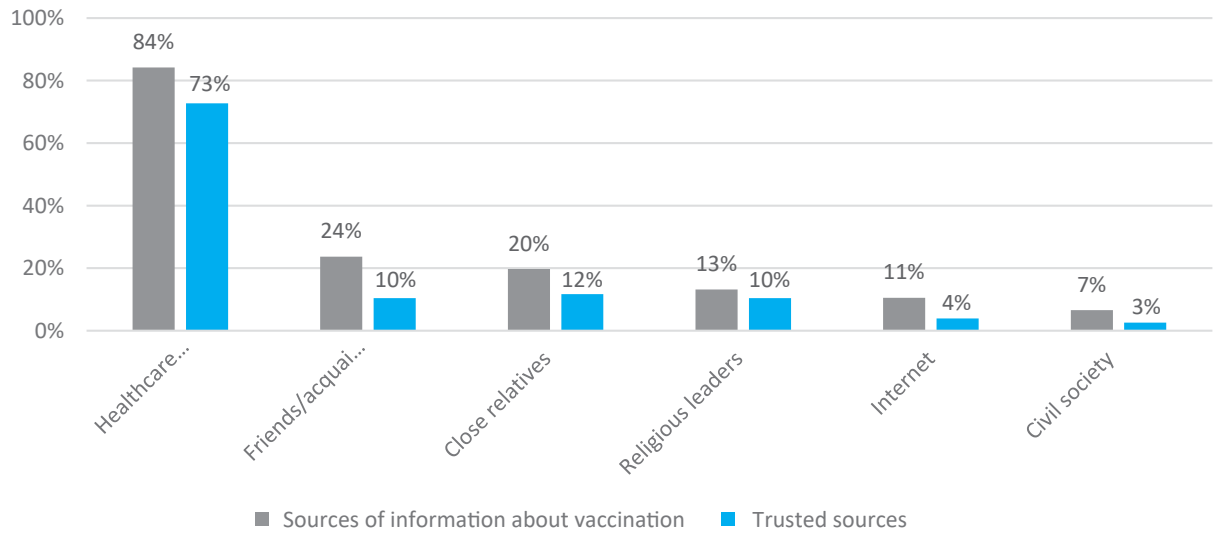
9.4 RELIGIOUS LEADERS

SOURCE OF INFORMATION ABOUT VACCINATION AND TRUSTED SOURCES

Like other target groups, most religious leaders (84 per cent) receive information about vaccination from healthcare professionals. However, the level of trust of religious leaders in this information is slightly lower than for other groups (73 per cent).

The frequency of reference to other information sources, such as friends, acquaintances and relatives; other religious leaders; the internet; and civil society is significantly lower, at between 7 and 24 per cent. Religious leaders turned out to be the most "advanced" at using the internet to find information about vaccination: 11 per cent of them found information on the internet, while in other target groups the corresponding figure did not exceed five per cent.

Figure 9.4.1 Sources of information about vaccination (Religious leaders)



DEMAND FOR VACCINATION INFORMATION

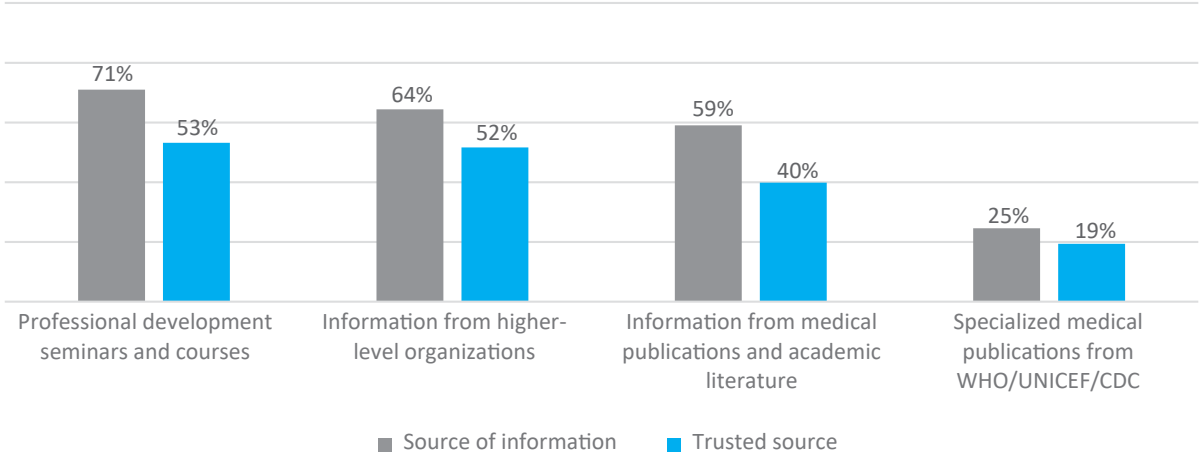
Only 4 per cent of the religious leaders did not require additional information about vaccination. The religious leaders are primarily interested in information about the content of the vaccines (74 per cent) and the manufacturers (54 per cent). A significant proportion required information about the necessity and benefit of vaccines, side effects of vaccination, and contraindications to vaccination (41-45 per cent). Like fathers, the religious leaders were least interested in information about new vaccines.

9.5 HEALTHCARE PROFESSIONALS

SOURCES OF INFORMATION ABOUT VACCINATION AND TRUSTED SOURCES

All healthcare professionals have access to sources of information about vaccination. The main sources that most of them use are seminars and refresher courses (71 per cent), information from higher-level organizations (64 per cent), and specialized medical publications and academic literature (59 per cent). It is noteworthy that not all the specialists who use these sources consider them credible. The highest level of confidence among healthcare professionals is in information from seminars and refresher seminars (53 per cent) and information from higher-level organizations (52 per cent). Eighty per cent of those who use higher-level organizations to obtain information about vaccination, trust it. 75 per cent of healthcare professionals trust information on vaccinations received at seminars and refresher courses. A quarter of the healthcare professionals use specialized WHO / UNICEF / CDC medical publications for this purpose.

Figure 9.5.1 Main sources of information about vaccination (Healthcare professionals)



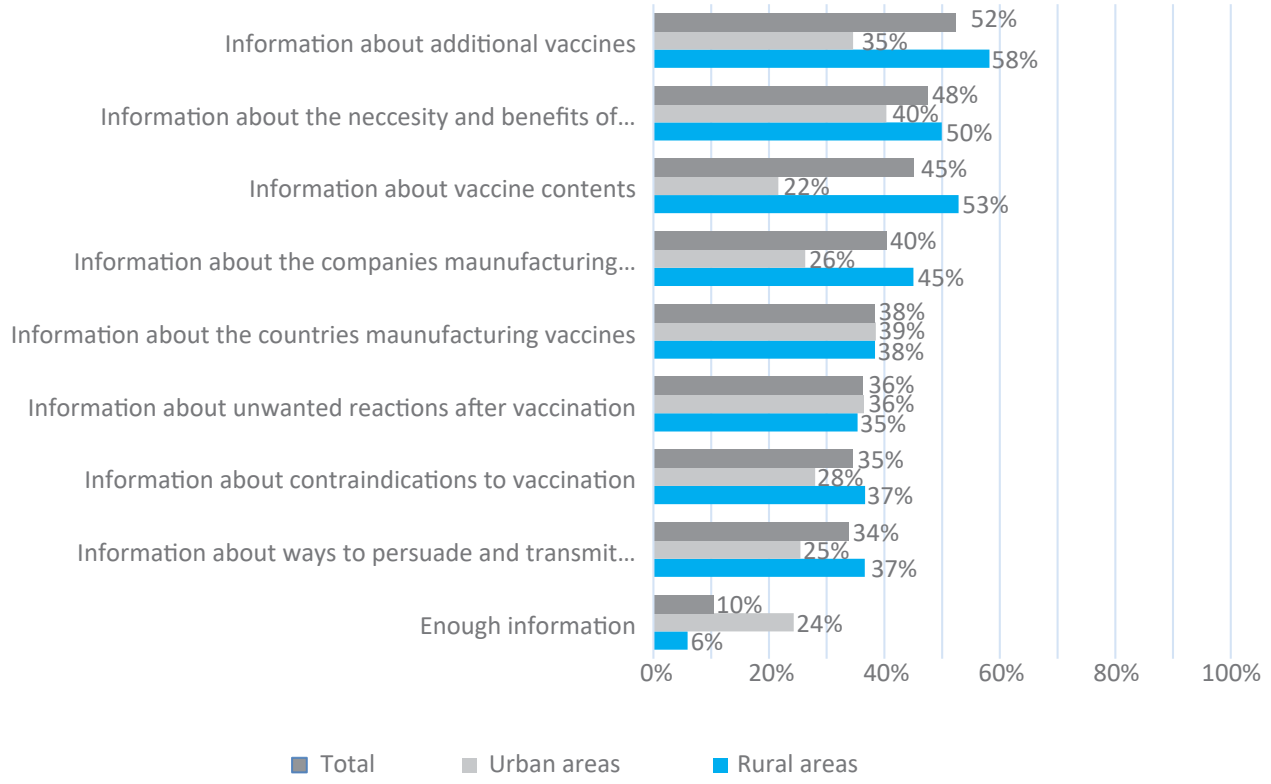
DEMAND FOR INFORMATION ABOUT VACCINATION

Like other target groups, healthcare professionals also required information about vaccination. Only 10 per cent of them (4 per cent of doctors and 17 per cent of mid-level healthcare professionals) did not require additional information.

Healthcare professionals who practice in rural areas in general have a greater need for information about vaccination than their urban colleagues. More than half the specialists want to know more about new vaccines (58 per cent) and the composition of vaccines (53 per cent). A significant proportion would like information about the need for and benefit of vaccination (50 per cent) and about vaccine manufacturers (45 per cent). Only 6 per cent of rural healthcare professionals do not require additional information about vaccination, compared to 24 per cent of those practising in urban areas.

In addition to information about various aspects of vaccination which all the target groups required, healthcare professionals also have their own specific requirements. Thirty-four per cent of the specialists require information about ways to persuade and deliver information about vaccination to parents, and in the north this requirement is substantially greater: 45 per cent, compared to 25 per cent in the south.

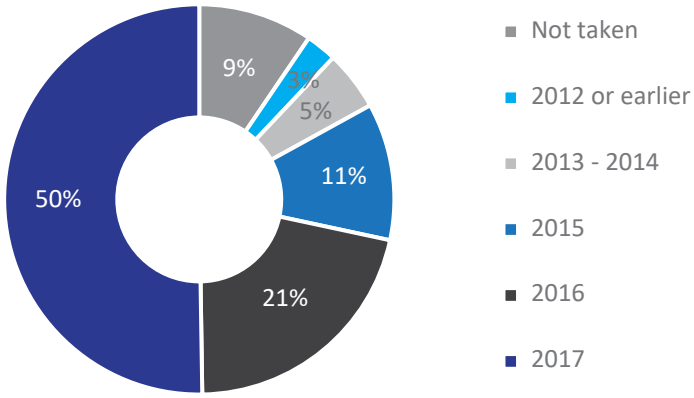
Figure 9.5.2 Demand for information about vaccination among healthcare professionals, by type of location



LAST TIME PARTICIPATED IN TRAINING ABOUT VACCINATION

It should be noted that coverage of training on vaccination for healthcare professionals is rather high. Half the healthcare professionals had taken part in such events in 2017. Only 9 per cent had never been invited to take part in training about vaccination.

Figure 9.5.3 Coverage of training on vaccination for healthcare professionals

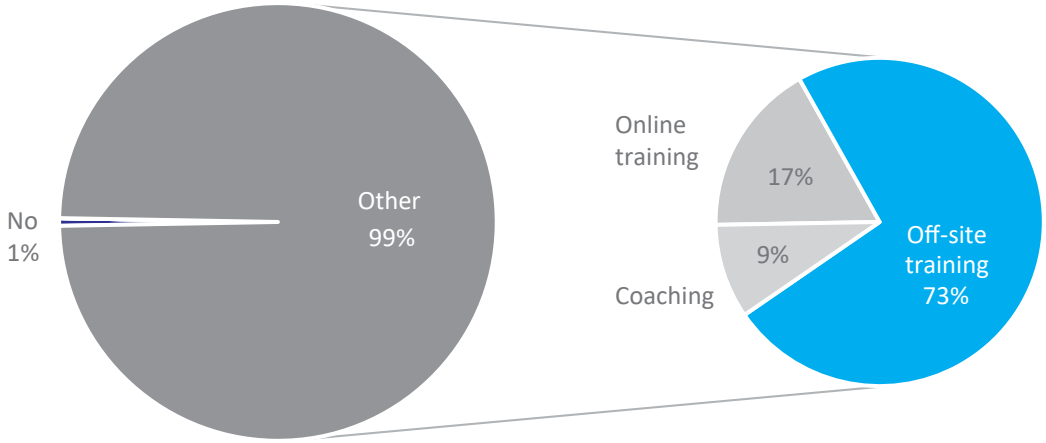


REQUIREMENTS OF TRAINING ON EFFECTIVE WAYS TO COUNSEL AND PERSUADE PARENTS TO VACCINATE

Практически все медицинские работники (99 процентов) хотели бы поучаствовать в тренингах по эффективным способам подачи информации и убеждению. Наиболее предпочитаемая форма

такого обучения для медицинских работников – выездной тренинг. Двадцать два процента медицинских работников, практикующих в сельской местности, предпочитают онлайн-тренинги, тогда как в городской местности только 4 процента специалистов предпочитают такой способ обучения. Коучинг более предпочитают в северном регионе, хотя в целом доля медицинских работников, выбравших это форму тренинга невелика - 9 процентов.

Figure 9.5.4 Demand among healthcare professionals for training on effective methods of transferring information and persuading parents to vaccinate



10. OTHER CONSIDERATIONS

This section looks deeper into making analysis based on various factors like gender, type of locality, level of education, wellbeing, etc… making needed correlations.

10.1 GENDER

Mothers and fathers: are there differences?

The research did not reveal any significant differences in knowledge, attitudes, and practice towards vaccination between mothers and fathers of children aged under five years.

The level of spontaneous mentioning of vaccination as a way to prevent vaccine-preventable diseases among mothers and fathers is almost the same: 74 and 75 per cent respectively. In general, their knowledge of vaccine-preventable diseases is not significantly different on the issues mentioned in this study. The assessment of risk of contracting vaccine-preventable diseases is almost identical. The same can be said about attitudes towards vaccination. The difference in levels of agreement with the statements "vaccination is necessary for my child", "my child could contract a dangerous illness if he/she is not vaccinated", "vaccination is needed to prevent the spread of diseases in society", "vaccines are safe for my child's health", "the benefits of vaccination outweigh possible unwanted reactions", and "vaccination is effective for preventing diseases in children" does not exceed three points between mothers and fathers, within the limits of statistical error. The only indicator for which the categories "mothers" and "fathers" differed significantly was awareness of the national immunization calendar. Only 10 per cent of "fathers" had heard of this document, four times lower than the figure for "mothers".

Fathers tend to be more accepting of parents who refuse to have their children vaccinated than mothers. However, their opinions about the reasons for the refusals coincide. The main reason they believe others refuse is that the vaccination contradicts religious principles. However, they themselves are more afraid of unwanted reactions than of violating any religious rules by having their children vaccinated.

Mothers and fathers are equally satisfied with the quality of vaccination services, such as the quality of advice from healthcare professionals, the attitudes of healthcare professionals, the time spent queuing, the cleanliness and tidiness in healthcare facilities, and adherence to the rules of medical procedures. The level of confidence in the quality of vaccine delivery to health workers and the quality of vaccines is also almost identical.

No sources of information about vaccination that are specific to mothers or fathers were identified. For the overwhelming majority of mothers and fathers, the main and most trustworthy source of information about vaccinations is healthcare professionals.

Most parents expressed a need for additional information about vaccinations. Both mothers and fathers are interested in all aspects of vaccination, but they would most like to know more about the need for and benefits of vaccination and the composition of vaccines.

The influence of men

Without doubt, men have an impact on mothers concerning the vaccination of children. Sixty-four per cent of mothers, when making a decision about vaccination, turn to other people for advice. According to the research findings, the husband is the most influential person in resolving this issue. More than half

the women in registered marriages (52 per cent) ask for their husbands' opinions. Of the women who are in unregistered marriages or divorced, the proportion is lower: about a third.

Despite the fact that men are the main influential on vaccination matters, women rarely ask them for information about vaccination. Only 16 per cent of mothers mentioned close relatives, including husbands, as a source of information about vaccination. The proportion of fathers from whom the mothers of their children seek information about vaccination was only 10 per cent.

Attitudes towards vaccination in relation to the sex of the child

All the research questions were considered for the sex of children under the age of five in three groups:

- Mothers who have only boys;
- Mothers who have only girls; and
- Mothers who have boys and girls.

No significant differences were identified in knowledge, attitudes and practices of vaccination between these groups.

