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Survey report to identify barriers impeding the implementation of the strategy on integrated management of childhood illness in the Republic of Tajikistan

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Acronyms

ADB	Asian Development Bank
ARI	acute respiratory infection
CEE	central and east Europe
CIS	Commonwealth of Independent States
DPT	Diphtheria Pertussis Tetanus
GBAO	Gorno Bahakhshan Autonomous Oblast
IMCI	Integrated Management of Childhood Illness
JICA	Japanese International Cooperation Agency
OPV	oral polio vaccine
ORS	oral rehydration salt
PHCL	primary health care level
PRSP	poverty reduction strategy paper
RHC	rural health centre
RRS	Region of Republican Subordination
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
USAID	Agency for International Development of the United States

Summary

The aim of the ongoing reform of the health care system in Tajikistan is to improve the quality, accessibility and cost–effectiveness of health services to the population, including children.

The introduction to primary health care facilities of the strategy for Integrated Management of Childhood Illness (IMCI) will facilitate the proper management of childhood illness, ensure optimum combined treatment of all major diseases, improve the quality of advice for care, assist in the conduct of preventive interventions and foster the timely referral of seriously ill children to hospital. The strategy also aims at optimizing the quality of care delivered by primary health care outpatient facilities. In the home, the IMCI strategy promotes the establishment regular behavioural patterns for parents and other family members as carers of both healthy and sick children, improved nutrition and disease prevention and appropriate management of the treatment prescribed.

The Ministry of Health has recognized the IMCI strategy as a basis for providing health care for children through primary health care and has issued a number of orders endorsing it (No. 170 of 07 June 2000 and No. 678 of 30 December 2005).

Various activities have been carried out to support the IMCI strategy at the level of outpatient facilities. Meanwhile, an analysis of the introduction of the strategy in pilot districts by the staff of the Ministry of Health and the National IMCI Centre has revealed the presence of some local problems. The Ministry and representatives of donor organizations gathered to discuss, argue and explain the existing challenges in this area. It should be noted that, so far, no studies have been conducted in Tajikistan that would analyse the effectiveness of IMCI implementation or the obstacles to it or to identify the key elements of sick children management, taking into account the availability of the necessary equipment, medicines, vaccines and other supplies at facility level. The Ministry of Health, the WHO office in Tajikistan, the WHO Regional Office for Europe and the United Nations Children's Fund (UNICEF) have therefore decided to plan and conduct such a survey.

The survey has been carried out to determine the main barriers at the level of primary health-care facilities to the introduction of the IMCI strategy in Tajikistan. An expert group attached to the Ministry of Health has identified two survey pilot regions: Khatlon province and districts of the Region of Republican Subordination (RRS).

Sampling of health facilities was conducted pursuant to the procedure described in the WHO health facility survey. The questionnaires recommended for the study were translated into the Russian and Tajik languages and tested. The data analysis was done using EpiInfo software. The professionals involved in the survey received special training. The survey was conducted from 1 to 11 July 2009. During the survey six focus group discussions took place with health professionals, child carers and health authority managers.

The survey covers 60 health facilities (30 health facilities in Khatlon region and 30 health facilities in RRS) of all types of primary health-care facilities, namely 1 Family Health Centre, 2 District Health Centres, 18 Rural Health Centres and 39 Medical Centres. The total number of children enrolled in the survey was 300, aged from 2 months to 5 years old, including 41 children under the care of family doctors, 99 examined by paediatricians, 89 under the care of nurses and 71 seen by medical assistants.

Brief description of priority indicators for assessment of the quality of case management of sick children under 5 years

- **Assessment of the status of the child**
  - Checks for all three general danger symptoms: 29.7%.
  - Checks for the three main symptoms (cough, diarrhoea and fever): 41.7%.
  - Nutritional status on the basis of weight and use of a child-growth chart: 43.7%.
  - Vaccination status verified: 35.7%.
  - Out of the 10 steps of the "gold standard" of re-examination under the IMCI strategy, on average 6.5 are performed for each sick child.
  - Children under 2 years old whose mothers were asked about breastfeeding, complementary feeding and feeding practices during illness: 50.6%.
- **Classification establishment**
  - The classifications and diagnoses established by health workers and researchers matched in 72.2% of cases.
- **Treatment of sick children**
  - Oral antibiotics were correctly prescribed in 30.7% of cases.
  - Almost half (47.8%) of the carers were consulted about additional liquids and food during the illness.
- **Extent of mothers' knowledge**
  - Half (53.5%) of mothers whose children had been prescribed oral rehydration salt (ORS) were able to describe correctly the procedure for administering an ORS solution to their children.
  - At interview, 45% of mothers were able to answer correctly how to administer antibiotics to their children.
- **Arrangements for the referral of sick children to hospital**
  - 20% of sick children needing treatment in a hospital setting have been referred to hospital.
- **Availability of equipment and drugs on day of survey**
  - On average, each health facility had three out of the five major oral medications.
  - All 60 health facilities had ORS packs.
  - Availability index of the essential vaccines was 1.1 (the arithmetic mean of indices from all the health facilities was 4).
  - One third of the health facilities had a full set of vaccination equipment and supplies.
- **Programme sustainability**
  - Health facilities where more than 60% of health workers have been trained in the IMCI strategy: 36.6%.
  - Health facilities where there was at least one supervisory visit over the past six months which included monitoring the case management of a sick child is 13.3%.

The supplementary indicators have also been calculated, which is helpful in assessing in detail the situation in the health facilities involved in to the survey. Based on these data, a detailed analysis and with developed recommendations developed with a view to enabling the health care system to improve mother and child health services in primary health facilities, including the

case management of sick children, providing the necessary equipment, medicines and supplies, enhancing the practice of supervisory visits and addressing human resource issues.

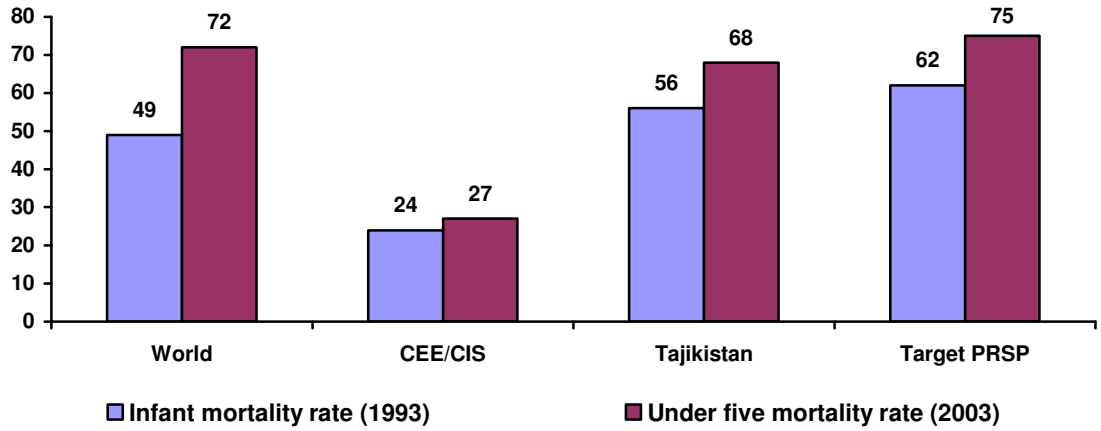
1. Health status of the child population of Tajikistan

In Tajikistan, the reform of the health system has been of crucial importance. The procedures for mother and child health have changed significantly. The material and technical base of child health facilities has been upgraded.

Nonetheless, the infant mortality rate in Tajikistan is high (it is estimated to be 65 per 1000 live births, while mortality rate of children under 5 is about 79 per 1000 live births); this is a major problem in the health system.

Financial improvements, radical measures taken to reduce poverty, the implementation of social programmes and the full support of the Ministry of Health for the IMCI strategy have contributed to the improvement of health service delivery to the child population in primary health care. According to recent data, child mortality in general decreased over the period 1993–2006, but the infant mortality rate and the mortality rate of children under five are still very high; they are double the average rates for the central and east European countries (CEE) or the Commonwealth of Independent States (CIS).