10.2 GEOGRAPHICAL ASPECTS

Analysis of the data by geographical location revealed the largest number of differences in the socio-demographic indicators among all the target groups.

Mothers and caregivers of children under five years of age

The level of awareness of the names of vaccine-preventable diseases was low in all regions. However, mothers living in Bishkek were best informed about the names of vaccines, while Talas oblast were the least knowledgeable about this.

On the other hand, Bishkek city, Talas and Chuy oblasts displayed negative attitudes towards vaccination. The proportions who disagreed with the statements: “Vaccination is essential for my child”, “My child could contract a dangerous disease if he/she is not immunized”, “Vaccination is essential to prevent diseases in our society”, “Vaccines are safe for the health of my child”, “The benefits of vaccination outweigh possible unwanted reactions”, and “Vaccination is effective at preventing diseases among children” in these regions was higher than in other regions. In these regions there were also higher proportions of mothers who did not trust healthcare professionals who administer vaccines, or the quality of vaccines, and who have worries about vaccination. While on average in the country 18 per cent of mothers are worried about unwanted reactions after vaccination, in Bishkek city this indicator stood at 41 per cent.

In these regions there are also higher proportions of mothers who agree with the decisions of groups/individuals who refuse to have children vaccinated. It is difficult to say why the results in Chuy and Talas oblast differ based on socio-demographic indicators. With regard to Bishkek city, it could be surmised that the result is influenced by the fact that maternal educational attainment is the highest, and the subjective assessment of material wellbeing is one of the highest of all the regions.

In the opinion of most mothers living in all regions, healthcare professionals can influence parents who refuse to have their children vaccinated. However, it should be noted that the role of society (relatives, friends, acquaintances and community leaders) was identified as more significant in Jalalabad and Osh oblasts and Osh city than in other regions.

The research revealed the regional aspects of problems faced by mothers attending healthcare facilities for vaccination. The most “problematic” from this perspective were large cities – Osh and Bishkek – where the proportions of mothers who had not encountered such problems were lower than in the other regions. The biggest problem of large cities was long waiting times. This problem also affected a fifth of mothers living in Talas and Chuy oblasts. For Osh and Jalalabad oblasts, the main problem was the distance to vaccination facilities.

When assessing the quality of vaccination services, the lowest satisfaction was found in Talas, Chuy, and Bishkek city.

When considering the opinion of mothers about how the vaccination process was organized in different regions, more complaints about healthcare professionals among mothers living in Bishkek were revealed. The proportion of people unsatisfied with the quality of medical examinations before vaccination and post-vaccination follow up is higher. The proportion of children fully vaccinated for their age was lowest in Bishkek. When looking at the reasons for this, it can be seen that while in the country as a whole the plurality of non-vaccinated children because of medical exemption, in Bishkek the largest proportion are not vaccinated because of fears of unwanted reactions.

With regard to decision making about vaccinating children, Naryn and Issyk Kul oblasts should be particularly highlighted, as mothers there are most independent in their decision making. More than 70 per cent of women living in these oblasts do not consult with anyone about vaccinating their children, while in other regions this proportion does not exceed 45 per cent.

Demand for information about vaccination is rather high in all regions. In most regions the proportion of mothers who do not want more information about vaccinations does not exceed 5 per cent, but in Issyk Kul oblast it stands at 39 per cent, and in Chuy oblast at 12 per cent.

Influencers (fathers and grandparents)

The sample size of influential is too small to disaggregate the results by oblast. Therefore comparison was made between the north (Bishkek city and Issyk Kul, Naryn, Talas and Chuy oblasts) and the south (Osh city and Jalalabad, Osh and Batken oblasts).

Influentials living in the north appeared to be more informed about vaccination. While in both regions most influentials understand the need for vaccination, are favourably inclined and satisfied with vaccination services, the north has more negative attitude towards vaccination than the south. Though the difference is insignificant, the level of agreement with the statements about the need for, safety and effectiveness of vaccination in the north is lower than the corresponding indicators in the south. In the north, the proportion who agree with the decision of individuals / groups to refuse to vaccinate their children is higher. At the same time, in the north the proportion of influentials concerned about vaccination is higher. In most cases, these concerns are associated with unwanted reactions. The level of satisfaction with vaccination services in the north is lower for all the considered parameters: advice from healthcare professionals, attitudes of healthcare professionals, time spent queuing, cleanliness and tidiness in the healthcare facilities, adherence to the rules of medical procedure. Also influentials living in the north are less trusting of the healthcare professionals who administer vaccines and of vaccine quality.

Healthcare professionals

The sample size of health professionals is too small to disaggregate the results by oblast. Therefore, comparison was made between the north (Bishkek city and Issyk Kul, Naryn, Talas and Chuy oblasts) and the south (Osh city and Jalalabad, Osh and Batken oblasts). The results showed some differences in vaccination attitudes and practices by region. The vast majority of healthcare professionals practising in the south have no concerns about vaccination. Only 6 per cent of them expressed fears about unwanted reactions. However, specialists from the north, most of whom also do not have such fears, in addition to concerns about unwanted reactions, also expressed concerns about the composition and quality of vaccines, as well as the fact that children receive too many vaccines in the first two years of life, and that the long-term impact of vaccines on the human body has not been studied. Fourteen per cent of healthcare professionals practising in the north noted that they had encountered cases of complaints about vaccine quality.

10.3 LEVEL OF EDUCATION

Mothers and caregivers of children under five years of age

Analysis of the study findings revealed a relationship between certain indicators and level of education. In general, awareness of vaccine-preventable diseases among mothers who received vocational or higher education is slightly higher than among mothers who only received general education. The level of awareness of such infections as tuberculosis, hepatitis B, haemophilis influenza type b and pneumococcal infection does not differ significantly. However, the proportions of mothers who mentioned poliomyelitis, measles, rubella, tetanus, diphtheria, pertussis and mumps as diseases that must be vaccinated against increases with educational attainment.

Several differences were identified in attitudes to vaccination. Among mothers with higher level of education, the proportion who fear the consequences of vaccination is higher, as well as the level of support for parents who refuse to have their children vaccinated. In addition, there is a significant inverse relationship between confidence in vaccine quality and educational attainment - in groups with higher educational attainment, the level of confidence in vaccine quality is lower. With regard to vaccination practice, the study revealed an inverse relationship between the mother's educational attainment and the proportion of fully vaccinated children.

influencers (fathers and grandparents)

Most of the influentials do not have concerns about vaccination. However, the proportion of influentials who have just received general education without concerns about vaccination is higher than for those who have graduated from vocational or higher educational institutions.

The level of trust in the healthcare professionals who conduct vaccination, and in vaccine quality, is rather high. In the "grandparents" category, there is virtually no difference with regard to level of education attainment for this indicator. However, the level of trust of fathers who have completed vocational or higher education is lower than the corresponding indicator for fathers who have just had general education.

Healthcare professionals

Several differences were revealed in attitudes to vaccination when disaggregated by the educational attainment of healthcare professionals. Seventeen per cent of doctors believe that nothing needs to be done to try to influence parents who refuse vaccinations. However, this opinion is only held by 1 per cent of mid-level healthcare professionals.

The opinions of healthcare professionals with higher education are somewhat different regarding the risk of children of contracting vaccine-preventable diseases. Ten per cent of doctors believe that there is no risk, while none of the mid-level healthcare professionals believe this. The overwhelming majority of mid-level healthcare professionals (91 per cent) rated the risk as high or very high, whereas among doctors this opinion is held by 76 per cent. The proportion of mid-level healthcare professionals who did not agree with the statement was 11 per cent, compared to 2 per cent among doctors.

10.4 TYPE OF LOCATION

The survey findings reveal that some indicators of knowledge, attitudes and practices concerning vaccination also differ between residents of urban and rural areas.

Mothers and caregivers of children under five years of age

The level of awareness about most vaccine-preventable diseases is higher in urban areas. The level of awareness about which diseases must be protected from by vaccines differs significantly.

The main reason for concerns about vaccination for both urban and rural residents is unwanted reactions following vaccination. The proportion of mothers living in rural areas who do not have such concerns is 84 per cent, compared to 64 per cent in urban areas.

The level of satisfaction with vaccine quality was lower in urban areas than in rural areas. The issue of queues for vaccination rooms is rather acute in cities.

Ninety-four per cent of children aged under five years living in rural areas have received all the vaccinations due for their age, while for urban areas the figure is 85 per cent. The main reason for children not being vaccinated, or only being partly vaccinated, in rural areas is medical exemption, while in urban settlements it is refusals linked to fear of unwanted reactions.

The proportion of mothers who refuse to have their children vaccinated who had not had explanatory meetings was almost twice as high in urban areas than in rural areas.

Influencers (fathers and grandparents)

The level of awareness of influentials about vaccine-preventable diseases is higher in urban areas. At the same time, the proportion of influentials in urban areas who do not have doubts about vaccination is significantly lower than in rural areas. Influentials living in urban areas – both fathers and grandparents – are more accepting of parents who refuse to vaccinate their children. Thus, only half the fathers living in urban areas do not agree with this decision, compared to 87 per cent in rural areas.

Healthcare professionals

According to healthcare professionals, the main problem that parents encounter when attending healthcare facilities for vaccination in urban areas is long waiting time in the queues, while in the countryside it is the remoteness of vaccination sites.

The proportion of healthcare professionals with experience of working with unvaccinated / partially vaccinated children is significantly higher in urban areas. At the same time, the trend in vaccine coverage in urban areas, according to healthcare professionals, is rather negative. Sixty-seven per cent of healthcare professionals practicing in urban areas reported an increase in the number of non-vaccinated / partially unvaccinated children in the last five years. Meanwhile, in rural areas the plurality did not notice any change (44 per cent). An increase in the number of unvaccinated / partially unvaccinated children was noted by 15 per cent of healthcare professionals.

Healthcare professionals practising in rural areas generally feel a greater need for information about vaccination than their urban counterparts. More than half of them want to know more about new vaccines (58 per cent) and vaccine composition (53 per cent). A significant proportion is interested in information about the need for and benefits of vaccination (50 per cent) and vaccine manufacturers (45 per cent). Only 6 per cent of rural healthcare professionals do not need additional information on vaccination, while the share of such professionals practicing in urban areas is 24 per cent.

10.5 BISHKEK CITY NEWBUILD SETTLEMENTS

Analysis of the results from Bishkek's newbuild settlement, which were disaggregated as a separate stratum, showed that in some categories attitudes and practices concerning vaccination differed in them from Bishkek city as a whole.

Only 43 per cent of the respondents living in the newbuild settlements in Bishkek city are in the category defined as "internal labor migrants". Fifty-two per cent of mothers living in the newbuild settlements have permanent registration in Bishkek city, while 89 per cent stated that their children are registered at Family Doctor Groups (Rural Health Points) in their places of residence.

The level of awareness of the mothers living in the newbuild settlements of vaccine-preventable diseases is somewhat lower than in Bishkek city. Mothers living in the newbuild settlements were not able without clues to remember mumps, pneumococcal infections or haemophilus influenzae type b. There was also a low level of awareness of the national immunization calendar (29 per cent).

The proportion of newbuild settlement residents without concerns about vaccination was 79 per cent, almost twice as high as the indicator for the city as a whole. The proportion of residents of newbuild settlements who disagree with parents who refuse to vaccinate their children was significantly higher than the equivalent proportion in Bishkek city, at 76 per cent. The proportion of children under five years living in newbuild settlements who are fully vaccinated is 83 per cent, lower than the figure for the country as a whole, but higher than that for Bishkek as a whole.

The issue of long queues for vaccination rooms, a concern for Bishkek city, is particularly acute in the newbuild settlements. Much more often than other mothers, residents of newbuild settlements face cases of non-professional behaviour and rudeness from healthcare professionals when vaccinations are being conducted. The satisfaction level of mothers living in Bishkek city about the quality of vaccination services is one of the lowest of all regions, but the level among newbuild settlement residents is even lower. Ten per cent of mothers living in newbuild settlements stated that they never received notifications about vaccinations, and 16 per cent did not receive any information about vaccination before it took place. The vast majority of mothers noted that after conducting vaccination healthcare professionals did not conduct any post-vaccination follow up, or else explained to them how to monitor their children's health and asked them to phone if any problems arose.

When deciding about vaccination of their children, mothers either decide themselves or consult with their husbands. Healthcare professionals have limited influence on the decision. Only 6 per cent of mothers consulted with specialists, and only 2.5 per cent considered them the most influential.

10.6 SOCIO-ECONOMIC INDICATORS

“Internal labor migrants”

The “internal labor migrants” category was made up of mothers living without permanent registration who had moved to their current places of residence to look for work or accommodation. Most of the mothers in this category lived in Bishkek city. Only 62 per cent of them stated that their children under five years of age were registered at Family Doctor Groups (Rural Health Points) at their places of residence.

There were no significant difference for most indicators of awareness of vaccine-preventable diseases between “internal labor migrants” and “non-migrants”. However, the level of awareness of “migrants” about which diseases it is essential to vaccinate against was higher than among “non-migrants”.

The vast majority of “internal labor migrants”, like mothers as a whole, agreed that vaccination is necessary, effective and safe for children. There are no significant differences in the level of agreement with statements about vaccination between “internal labor migrants” and “non-migrants”. Like mothers in general, most “internal labor migrant” mothers have no fears about vaccination. At the same time, the attitude of “internal labor migrants” to parents who refuse to vaccinate children is generally more tolerant than the attitude of “non-migrants”.

The proportion of fully vaccinated children aged under five years living in the families of labor migrants was 82 per cent: 8 percentage points lower than the average. The unweighted number of cases of unvaccinated / partially unvaccinated children among labor migrants was not enough to analyse this category for reasons of refusals. However, all five mothers who stated that their children had been not vaccinated because of lacking documents (birth certificates or vaccination cards) were “internal labor migrants”. The most significant problem faced by “internal labor migrants” when attending healthcare facilities for vaccination was the long queues (35 per cent).

10.7 SUBJECTIVE EVALUATION OF WELLBEING

The study findings revealed a relationship between some indicators of awareness of and attitudes towards vaccination and the subjective evaluation of wellbeing. Mothers with high self-assessed wellbeing are better informed about diseases that must be vaccinated against, and for some diseases this difference is very large.

An inverse relationship has been identified between subjective assessment of wellbeing and lack of concerns about vaccination. Thus, among those with high self-perceived wellbeing, the proportion who do not have fears about vaccination is lower than those with low self-perceived wellbeing. In groups with higher self-perceived wellbeing, the proportion of mothers who do not support parents' refusal to vaccinate children is lower, than for groups of mothers with a low self-perceived wellbeing. There is a weak correlation between educational attainment and self-perceived wellbeing, so the results may be due to a higher educational attainment among persons with high self-perceived wellbeing.

10.8 OTHER INDICATORS

There were no significant differences in awareness of, attitudes towards, and practice of vaccination by age group, except that in “younger” age groups, husbands are more influential when deciding on the vaccination of children.

There were also no significant differences in awareness of, attitudes towards, and practice of vaccination between pregnant women and non-pregnant women or related to the number of children.

11. CONCLUSION

1. The research confirmed that all the target groups are well aware and knowledgeable about vaccination. The general perception of vaccination is that it is the most effective way of preventing vaccine-preventable diseases. However, this understanding does not predominate for all groups of respondents.
2. Despite the general high level of awareness of vaccination among respondents, knowledge on specific issues of immunization are not satisfactory. The level of knowledge of vaccine-preventable diseases included in the RI calendar, and knowledge of the national immunization calendar is low.
3. In general, the attitude towards vaccination could be characterized as “positive”. Most of the respondents are aware of the risks of contracting vaccine-preventable diseases, note that it is a high risk, and accept the necessity, effectiveness and safety of vaccinating children. The level of agreement of mothers with the statement that vaccination is essential for children was 95 per cent.
4. Influencers to the vaccination decision are spouses, Health care professionals and grandparents. Most influencers have positive attitudes towards vaccination, but only 70% of fathers and 82% of grandparents said they would advise to vaccinate. As for RL, the proportion is less at 52%
5. Despite the fact that most of the RL are positive about vaccination, their indicators for all attitudes towards vaccination are lower than in other respondents in the survey. 24% think that vaccines are not safe, and 23% disagree to the fact that unvaccinated children could catch a dangerous disease. 21% of them disagree that vaccination is an effective way to prevent diseases. About 50% of the RL hold the opinion that vaccine-preventable diseases can be prevented by a good hygiene and healthy lifestyles. Since RL play an important role in the society this surely affects negatively the decision of caregivers & influencers to vaccinate.
6. RL have also shown the lowest trust in health professionals as a source of information which might indirectly affect caregiver’s opinion, especially the ones who value the opinion of RL.
7. Lowest levels of fully vaccinated children were recorded in Bishkek, Chuy oblast & Talas oblast (75%, 88% & 89% respectively). All 3 regions revealed the lowest trust in the safety of vaccines and together with Talas, recorded the highest percentage of fears from vaccines due to side effects. While survey respondents suggested that the best way to convince parents to vaccinate is through educating caregivers through IPC by health care professionals. This does not seem to be the most effective due to the low satisfaction levels for quality of advice received and the attitude of these specialists as recorded by mothers in these regions.
8. A link to region of residence has been revealed for most of the indicators of awareness of, attitudes to and practices of vaccination. With a relatively high level of awareness, the lowest level of trust in vaccination and the quality of vaccination services was found in Bishkek city.
9. The level of trust in healthcare professionals is quite high. Healthcare professionals are the main and most reliable source of information about vaccinations. Most healthcare professionals are fully confident of the need for, safety of and effectiveness of vaccination. However, on some issues their opinion was not unanimous, especially with regard to the safety of vaccination.
10. Healthcare professionals, like representatives of other target groups, lack reliable information on all aspects of vaccination.
11. Most representatives of all target groups stated that children under the age of five in their families are fully up-to-date with vaccinations. The main reasons why children are not vaccinated / partially vaccinated are the children’s health and concerns about unwanted reactions after vaccination.

12. The opinion has arisen in society that the main reason for refusals to vaccinate is a perceived contradiction of religious principles. This is confirmed by sectoral statistics from Kyrgyzstan's Ministry of Health. However, the proportion, including of religious leaders, who actually refuse to have children vaccinated for religious reasons, is low.
13. One of the obstacles to the awareness-raising by healthcare professionals may be the lack of time. The main problem that parents faced when visiting vaccine rooms is the long waiting time.
14. In general, the proportions of "people who refuse to vaccinate" and "hesitant parents" are still low: 1.1 and 2.9 per cent respectively. Media is often reporting an increase in the number of "refusals". However, according to healthcare professional estimates, it is generally difficult to assess overall trends in the number of unvaccinated / partially vaccinated children - 36 per cent noted decreases in their areas, 36 per cent no change, and 28 per cent increases.
15. Everyone has access to information about vaccination, but the sources available do not satisfy all information needs. In addition, there is a need for information about composition of vaccines, contraindications and adverse reactions, as well as on vaccine manufacturers.
16. Other concerns are that Bishkek, Chuy oblast & Talas showed the highest % of mothers who mentioned that doctors who don't give information about the vaccine in advance. Also, in Chuy & Bishkek, 62-65% mentioned that doctors do not track the condition of the children post vaccination.
17. Concerning reminders of vaccinations, in Bishkek & Chuy oblasts, only 12% of mothers receive reminders during the routine rounds of a medical worker while this goes up to 50 & 60% for other regions. All this indicates that HP need to play a more active role in these regions to support vaccinations.

ANNEX 1: Selection of respondents

Respondents in the "Parents/caregivers category were selected in four stages.

Stage 1: Selection of settlements was conducted for every stratum using the systematic probability-proportionate-to-size (PPS) sampling method.

Stage 2: Selection of primary sampling units. In settlements where the number of polling stations was two or higher, selecting the required number of polling districts was based on a list of polling districts using the systematic selection method.

Stage 3. Selection of households. The ideal method for selecting households is systematic selection from a list obtained by listing all households in the area. However, given that listing requires significant time and financial resources, it was proposed to select households using the route selection method with a fixed or calculated step (in agreement with the Client). As there was no data on the number of households in which children under the age of five live, we suggested using five steps in multi-flat buildings, and three in areas with private houses.

Selection began at the center of the polling district or the central administrative building. The route taken followed the "right hand" rule. The interviewer passes by households at consistent interviews and selects certain households to conduct the survey, maintaining a set interval (selection step) during the selection. Thus, the route method used was random systematic selection.

The route taken followed the following pattern:

- Selection of the first household: The interviewer stands with his/her back to the central entrance of the building chosen as the starting point for the selection. The survey begins from the first residential building located to the right of the starting point of the selection. If there is a successful attempt (full interview), the interviewer moves on the specified numbers of steps; otherwise he/she tries the next household.

Figure 3.1 Rule of movement under "right hand rule"

The interviewer traverses the right side of the street, never turns left and does not choose the left side of the street. Exceptions are made for dead ends and lanes turning left (dead ends also refer to streets leading out of the city/village). If in a designated quarter there is a dead-end street or an alley turning to

the left, the interviewer starts at the designated starting point and goes to the dead-end street or lane on the right side of the street following the direction of the arrow. Then he/she comes to the end of the dead-end street on the right side, crosses the street, and goes back along the opposite side of the dead-end street, and interviews in houses on the right-hand side. Then he/she turns right and continues along the right side of the street on which he/she at from the very beginning.

On lanes that turn to the left, the interviewer comes to a turn to the left, turns, and interviews houses on the right-hand side.

- If an attempt is unsuccessful (there is no suitable household member available), the interviewer makes a second visit to the household (up to three times at different times). All visits are recorded in a route sheet indicating the time of visit and the result of the attempt.

The only households selected are those in which there are children aged under five years and who have lived in the settlement where the survey is being conducted for no less than three months.

Stage 4. Selection of respondents. A member of a selected household aged 18 years and over who directly cares for a child under the age of five (the mother of the child or another member of the household) is invited to participate in the survey. Only one respondent was interviewed per household.

The procedure for selecting respondents in the categories “fathers of children under the age of five”, “Grandparents of mothers of children under the age of five”, and “grandparents of fathers of children under the age of five.”

Of the list of primary sampling units selected for conducting the survey of mothers / caregivers 100 were selected systematically for each category. Respondents were selected by route sampling of households, similar to the selection of mothers / caregivers.

The procedure for selecting respondents in the category “healthcare professionals”

Either on arrival at the primary sampling unit or in advance, the interviewer specified the presence and number of state healthcare facilities (family doctor groups, rural health points and/or maternity hospitals). If there was more than one healthcare facility in the primary sampling unit, a list of healthcare institutions was drawn up. The number of healthcare facilities in which the survey was conducted was determined randomly. On arrival at the selected healthcare facility, the interviewer drew up a list of appropriate healthcare professionals. The respondent was randomly selected from the list.

The procedure for selecting respondents in the category “RL”

Either on arrival at the primary sampling unit or in advance, the interviewer specified the presence and number of religious institutions (mosques, churches, prayer houses and/or religious educational institutions). If there was more than one religious institution in the territory of the primary sampling unit, a list of religious institutions was drawn up. The number of religious institutions in which the survey was conducted was determined randomly. In the selected religious institutions, the leader was interviewed, or a person selected by the leader of the institution.

One category that required separate consideration for research purposes was so-called “internal Labor

migrants". However, there is no such category of citizens in national legislation. As internal Labor migrants are citizens of the Kyrgyz Republic who have left their settlements for other places in Kyrgyzstan in search of work, the "internal Labor migrant" label was assigned to respondents who stated that they lacked permanent registration in their places of residence and had left their settlements to find work or housing. A total of 9 per cent of respondents, 73 per cent of whom lived in Bishkek, met these criteria.

ANNEX 2: Ethical rules for research in KR

All stages of the research followed the following rules:

- Only persons aged over 18 years were invited to participate in the study.
- Participation was voluntary. Respondents were informed about the aims of the research.
- All the information received during the research is confidential. The obligation to maintain confidentiality applies to all members of the research team with access to the information, including interviewers, supervisors and technical staff. All employees of the company engaged in the project signed non-disclosure agreements.
- The Client is the owner of all the information received during the research (questionnaires, lists, route registration forms and so on).
- When conducting research, Rebikon employees have no right to give any guarantees to respondents, groups or organizations, or incur any obligations to them without special authorization.
- The selection of respondents was conducted strictly in accordance with the criteria described in this methodology. When selecting respondents, individuals were not excluded on religious, ethnic or any other grounds not defined in the methodology.
- When conducting the research, the interviewer recorded informed written consent of the respondents in two copies: one signed by the respondent and the other by the interviewer.
- The database of the quantitative survey's results was created in such a way that indicators by which the respondent can be identified (name, address, phone) will be stored in a separate file, access to which is only available to the data processing specialist.
- All files containing information received during the research is stored on a hard disc in Rebikon's office, access to which is protected by a password known only to the data processing specialist.
- When preparing reports, all materials cited verbatim and borrowed from other documents (reports, legislative documents, etc.) are accompanied by references to the source.
- All computers on which data is processed are protected by unique passwords, which will change every two weeks. During data processing, a limited number of employees (data processing specialist, analyst) have access to them. Forms of consent with the personal data of the respondents are stored on paper in a safe. The names of the respondents were replaced with codes, and only the data processing specialist has the encryption key and password to access the file.
- After the Client accepts the work, all data, including consent letters and primary data files, will be destroyed (on agreement with the Client).

ANNEX 3: PROFILE OF RESPONDENTS

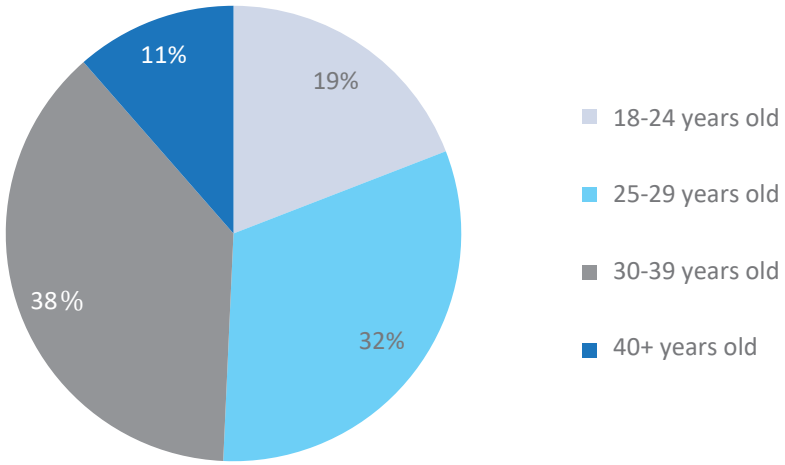
MOTHERS OR PERSONS CARING FOR CHILDREN UNDER FIVE YEARS OF AGE

The vast majority of respondents in this group were women (99%). 95% were the mothers of the children. The households selected for the survey did include some in which the mother of the child for some reason did not carry out daily childcare. In these cases, other relatives were interviewed: grandparents (4%), fathers (0.5%), and others (0.5%). The main reason why mothers do not care for their children is labor migration, when a mother or both parents leave the country or settlement in search of work. As the vast majority of respondents in this category were mothers, subsequently in this text they will be referred to with the word “mothers”.

Age

The mean age of the respondents was 30.9 years. The sample included respondents from all age groups, but the majority were aged 25 to 39 (70%).

Figure 1. Respondents by age group (percentage)



Nationalities

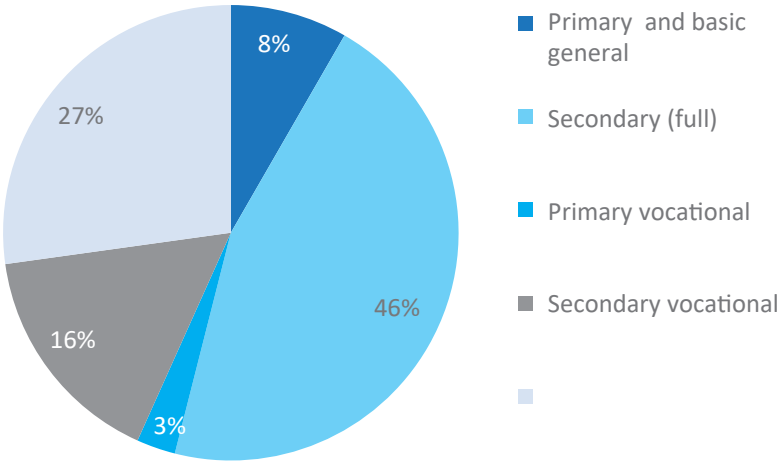
Most of the mothers were ethnic Kyrgyz (78%). The second largest group were ethnic Uzbeks (15%). The other ethnic groups that participated in the research were Russians, Tajiks, Dungans, Uighurs, Turks, Azerbaijanis, Kazakhs, Koreans, Tatars, Germans and Kurds. The vast majority of respondents (92%) were in registered marriages.

Level of Education

The respondents can be divided by level of educational to the below groups:

- 46 percent received vocational education, including 27 percent - higher or incomplete higher, 16 percent - secondary vocational, and 3 percent - the initial professional.
- More than half of the respondents (54 percent) received general education. The largest share (46 percent) was made up of people with secondary education, 8 % received an initial and basic general education.

Figure 2. Respondents by educational attainment (percentage)



The level of educational of respondents was higher in Bishkek city than in other regions. 59% of the respondents interviewed there had professional education. Meanwhile in 3 oblasts the proportion of people who had received vocational education was more than 50%: Issyk Kul (58%), Talas (53%) and Naryn (51%). The educational level was lowest in Jalalabad and Osh oblasts, which had the lowest levels of vocational education at 30% and 29% respectively.

Religious Beliefs

The vast majority of respondents (97%) follow Islam. Most of them found it difficult to answer the question about which denomination of Islam they follow.

Living separately or with families

Most respondents (88%) live in property they own. In Bishkek city, compared to other regions, the share of mothers who rent housing is significantly higher (31%), while in other regions the proportion does not exceed 14%. In addition, the share of respondents in Bishkek who live separately from their parents is 74%. Meanwhile, in Batken oblast, only 29% of families live separately, and 70% live with their parents.

Average size of households

The mean size of households in which respondents live is 5.8 people. The largest households are in Osh oblast (6.7 people on average), while in Bishkek city on average, 4.9 people live in one household. The number of children under the age of five living with families of respondents does not differ significantly by region and is 1.4 on average.

Standards of living

To determine the material wellbeing of households, the respondents subjectively assessed their material wealth.

- The plurality (46%) of respondents estimated their material wellbeing to be average. To the question “Which of the answers most accurately reflects your wellbeing?” they replied “We have enough money for food and new clothes, but if we want to buy items for long-term use, then we will have to save / borrow the amount needed for them.”
- 35% of respondents considered themselves to be prosperous, with no difficulties buying food,

clothes, essentials and items for long-term use.

- 19% of respondents live in households, with welfare levels, according to their estimates, below average.
- Meanwhile, 2% experience financial difficulties when buying food and basic necessities.

Working vs. non-working mothers

Most of the mothers who took part in the survey (69%) were housewives. Only 20% of respondents had paid work. The rest were unemployed, pensioners or students.

How Mothers spent their time

According to the assessment of distribution of time for various activities, the respondents are quite "overloaded" people. The greatest proportion of time after satisfying physiological needs (sleep and food) is childcare: a mean of 6.3 hours per day on average or 26%. Housework takes up 4.3 hours on average (18% of the total time budget). Because most respondents are housewives, the volume of paid work as a whole is relatively small: 1.2 hours on average (5%). Respondents spend an average of 1.9 hours a day on leisure, hobbies, and other activities.

Pregnant vs. non-Pregnant mothers

8% of mothers participating in the survey (197 respondents) reported that they were pregnant. This meant that the results of pregnant women could be analyzed as a separate category.

INFLUENCERS/HUSBANDS/GRANDMOTHERS

Gender

The category of influencers can be divided into two subcategories:

- Fathers of children under the age of five
- Grandparents of children under five

Accordingly, in the «Father's» category, male subjects were interviewed, while in the «Grandparent's» category, women predominate (86%).

Married vs. Widowed

The vast majority of fathers (92%) were in registered marriages, while a rather large proportion of grandparents (23%) were widowed: this is fully understandable. The mean age of fathers was 36 years, and of grandparents 58 years.

Nationalities

Ethnic Kyrgyz accounted for most respondents in both categories: 79% and 78% respectively. The second largest group was Uzbeks (13% of fathers and 10% of grandparents).

Level of education

The proportion of respondents interviewed had vocational and general education. Among fathers 49% had received higher or vocational education, while the rest had received basic education and general secondary education. Of the grandparents, 44% had received vocational education.

Working vs. non-working mothers

75% of the respondents had paid work. Half of the “Grandparents” defined their basic employment status as “pensioner”.

Religion/ Belief

The overwhelming majority were Muslims (fathers: 96%; grandparents: 88%).

Standard of living

In assessing their wellbeing, the largest proportion, among both fathers and grandparents, identified themselves as average: 41% of fathers and 53% of grandparents chose the option “We have enough money for food and new clothes, but if we want to buy items for long-term use, then we will have to save / borrow the amount needed for them.”

RELIGIOUS LEADERS

The vast majority of RL that took part in the survey were men (96%), with mean age of 45 years. A total of 87% were registered as married. Of the RL surveyed, 77% were ethnic Kyrgyz and 17% ethnic Uzbek. Other ethnic groups surveyed were Russians, Tatars and Uighurs.

Most of the RL interviewed in this category had received vocational education (64%), while a third had higher or incomplete higher education. Only 26% of RL who participated in the survey considered religious activity to be their main activity, and 46% of the respondents had paid work.

HEALTHCARE PROFESSIONALS

The HP invited to participate in the survey served families with children under five. The largest proportions were pediatricians and nurses (36% each). The others surveyed were general practitioners, neonatologists, immunologists, obstetricians and paramedics.