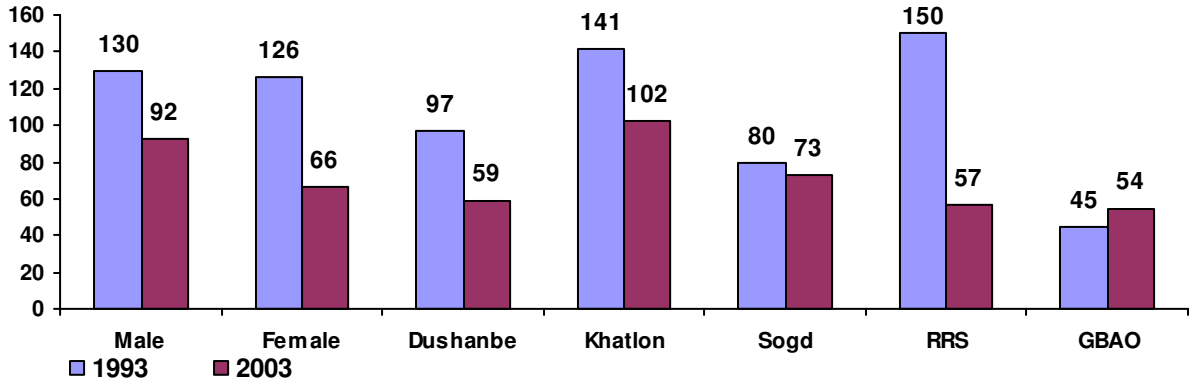
Fig. 1 Ratios of infant mortality and mortality of children under 5 in Tajikistan compared to other CEE/CIS countries (per 1000 live births)



Source: UNICEF. Child mortality. *The state of children and women in Tajikistan. Comparative analysis of MICS 2000 and MICS 2005 results,* Dushanbe, 2008: 9–12.

There have been some improvements in survival rates, but they vary considerably across regions and districts (Figs. 1 and 2). According to the MICS2000 and 2005 data, the best performance was observed in the RRS, where both the infant mortality rate and the mortality rate of children under 5 went down by more than a half. At the same time, children living in Gorno-Badakhshan Autonomous Oblast (GBAO) were more vulnerable. In this region, the indicators increased by approximately 10 deaths per 1000 live births. Even with this increase however, the child mortality rate in GBAO remains lower than the average in Tajikistan.

Fig. 2 Mortality rates of children under 5 (per 1000 live births) in Tajikistan

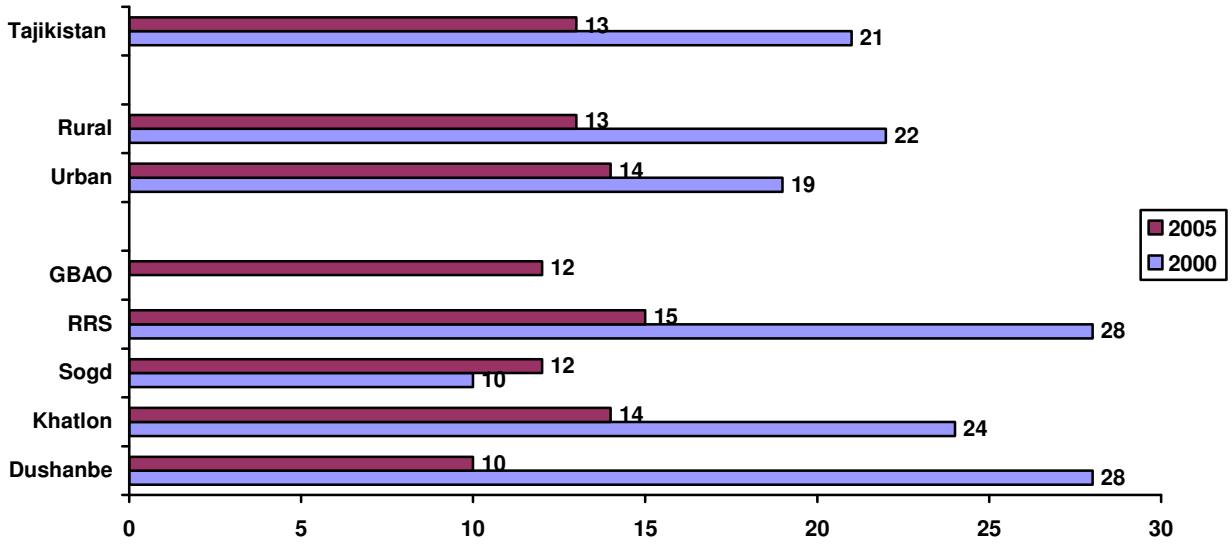


Source: UNICEF. Child mortality. *The state of children and women in Tajikistan. Comparative analysis of MICS 2000 and MICS 2005 results*, Dushanbe, 2008:9–12.

The lowest mortality rates for infants or children under five are in Dushanbe city and GBAO, while the figures for Khatlon province are much higher than the national average. Children who live in urban areas are in a better position than those in rural areas. There is a considerable difference between the mortality rates for boys and girls on both indicators: for example, the infant mortality rate among boys, at 20–25 deaths per 1000 live births, is higher that than among girls. Child mortality is closely linked with poverty and the mother's level of education. In particular, the probability of death of children living in the most affluent households (40%) is almost one third lower than in the country as a whole. Moreover, the higher the mother's educational level the lower the probability of death of the child. The mortality rate is six to seven times higher among children whose mothers have no education or only primary education.

The main cause of infant and child mortality is infectious diseases, amounting to 58.8% of deaths from infectious diseases in the post-neonatal period. According to official data, the incidence of diarrhoea in children under 5 in 2006 was 12 949.6 per 100 000 children (13%) and the mortality rate 0.4 per 1000 cases. In 2006, the incidence of acute respiratory infections (ARI) was 34 732.2 per 100 000 children, while the mortality rate was 0.9 per 1000 cases (data of health sector statistics). According to reports by the Ministry of Health and the data from the Tajik State Statistics Committee, infant mortality from respiratory infections was 40%.

Fig. 3 Prevalence of diarrhoea, Tajikistan, 2000–2005



Source: UNICEF. Diarrhoea, acute respiratory infections and the integrated management of childhood illnesses. *The state of children and women in Tajikistan. Comparative analysis of MICS 2000 and MICS 2005 results*, Dushanbe, 2008:26–27.

In 2000–2005 the overall prevalence of diarrhoea decreased from 21% to 13%.

Key findings:

- The situation with child mortality in the Republic of Tajikistan is improving. Thus, over the period 1993–2006, the infant mortality rate declined by more than 1.5 and the mortality rate of children under 5 fell by nearly a half.
- Improvements in performance across regions and districts are uneven. The best indicators are recorded in the RRS, where the infant mortality rate and the mortality rate of children under five has more than halved. The highest mortality rates are in Khatlon province, although even there some improvement has been achieved, particularly in terms of mortality in children under five.
- Despite significant improvements in infant mortality and the mortality rate of children under five, children living in rural areas are more vulnerable than children living in urban areas.
- There is a significant difference between the probability of mortality among boys and girls on both indicators. Infant mortality is higher among boys than among girls and accounts for 20–25 deaths per 1000 live births.
- Child mortality is closely linked with poverty rate and the mother's educational level. The probability of death of children in wealthy families is almost one-third lower than in the country as a whole and the higher the educational level of mother, the lower the probability of a child's death.