The overwhelming majority of respondents interviewed in this category were women: 91%. The mean age of respondents was 48 years. Most of the respondents (80%) were ethnic Kyrgyz. A total of 86% professed Islam, and 6% Christianity. The rest consider themselves believers that did not adhere to any religion, or atheists.

THE PROCEDURE FOR INPUTTING AND ANALYZING THE DATA

The research was conducted using the Computer-Assisted Personal Interviewing (CAPI) method (on tablets). Electronic versions of the questionnaires were developed with nested procedures of logical and arithmetic control to eliminate errors as much as possible. Access to applications was protected by unique passwords.

The research findings were analyzed according to the following variables:

Mothers/caregivers

- Total
- By oblast / Bishkek city / Osh city
- By urban or rural location
- By age group
- By educational attainment
- By employment status (in paid work / not in paid work)
- Ethnic identity
- Subjective evaluation of wellbeing
- Sex of child
- Pregnant / not pregnant
- Number of children in the family
- “Internal Labor migrant” / “not a migrant”

Indicators were calculated separately for the category “Bishkek city new-built settlements”.

Influencers/husbands and grandparents

- Total
- By urban or rural location
- By educational attainment
- By region (north/south)

Healthcare professionals

- Total
- By urban or rural location
- By educational attainment
- By region (north/south)

RL:

The sample size was insufficient to disaggregate the results by social and demographic variables.

ANNEX 4

Questionnaire ID: |____|____|____|____| **Interviewer ID: |____|____|____|____|**

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

QUESTIONNAIRE FOR MOTHERS OR OTHER CAREGIVERS WITH CHILDREN AGED 0-5

Date of the interview, day: |____|____| Month: |____|____|

SECTION 2. AWARENESS ABOUT VACCINATION

INTERVIEWER, READ OUT: In the beginning, I will ask you a few questions about vaccination.

2.1 Please tell us which measures can be used to prevent children from catching dangerous infections, such as tuberculosis, hepatitis, measles, diphtheria, polio etc? *INTERVIEWER, DO NOT READ OUT, PLEASE MARK EVERYTHING THAT WAS NAMED*

1	Compliance with hygiene rules
2	Physical training, cold water training
3	Healthy eating, pure water
4	Vaccination / Vaccination => *GO TO THE QUESTION # 2.3*
5	Immune response-modulating medicine
6	Vitamins / Supplements
7	There are no such ways
8	Other (PLEASE SPECIFY)

2.2 Do you know what vaccination is?

1	Yes
2	Now

INTERVIEWER, IF THE RESPONDENT ANSWERED «NO», PLEASE EXPLAIN THAT VACCINATION MEANS GETTING PREVENTIVE VACCINATION TO PRODUCE IMMUNITY AGAINST DISEASE THAT WILL PREENT CONTRACTION OR REDUCE ITS NEGATIVE IMPACT. ASK THE QUESTION 2.2 AGAIN AND IF THE RESPONDENT DOES NOT KNOW WHAT VACCINATION, VACCINATION, IS PLEASE MOVE ON TO THE QUESTION 2.10

2.3 Why do you think children should be vaccinated? *INTERVIEWER, DO NOT READ OUT. PLEASE MARK ALL THAT WAS NAMED.*

1	To protect children from dangerous diseases and related complications
2	To eliminate of infectious diseases
3	For the child to be accepted to CEI
4	To save life
5	For prevention of the epidemic
6	There was no need
7	I don't know
8	Other (PLEASE SPECIFY)

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for mothers or other caregivers with children aged 0-5

2.4 Which diseases, in your opinion, can be prevented by vaccines?
INTERVIEWER, DO NOT READ OUT, RECORD ALL THAT WAS NAMED
2.5 *INTERVIEWER PLEASE ASK THE FOLLOWING QUESTION FOR ALL DISEASES NOT MENTIONED BY THE RESPONDENT*. **Have you heard that/***NAMEOFTHEDISEASE***/may be prevented by vaccine?**
2.6 Which vaccines are mandatory?

Vaccine-preventable diseases	B.2.4 Spontaneous mention	B. 2.5 Knowledge with a hint	B 2.6 Vaccines are mandatory
Tuberculosis	1	1	1
Hepatitis B	2	2	2
Polio	3	3	3
Measles	4	4	4
Rubella	5	5	5
Tetanus	6	6	6
Diphtheria	7	7	7
Whooping cough	8	8	8
Parotitis (mumps)	9	9	9
Hib (Haemophilus influenzae of type b)	10	10	10
Pneumococcal infection	11	11	11
Hepatitis A	12	12	12
Chickenpox	13	13	13
Meningococcal infection	14	14	14
Human papillomavirus	15	15	15
Seasonal flu	16	16	16
Rabies	17	17	17
Rotavirus infection	18	18	18
Tick-borne encephalitis	19	19	19
Other (PLEASE SPECIFY)	20	20	20
I do not know	88	88	X
There are no such diseases	99 => *GO TO THE QUESTION # 2.9*	99	X

INTERVIEWER, IF B. 2.4 = 88 and B. 2.5=99, GO TO THE QUESTION # 2.9

2.7 In your opinion, are there any other ways of protection from these vaccine preventable disease as effective or even more effective than vaccination?

1	Yes
2	Now => *GO TO THE QUESTION # 2.9*

2.8 Which other methods do you know?

1	Compliance with hygiene rules
2	Physical training, cold water training
3	Healthy eating, pure water
4	Other (PLEASE SPECIFY)

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for mothers or other caregivers with children aged 0-5

2.9 In your opinion, how high is the risk for your child/children to contact preventable by vaccines if a child is unimmunized? Please assess the level of risk using five-point scale where *one* means no risk, while *five* stands for very high risk. *INTERVIEWER, PLEASE MARK ONLY ONE ANSWER*

1	2	3	4	5

2.10 What have you done/will undertake if your child was/will get sick?

1	I will see a pediatrician or go to state medical facility
2	I will go to private medical facility
3	I'll turn to the healer, spiritual healer
4	I'll turn to relatives / friends
5	I will treat my child at home, using available means
6	Look for information on the Internet
7	Other (PLEASE SPECIFY)

INTERVIEWER, IF THE RESPONDENT ASNWERED «NO» TO THE QUESTION 2.2, PLEASE SKIP TO SECTION 6

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for mothers or other caregivers with children aged 0-5

SECTION 3. ATTITUDES TO VACCINATION

3.1 Now I will read several statements. Please state to which degree you would agree with each one of these statements.

INTERVIEWER, PLEASE SHOW CARD #1. PLEASE MARK ONLY ONE RESPONSE IN EACH LINE

#	Statement	Strongly agree	Likely to agree	No opinion / It does not matter	I'd rather disagree	Strongly disagree
3.1.1	Vaccination is essential for my child	1	2	3	4	5
3.1.2	My child may contract dangerous disease if he/she does not get vaccinated	1	2	3	4	5
3.1.3	Vaccination is essential to prevent spreading diseases in our society	1	2	3	4	5
3.1.4	Vaccines are safe for my child's health	1	2	3	4	5
3.1.5	Vaccination benefits outweigh its side effects /reactions	1	2	3	4	5
3.1.6	Vaccination is effective in preventing child diseases	1	2	3	4	5

3.2 Do you have any doubts on vaccinating children?

INTERVIEWER PLEASE DO NOT READ. SEVERAL ANSWERS MAY BE MARKED

1	I don't have any doubts on vaccinating children
2	Children receive too many vaccines during the first two years of their life
3	Vaccines may cause unwanted reactions
4	Vaccines may weaken the child's immune system
5	Vaccines may cause diseases
6	Vaccine components are not safe
7	Vaccines' long-term impact on the human's body has not been studied
8	Vaccination goes against my religious believes
9	Quality of vaccines used in our city/village is poor
10	Other (PLEASE SPECIFY)

INTERVIEWER, IF RESPONDENT IN THE QUESTION # 3.2 HAS NAMED ANSWER 3 or 5, PLEASE ASK QUESTION # 3.3

3.3 Which reactions, in your opinion, may be caused by a vaccine?

1	Skin reaction in the injection site – redness, induration
2	Fever, fatigue
3	Headache
4	Allergic reaction
5	Anaphylactic shock
6	Nausea, diarrhea
7	Other (PLEASE SPECIFY)

INTERVIEWER, IF RESPONDENT IN QUESTION 3.2 HAS NAMED ANSWER 5 AND IN QUESTION 3.3 HAS NAMED ANSWER 7, PLEASE ASK QUESTION 3.4

3.4 Please tell us what sources you got the information from?

_____

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for mothers or other caregivers with children aged 0-5

3.5 Have you or your relatives/friends/ acquaintances heard about cases of unwanted reactions in children caused by vaccination?

1	Yes
2	Now => *GO TO THE QUESTION # 3.7*

3.6 Please specify what were there unwanted reactions?

1	Skin reaction in the injection site – redness, induration
2	Fever, fatigue
3	Headache
4	Allergic reaction
5	Anaphylactic shock
6	Nausea, diarrhea
7	Other (PLEASE SPECIFY)

3.7 Have you or your relatives/acquaintances faced situations when the child was sick because he/she was not vaccination?

1	Yes
2	Now => *GO TO THE QUESTION # 3.9*

3.8 Specify which disease was it?

1	Tuberculosis
2	Hepatitis B
3	Polio
4	Measles
5	Rubella
6	Tetanus
7	Diphtheria
8	Whooping cough
9	Parotitis (mumps)
10	Hib (Haemophilus influenzae of type b)
11	Pneumococcal infection
12	Other (PLEASE SPECIFY)

3.9 There are people/groups of people that refuse from vaccinating their children. What do you think about such decision? *INTERVIEWER, PLEASE READ OUT AND MARK THE ANSWER ACCORDINGLY*

1	I do not agree.
2	I do not care.
3	I agree with them.
4	Other (PLEASE SPECIFY)

3.10 Please tell us the reasons for parents deciding not to vaccinate their children?

1	It is not necessary since the child is not sick
2	They fear reactions that may be caused by vaccination
3	They don't trust the quality of vaccines
4	Religious reasons
5	Other (PLEASE SPECIFY)

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for mothers or other caregivers with children aged 0-5

3.11 In your opinion, how one can influence parents, who refuse to vaccinate their children without medical evidence, so that they change their decision in favor of vaccination?

1	None. They are free to choose.
2	Only awareness-raising activities
3	CEI enrolment should not be accessible to children that were not vaccinated unless that is medical justification
4	Administrative measures
5	Legally enforce vaccination of children
6	Other (PLEASE SPECIFY)
7	There are no such methods => *GO TO THE QUESTION # 3.13*

3.12 In your opinion, who can influence individuals, who refused to vaccinate their children?

1	Relatives
2	Friends/acquaintances
3	Healthcare providers
4	Community leaders (female councils, seniors/aksakals and so on)
5	Religious leaders
6	Other (PLEASE SPECIFY)

3.13 Which types of activities targeted on raising awareness of parents about importance of timely vaccination, in your opinion, would be most effective?

1	Informative discussions
2	Social videos on TV
3	Publications in Internet
4	Publications in social media
5	Engagement of community leaders
6	Engagement of religious leaders
7	Events and activities
8	Other (PLEASE SPECIFY)

3.14 Rate on a five-point scale, where 1 – Completely satisfied, 5 – Completely dissatisfied, how satisfied are you with the quality of vaccination services on the following indicators?

INTERVIEWER, PLEASE SHOW CARD #2. PLEASE MARK ONLY ONE RESPONSE IN EACH LINE

#	Statement	Completely satisfied	Rather satisfied	No opinion/ Do not care	Rather not satisfied	Completely dissatisfied
3.14.1	Consultation of medical personnel	1	2	3	4	5
3.14.2	Treatment of medical personnel	1	2	3	4	5
3.14.3	Timespent waiting in line	1	2	3	4	5
3.14.4	Cleanliness and conditions in the medical institution	1	2	3	4	5
3.14.5	Compliance with the rules of medical procedure (use of disposable gloves, disposable syringes)	1	2	3	4	5

3.15 Do you trust healthcare workers administering vaccines? Rate on a five-point scale, where 1 – Fully trust, 5 – Do not trust at all. *INTERVIEWER, PLEASE SHOW CARD #3*

1	Fully trust
2	Rather trust
3	I don't have an opinion
4	Rather not to trust
5	Do not trust at all

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for mothers or other caregivers with children aged 0-5

3.16 Do you trust quality of vaccines? Rate on a five-point scale, where 1 – Fully trust, 5 – Do not trust at all. *INTERVIEWER, PLEASE SHOW CARD #3*

1	Fully trust
2	Rather trust
3	I don't have an opinion
4	Rather not to trust
5	Do not trust at all

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for mothers or other caregivers with children aged 0-5

SECTION 4. PRACTICE OF VACCINATION

4.1 Do you need your vaccination card for your home storage?

1	Yes
2	No
3	I do not care

4.2 Have you heard about calendar of preventive vaccinations in KR?

1	Yes
2	No =>*GO TO THE QUESTION # 4.4*

4.3 Which information is provided in the Calendar?
INTERVIEWER, DO NOT READ, RECORD EVERYTHING THAT WAS MENTIONED

1	List of mandatory vaccinations
2	List of vaccine preventable diseases
3	Children's age when if reached, a child should be vaccinated
4	Other (please specify)

4.4 *INTERVIEWER, IF THERE IS ONLY ONE CHILD AGED 0-5 IN THE HOUSEHOLD THEN ASK THE FOLLOWING QUESTION*
Has /CHILD'S NAME/ **received all required vaccination for his/her age?**
INTERVIEWER, OTHERWISE PLEASE ASK: **Were all children aged 0-5 that are under YOUR care, have been immunized based on their age?** *INTERVIEWER, PLEASE READ OUT AND MARK THE ANSWER ACCORDINGLY*

1	The child is fully vaccinated / All children are fully vaccinated *=> GO TO QUESTION 4.10*
2	The child is partially vaccinated / All children are partially vaccinated
3	The child was not vaccinated / All children were not been vaccinated
4	There are fully vaccinated children and partially vaccinated children
5	There are fully vaccinated children and unvaccinated vaccinated children
6	There are partially vaccinated children and unvaccinated vaccinated children

4.5 Please tell us why the child/children was/were not fully vaccinated /not vaccinated.

1	Exemption for medical reasons. The doctor has postponed / canceled the vaccination
2	The child got sick, I decided to postpone / cancel the vaccination
3	I do not know where I can vaccinate children
4	I don't have time to visit the vaccination facility
5	We don't have a residence registration, they don't register child in the medical facility
6	It is not necessary since the child is not sick
7	I am afraid of unwanted reactions
8	I do not trust the quality of the vaccine
9	Religious reasons
10	We will not be affected by the disease
11	Other reason (PLEASE SPECIFY)

4.5.1 Will you vaccinate your child / children?

1	Yes. I will vaccinate for sure
2	Yes, I will vaccinate if there won't be any medical evidences otherwise.
3	I will have my children partially vaccinated
4	Most likely will
5	Most likely will not
6	No. I will not vaccinate child/children.
7	Other (please specify)

INTERVIEWER, IF QUESTION 4.5=2-11, PLEASE ASK QUESTION 4.6

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

RESEARCH ON ATTITUDES TOWARDS VACCINATION

Questionnaire for mothers or other caregivers with children aged 0-5

4.6 Have medical workers talked to you about importance of timely child vaccination when you missed your scheduled visit to the vaccination facility/refused to vaccinate your child?

1	Yes
2	No

INTERVIEWER, IF RESPONDENT HAS REFUSED TO VACCINATE HIS/HER CHILD/CHILDREN (Q.4.5 =6-11) THEN ASK QUESTION 4.7 OTHERWISE GO TO THE QUESTION # 4.10

4.7 Have you formally recorded your refusal to vaccinate a child in the medical facility? *INTERVIEWER, PLEASE READ*

1	Yes, I filled a special form
2	Yes, I wrote a letter of refusal to vaccinate
3	No, I did not write a letter of refusal to vaccinate, although medical workers have asked for it
4	No, I did not write a letter of refusal to vaccinate, and medical workers did not require one

4.8 Was there any event /incident that diminished / affected your confidence in vaccination?

1	Yes
2	No =>*GO TO THE QUESTION # 4.10*

4.9 Please indicate which event? _____

4.10 Where do you vaccinate your child/children?

1	Group of Family Practice *=>GO TO THE QUESTION # 4.12*
2	Health Care Unit *=> GO TO THE QUESTION # 4.12*
3	Private clinic/doctor
4	Do not vaccinate *=> GO TO THE QUESTION # 4.12*
5	Other (PLEASE SPECIFY) *=> GO TO THE QUESTION # 4.12*

4.11 Why do you vaccinate your child/children in a private medical facility?

1	I do not trust doctors in state medical facilities
2	Quality of service is better in private medical facility
3	Convenient location
4	Better quality vaccines
5	Different producer vaccines
6	Other reason*(PLEASE SPECIFY)*

4.12 Which issues have you faced during your visit to the medical facility with the purpose of getting vaccinated?
INTERVIEWER, DO NOT READ, RECORD EVERYTHING THAT WAS MENTIONED

#	**Description of the issue**
1	The vaccination facility is located far from my house
2	Unavailability of public transport to reach the medical facility
3	Work schedule of the vaccination facility is not convenient
4	Long waiting time in queues
5	Complaints on the quality of work performed by medical workers (lack of professionalism, rude treatment, etc.)
6	Unavailability of the vaccine at the time of the scheduled vaccination
7	I was asked/requested to pay for vaccination
8	We were rejected a vaccination due to not having a registration at the place of our residence
9	Did not face problems
10	Other (PLEASE SPECIFY)

4.13 Do you receive reminders about the fact that your child must come for a scheduled vaccination?

1	Always
2	Sometimes
3	Never =>*GO TO THE QUESTION # 4.15*

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for mothers or other caregivers with children aged 0-5

4.14 How do you get reminders about the scheduled vaccination?

1	Pediatrician informs me about the vaccination date during our visit
2	Medical worker reminds during her/his regular rounds of visits
3	Phone call/Text message
4	Other (PLEASE SPECIFY)

4.15 Do you get the doctor's approval prior to receiving a vaccination?

1	Doctor always conducts a medical check-up of the child and provides the authorization or exemption
2	Medical check-up of the child by the doctor prior to vaccination is not conducted
3	Other (PLEASE SPECIFY)

4.16 Please assess quality of medical check-up that your child receives prior to vaccination?
INTERVIEWER PLEASE RECORD ALL MATCHING ANSWERS

1	I am fully satisfied with the quality of medical check-up prior to vaccination. A healthcare worker carefully checks my child and prescribes additional tests if needed
2	I am not fully satisfied. Healthcare worker conducts the check-up as a formality.
3	I am not satisfied because medical check-up is not conducted prior to vaccination.
	Other (PLEASE SPECIFY)

4.17 Do you receive information about vaccination just <u>prior</u> the actual vaccination?
INTERVIEWER, PLEASE READ OUT

1	Doctor provides information about the disease against which the child is being immunized (including information about frequency of complications occurring for this disease) and about the vaccination (including information about possible reactions)
2	Doctor only names the vaccination and names the disease that the vaccination prevents
3	Doctor does not tell anything
4	Other (PLEASE SPECIFY)

4.18 How do doctors follow-up on child's condition after vaccination?

1	Visit at home/home visits
2	Call on the phone
3	Do not follow- up
4	Other (PLEASE SPECIFY)

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

RESEARCH ON ATTITUDES TOWARDS VACCINATION

Questionnaire for mothers or other caregivers with children aged 0-5

SECTION 5. SOURCES OF INFORMATION ABOUT VACCINATION

5.1 Which sources do you have for receiving information about vaccination?
5.2 Which sources do you trust? *INTERVIEWER, PLEASE SHOW CARD #4*

	Source of information	**5.1**	**5.2**
1	Medical workers	1	1
2	Relatives in direct descent (parents, spouse, etc.)	2	2
3	Friends/acquaintances	3	3
4	Public organizations	4	4
5	Religious leaders	5	5
6	TV/Radio (PLEASE SPECIFY CHANNEL AND NAME OF THE PROGRAM)	6	6
7	Publications (PLEASE SPECIFY, WHICH ONES)	7	7
8	Internet (PLEASE SPECIFY, WHICH WEBSITES)	8	8
9	Social networks	9	9
10	Healers, spiritual healers	10	10
11	Events, initiatives	11	11
12	Other (PLEASE SPECIFY)	12	12

5.3 Who are you influenced by, who do you consult in the process of making a decision on child vaccination? Please tell <u>no more than top three</u> most important figures (*one* is the most important)

		5.3
1	I don't consult with anyone and make a decision on my own	
2	District pediatrician, state medical worker assigned to my residential area	
3	Doctor of a private medical institution	
4	Spouse	
5	My parents	
6	My spouse's parents	
7	Other relatives	
8	Friends / acquaintances – health care workers	
9	Friends / acquaintances are not health care workers	
10	Religious leaders	
11	Groups in social networks	
12	Healers, spiritual healers	
13	Other (PLEASE SPECIFY	

5.4 Which information would you be interested in receiving? *INTERVIEWER, PLEASE MARK EVERYTHING THAT WAS NAMED*

1	Information on reasons and benefits of vaccination
2	Information about additional vaccines
3	Information on contents of vaccines
4	Information on contraindications to vaccination
5	Information on reactions/side effects after vaccination
6	Information on vaccine manufacturers
7	Other (PLEASE SPECIFY)
8	I have enough information

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for mothers or other caregivers with children aged 0-5

SECTION 6. INFORMATION ABOUT THE RESPONDENT AND THE HOUSEHOLD

INTERVIEWER PLEASE READ OUT: **In the end I will ask you several questions about you and your household.**

6.1 *INTERVIEWER, PLEASE MARK THE GENDER OF THE RESPONDENT*

1	Man
2	Woman

6.2 Please tell us about your relationship to the child aged 0-5.

1	The child's mother
2	The child's father
3	Grandmother/grandfather (the father's parents)
4	Grandmother/grandfather (the mother's parents)
5	Uncle/ Aunt
6	Brother/sister
7	Other relatives (PLEASE SPECIFY)
8	Other (PLEASE SPECIFY)

6.3 Please tell us about your current marital status

1	Registered marriage
2	Non-registered marriage
3	Divorced
4	Widow (widower)
5	Have never been married before

6.4 What is your full age?_____

6.5 What ethnicity do you attribute yourself to?

1	Kyrgyz
2	Uzbek
3	Russian
4	Other (PLEASE SPECIFY)

6.6 What is your education level? *INTERVIEWER, PLEASE MARK ONLY ONE ANSWER*

1	Does not have elementary degree (illiterate)
2	Elementary degree
3	Basic general degree
4	Secondary (full) degree
5	Primary vocational/technical school
6	Secondary vocational/technical school
7	Higher education (incomplete) degree

6.7 Please tell us nature of your occupation. *INTERVIEWER, PLEASE MARK ONLY ONE ANSWER*

1	Contract-based work at a company or at an institution
2	Contract-based work for individuals
3	Formal employment contract
4	Self-employed
5	Engaged in own agricultural business
6	Student/Trainee
7	Retired
8	Housewife/Handle household chores
9	Unemployed
10	Other (please specify)

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for mothers or other caregivers with children aged 0-5

6.8 Which religion do you relate yourself? *INTERVIEWER, PLEASE MARK ONLY ONE ANSWER*

1	Islam => *GO TO THE QUESTION # 6.8.1*
2	Christianity => GO TO *THE QUESTION # 6.8.2*
3	Other religion (PLEASE SPECIFY) => GO TO *THE QUESTION # 6.9*
4	I am a non-believe, atheist => GO TO *THE QUESTION # 6.9*
5	I believe in God but do not follow any specific religion => GO TO *THE QUESTION # 6.9*

6.8.1 Can you please clarify, which stream of Islam do you relate yourself?

_____

GO TO *THE QUESTION # 6.9*

6.8.2 Please, specify, which denomination do you attribute yourself to?

_____

6.9 Please specify type of your accommodation.

1	Own house/apartment
2	Rented house/apartment
3	Other *(PLEASE SPECIFY)*
4	Service dwelling

6.10 Can you please tell about your family:
INTERVIEWER, PLEASE SHOW CARD #5

1	Our family lives separately
2	Live with my parents
3	Live with spouse's parents
4	Live with other relatives
5	Other (PLEASE SPECIFY)

6.11 Please, tell us how many people live in your household? _____

6.12 Please, tell us how many children under age of five live in your household? _____

6.13 Do your children under age of five attend pre-school educational institutions (CEI)?

1	Yes
2	No

6.14 Are your children attributed to Family Doctors Group by place of residence?

1	Yes
2	No

6.15 Please tell us which of the following statements most accurately describes your financial position.
INTERVIEWER, PLEASE SHOW CARD #6. MARK ONLY ONE ANSWER

1	We barely survive. We don't have enough money for food and the essentials
2	We have enough money to buy food and essentials but struggle with purchasing clothes.
3	We have enough money to buy groceries and new clothes but if we want to invest in durables (fridge, TV) then we would have to save/borrow the required amount
4	We can easily afford buying durables but we would have to save/borrow money to buy new apartment or car
5	We can afford to buy everything

6.16 Please describe your REGULAR day. How much time do you spend on the following activities:
INTERVIEWER, PLEASE SHOW CARD #6.

#	**Activity**	**Time spent in hours**
1	Caring for children	
2	Household chores (cooking, cleaning, washing clothes, etc.)	

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for mothers or other caregivers with children aged 0-5

3	Paid job including commuting	
4	Free time, down time	
5	Interaction with relatives	
6	Satisfaction of basic survival needs (sleeping, eating)	
7	Other (please specify)	
8	**Total**	**24 hours**

6.17 Do you have a permanent registration in this area?

1	Yes => *GO TO THE QUESTION # 6.19*
2	No

6.18 Where did your household live prior to moving to */INTERVIEWER, PLEASE NAME THE SETTLEMENT'S NAME WHERE YOU ARE CONDUCTING YOUR INTERVIEW/***? *INTERVIEWER, PLEASE READ OUT ANSWERS, MARK ONLY ONE***

1	In another settlement of this oblast
2	In another oblast of Kyrgyzstan
3	In another country

6.19 What was the reason for moving to */INTERVIEWER, PLEASE NAME THE SETTLEMENT'S NAME WHERE YOU ARE CONDUCTING YOUR INTERVIEW/***? Please name the most important one.**

1	Looking for job/Looking for a better paying job
2	Looking for accommodation
3	Study
4	Pollution
5	Security issues
6	Other reasons *(PLEASE SPECIFY)*

INTERVIEWER, IF A RESPONDENT – A WOMEN UNDER AGE OF 50, ASK QUESTION # 6.20, OTHERWISE, GO TO SECTION 7

6.20 Tell us please, are you pregnant in present time?

1	Yes
2	No => *GO TO THE SECTION 7*

6.21 Tell us, are you registered with a women's consultation clinic/observed by gynecologist?

1	Yes
2	No => *GO TO THE SECTION 7*

6.22 Do you receive information about vaccination in women's consultation clinic/from the gynecologist?

1	Yes
2	No => *GO TO THE SECTION 7*

INTERVIEWER, PLEASE THANK THE RESPONDENT AND COMPLETE THE INTERVIEW.

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for mothers or other caregivers with children aged 0-5

SECTION 7. TECHNICAL INFORMATION

7.1 Ending date of the interview, day: |____|____| month: |____|____|

7.2 Oblast

1	Batken oblast
2	Jalalabad oblast
3	Osh oblast
4	Naryn oblast
5	Issyk Kul oblast
6	Talas oblast
7	Chuy oblast
8	Bishkek city
9	Newbuild settlements in Bishkek city
10	Osh city

7.3 Rayon_____

7.4 Settlement: _____

7.5 PSU ID _____

7.6 Geographical coordinates of the household: latitude: |__|__| . |__|__|__|__|__|
longitude: |__|__| . |__|__|__|__|__|

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Номер опросника: |____|____|____|____| **Номер интервьюера: |____|____|____|____|**

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

QUESTIONNAIRE FOR MEMBERS OF THE FAMILY OR COMMUNITY WHO IMPACT THE MOTHER'S DECISION MAKING ON IMMUNIZING A CHILD AGED 0-5
(FATHERS/GRANDPARENTS)

Date of the interview, day: |____|____| Month: |____|____|

SECTION 2. AWARENESS ABOUT VACCINATION

INTERVIEWER, READ OUT: In the beginning, I will ask you a few questions about vaccination.

2.1 Please tell us which measures can be used to prevent children from catching dangerous infections, such as tuberculosis, hepatitis, measles, diphtheria, polio etc? *INTERVIEWER, DO NOT READ OUT, PLEASE MARK EVERYTHING THAT WAS NAMED*

1	Compliance with hygiene rules
2	Physical training, cold water training
3	Healthy eating, pure water
4	Vaccination / Vaccination => *GO TO THE QUESTION # 2.3*
5	Immune response-modulating medicine
6	Vitamins / Supplements
7	There are no such ways
8	Other (PLEASE SPECIFY)

2.2 Do you know what vaccination is?

1	Yes
2	Now

INTERVIEWER, IF THE RESPONDENT ANSWERED «NO», PLEASE EXPLAIN THAT VACCINATION MEANS GETTING PREVENTIVE VACCINATION TO PRODUCE IMMUNITY AGAINST DISEASE THAT WILL PREENT CONTRACTION OR REDUCE ITS NEGATIVE IMPACT. ASK THE QUESTION 2.2 AGAIN AND IF THE RESPONDENT DOES NOT KNOW WHAT VACCINATION, VACCINATION, IS PLEASE MOVE ON TO THE QUESTION 2.10

2.3 Why do you think children should be vaccinated? *INTERVIEWER, DO NOT READ OUT. PLEASE MARK ALL THAT WAS NAMED.*

1	To protect children from dangerous diseases and related complications
2	To eliminate of infectious diseases
3	For the child to be accepted to CEI
4	To save life
5	For prevention of the epidemic
6	There was no need
7	I don't know
8	Other (PLEASE SPECIFY)

RESEARCH ON ATTITUDES TOWARDS IMMUNIZATION

Questionnaire for members of the family or community who impact the mother's decision making on immunizing a child aged 0-5 (FATHERS/GRANDPARENTS)

2.4 Which diseases do you know? *INTERVIEWER, DO NOT READ OUT, RECORD ALL THAT WAS NAMED*

2.5 *INTERVIEWER PLEASE ASK THE FOLLOWING QUESTION FOR ALL DISEASES NOT MENTIONED BY THE RESPONDENT*. **Have you heard that/***NAMEOFTHEDISEASE***/may be prevented by vaccine?**

2.6 Which vaccines are mandatory?

Vaccine-preventable diseases	B.2.4 Spontaneous mention	B. 2.5 Knowledge with a hint	B 2.6 Vaccines are mandatory
Tuberculosis	1	1	1
Hepatitis B	2	2	2
Polio	3	3	3
Measles	4	4	4
Rubella	5	5	5
Tetanus	6	6	6
Diphtheria	7	7	7
Whooping cough	8	8	8
Parotitis (mumps)	9	9	9
Hib (Haemophilus influenzae of type b)	10	10	10
Pneumococcal infection	11	11	11
Hepatitis A	12	12	12
Chickenpox	13	13	13
Meningococcal infection	14	14	14
Human papillomavirus	15	15	15
Seasonal flu	16	16	16
Rabies	17	17	17
Rotavirus infection	18	18	18
Tick-borne encephalitis	19	19	19
Other (PLEASE SPECIFY)	20	20	20
I do not know	88	88	X
There are no such diseases	99 => *GO TO THE QUESTION # 2.9*	99	X

INTERVIEWER, IF B. 2.4 = 88 and B. 2.5=99, GO TO THE QUESTION # 2.9

2.7 In your opinion, are there any other ways of protection from these vaccine preventable disease as effective or even more effective than vaccination?