2. History of implementation of the strategy for Integrated Management of Childhood Illness in Tajikistan

An analysis of the global burden of diseases conducted by WHO in 1996 indicated that such diseases as pneumonia, ARI and diarrhoea, would remain the major causes of child mortality , up to 2020, if no necessary efforts to control them are taken (WHO, 1998). Since these are precisely the diseases to which children in Tajikistan are mainly exposed, it was decided to initiate the implementation of IMCI strategy in Tajikistan and in 1999 the WHO Regional Office for Europe and the Ministry of Health of Tajikistan commenced joint work to that end. Given the lack of any experience with the IMCI strategy in the European Region, a pilot approach developed at an international meeting on the IMCI strategy held in Copenhagen in July, 1997 was adopted. First, the Working Group on ARI and diarrhoeal diseases adapted all the IMCI modules. Given that the implementation of the IMCI strategy is a long-term policy tying in with general health-care reform, the adaptation was introduced on a systematic basis, in conjunction with programmes to improve maternal and child health, nutrition, child growth and development, and measures to reduce communicable diseases and ensure the sustainability of such reduction. The Working Group was composed of professors of medical colleges, health administrators and clinicians working at different levels of the health system. The adaptation of training materials for the clinical course on an outpatient basis was completed before the start of the first training course. In 2001, an orientation meeting was held at the national level, at which a plan for implementing the strategy in Tajikistan was developed. In the same year, the first national training course was conducted, with the participation of representatives of the Ministry of Health, a professor of the paediatrics department of the Tajik State Medical University and practitioners from the pilot Rudaki and Varzob districts. The WHO Regional Office for Europe took some steps to provide financial and technical support to the adaptation process and planning for the implementation of the IMCI strategy in Tajikistan. At every meeting of the Regional Office on the subject, efforts were made to attract financial and technical assistance from donors for the implementation of IMCI first in pilot areas and then on a national scale.

In 2002, seminars started to be held in the two pilot regions. Since 2003, training has been scaled up, reaching other regions and districts of Tajikistan. In the same year, as part of the implementation of the strategy, specialists were given training in follow-up supervision of the trained health workers.

Over the period from 2003 to 2009, when implementing the strategy, the Ministry of Health received financial and technical assistance from such international organizations as UNICEF, WHO, the United States Agency for International Development (USAID) with its ZdravPlus projects, The Mercy Corps, Save the Children, Pharmaciens Sans Frontières Comité International, CARE International, the Aga Khan Foundation, the Japanese Fund for Poverty Reduction, the Japanese International Cooperation Agency (JICA), Action Against Hunger and the Asian Development Bank (ADB). In addition to international organizations, the local Family Physicians' Association and the nongovernmental organizations Zilola and Samo were involved in the implementation of IMCI.

Particular attention is paid to the process of introducing IMCI into the curricula and programmes of higher and secondary educational medical institutions. In February 2009, a training workshop was conducted by professors and lecturers of the Tajik State Medical University, and the same workshop was held for staff of the Tajik Postgraduate Medical Institute in April 2009. Participants were trained in methods of teaching students the IMCI strategy.

Organizations such as UNICEF and JICA provided the country with medicines listed as essential for the IMCI strategy. UNICEF supplied low osmolarity ORS and zinc tablets to meet the demand of all the country's primary-care health facilities. JICA provided antibiotics, fast-acting bronchodilators, syringes, needles, paracetamol and ORS powder. This improved the supplies of medicine available to health facilities and the quality of care delivered to children. JICA plans to provide such assistance until 2013, gradually delegating this responsibility to the Ministry of Health. Pharmaceuticals are supplied to all primary-care health facilities, the distribution mechanism is being coordinated through the National IMCI Centre of the Ministry of Health. Medications are distributed on the basis of estimated demand submitted by regional IMCI centres.

Implementation of the IMCI strategy in Tajikistan is supported by the following regulatory documents:

1. Order of the Ministry of Health of Tajikistan, No. 170, of 7 June 2000, Introduction of the WHO/UNICEF IMCI in the pilot districts of Varzob and Rudaki of the Republic of Tajikistan.
2. Order of the Ministry of Health of Tajikistan, No. 282, of 11 September 2000, on Reorganization of the National Centre for combating acute respiratory infections and diarrhoeal diseases in the National IMCI Centre.
3. Charter of the National IMCI Centre, 1 June 2001.
4. Order of the Ministry of Health of Tajikistan, No. 678, of 30 December 2005, on Improvement of services in the field of protection and improvement of child health in the Republic of Tajikistan.
5. Protection of Natural Feeding Act of 22 December 2006.
6. Youth Health Development Programme in Tajikistan for 2006–2010.
7. National strategy on child and adolescent health to 2015, as approved by Governmental resolution of 2 July 2008.
8. Order of the Ministry of Health of Tajikistan, No. 664, of 26 November 2008, on prevention of diarrhoeal diseases and the oral rehydration activities.
9. Ministry of Health Coordination Action Plan on child and maternal nutrition for 2009.
10. Order of the Ministry of Health of Tajikistan, No. 45, of 30 January 2009, on Introduction of the new WHO Child Growth Standards for children under 5.
11. Order of the Ministry of Health of Tajikistan, No. 396, of 14 June 2009, on Approval of guidelines for the prevention of micronutrient deficiencies.

It is clear that these legal documents fully support the basic principles of the IMCI strategy with a view to introducing the IMCI strategy Tajikistan and achieving it targets. For example, section 5.2 of the National Strategy on child and adolescent health to 2015 notes that "prevention and timely and adequate treatment of infectious diseases will be conducted in accordance with the IMCI strategy", while section 3 of the document states that "by 2010, the IMCI strategy will be fully implemented throughout Tajikistan". Furthermore, the mechanisms of implementing activities relating to children from birth to 5 years specifically take into account all three components of the IMCI strategy.

Particular mention should be made of the Ministry of Health order on the establishment of IMCI centres at national and local levels, namely the National IMCI Centre and a city IMCI centre in Dushanbe, with three regional centres (in Sogd, Khatlon and GBAO) and 65 district centres. These centres coordinate the implementation of the IMCI strategy at the national, provincial and district levels.

Interventions under Component 3 take place with the involvement of various groups of people. Four-day training courses on the care of sick and healthy children at home are attended by visiting nurses, volunteers, representatives of religious communities and local authorities (jamoats). The staff of IMCI centres at all levels have developed various leaflets, information sheets and other educational material that are distributed to the public. This material contains information about the basic elements of care for sick children. In addition, videos have been produced on the basis of IMCI in which carers are taught to identify dangerous signs of various diseases, to prepare an ORS solution or administer oral medication and are instructed in the rules of breastfeeding.

Monitoring is integral to the implementation of the strategy. Follow-up observations are carried out by trained professionals, usually a month to six weeks after training has been given in the workplace. Experience has shown that training health service providers does not guarantee the application of the knowledge acquired. Follow-up observations have shown that, although many health professionals apply their skills in practical work, they do not always adhere to the ICMI principles of sick child management, the main reasons being lack of motivation, outdated thinking on the part of health workers and a shortage of the necessary facilities and equipment.

Notwithstanding interventions described above, there has been no comprehensive study of the effectiveness of implementing the IMCI strategy or of the barriers to implementation. For that reason, the Ministry of Health, the WHO Country Office in Tajikistan, the WHO Regional Office for Europe and UNICEF have initiated such a study.

3. Goals and objectives of the study

- The aim of the study was to identify the main barriers to the implementation of the ICMI strategy at the level of primary health care and to present findings, conclusions and recommendations on the removal of such barriers at every level.

Objectives:

- Analyse the state of health services for children and the regulatory framework at various levels of the health system (national, provincial and district, health facilities at the primary and secondary levels) in the context of the IMCI strategy.
- Assess the management of sick children under 5 years old in the framework of the IMCI strategy, including work on child development.
- Evaluate available equipment of primary health care (PHC) health facilities in the areas surveyed.
- Identify the problems relating to the provision of drugs under the IMCI strategy.
- Establish, through interviews and focus-group discussions with health professionals, the difficulties associated with putting new skills into practice.
- Identify the barriers to the sustainability of the IMCI strategy at various levels.

4. Research methodology

4.1. Basis of selection of regions

Specialists from the Ministry of Health, UNICEF and WHO were requested to conduct a survey in three districts of Khatlon province and three RRS districts. Taking In view of the fact that, under the country's administrative division's some areas come directly under government authority, three districts were merged into one unit – the RRS for comparison with Khatlon province. These regions were chosen because they were where the IMCI strategy was launched in 2003.