1	Yes
2	Now => *GO TO THE QUESTION # 2.9*

2.8 Which other methods do you know?

1	Compliance with hygiene rules
2	Physical training, cold water training
3	Healthy eating, pure water
4	Other (PLEASE SPECIFY)

2.9 In your opinion, how high is the risk for your child/children to contact preventable by vaccines if a child is unimmunized? Please assess the level of risk using five-point scale where *one* means no risk, while *five* stands for very high risk. *INTERVIEWER, PLEASE MARK ONLY ONE ANSWER*

1	2	3	4	5

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for members of the family or community who impact the mother's decision making on immunizing a child aged 0-5 (FATHERS/GRANDPARENTS)

2.10 What have you done/will undertake if your child was/will get sick?

1	I will see a pediatrician or go to state medical facility
2	I will go to private medical facility
3	I'll turn to the healer, spiritual healer
4	I'll turn to relatives / friends
5	I will treat my child at home, using available means
6	Look for information on the Internet
7	Other (PLEASE SPECIFY)

INTERVIEWER, IF THE RESPONDENT ASNWERED «NO» TO THE QUESTION 2.2, PLEASE SKIP TO SECTION 6

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for members of the family or community who impact the mother's decision making on immunizing a child aged 0-5 (FATHERS/GRANDPARENTS)

SECTION 3. ATTITUDES TO VACCINATION

3.1 Now I will read several statements. Please state to which degree you would agree with each one of these statements.

INTERVIEWER,PLEASE SHOW CARD #1. PLEASE MARK ONLY ONE RESPONSE IN EACH LINE

#	Statement	Strongly agree	Likely to agree	No opinion / It does not matter	I'd rather disagree	Strongly disagree
3.1.1	Vaccination is essential for my child	1	2	3	4	5
3.1.2	My child may contract dangerous disease if he/she does not get vaccinated	1	2	3	4	5
3.1.3	Vaccination is essential to prevent spreading diseases in our society	1	2	3	4	5
3.1.4	Vaccines are safe for my child's health	1	2	3	4	5
3.1.5	Vaccination benefits outweigh its side effects /reactions	1	2	3	4	5
3.1.6	Vaccination is effective in preventing child diseases	1	2	3	4	5

3.2 Do you have any doubts on vaccinating children?

INTERVIEWER PLEASE DO NOT READ. SEVERAL ANSWERS MAY BE MARKED

1	I don't have any doubts on vaccinating children
2	Children receive too many vaccines during the first two years of their life
3	Vaccines may cause unwanted reactions
4	Vaccines may weaken the child's immune system
5	Vaccines may cause diseases
6	Vaccine components are not safe
7	Vaccines' long-term impact on the human's body has not been studied
8	Vaccination goes against my religious believes
9	Quality of vaccines used in our city/village is poor
10	Other (PLEASE SPECIFY)

INTERVIEWER, IF RESPONDENT IN THE QUESTION # 3.2 HAS NAMED ANSWER 3 or 5, PLEASE ASK QUESTION # 3.3

3.3 Which reactions, in your opinion, may be caused by a vaccine?

1	Skin reaction in the injection site – redness, induration
2	Fever, fatigue
3	Headache
4	Allergic reaction
5	Anaphylactic shock
6	Nausea, diarrhea
7	Other (PLEASE SPECIFY)

INTERVIEWER, IF RESPONDENT IN QUESTION 3.2 HAS NAMED ANSWER 5 AND IN QUESTION 3.3 HAS NAMED ANSWER 7, PLEASE ASK QUESTION 3.4

3.4 Please tell us what sources you got the information from?

_____

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for members of the family or community who impact the mother's decision making on immunizing a child aged 0-5 (FATHERS/GRANDPARENTS)

3.5 Have you or your relatives/friends/ acquaintances heard about cases of unwanted reactions in children caused by vaccination?

1	Yes
2	Now => *GO TO THE QUESTION # 3.7*

3.6 Please specify what were there unwanted reactions?

1	Skin reaction in the injection site – redness, induration
2	Fever, fatigue
3	Headache
4	Allergic reaction
5	Anaphylactic shock
6	Nausea, diarrhea
7	Other (PLEASE SPECIFY)

3.7 Have you or your relatives/acquaintances faced situations when the child was sick because he/she was not vaccination?

1	Yes
2	Now => *GO TO THE QUESTION # 3.9*

3.8 Specify which disease was it?

1	Tuberculosis
2	Hepatitis B
3	Polio
4	Measles
5	Rubella
6	Tetanus
7	Diphtheria
8	Whooping cough
9	Parotitis (mumps)
10	Hib (Haemophilus influenzae of type b)
11	Pneumococcal infection
12	Other (PLEASE SPECIFY)

3.9 There are people/groups of people that refuse from vaccinating their children. What do you think about such decision? *INTERVIEWER, PLEASE READ OUT AND MARK THE ANSWER ACCORDINGLY*

1	I do not agree.
2	I do not care.
3	I agree with them.
4	Other (PLEASE SPECIFY)

3.10 Please tell us the reasons for parents deciding not to vaccinate their children?

1	It is not necessary since the child is not sick
2	They fear reactions that may be caused by vaccination
3	They don't trust the quality of vaccines
4	Religious reasons
5	Other (PLEASE SPECIFY)

3.11 In your opinion, how one can influence parents, who refuse to vaccinate their children without medical evidence, so that they change their decision in favor of vaccination?

1	None. They are free to choose.
2	Only awareness-raising activities
3	CEI enrolment should not be accessible to children that were not vaccinated unless that is medical justification
4	Administrative measures
5	Legally enforce vaccination of children

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for members of the family or community who impact the mother's decision making on immunizing a child aged 0-5 (FATHERS/GRANDPARENTS)

6	Other (PLEASE SPECIFY)
7	There are no such methods => *GO TO THE QUESTION # 3.13*

3.12 In your opinion, who can influence individuals, who refused to vaccinate their children?

1	Relatives
2	Friends/acquaintances
3	Healthcare providers
4	Community leaders (female councils, seniors/aksakals and so on)
5	Religious leaders
6	Other (PLEASE SPECIFY)

3.13 Which types of activities targeted on raising awareness of parents about importance of timely vaccination, in your opinion, would be most effective?

1	Informative discussions
2	Social videos on TV
3	Publications in Internet
4	Publications in social media
5	Engagement of community leaders
6	Engagement of religious leaders
7	Events and activities
8	Other (PLEASE SPECIFY)

3.14 Rate on a five-point scale, where 1 – Completely satisfied, 5 – Completely dissatisfied, how satisfied are you with the quality of vaccination services on the following indicators?
INTERVIEWER, PLEASE SHOW CARD #2. PLEASE MARK ONLY ONE RESPONSE IN EACH LINE

#	Statement	Completely satisfied	Rather satisfied	No opinion/ Do not care	Rather not satisfied	Completely dissatisfied
3.14.1	Consultation of medical personnel	1	2	3	4	5
3.14.2	Treatment of medical personnel	1	2	3	4	5
3.14.3	Timespent waiting in line	1	2	3	4	5
3.14.4	Cleanliness and conditions in the medical institution	1	2	3	4	5
3.14.5	Compliance with the rules of medical procedure (use of disposable gloves, disposable syringes)	1	2	3	4	5

3.15 Do you trust healthcare workers administering vaccines? Rate on a five-point scale, where 1 – Fully trust, 5 – Do not trust at all. *INTERVIEWER, PLEASE SHOW CARD #3*

1	Fully trust
2	Rather trust
3	I don't have an opinion
4	Rather not to trust
5	Do not trust at all

3.16 Do you trust quality of vaccines? Rate on a five-point scale, where 1 – Fully trust, 5 – Do not trust at all. *INTERVIEWER, PLEASE SHOW CARD #3*

1	Fully trust
2	Rather trust
3	I don't have an opinion
4	Rather not to trust
5	Do not trust at all

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for members of the family or community who impact the mother's decision making on immunizing a child aged 0-5 (FATHERS/GRANDPARENTS)

3.17 Do others come to you for advice/information in regards to child vaccination?

1	Yes
2	Now => *GO TO THE QUESTION # 3.19*

3.18 Please describe the problems/types of requests for information that others would appeal to you for?

_____

3.19 Do you will advise to do vaccination?

1	Yes
2	No
3	I do not know, to the discretion of parents

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for members of the family or community who impact the mother's decision making on immunizing a child aged 0-5 (FATHERS/GRANDPARENTS)

SECTION 4. PRACTICE OF VACCINATION

4.2 Have you heard about calendar of preventive vaccinations in KR?

1	Yes
2	No =>*GO TO THE QUESTION # 4.4*

4.3 Which information is provided in the Calendar?

INTERVIEWER, DO NOT READ, RECORD EVERYTHING THAT WAS MENTIONED

1	List of mandatory vaccinations
2	List of vaccine preventable diseases
3	Children's age when if reached, a child should be vaccinated
4	Other (please specify)

4.4. Were all your children/ grandchildren's aged 0-5, have been immunized based on their age?

INTERVIEWER, PLEASE READ OUT AND MARK THE ANSWER ACCORDINGLY

1	The child is fully vaccinated / All children are fully vaccinated *=> GO TO QUESTION 4.10*
2	The child is partially vaccinated / All children are partially vaccinated
3	The child was not vaccinated / All children were not been vaccinated
4	There are fully vaccinated children and partially vaccinated children
5	There are fully vaccinated children and unvaccinated vaccinated children
6	There are partially vaccinated children and unvaccinated vaccinated children

4.5 Please tell us why the child/children was/were not fully vaccinated /not vaccinated.

1	Exemption for medical reasons. The doctor has postponed / canceled the vaccination
2	The child got sick, I decided to postpone / cancel the vaccination
3	I do not know where I can vaccinate children
4	I don't have time to visit the vaccination facility
5	We don't have a residence registration, they don't register child in the medical facility
6	It is not necessary since the child is not sick
7	I am afraid of unwanted reactions
8	I do not trust the quality of the vaccine
9	Religious reasons
10	We will not be affected by the disease
11	Other reason (PLEASE SPECIFY)

4.5.1 Will you vaccinate your child / children?

1	Yes. I will vaccinate for sure
2	Yes, I will vaccinate if there won't be any medical evidences otherwise.
3	I will have my children partially vaccinated
4	Most likely will
5	Most likely will not
6	No. I will not vaccinate child/children.
7	Other (please specify)

INTERVIEWER, IF QUESTION 4.5=2-11, PLEASE ASK QUESTION 4.8

4.8 Was there any event /incident that diminished / affected your confidence in vaccination?

1	Yes
2	No =>*GO TO THE QUESTION # 4.10*

4.9 Please indicate which event? _____

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for members of the family or community who impact the mother's decision making on immunizing a child aged 0-5 (FATHERS/GRANDPARENTS)

SECTION 5. SOURCES OF INFORMATION ABOUT VACCINATION

5.1 Which sources do you have for receiving information about vaccination?
5.2 Which sources do you trust? *INTERVIEWER, PLEASE SHOW CARD #4*

	Source of information	**5.1**	**5.2**
1	Medical workers	1	1
2	Relatives in direct descent (parents, spouse, etc.)	2	2
3	Friends/acquaintances	3	3
4	Public organizations	4	4
5	Religious leaders	5	5
6	TV/Radio (PLEASE SPECIFY CHANNEL AND NAME OF THE PROGRAM)	6	6
7	Publications (PLEASE SPECIFY, WHICH ONES)	7	7
8	Internet (PLEASE SPECIFY, WHICH WEBSITES)	8	8
9	Social networks	9	9
10	Healers, spiritual healers	10	10
11	Events, initiatives	11	11
12	Other (PLEASE SPECIFY)	12	12

5.4 Which information would you be interested in receiving? *INTERVIEWER, PLEASE MARK EVERYTHING THAT WAS NAMED*

1	Information on reasons and benefits of vaccination
2	Information about additional vaccines
3	Information on contents of vaccines
4	Information on contraindications to vaccination
5	Information on reactions/side effects after vaccination
6	Information on vaccine manufacturers
7	Other (PLEASE SPECIFY)
8	I have enough information

SECTION 6. INFORMATION ABOUT THE RESPONDENT

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for members of the family or community who impact the mother's decision making on immunizing a child aged 0-5 (FATHERS/GRANDPARENTS)

INTERVIEWER PLEASE READ OUT: **In the end I will ask you several questions about you.**

6.1 *INTERVIEWER, PLEASE MARK THE GENDER OF THE RESPONDENT*

1	Man
2	Woman

6.3 Please tell us about your current marital status

1	Registered marriage
2	Non-registered marriage
3	Divorced
4	Widow (widower)
5	Have never been married before

6.4 What is your full age?_____

6.5 What ethnicity do you attribute yourself to?

1	Kyrgyz
2	Uzbek
3	Russian
4	Other (PLEASE SPECIFY)

6.6 What is your education level? *INTERVIEWER, PLEASE MARK ONLY ONE ANSWER*

1	Does not have elementary degree (illiterate)
2	Elementary degree
3	Basic general degree
4	Secondary (full) degree
5	Primary vocational/technical school
6	Secondary vocational/technical school
7	Higher education (incomplete) degree

6.7 Please tell us nature of your occupation. *INTERVIEWER, PLEASE MARK ONLY ONE ANSWER*

1	Contract-based work at a company or at an institution
2	Contract-based work for individuals
3	Formal employment contract
4	Self-employed
5	Engaged in own agricultural business
6	Student/Trainee
7	Retired
8	Housewife/Handle household chores
9	Unemployed
10	Other (please specify)

6.8 Which religion do you relate yourself? *INTERVIEWER, PLEASE MARK ONLY ONE ANSWER*

1	Islam => *GO TO THE QUESTION # 6.8.1*
2	Christianity => GO TO *THE QUESTION # 6.8.2*
3	Other religion (PLEASE SPECIFY) => GO TO *THE QUESTION # 6.15*
4	I am a non-believe, atheist => GO TO *THE QUESTION # 6.15*
5	I believe in God but do not follow any specific religion => GO TO *THE QUESTION # 6.15*

6.8.1 Can you please clarify, which stream of Islam do you relate yourself?

_____

GO TO *THE QUESTION # 6.15*

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for members of the family or community who impact the mother's decision making on immunizing a child aged 0-5 (FATHERS/GRANDPARENTS)

6.8.2 Please, specify, which denomination do you attribute yourself to?

_____

6.15 Please tell us which of the following statements most accurately describes your financial position.
INTERVIEWER, PLEASE SHOW CARD #6. MARK ONLY ONE ANSWER

1	We barely survive. We don't have enough money for food and the essentials
2	We have enough money to buy food and essentials but struggle with purchasing clothes.
3	We have enough money to buy groceries and new clothes but if we want to invest in durables (fridge, TV) then we would have to save/borrow the required amount
4	We can easily afford buying durables but we would have to save/borrow money to buy new apartment or car
5	We can afford to buy everything

INTERVIEWER, PLEASE THANK THE RESPONDENT AND COMPLETE THE INTERVIEW.

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for members of the family or community who impact the mother's decision making on immunizing a child aged 0-5 (FATHERS/GRANDPARENTS)

SECTION 7. TECHNICAL INFORMATION

7.1 Ending date of the interview, day: |____|____| month: |____|____|

7.2 Oblast

1	Batken oblast
2	Jalalabad oblast
3	Osh oblast
4	Naryn oblast
5	Issyk Kul oblast
6	Talas oblast
7	Chuy oblast
8	Bishkek city
9	Newbuild settlements in Bishkek city
10	Osh city

7.3 Rayon_____

7.4 Settlement: _____

7.5 PSU ID _____

7.6 Geographical coordinates of the household: latitude: |__|__| . |__|__|__|__|__|
longitude: |__|__| . |__|__|__|__|__|

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Questionnaire ID: |____|____|____|____| **Interviewer ID: |____|____|____|____|**

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

QUESTIONNAIRE FOR MEDICAL PROVIDERS

Date of the interview, day: |____|____| Month: |____|____|

SECTION 1. RESPONDENT SAMPLING

1.1 Would you mind letting us know whether you provide care for the children under five years old?

1	Yes
2	No=>*FINISH THE INTERVIEW*

SECTION 2. INFORMATION ABOUT THE RESPONDENT

INTERVIEWER PLEASE READ OUT: **I will start from asking several questions about you.**

2.2 *ИНТЕРВЬЮЕР, ОТМЕТЬТЕ ПОЛ РЕСПОНДЕНТА*

1	Man
2	Woman

2.3 What is your full age? _____

2.4 What ethnicity do you attribute yourself to?

1	Kyrgyz
2	Uzbek
3	Russian
4	Other (PLEASE SPECIFY)

2.5 What is your education level? *INTERVIEWER, PLEASE MARK ONLY ONE ANSWER*

5	Primary vocational/technical school
6	Secondary vocational/technical school
7	Higher education (incomplete) degree

2.6 What is your major/speciality?_____

2.7 What is your current position?_____

2.8 How many years of work experience do you have?_____

2.9 К какой религии Вы себя относите? *ИНТЕРВЬЮЕР, ТОЛЬКО ОДИН ОТВЕТ*

1	Ислам	4	Я – неверующий человек, атеист
2	Христианство	5	Я - верующий человек, но какой-то определённой
3	Другая религия (УТОЧНИТЕ)		

2.9 Which religion do you relate yourself? *INTERVIEWER, PLEASE MARK ONLY ONE ANSWER*

1	Islam => *GO TO THE QUESTION # 2.9.1*
2	Christianity => GO TO *THE QUESTION # 2.9.2*
3	Other religion (PLEASE SPECIFY) => GO TO *THE SECTION 3*
4	I am a non-believe, atheist => GO TO *THE SECTION 3*
5	I believe in God but do not follow any specific religion => GO TO *THE SECTION 3*

2.9.1 Can you please clarify, which stream of Islam do you relate yourself?

_____

GO TO *THE SECTION 3*

2.9.2 Please, specify, which denomination do you attribute yourself to?

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for medical providers

SECTION 3. ATTITUDES TO VACCINATION

INTERVIEWER, PLEASE READ OUT: **All questions in the questionnaire are on vaccinations and vaccine preventable diseases–controllable infections.**

3.1 How high do you think is the risk of contracting vaccine preventable diseases <u>for unimmunized children</u> residing in your area of coverage? Please assess the level of risk using five-point scale where *one* means no risk, while *five* stands for very high risk.