The rationale was that, by identifying the barriers to the implementation of the IMCI strategy in two different regions of the Republic, where different approaches were used, and by analysing the situation, researchers would gain the fullest possible on and could make appropriate recommendations on the successful implementation of the strategy.

4.2. Sample of health facilities

The sample of health facilities was conducted pursuant to procedures described in the WHO health facility survey. The Ministry of Health supplied a list of all primary care health facilities providing services to children under 5 years old. Outpatient health care to children is delivered by health facilities of various types, such as rural health centres, republican medicine centres, family health centres and medical centres. Following the method described in the survey manual, the number of facilities of each type was calculated. Then, using the random sampling technique described in the survey manual, 60 health facilities were selected (30 in Khatlon province and 30 in the RRS). More detailed information is presented in Table 1 and Annex 2.

Table 1

Health facility	**Khatlon province**			**RRS**			**Total**
	Vakhsh	Javan	Sarband	Hissar	Rudaki	Vahdat	
Rural health centre	4	4	1	3	3	3	18
Medical centre	9	9	1	2	10	8	39
Family Health Centre	1						1
District Health Centre		1				1	2
TOTAL	**14**	**14**	**2**	**5**	**13**	**12**	**60**

The plan was to assess a minimum of five cases in each health facility. Thus 150 children would be covered in every region taking part in the study. This sample size would ensure the statistical reliability of the survey with a confidence interval (of 95%).

4.3. Preparing for the survey

A list of preparatory activities for the study was drawn up. A survey consultant and an officer from the WHO Office in Tajikistan kept each other informed about the preparations being made and measures being taken. In Dushanbe, a series of meetings with representatives of the Ministry of Health, The WHO Office in Tajikistan and UNICEF, the Research Institute of Paediatrics and Paediatric Surgery and the Survey Coordinator was held to discuss progress in preparing for the survey, the logistics, the selection of interviewers, training and other issues relating to the study. The goals and objectives of the study were determined, including priority and supplementary

indicators. At the request of UNICEF, the indicator on the availability of ORS powder in health facilities was included. The questionnaires recommended for the survey were adapted for use in Tajikistan and, to eliminate the language barrier, questionnaire No. 2 was translated into Tajik (a questionnaire for conducting an interview with a carer). The finalized version was reproduced in the required quantities (see Appendix 4 for the survey questionnaires) after testing at a practical training session. A specialist in EpiInfo produced the questionnaires in electronic form. The consultant also prepared a list of questions for interviews and focus group discussions. The Ministry of Health issued the relevant ministerial order and provided administrative support in assembling interviewers and conducting fieldwork.

4.4. Training of interviewers

In order to ensure the quality of assessment and data collection, it was decided to employ as interviewers a team of experienced trainers/IMCI monitoring specialists from different regions of Tajikistan, from Dushanbe city and other cities. Despite their experience, these professionals received a three-day training course on how to conduct the study (see Annex 6 for the training programme). The programme described in the health facility survey served as the basis for training. During the course, all the questionnaires and the methodology of the survey were discussed in detail, with practical exercises on filling in the questionnaires. The training was conducted in city family clinic No. 9, Dushanbe. All the interviewers received detailed instructions on completing the questionnaires. A separate session was held for survey teams, at which they discussed their responsibilities and the organizational aspects of field research, interviewing and focus groups. A specialist in the EpiInfo software trained two operators in data entry.

4.5. Conducting the survey

The trained specialists were divided into six teams, with three people in each team (one supervisor and two interviewers). Three teams were directed to Khatlon province and three to the RRS. In order to prevent any conflict of interest, a “cross” method was used: that is, interviewers from the pilot regions and districts included in the study were directed to conduct fieldwork in other areas and the RRS. Each team was provided with transport and questionnaires and assigned the task of assessing 10 health facilities within 10 working days. Thirty hospitals in Khatlon and the RRS were covered by the three teams.

The survey was conducted from 1 to 11 July 2009. During the fieldworks, the survey teams encountered some difficulties. Where, for example, it became clear that the trained health workers at a given health facility retired or were absent for a good reason, the facility was replaced by another, determined according to a prearranged scheme, with a trained health worker. The replacement of health facilities was documented by supervisors. In each health facility, the availability of basic equipment and medicines was assessed, information was collected on attendance, the number of children seen, the number of medical personnel and so on. The surveyors observed the case management of sick children, and talked with children’s carers and experts conducted a second examination of the children concerned. Every day, after the questionnaires had bee filled out, the supervisor checked them for quality and every two or three days the completed questionnaires were sent to Dushanbe for data entry. At the end of the study three focus group discussions involving health workers, caretakers and managers of health authorities were held in Khatlon region and three in RRS.

The data were entered in Dushanbe under supervision of a specialist in the entering and analysis of data. The EpiInfo software (version 3.3.2) was used for entering, tabulating and analysing the data.

5. Survey results

5.1. Descriptive information

The survey covered 60 health facilities (30 in Khatlon province and 30 in the RRS) including 1 family health centre, 2 district health centres, 18 rural health centres and 39 medical centres. In total, 95 health workers were observed for their management or screening of sick children, including 14 family doctors, 34 paediatricians, 23 doctor's assistants and 23 nurses.

During fieldwork, health facilities (HFs) admitted 300 sick children: 150 in Khatlon and 150 in the RRS. Most were screened in medical centres and rural health centres. In accordance with the IMCI strategy, the survey was restricted to children under 5. The children, brought to a health facility were selected for the survey on the basis of five main conditions (coughing or shortness of breath, diarrhoea, fever, malnutrition and ear problems), which are the major causes of morbidity and mortality among children under 5. The data on the number of children by age and sex are shown in Table. 2.

Table 2. Number of children examined

Age	**Khatlon province**		**RRS**		**Total**	
Under 1 year	78	52%	77	51.3%	155	51.8%
1 year old	40	26.6%	42	28%	82	27.3%
2 years old	21	14%	16	10.7%	37	12.3%
3 years old	7	4.7%	9	6%	16	5.3%
4 years old	4	2.7%	6	4%	10	3.3%
Total	***150***	***100%***	***150***	***100%***	***300***	***100%***
Boys	63	42%	80	53.3	143	47.7%
Girls	87	58%	70	46.7%	157	52.3%

5.2. Description of priority and complementary indicators

The data collected during the survey were analysed using the indicators that showed how health workers should comply with the standards for treating sick children. The list of indicators was reviewed and agreed by the survey partners and donors. A UNICEF representative proposed that one complementary indicator should be added to show the availability of ORS powder at health facilities. The indicators made it possible to assess the quality of the treatment given to sick children, the conditions under which they were treated, the classification or diagnosis, the treatment administered for certain conditions and the counselling given to mothers on child care, as well as how much knowledge the mothers had and the availability at health facility level of basic equipment and essential drugs. The survey indicators were divided into two groups (Group 1 – priority indicators and Group 2 – complementary indicators). The priority indicators showed the more important and common elements of sick child management at primary health care level, while the complementary indicators made it possible to analyse in depth every measure taken by the health service provider to the meet standards for management of sick children with the five main symptoms.

The selection of indicators was based on the WHO standard indicators, which assess progress in implementing the strategy in a given region. The indicators were reviewed and selected on the

basis of the training programme and conditions in the country. Indicators were selected to have the following characteristics to measure:

- Progress of important programme elements;
- Quality of integrated programme performance and case management of sick children;
- Implementation of standards for assessment, establishment of classification and treatment of sick children;
- Knowledge of mothers how to care for sick and healthy children;
- Status of basic equipment and supplies.

5.2.1 Priority indicators

Indicators for performance of standards on assessing the condition of the sick child

The number of sick children checked for three general danger signs was 29.7%. Very severe complications of major diseases or symptoms (coughing or shortness of breath, diarrhoea and fever), which often occur in children, are accompanied by these three danger signs: "cannot drink or breastfeed", "vomiting after every meal or drink" and "convulsions". Every health worker who examines a sick child for the preliminary assessment of the child's condition must verify the presence of these dangerous symptoms. This tactic allows early diagnosis of serious conditions and timely intervention.