INTERVIEWER, PLEASE MARK ONLY ONE ANSWER

1	2	3	4	5

INTERVIEWER, IF 3.1 = 4 OR 5 THEN ASK THE FOLLOWING QUESTION:

3.2 Would you mind clarifying what types of diseases would these be?

Diseases	
Tuberculosis	1
Hepatitis B	2
Polio	3
Measles	4
Rubella	5
Tetanus	6
Diphtheria	7
Whooping cough	8
Parotitis (mumps)	9
Haemophilus infection of type b	10
Pneumococcal infection	11
Hepatitis A	12
Chickenpox	13
Meningococcal infection	14
Human papillomavirus	15
Seasonal flu	16
Rabies	17
Rotavirus infection	18
Tick-borne encephalitis	19
Other (SPECIFY)	20

3.3 In your opinion, was there an decrease/no change or increase in the incidence of vaccine preventable diseases among children under 5 years old on the territory you are assigned to?

1	Decreased
2	Same (no change) => *GO TO THE QUESTION # 3.5*
3	Increased

3.4 What are the reasons behind it?

_____

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for medical providers

INTERVIEWER, PLEASE READ: **Now I would like to ask you several questions about your personal attitude towards vaccination**.

3.5 Now I will read out several statements. Please state to which degree you would agree with each one of these statements.

INTERVIEWER, PLEASE SHOW CARD #1. PLEASE MARK ONLY ONE RESPONSE IN EACH LINE

#	Statement	Strongly agree	Likely to agree	No opinion / It does not matter	I'd rather disagree	Strongly disagree
3.1.1	Vaccination is essential for children	1	2	3	4	5
3.1.2	Child may contract dangerous disease if he/she does not get vaccinated	1	2	3	4	5
3.1.3	Vaccination is essential to prevent spreading diseases in our society	1	2	3	4	5
3.1.4	Vaccines are safe for child's health	1	2	3	4	5
3.1.5	Vaccination benefits outweigh its reactions	1	2	3	4	5
3.1.6	Vaccination is effective in preventing child diseases	1	2	3	4	5

3.6 In your opinion, are there any other methods of protection of kids from vaccine preventable diseases as effective or even more effective than vaccination?

1	YES
2	NO = >*GO TO THE QUESTION # 3.8*

3.7 Would you please tell us which are these methods?

1	Compliance with hygiene rules
2	Physical training, cold water training
3	Healthy eating, pure water
4	Other (PLEASE SPECIFY)

3.8 Do you have any doubts on vaccinating children?

INTERVIEWER PLEASE READ. SEVERAL ANSWERS MAY BE MARKED

1	I don't have any doubts on vaccinating children
2	Children receive too many vaccines during the first two years of their life
3	Vaccines may cause side effects
4	Vaccines may weaken the child's immune system
5	Vaccine components are not safe
6	Vaccines' long-term impact on the human's body has not been studied
7	Vaccination goes against my religious believes
8	Quality of vaccines used in our city/village is poor
9	There is not sufficient data from evidence-based medicine regarding effectiveness of immune prophylaxis or vaccines
10	Other (PLEASE SPECIFY)

INTERVIEWER, IF RESPONDENT HAS NAMED ANSWER 3, PLEASE ASK QUESTION 3.9

3. Which unwanted reactions, in your opinion, may be caused by a vaccine?

1	Skin reaction in the injection site – redness, induration
2	Fever, fatigue
3	Headache
4	Allergic reaction
5	Anaphylactic shock
6	Nausea, diarrhea
7	Other (PLEASE SPECIFY)

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for medical providers

3.10 Have you in your practice any cases of unwanted reactions in children after vaccination?

1	Yes
2	No = >*GO TO THE QUESTION # 3.12*

3.11 Please describe last case

_____

3.12 Have you in your practice situations when the child was sick because he/she was not vaccinated?

1	Yes
2	No = >*GO TO THE QUESTION # 3.14*

3.13 Please describe last case

_____

3.14 Have you in your practice, encountered incidents of anaphylactic shock in children caused by vaccines?

1	Yes
2	No = >*GO TO THE QUESTION # 3.16*

3.15 Please describe last case

_____

3.16 Have you had cases of complaints about quality of a vaccine in your practice?

1	Yes
2	No = >*GO TO THE QUESTION # 3.18*

3.17 Please describe these cases

_____

3.18 Do you trust the quality of vaccines, which you use in your practice?

INTERVIEWER,PLEASE SHOW CARD #3.

1	I fully trust it
2	I am likely to trust it
3	I don't have an opinion on this
4	I am unlikely to trust
5	I do not trust at all

3.19 Do you think that all vaccines used in your practice have been tested for quality and safety?

1	Yes
2	No
3	Other (please specify)

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for medical providers

SECTION 4. PRACTICE OF VACCINATION

4.1 Please tell us which vaccines do you usually recommend your patients according to the calendar of preventive vaccinations in KR?
4.2 What additional vaccinations you would like to recommend?

Vaccines	*Mandatory*	*Additional*
HBV (Viral hepatitis B)	1	X
BCG (Tuberculosis)	2	X
OPV (Poliomyelitis)	3	X
DTP (Pertussis Diphtheria Tetanus)	4	X
Hib pentavaccine (Haemophilus infection type b)	5	X
PDA (Measles of the Rubella Parotitis (mumps))	6	X
Vaccination against pneumococcal infection	7	7
Vaccination against hepatitis A	8	8
Chicken pox vaccination	9	9
Inoculation from meningococcal infection	10	10
Vaccination against human papillomavirus	11	11
Vaccination against seasonal influenza	12	12
Vaccination against rabies	13	13
Inoculation against rotavirus infection	14	14
Vaccination against tick-borne encephalitis	15	15
I don't recommend anything	16	16
Other (SPECIFY)	17	17

4.3 Do you experience cases of unimmunized/not fully immunized children under age of five in your practice?

1	Yes
2	No = >*GO TO THE QUESTION # 4.5*

4.4 Please share the reasons for why children were unimmunized/partially not immunized?

1	Exemption for medical reasons. The doctor has postponed / canceled the immunization
2	The child got sick, Parents decided to postpone / cancel the immunization
3	People refuse from vaccinating their children
4	Immunization card was lost
5	Not legally registered at the place of residence
6	Other (PLEASE SPECIFY)

4.5 There are people/groups of people that refuse to vaccinate their children. What do you think about this decision?
INTERVIEWER PLEASE READ OUT. PLEASE RECORD THE CORRESPONDING ANSWER

1	I do not agree.
2	I do not care.
3	I agree with them
5	Other (PLEASE SPECIFY)

4.6 Please tell us the reasons for parents deciding not to vaccinate their children?
4.7 In your opinion, what is the most common argument?

	4.6	**4.7**
it is not necessary since the child is not sick	1	1
They fear complications after the vaccination	2	2
They do not consider vaccines to be effective in disease prevention	3	3
They don't trust the quality of vaccines	4	4
Religious reasons	5	5
Weakened immune system of the child	6	6
Another reason (PLEASE SPECIFY)	7	7

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for medical providers

4.8 Based on your assessment, have the number of children that were not immunized/partially not immunized in your area/district of coverage decreased, stayed the same or increased during the past five years?

1	Decreased
2	Same (no change) = >*GO TO THE QUESTION # 4.10*
3	Increased

4.9 What are the reasons behind it?

_____

_____

4.10 What is the proportion (in%) of persons without permanent registration («internal labour migrants») in your district/area? _____

IF 4.10=0, GO TO THE QUESTION 4.12

4.11 What are the reasons for refusal from vaccination among «internal labour migrants»?

It is not necessary since the child is not sick	1
They afraid of unwanted reactions	2
They don't think vaccination is an effective protection against diseases.	3
They do not trust the quality of the vaccine	4
Religious reasons	5
Weakening of immunity	6
They do not provide an vaccination card and claim that the children are vaccinated	7
They do not refuse	8
Other reason (SPECIFY)	9

4.12 Do parents that have refused vaccination, formally record their decision?
INTERVIEWER, PLEASE READ

1	Yes, they fill in a special form
2	Yes, they write a letter of refusal to vaccinate in a free format
3	No, we do not require any documents for refusal
4	Other (PLEASE SPECIFY)

4.13 Please tell us, what kind of work you spend with parents who refused from vaccination?

1	Awareness-raising work
2	Do not spent
3	Other (PLEASE SPECIFY)

4.14 Do parents formalize their informed consent for vaccination of their children?
INTERVIEWER, PLEASE READ

1	Yes, they fill in a special form
2	Yes, they write a letter of refusal to vaccinate in a free format
3	No, we do not require any documents for refusal
4	Other (PLEASE SPECIFY)

4.15 Are there any families in your area of coverage that seek vaccination at private medical facilities?

1	No, vaccination is only done in state medical facilities = >*GO TO THE QUESTION # 4.17*
2	Yes, there are
3	Other (PLEASE SPECIFY) = >*GO TO THE QUESTION # 4.17*

4.16 Why do they chose a private medical facility?

1	They do not trust doctors in state medical institutions
2	Quality of service is better in private medical facility
3	Convenient location
4	Better quality vaccines
5	Different producer vaccines
6	Other reason *(PLEASE SPECIFY)*

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for medical providers

4.17 Which challenges do you think, families residing in your area of coverage, face while vaccinating their children?

#	Description of the issue	Yes	No
1	The immunization facility is located far from their house	1	2
2	Unavailability of public transport to the medical facility	1	2
3	Work schedule of the immunization facility is not convenient	1	2
4	Long waiting time in queues	1	2
5	Complaints on the quality of work performed by medical workers (lack of professionalism, rude treatment, etc.)	1	2
6	Unavailability of the vaccine at the time of the scheduled immunization	1	2
7	I was asked/requested to pay for vaccination	1	2
8	Other (PLEASE SPECIFY)	1	2

4.18 Do your patients receive reminders about their scheduled immunization?

1	Yes
2	No = >*GO TO THE QUESTION # 4.20*

4.19 How are parents reminded about the scheduled immunization?

1	Medical worker informs parents about the immunization date during previous visits
2	Nurse/Medical worker reminds parents during rounds of visits
3	Phone call/Text message
4	Other (PLEASE SPECIFY)

4.20 How do you follow-up on child's condition after vaccination?

1	Visit at home/home visits
2	Call on the phone
3	Do not follow- up
4	Other (PLEASE SPECIFY)

4.21 Do you conduct awareness-raising work with parents / pregnant women about the need for timely vaccination?

1	Yes = >*GO TO THE QUESTION # 4.23*
2	No

4.22 Please tell us why you do not conduct activities to increase awareness of parents/pregnant women about importance of timely vaccination? *SEVERAL ANSWERS MAY BE MARKED*

1	I think these efforts are useless because they are not effective
2	I do not know how to conduct such activities
3	I am overloaded with other work and have no time for conducting awareness-raising activities
4	Other (PLEASE SPECIFY)

GO TO THE QUESTION # 4.28

4.23 Which types of awareness-raising activities do you use?
SEVERAL ANSWERS MAY BE MARKED

1	Informative discussions at the time of their visit
2	Posting information on information boards in the medical facility
3	Distributions of brochures/flyers
4	Other (PLEASE SPECIFY)

4.25 Which materials would be helpful for awareness raising purposes?

_____

4.26 Please assess how effective are awareness-raising activities using five-points scale where *one* is completely not effective and *five* is highly effective

1	2	3	4	5

INTERVIEWER, IF 4.26 =1 or 2, ASK QUESTION 4.27

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for medical providers

4.27 Please, specify?

_____

4.28 Which types of activities targeted on raising awareness of parents/pregnant women about importance of timely vaccination, in your opinion, would be most effective?

1	Informative discussions
2	Social videos on TV
3	Publications in Internet
4	Publications in social media
5	Engagement of community leaders
6	Engagement of religious leaders
7	Events and activities
8	Other (PLEASE SPECIFY)

4.29 In your opinion, how one can influence parents, who refuse to vaccinate their children without medical evidence, so that they change their decision in favor of vaccination?

1	None. They are free to choose.
2	Awareness-raising activities
3	CEI enrolment should not be accessible to children that were not vaccinated unless that is medical justification
4	Administrative measures
5	Legally enforce vaccination of children
6	Other (PLEASE SPECIFY)

4.30 Do parents/pregnant women come to you seeking information about vaccination?

1	Yes
2	No = >*GO TO THE QUESTION # 4.32*

4.31 Please try to remember what types of questions are parents/pregnant women usually interested in?

1	Information on reasons and benefits of vaccination
2	Information about additional vaccines
3	Information on contents of vaccines
4	Information on contraindications to vaccination
5	Information on complications after vaccination
6	Information on companies that manufactured vaccines
7	Information on the country of origin of vaccines
8	Other (PLEASE SPECIFY)
9	I have enough information

4.32 Do you inform parents/pregnant women about probable post-vaccine complications?

1	Да
2	Нет

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for medical providers

SECTION 6. SOURCES OF INFORMATION ABOUT VACCINATION

5.1 Which sources do you have for receiving information about vaccination?
5.2 Which sources of information, in your opinion, are trust worthy?

source of information	5.1	5.2
Information from above-mentioned organizations	1	1
Specialized medical publications, textbooks	2	2
Seminars, competence-enhancement training	3	3
TV/Radio (PLEASE SPECIFY CHANNEL AND NAME OF THE PROGRAM)	4	4
Publications (PLEASE SPECIFY, WHICH ONES)	5	5
Internet (PLEASE SPECIFY, WHICH WEBSITES)	6	6
Social networks	7	7
WHO/UNICEF/CDC/SPECIAL MEDICAL JOURNALS	8	8
Other (PLEASE SPECIFY)	9	9

5.3 Please tell us to the best of your memory, when was the last time you attended a training on vaccination? Please specify the year and the month.
INTERVIEWER PLEASE PUT 0 IF THE RESPONDENT HAS NEVER PARTICIPATED THE TRAINING ON VACCINATION

_____

5.4 Do you need training on effective methods of delivering information and persuading?

1	Yes
2	No

5.5 What type of training would you prefer the most?

1	Online training
2	On-site training
3	Coaching
4	Other (SPECIFY)

5.6 Which information would you be interested in receiving?
INTERVIEWER, PLEASE MARK EVERYTHING THAT WAS NAMED

1	Information on reasons and benefits of vaccination
2	Information about additional vaccines
3	Information on contents of vaccines
4	Information on contraindications to vaccination
5	Information on reactions/side effects after vaccination
6	Information on vaccine manufacturers
7	Information about country vaccines
8	Information about methods of delivering information and persuading
9	Other (PLEASE SPECIFY)
10	I have enough information

INTERVIEWER, PLEASE THANK THE RESPONDENT AND COMPLETE THE INTERVIEW.

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for medical providers

SECTION 7. TECHNICAL INFORMATION

7.1 Ending date of the interview, day: |____|____| month: |____|____|

7.2 Oblast

1	Batken oblast
2	Jalalabad oblast
3	Osh oblast
4	Naryn oblast
5	Issyk Kul oblast
6	Talas oblast
7	Chuy oblast
8	Bishkek city
9	Newbuild settlements in Bishkek city
10	Osh city

7.3 Rayon_____

7.4 Settlement: _____

7.5 PSU ID _____

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Questionnaire ID: |____|____|____|____| **Interviewer ID: |____|____|____|____|**

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

QUESTIONNAIRE FOR RELIGIOUS LEADERS

Date of the interview, day: |____|____| Month: |____|____|

SECTION 2. AWARENESS ABOUT VACCINATION

INTERVIEWER, READ OUT: In the beginning, I will ask you a few questions about vaccination.

2.1 Please tell us which measures can be used to prevent children from catching dangerous infections, such as tuberculosis, hepatitis, measles, diphtheria, polio etc? *INTERVIEWER, DO NOT READ OUT, PLEASE MARK EVERYTHING THAT WAS NAMED*

1	Compliance with hygiene rules
2	Physical training, cold water training
3	Healthy eating, pure water
4	Vaccination / Vaccination => *GO TO THE QUESTION # 2.3*
5	Immune response-modulating medicine
6	Vitamins / Supplements
7	There are no such ways
8	Other (PLEASE SPECIFY)

2.2 Do you know what vaccination is?

1	Yes
2	Now

INTERVIEWER, IF THE RESPONDENT ANSWERED «NO», PLEASE EXPLAIN THAT VACCINATION MEANS GETTING PREVENTIVE VACCINATION TO PRODUCE IMMUNITY AGAINST DISEASE THAT WILL PREENT CONTRACTION OR REDUCE ITS NEGATIVE IMPACT. ASK THE QUESTION 2.2 AGAIN AND IF THE RESPONDENT DOES NOT KNOW WHAT VACCINATION, VACCINATION, IS PLEASE MOVE ON TO THE QUESTION 2.10

2.3 Why do you think children should be vaccinated? *INTERVIEWER, DO NOT READ OUT. PLEASE MARK ALL THAT WAS NAMED.*

1	To protect children from dangerous diseases and related complications
2	To eliminate of infectious diseases
3	For the child to be accepted to CEI
4	To save life
5	For prevention of the epidemic
6	There was no need
7	I don't know
8	Other (PLEASE SPECIFY)

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for religious leaders

2.4 Which diseases, in your opinion, can be prevented by vaccines?
INTERVIEWER, DO NOT READ OUT, RECORD ALL THAT WAS NAMED
2.5 *INTERVIEWER PLEASE ASK THE FOLLOWING QUESTION FOR ALL DISEASES NOT MENTIONED BY THE RESPONDENT*. **Have you heard that/***NAMEOFTHEDISEASE***/may be prevented by vaccine?**
2.6 Which vaccines are mandatory?

Vaccine-preventable diseases			**B 2.6 Vaccines are mandatory**
	B.2.4 Spontaneous mention	**B. 2.5 Knowledge with a hint**	
Tuberculosis	1	1	1
Hepatitis B	2	2	2
Polio	3	3	3
Measles	4	4	4
Rubella	5	5	5
Tetanus	6	6	6
Diphtheria	7	7	7
Whooping cough	8	8	8
Parotitis (mumps)	9	9	9
Hib (Haemophilus influenzae of type b)	10	10	10
Pneumococcal infection	11	11	11
Hepatitis A	12	12	12
Chickenpox	13	13	13
Meningococcal infection	14	14	14
Human papillomavirus	15	15	15
Seasonal flu	16	16	16
Rabies	17	17	17
Rotavirus infection	18	18	18
Tick-borne encephalitis	19	19	19
Other (PLEASE SPECIFY)	20	20	20
I do not know	88	88	X
There are no such diseases	99 => *GO TO THE QUESTION # 2.9*	99	X

INTERVIEWER, IF B. 2.4 = 88 and B. 2.5=99, GO TO THE QUESTION # 2.9

2.7 In your opinion, are there any other ways of protection from these vaccine preventable disease as effective or even more effective than vaccination?

1	Yes
2	Now => *GO TO THE QUESTION # 2.9*

2.8 Which other methods do you know?

1	Compliance with hygiene rules
2	Physical training, cold water training
3	Healthy eating, pure water
4	Other (PLEASE SPECIFY)

2.9 In your opinion, how high is the risk for your child/children to contact preventable by vaccines if a child is unimmunized? Please assess the level of risk using five-point scale where *one* means no risk, while *five* stands for very high risk. *INTERVIEWER, PLEASE MARK ONLY ONE ANSWER*

1	2	3	4	5

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for religious leaders

2.10 What have you done/will undertake if your child was/will get sick?

1	I will see a pediatrician or go to state medical facility
2	I will go to private medical facility
3	I'll turn to the healer, spiritual healer
4	I'll turn to relatives / friends
5	I will treat my child at home, using available means
6	Look for information on the Internet
7	Other (PLEASE SPECIFY)

INTERVIEWER, IF THE RESPONDENT ASNWERED «NO» TO THE QUESTION 2.2, PLEASE SKIP TO SECTION 6

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for religious leaders

SECTION 3. ATTITUDES TO VACCINATION

3.1 Now I will read several statements. Please state to which degree you would agree with each one of these statements.

INTERVIEWER,PLEASE SHOW CARD #1. PLEASE MARK ONLY ONE RESPONSE IN EACH LINE

#	Statement	Strongly agree	Likely to agree	No opinion / It does not matter	I'd rather disagree	Strongly disagree
3.1.1	Vaccination is essential for my child	1	2	3	4	5
3.1.2	My child may contract dangerous disease if he/she does not get vaccinated	1	2	3	4	5
3.1.3	Vaccination is essential to prevent spreading diseases in our society	1	2	3	4	5
3.1.4	Vaccines are safe for my child's health	1	2	3	4	5
3.1.5	Vaccination benefits outweigh its side effects /reactions	1	2	3	4	5
3.1.6	Vaccination is effective in preventing child diseases	1	2	3	4	5

3.2 Do you have any doubts on vaccinating children?

INTERVIEWER PLEASE DO NOT READ. SEVERAL ANSWERS MAY BE MARKED

1	I don't have any doubts on vaccinating children
2	Children receive too many vaccines during the first two years of their life
3	Vaccines may cause unwanted reactions
4	Vaccines may weaken the child's immune system
5	Vaccines may cause diseases
6	Vaccine components are not safe
7	Vaccines' long-term impact on the human's body has not been studied
8	Vaccination goes against my religious believes
9	Quality of vaccines used in our city/village is poor
10	Other (PLEASE SPECIFY)

INTERVIEWER, IF RESPONDENT IN THE QUESTION # 3.2 HAS NAMED ANSWER 3 or 5, PLEASE ASK QUESTION # 3.3

3.3 Which reactions, in your opinion, may be caused by a vaccine?

1	Skin reaction in the injection site – redness, induration
2	Fever, fatigue
3	Headache
4	Allergic reaction
5	Anaphylactic shock
6	Nausea, diarrhea
7	Other (PLEASE SPECIFY)

INTERVIEWER, IF RESPONDENT IN QUESTION 3.2 HAS NAMED ANSWER 5 AND IN QUESTION 3.3 HAS NAMED ANSWER 7, PLEASE ASK QUESTION 3.4

3.4 Please tell us what sources you got the information from?

_____

INTERVIEWER, IF RESPONDENT HAS NAMED ANSWER 8 IN QUESTION 3.2, PLEASE ASK QUESTION 3.4.1

3.4.1 Please explain which religious canons/postulates vaccination contradicts to?

_____

_____

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for religious leaders

3.5 Have you or your relatives/friends/ acquaintances heard about cases of unwanted reactions in children caused by vaccination?

1	Yes
2	Now => *GO TO THE QUESTION # 3.7*

3.6 Please specify what were there unwanted reactions?

1	Skin reaction in the injection site – redness, induration
2	Fever, fatigue
3	Headache
4	Allergic reaction
5	Anaphylactic shock
6	Nausea, diarrhea
7	Other (PLEASE SPECIFY)

3.7 Have you or your relatives/acquaintances faced situations when the child was sick because he/she was not vaccination?

1	Yes
2	Now => *GO TO THE QUESTION # 3.9*

3.8 Specify which disease was it?

1	Tuberculosis
2	Hepatitis B
3	Polio
4	Measles
5	Rubella
6	Tetanus
7	Diphtheria
8	Whooping cough
9	Parotitis (mumps)
10	Hib (Haemophilus influenzae of type b)
11	Pneumococcal infection
12	Other (PLEASE SPECIFY)

3.9 There are people/groups of people that refuse from vaccinating their children. What do you think about such decision? *INTERVIEWER, PLEASE READ OUT AND MARK THE ANSWER ACCORDINGLY*

1	I do not agree.
2	I do not care.
3	I agree with them.
4	Other (PLEASE SPECIFY)

3.10 Please tell us the reasons for parents deciding not to vaccinate their children?

1	It is not necessary since the child is not sick
2	They fear reactions that may be caused by vaccination
3	They don't trust the quality of vaccines
4	Religious reasons
5	Other (PLEASE SPECIFY)

INTERVIEWER, IF RESPONDENT HAS NAMED ANSWER 4, PLEASE ASK QUESTION 3.10.1

3.4.1 What do you think which religious canons/postulates they are (parents) guided when refusing vaccination?

_____

_____

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for religious leaders

3.11 In your opinion, how one can influence parents, who refuse to vaccinate their children without medical evidence, so that they change their decision in favor of vaccination?

1	None. They are free to choose.
2	Only awareness-raising activities
3	CEI enrolment should not be accessible to children that were not vaccinated unless that is medical justification
4	Administrative measures
5	Legally enforce vaccination of children
6	Other (PLEASE SPECIFY)
7	There are no such methods => *GO TO THE QUESTION # 3.13*

3.12 In your opinion, who can influence individuals, who refused to vaccinate their children?

1	Relatives
2	Friends/acquaintances
3	Healthcare providers
4	Community leaders (female councils, seniors/aksakals and so on)
5	Religious leaders
6	Other (PLEASE SPECIFY)

3.13 Which types of activities targeted on raising awareness of parents about importance of timely vaccination, in your opinion, would be most effective?

1	Informative discussions
2	Social videos on TV
3	Publications in Internet
4	Publications in social media
5	Engagement of community leaders
6	Engagement of religious leaders
7	Events and activities
8	Other (PLEASE SPECIFY)

3.15 Do you trust healthcare workers administering vaccines? Rate on a five-point scale, where 1 – Fully trust, 5 – Do not trust at all. *INTERVIEWER, PLEASE SHOW CARD #3*

1	Fully trust
2	Rather trust
3	I don't have an opinion
4	Rather not to trust
5	Do not trust at all

3.16 Do you trust quality of vaccines? Rate on a five-point scale, where 1 – Fully trust, 5 – Do not trust at all. *INTERVIEWER, PLEASE SHOW CARD #3*

1	Fully trust
2	Rather trust
3	I don't have an opinion
4	Rather not to trust
5	Do not trust at all

3.17 Do others come to you for advice/information in regards to child vaccination?

1	Yes
2	Now => *GO TO THE QUESTION # 3.19*

3.18 Please describe the problems/types of requests for information that others would appeal to you for?

_____

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for religious leaders

3.19 Do you will advise to do vaccination?

1	Yes
2	No
3	I do not know, to the discretion of parents

3.20 Do you have children under age of five living in your household?

1	Yes
2	No => *GO TO THE SECTION 5*

3.21 Were all your children aged 0-5, have been immunized based on their age?

INTERVIEWER, PLEASE READ OUT AND MARK THE ANSWER ACCORDINGLY

1	The child is fully vaccinated / All children are fully vaccinated *=> GO TO QUESTION 4.10*
2	The child is partially vaccinated / All children are partially vaccinated
3	The child was not vaccinated / All children were not been vaccinated
4	There are fully vaccinated children and partially vaccinated children
5	There are fully vaccinated children and unvaccinated vaccinated children
6	There are partially vaccinated children and unvaccinated vaccinated children

4.5 Please tell us why the child/children was/were not fully vaccinated /not vaccinated.

1	Exemption for medical reasons. The doctor has postponed / canceled the vaccination
2	The child got sick, I decided to postpone / cancel the vaccination
3	I do not know where I can vaccinate children
4	I don't have time to visit the vaccination facility
5	We don't have a residence registration, they don't register child in the medical facility
6	It is not necessary since the child is not sick
7	I am afraid of unwanted reactions
8	I do not trust the quality of the vaccine
9	Religious reasons
10	We will not be affected by the disease
11	Other reason (PLEASE SPECIFY)

4.5.1 Will you vaccinate your child / children?

1	Yes. I will vaccinate for sure
2	Yes, I will vaccinate if there won't be any medical evidences otherwise.
3	I will have my children partially vaccinated
4	Most likely will
5	Most likely will not
6	No. I will not vaccinate child/children.
7	Other (please specify)

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for religious leaders

SECTION 5. SOURCES OF INFORMATION ABOUT VACCINATION

5.1 Which sources do you have for receiving information about vaccination?
5.2 Which sources do you trust? *INTERVIEWER, PLEASE SHOW CARD #4*

	Source of information	**5.1**	**5.2**
1	Medical workers	1	1
2	Relatives in direct descent (parents, spouse, etc.)	2	2
3	Friends/acquaintances	3	3
4	Public organizations	4	4
5	Religious leaders	5	5
6	TV/Radio (PLEASE SPECIFY CHANNEL AND NAME OF THE PROGRAM)	6	6
7	Publications (PLEASE SPECIFY, WHICH ONES)	7	7
8	Internet (PLEASE SPECIFY, WHICH WEBSITES)	8	8
9	Social networks	9	9
10	Healers, spiritual healers	10	10
11	Events, initiatives	11	11
12	Other (PLEASE SPECIFY)	12	12

5.4 Which information would you be interested in receiving? *INTERVIEWER, PLEASE MARK EVERYTHING THAT WAS NAMED*

1	Information on reasons and benefits of vaccination
2	Information about additional vaccines
3	Information on contents of vaccines
4	Information on contraindications to vaccination
5	Information on reactions/side effects after vaccination
6	Information on vaccine manufacturers
7	Other (PLEASE SPECIFY)
8	I have enough information

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for religious leaders

SECTION 6. INFORMATION ABOUT THE RESPONDENT

INTERVIEWER PLEASE READ OUT: **In the end I will ask you several questions about you.**

6.1 *INTERVIEWER, PLEASE MARK THE GENDER OF THE RESPONDENT*

1	Man
2	Woman

6.3 Please tell us about your current marital status

1	Registered marriage
2	Non-registered marriage
3	Divorced
4	Widow (widower)
5	Have never been married before

6.4 What is your full age?_____

6.5 What ethnicity do you attribute yourself to?

1	Kyrgyz
2	Uzbek
3	Russian
4	Other (PLEASE SPECIFY)

6.6 What is your education level? *INTERVIEWER, PLEASE MARK ONLY ONE ANSWER*

1	Does not have elementary degree (illiterate)
2	Elementary degree
3	Basic general degree
4	Secondary (full) degree
5	Primary vocational/technical school
6	Secondary vocational/technical school
7	Higher education (incomplete) degree

6.7 Please tell us nature of your occupation. *INTERVIEWER, PLEASE MARK ONLY ONE ANSWER*

1	Contract-based work at a company or at an institution
2	Contract-based work for individuals
3	Formal employment contract
4	Self-employed
5	Engaged in own agricultural business
6	Student/Trainee
7	Retired
8	Housewife/Handle household chores
9	Unemployed
10	Other (please specify)

6.8 Which religion do you relate yourself? *INTERVIEWER, PLEASE MARK ONLY ONE ANSWER*

1	Islam => *GO TO THE QUESTION # 6.8.1*
2	Christianity => GO TO *THE QUESTION # 6.8.2*
3	Other religion (PLEASE SPECIFY) => GO TO *THE SECTION 7*

6.8.1 Can you please clarify, which stream of Islam do you relate yourself?

_____

GO TO *THE SECTION 7*

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

Questionnaire for religious leaders

6.8.2 Please, specify, which denomination do you attribute yourself to?

_____

SECTION 7. TECHNICAL INFORMATION

7.1 Ending date of the interview, day: |____|____| month: |____|____|

7.2 Oblast

1	Batken oblast
2	Jalalabad oblast
3	Osh oblast
4	Naryn oblast
5	Issyk Kul oblast
6	Talas oblast
7	Chuy oblast
8	Bishkek city
9	Newbuild settlements in Bishkek city
10	Osh city

7.3 Rayon_____

7.4 Settlement: _____

7.5 PSU ID _____

7.6 Geographical coordinates of the household: latitude: |__|__| . |__|__|__|__|__|
longitude: |__|__| . |__|__|__|__|__|

Codes for non-responses: «-7» - Refuse to answer, «-8» - Not applicable, «-9» - Difficult to answer

Questionnaire ID: |____|____|____|____| **Interviewer ID: |____|____|____|____|**

Knowledge, attitudes, & practices towards immunization in Kyrgyzstan

QUESTIONNAIRE FOR RELIGIOUS LEADERS

Date of the interview, day: |____|____| Month: |____|____|

SECTION 2. AWARENESS ABOUT VACCINATION

INTERVIEWER, READ OUT: In the beginning, I will ask you a few questions about vaccination.

2.1 Please tell us which measures can be used to prevent children from catching dangerous infections, such as tuberculosis, hepatitis, measles, diphtheria, polio etc? *INTERVIEWER, DO NOT READ OUT, PLEASE MARK EVERYTHING THAT WAS NAMED*

1	Compliance with hygiene rules
2	Physical training, cold water training
3	Healthy eating, pure water
4	Vaccination / Vaccination => *GO TO THE QUESTION # 2.3*
5	Immune response-modulating medicine
6	Vitamins / Supplements
7	There are no such ways
8	Other (PLEASE SPECIFY)

2.2 Do you know what vaccination is?

1	Yes
2	Now

INTERVIEWER, IF THE RESPONDENT ANSWERED «NO», PLEASE EXPLAIN THAT VACCINATION MEANS GETTING PREVENTIVE VACCINATION TO PRODUCE IMMUNITY AGAINST DISEASE THAT WILL PREENT CONTRACTION OR REDUCE ITS NEGATIVE IMPACT. ASK THE QUESTION 2.2 AGAIN AND IF THE RESPONDENT DOES NOT KNOW WHAT VACCINATION, VACCINATION, IS PLEASE MOVE ON TO THE QUESTION 2.10

2.3 Why do you think children should be vaccinated? *INTERVIEWER, DO NOT READ OUT. PLEASE MARK ALL THAT WAS NAMED.*

1	To protect children from dangerous diseases and related complications
2	To eliminate of infectious diseases
3	For the child to be accepted to CEI
4	To save life
5	For prevention of the epidemic
6	There was no need
7	I don't know
8	Other (PLEASE SPECIFY)

United Nations Children's Fund (UNICEF)
160, Chui Ave., 720040, Bishkek
Kyrgyz Republic
Telephone: 996 312 611 211 + ext.

Lenina 74, Osh, Kyrgyzstan
Telephone: 996 3222 26641

bishkek@unicef.org
wwww.unicef.org/kyrgyzstan
www.facebook.com/unicefkg
www.twitter.com/unicefkg
www.instagram.com/unicefkg