The proportion of children checked for the presence of the three main symptoms (coughing or shortness of breath, diarrhoea and fever) was 41.7%. Children under 5 years are particularly vulnerable to respiratory diseases and diarrhoea. One common symptom of these diseases is fever. However, a fever can also indicate such serious diseases as meningitis or measles. A health worker carrying out a diagnosis must therefore ask about the presence of these symptoms for the integrated management of a sick child. The other reason to take this approach in assessing a child's condition is that the agents of many diseases can simultaneously cause coughing and diarrhoea.

The proportion of children whose weight was checked against a growth chart was 43.7%. Malnutrition is considered to be one of the main causes of frequent illness and disease complications in children. It leads to lower immunity and the course of the disease is sharper. The probability of fatality is thus increased. It is therefore important to weigh a child visiting a health facility the same day and to analyse progress in anthropometric data such as body weight and height or length of the body. The standards for evaluating a child's physical development include determining weight for age against a recommended growth chart. The indicator determines whether the child was weighed on the day of visiting a health facility and whether a health worker checked the correspondence between weight and age.

The proportion of children who had their vaccination status checked was 35.7%. Verification of a child's immunization status is part of the "gold standard" assessment of a sick child. A health worker examining a child in a health facility must check the child's status for all vaccines, according to the immunization calendar approved by the Ministry of Health.

Index of integrated assessment (mean). Out of 10 assessment tasks that are to be performed for each child, 6.5 were done. "The gold standard" assessment of a child under the IMCI strategy includes the implementation of 10 steps that give the health worker the most important

information about the child. The standard includes skill in assessment (the check for three general danger signs and the three main symptoms, the weighing of the child and the weight checked against a growth chart, the check for the child's vaccination status and the check for palmar pallor in order to ensure an integrated approach to the assessment of the patient.

5.2.2. Indicators for counselling skills of children's carers

The proportion of children under 2 whose mothers were asked about breastfeeding, complementary foods and feeding practices during the current episode of illness was 50.6%. Assessment of feeding practice and making appropriate recommendations, taking into account nutrition problems, are important elements in the management of a sick child. The proper and adequate nutrition of children, particularly in the first two years, is the foundation of their healthy growth and development. Most carers, especially mothers, have difficulty in changing feeding practices after six months of breastfeeding. Lack of awareness of complementary foods or feeding practices and the feeding frequency upset the child and lead to micronutrient deficiencies and deficiencies in fats, proteins and carbohydrates. This condition is exacerbated by each occurrence of disease and leads to serious complications and undesired outcomes. A health worker must therefore question the caretaker/mother to identify nutrition problems and make recommendations on improving the nutrition.

The proportion of caretakers of a child who were advised that during an illness a child needs extra fluids and continued feeding was 47.8%. Nutrition is not only an important element in the growth and development of a healthy child but also a key factor in rapid and complete recovery. When a child is ill, its body needs additional nutrition and fluids. Many mothers with a sick child delay visiting a health facility or health worker, and, while they delay, the child with a reduced appetite is underfed. If the disease is accompanied by fever or diarrhoea, the child lose large amounts of liquid and acute dehydration occurs. The health worker should therefore advise the carer to give extra fluids and feed the child more often than she usually does when caring for a child at home.

The proportion of carers of a child, who were prescribed ORS and knew how to give the treatment was 53.5%. If the carer of a child cannot describe how to give ORS including the amount, the number of times per day and the number of days, a health worker should teach the carer and make sure she understands. The quality of the advice and training given is crucial to increasing caretakers' level of knowledge and skills.

5.2.3. Indicators for evaluating tactics, validity and accuracy of treatment

The proportion of children not needing urgent referral or antibiotics under one or more IMCI classifications, who leave the health facility without having been given or prescribed antibiotics was 65%. The IMCI protocol specifies when to prescribe antibiotics, namely for such diseases as pneumonia, dysentery, staphylococcal pharyngitis and acute ear infection. This indicator shows whether health workers classify a child's condition properly and are able to determine whether the child should be prescribed antibiotics or not. Health workers should avoid unnecessary prescription of antibiotics.

The proportion of children needing referral who were referred to a hospital by the health worker was 20%. One of the main functions of health workers in primary care is to make a correct assessment of urgent symptoms, carry out pre-hospital treatment and refer a sick child to hospital. Correct tactics by medical personnel in such cases are the key to preventing complications and reducing the frequency of deaths.

The proportion of children not needing urgent referral but needing oral antibiotics was 30.7%. Pneumonia, dysentery, staphylococcal pharyngitis and acute ear infection are the diseases that should be treated with antibiotics. Children diagnosed with such diseases should be prescribed by the health worker such an antibiotic such as amoxicillin – the first-line antibiotic in Tajikistan. On examining and counselling the child, medical staff should teach carers how to administer the antibiotic at home and ensure that they know the appropriate dose, frequency and duration.

5.2.4. Indicators for supply of health facilities

The index of availability of essential oral treatments was 3 on the day of the visit (the arithmetic mean for each health facility being 5). The successful management of a sick child depends not only on the correct implementation of standards for assessment and classification but also on the availability of medicines in health facilities, which in turn prompts parents to take their children to the health facility. When examining a child, a health worker should explain to parents how to administer the medicine, for example, and provide the mother with an opportunity to do so. In Tajikistan, the main oral treatment for pneumonia is the antibiotic amoxicillin and for dysentery the antibiotic ciprofloxacin, ORS powder for the preparation of a solution, paracetamol and iron supplements. These five drugs have to be consistently available in a health facility. In other words, the index of availability of essential treatment should equal 5.

The index of availability of injectable drugs for pre-referral treatment on the day of the visit was 2.6 (the arithmetic mean number for each health facility being 4). A child needing urgent hospital treatment should first receive emergency treatment in a health facility. Such children are often in such a severe condition that they cannot take medicine by mouth and should have antibiotics administered intramuscularly. Every health facility should thus have a stock of injectable antibiotics. In Tajikistan, the list of these drugs include, in accordance with the IMCI strategy, penicillin, bicillin, gentamicin and chloramphenicol. Since every health facility should have these essential drugs in stock, the index will equal 4.

The proportion of health facilities having the equipment and supplies to provide full vaccination services on the day of the survey was 33.3%. This indicator shows how many of the health facilities surveyed can provide daily vaccinations. Essential equipment and supplies for vaccination are a refrigerator or cold bag, disposable syringes and needles, and functioning sterilizers for health facilities that lack disposable syringes and needles.

The proportion of health facilities where at least 60% of the health workers working with children are trained in IMCI was 36.6%. The availability of trained health workers in health facilities is one of the main conditions for successful implementation of the IMCI strategy. The health facilities where more than half the health workers are trained in IMCI can apply the new standards of case management faster and more effectively. This indicator also helps managers in the health-care system to plan the training of other health workers.

The proportion of health facilities that had received at least one routine supervisory visit including case observation during the previous six months was 13.3%. Follow-up visits to health workers after training are an integral part of the IMCI strategy implementation. A friendly attitude on the part of supervisors during the visit encourages the more active utilization by the medical staff of new skills. Such supervisory visits should not take form of a visitation by an important official but should focus on monitoring the management of the sick child, making

suggestions, getting feedback on the implementation of skills and providing practical assistance. The indicator reflects the quality and content of supervisory visits by health managers.

5.3 Supplementary indicators

The proportion of sick children seen at a health facility and checked for other problems was 21%. According to the IMCI strategy, full examination of a sick child should not be limited to an assessment of the five main symptoms occurring in children; other chronic diseases may be present. By asking the mother detailed questions, the health workers can establish that the child has other, latent diseases. This indicator reflects the skill of health workers in identifying conditions that a child's that parents may consider secondary.

The proportion of sick children with low birth weight whose nutrition problems were checked was 55.8%. Low weight in children may be due to feeding practices. The parents of any child classified with low birth weight, should be interviewed by health workers to determine feeding practices and the exact nature of the shortcomings in the diet. Having indentified problems, health workers can provide relevant guidance on feeding and nutrition. The indicator enables the IMCI protocol performance in assessing nutritional problems to be evaluated.

The proportion of sick children who had been correctly classified as having low birth weight was 70.5%. The low weight classification is established against a growth chart developed by WHO experts. On the basis of body mass index and age, a health worker should determine whether a child puts on weight proportionally to its age. This indicator identifies how well health workers are able to analyse and interpret graphics growth charts and calculate indices.

The proportion of children whose classification by a health worker corresponds to that established by the expert researcher was 72.2%. Correct classification is the key to successful treatment. One of the objectives of the survey is to assess correctness of classifications made by medical staff on the basis of the identified symptoms. Classifications by health workers were compared with those by researchers re-assessing the condition of the sick child. The indicator reflects the degree to which the two classifications correspond.

The proportion of children with pneumonia who had been correctly prescribed antibiotic treatment was 33.3%. One of the conditions requiring antibiotics is mild pneumonia. When health workers make this diagnosis, they are required to prescribe the first-line antibiotic, amoxicillin. They are also required to explain clearly to the parents how to give the correct treatment, including the amount, the number of times per day and the number of days.

The proportion of children with anaemia who had been correctly prescribed treatment, was 15.5%. A case of anaemia, detected during the examination of the child is treated with iron. It is the health worker's responsibility is to prescribe the proper amount, specifying the number of times per day the and number of days, that it should be taken.

The proportion of children not needing urgent referral but needing antibiotics who received the first dose in the health facility was 20%. Giving medicines in the health facility is an essential element in providing quality health care. Administering medicine in a health facility increases its credibility and, to a certain extent, encourages parents to follow the health worker's advice and recommendations. Another advantage of the health facility administering the first dose of antibiotic during the examination is that carers can be trained.

The proportion of children with a severe illness needing urgent hospital treatment received appropriate treatment and referral was 20%. Administering the first dose of antibiotic in the health facility for children needing urgent referral helps to prevent serious complications, if these have not already developed. Every health facility should be able to react to one of the common danger signs by keeping a stockpile of injectable antibiotics and proper conditions for their administration.

The proportion of children not needing urgent referral to a higher level of the system who had been prescribed and received an antibiotic and/or ORS, and had been given at least two sessions of counselling on their treatment was 72.5%. Counselling improves the knowledge and skills to parents administering medication to their children.

The proportion of children whose mothers received advice on their child's development was 23.3%. This type of assessment and counselling, based on the problems that have been identified, is useful for promoting a child's all-round mental development. During the study, 30 health workers were trained in the skills of assessing and counselling on child development.

The proportion of sick children whose parents were told to return immediately to a health facility on at least three occasions was 74.2%. In counselling parents, a health worker must educate them to recognize danger symptoms on the basis of which they need to revisit a health facility immediately.

The proportion of children not needing urgent hospitalization whose mothers, on leaving the health facility, were issued with a reminder or reported that the health worker had shown them a reminder was 50.8%. Visual information material is used by health workers in counselling mothers. This facilitates the counselling process, increases the parents understanding and aids the transfer of information on child nutrition and the danger signs on the appearance of which, parents should immediately contact the health worker.

The proportion of health facilities having essential equipment and materials was 50%. The availability of essential equipment and supplies affects the quality of health care delivered. Standards for the management of a sick child and IMCI protocols require basic but very important equipment without which it is almost impossible to conduct qualitative assessment and treatment. Thus every health facility should have children's scales, timers/clocks, materials for preparation of ORS solution, medical cards and record forms.

The proportion of health facilities having a booklet for health workers was 90% or instructions for mothers 71.5%. Protocols for the assessment, classification, prescription and management of treatment and consultation stages are described in the IMCI booklet disseminated to health workers during training. It assists the health worker in carrying out the step-by-step procedure of the management of a sick child and not missing important elements of health care. The instructions for mothers are visual aids for mothers and include all key information on dangerous symptoms, follow-up visits by health service providers and child nutrition. These materials contain valuable information for health workers and mothers.

During the training of interviewers, the experts suggested the inclusion of questions about whether children received vitamins A and D and whether iodized salt was used in cooking for the family. Answers to these questions revealed the following:

- Vitamin A was received by 78.3% of the children enrolled in the study.
- Vitamin D was received by 36.3% of the children who visited a health worker on the day of the survey.
- 84.3% of carers said that iodized salt was used in cooking food for the family.

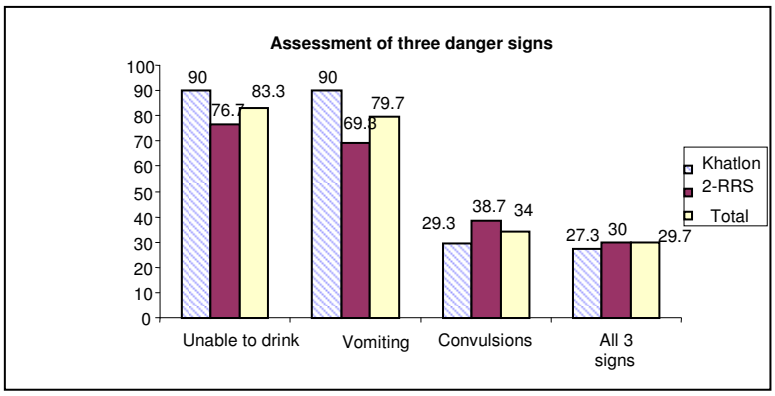
5.4. Analysis and interpretation of the results

5.4.1. Assessment skills

Every health worker who graduates from medical university or medical college has been trained in the management of a sick child, from assessment to treatment. In spite of their theoretical knowledge and practical skills, however, health care workers manage children's cases in different ways. The IMCI strategy, with its protocols for every condition, facilitates the management process and regulates the step-by-step performance of all the "gold standard" issues. The protocols have been designed so as to ensure that a health worker does not miss any aspect of the assessment of a sick child, establishing the classification and identifying the treatment strategy and its implementation. The same principles apply in the assessment of the various conditions associated with coughing, shortness of breath, diarrhoea or fever. The essence of the integrated management of sick children is that the health worker should be able to assess and treat any condition.

The integrated management strategy of sick children at the primary health-care level starts with asking mothers about three general danger signs. The presence of these signs (inability to drink or breastfeed, inability to keep anything down and convulsions), which appear in various forms in many diseases in children, requires urgent medical care from the health service provider. These symptoms can occur in children with coughing/difficulty in breathing, diarrhoea, fever or other conditions. The medical officer must be able to evaluate all three danger signs. Children with such symptoms need treatment at an in-patient facility.

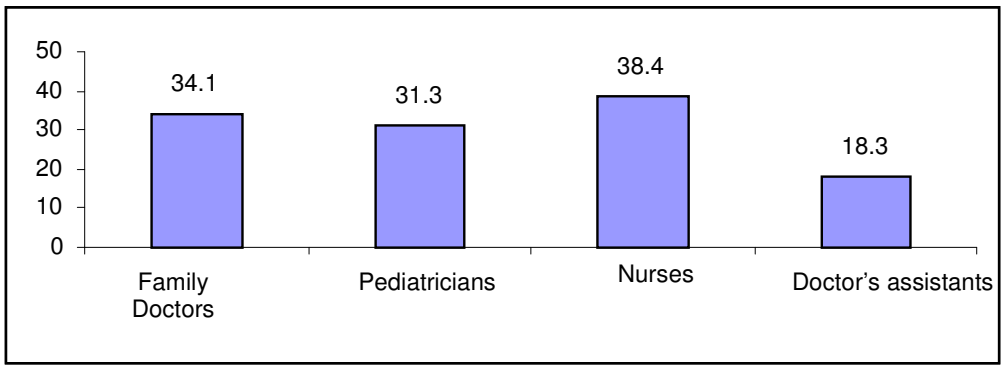
Fig. 4 Health workers who assessed all three general danger signs, %



Taking the symptoms one by one, it was found that the inability to drink or breastfeed was correctly assessed by 83.3% of health workers, vomiting after any feeding or drink was recognized by 79.7% of health workers and convulsions by 34%. However, the standard is regarded to be fully met only when a health worker assesses all three danger signs. The data showed only 29.7% of health workers involved in the study assessed children for all three danger signs, the figures being 27.3% in Khatlon province and 30% in the RRS. The results for

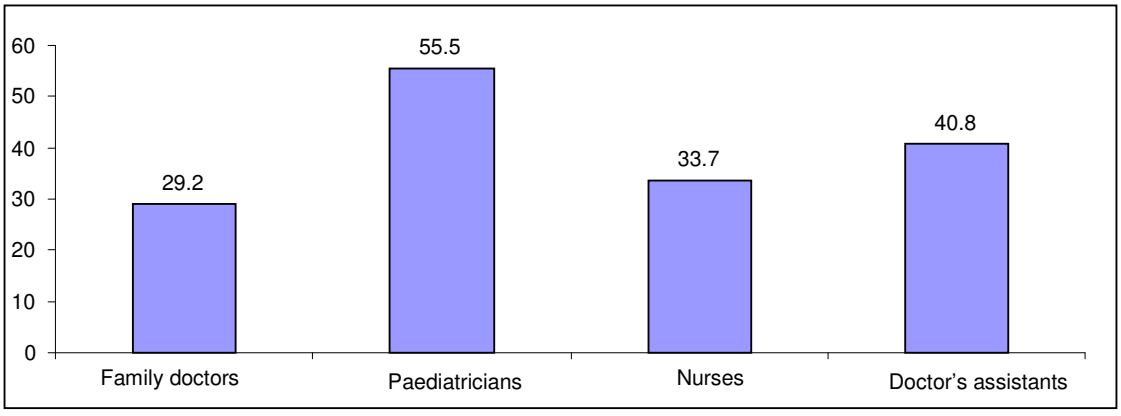
assessment of all three danger signs by selected categories of health professionals (family doctors, paediatricians, nurses and doctor's assistants) are given below.

Fig. 5 Health workers by category (family doctors, paediatricians, nurses and doctor's assistants) who assessed all three common danger signs



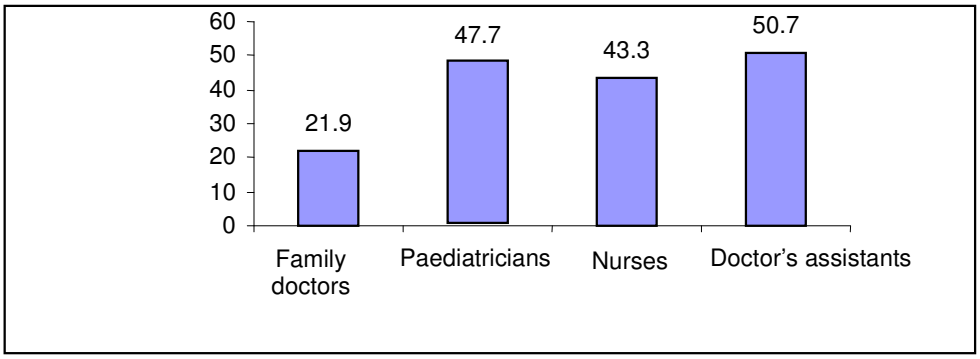
ARI and diarrhoea are especially frequent illness in children under 5 years old. These diseases are almost always accompanied by a feverish condition. In some children a disease of upper respiratory tract is accompanied by diarrhoea. In such cases, the child's carer, when seeing a health worker, mentions the condition that is of particular concern. According to the IMCI protocol, however, the health worker must ask about the presence of all three symptoms (cough/shortness of breath, diarrhoea and fever). The survey results reveal a pattern similar to that of the previous indicator on the assessment of the three general danger signs. Most carers were questioned bout these conditions separately. For example, 62% of mothers in the Khatlon region and almost 70% of carers in the RRS were asked where the child was coughing or had difficulty breathing. Meanwhile, 70.7 and 90.7% of carers in the tow areas respectively were asked about the presence of fever and 85.3% in both areas were asked about diarrhoea. However, the percentage of respondents who correctly answered about the presence of all three symptoms was significantly lower in the Khatlon region: 28.7%, as against 54.7% in the RRS (giving an average of 41.7%). Thus we can say that, generally speaking, health workers do not pay sufficient attention to the presence of these symptoms when examining a sick child.

Fig. 6 Number of health workers by category (family doctors, paediatricians, nurses and doctors' assistants) who asked about the 3 main danger signs (cough, diarrhoea and fever), %



The statistics of WHO and other organizations on the problems of morbidity and mortality in children indicate that malnutrition is a major factor in the development of complications and various inflammatory diseases in children. In this connection, the correspondence between weight and age, on the basis of a child's growth curve, is included in the "gold standard" assessment of sick children. There are two requirements for compliance with this standard: the child should be weighed and the weight should be compared with the child's growth and development curve. A study on the availability of scales for children at health facilities showed that 91.7% of health facilities had scales that and 78.7% of children were weighed on the day of the visit. Despite the high rates, only 43.7% of children were evaluated for the presence or absence of low weight. These figures give grounds for concluding that health professionals pay inadequate attention to the nutrition, growth and development of children under five.

Fig. 7 Number of health workers by category (family doctors, paediatricians, nurses and doctor's assistants) who used a growth chart, %



An indicator complementary to the one described above is the assessment of the nutrition of children under 2 years old and children classified as having low weight for their age. Paramedics assessing a child's nutritional status should ask questions about breastfeeding, about whether the child receives other foods or liquids and about the child's changed appetite during illness. These 3 questions were asked by 55.8% of paramedics. From this it follows that nearly half of children did not receive appropriate advice on nutrition. According to the IMCI protocol, health workers should advise mothers about child nutrition on the basis of identified problems and the child's age. The figures below show the frequency of child nutrition assessments and the frequency with which the three questions to assess a child's nutritional status are asked by different categories of health workers.

Fig. 8 Number of health workers by category (family doctors, paediatricians, nurses and doctor's assistants) who assessed children's nutrition, %

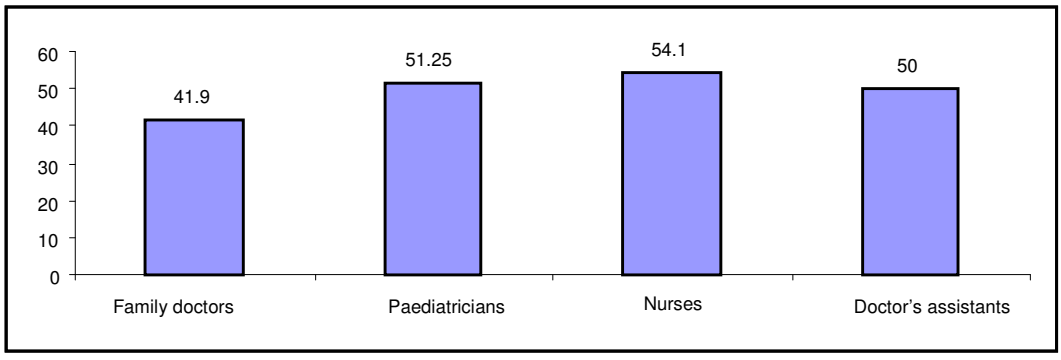
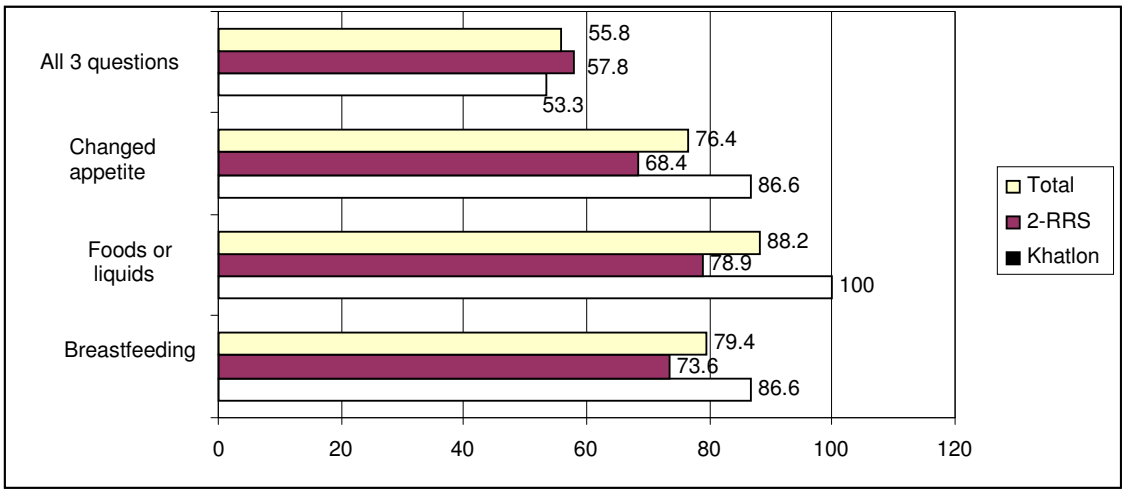


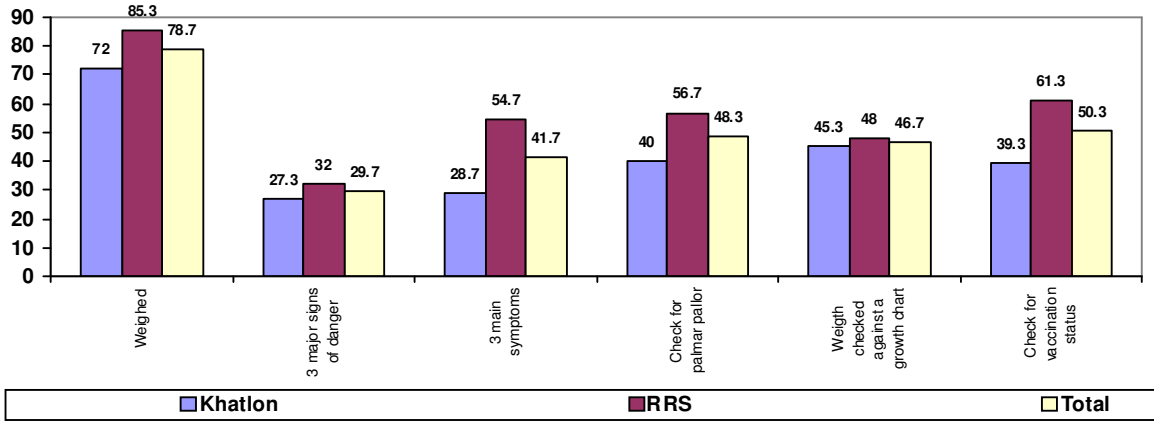
Fig. 9 Frequency of asking individual questions in assessing nutrition children's status



Checking a child's vaccination status in accordance with the immunization calendar is an important aspect of the integrated management of a sick child. Vaccination protects children against such diseases as measles, rubella, viral hepatitis, diphtheria, pertussis and mumps. These infections are easily transmitted from a sick to a healthy child, and most importantly, they can develop into very severe conditions, sharply reducing immunity and opening the way to the development of other diseases. That is why the assessment of a sick child's vaccination status on each visit to a health facility is one of the 10 steps in the "gold standard" assessment of the child's condition. The survey results showed that 36.7% of children in Khatlon province and 34. 7% of children in the RRS were vaccinated in accordance with the immunization calendar, at an overall average of 35.7%. According to MICS-2005, in Tajikistan the BCG vaccination coverage rate was 95%, for diphtheria, tetanus and pertussis (DTP) 91%, oral polio vaccine (OPV) 92% and measles 91%. However, coverage rates of follow-up doses of DTP and OPV have dropped to 80%. It should be noted that 71% of children under 1 year old received all vaccinations. It can be concluded that the decrease in the number of subsequent DTP and OPV vaccinations confirms the low rates of assessment of vaccination status, according to the vaccination that, which was not checked and therefore the child was not vaccinated.

The integrated assessment of a sick child involves a 10-step procedure that a health worker must carry out during the management of the case. This procedure provides the basis for correct classification (diagnosis), identification and assignment of appropriate treatment. The data revealed that out of these 10 steps each health worker carried out on average, 6.5 (6.3 in Khatlon province and 6.8 in the RRS).

Fig. 10 Performance indicators of "gold standard" assessment, %



The figure shows that checks on important elements of the "gold standard" of assessment, such as the three major signs of danger and the three main symptoms, are not always carried out. Others are carried out only by 50% of the health workers. The reasons for this are the quality of training and a weak supervisory system. This weakness is reflected in insufficient follow-up visits, failure to use common standard questionnaires, a lack of monitoring, a focus on statistics and the performance of operational duties by medical staff, rather than on the treatment of children, and ignorance or lack of preparedness on the part of supervisors with regard to the content and essence of the IMCI strategy.

Health care providers responsible for the management of sick children should identify all potential problems. A health worker should, when identifying the condition that brought the child to the health facility in the first place, should also identify other problems that seem of minor concern. A child may need specialized consultation or specialized care delivered at a higher level of the health system. Out of 300 children involved in the survey, "other problems" were detected in 21%: 15.3% in Khatlon province, and 26.7% in the RRS. We may conclude from these results that health professionals focus only on the core problems of sick children. The reasons for the failure to check for the presence of "other problems" on a regular basis may be inadequate reinforcement of assessment skills during training and the lack of complaints by carers. The fact that mothers may prefer to visit specialized medical institutions to deal with other problems should also be taken into account.

Findings

To sum up, the following conclusions can be drawn from the analysis and interpretation of priority and complementary indicators relating to the assessment of children under 5 years old in primary health care facilities:

- Health professionals apply a common framework and principles in implementation of the IMCI strategy: they assess the danger signs, determine the main symptoms and classify and prescribe medicines and treatment.
- However, they assess the general danger signs and individual basic conditions rather than carrying out an integrated assessment. For example, the common symptom of inability to drink is identified in 83.3% of surveyed children, vomiting in 79.8% and all three danger signs only in 29.7%. The same pattern was observed when assessing the main three symptoms.

- A sick child is weighed and the results recorded on the child's medical card, but the data are not analysed and interpreted or used for solving the child's problems.
- Out of the 10 mandatory skills of integrated management and assessment, 6.5 are practised. This suggests that training in the assessment of a child's condition has achieved its target and that such skills have become the norm. At the same time, this high rate of achievement may be explained by the fact that such training has been treated as a priority.
- It turned out to be difficult to train health workers to assess children's physical development using the growth curve, to establish what constituted low-weight and to identify problems in the diet. The failure to adopt an integrated approach to assessment or adequately to implement new methods of assessment suggests that health professionals do not use the IMCI booklet and rely more on their clinical experience than on evidence-based medicine.

5.4.2. Tactics, validity and accuracy of treatment

The integrated management of sick children involves forming a diagnosis based on the identification of symptoms, the definition of a treatment strategy, prescription of the necessary drugs and counselling on caring for a sick child. A classification exists for every disease and a health worker is thus enabled to determine the severity of the disease. The IMCI protocols set out specific methods of treatment depending on the severity of a given disease. The proposed treatment scheme is efficient, affordable and easy for the carer to follow.

One assessment tool is the re-examination of a sick child by the researcher. The aim of this is to evaluate a health worker's assessment skills, compliance with standards and prescription of the correct drugs. Data analysis shows that health workers have been well trained in establishing the classification of a disease and that they apply their skills in practice. The classification that they established coincided with those by the researchers in 72.2% of cases. This success and sustainability can be attributed to the convenience of the principle of following protocols which provide an easy way to classify the severity of the child's conditions. Furthermore, health workers consider the knowledge and skill to diagnose illnesses to be a priority and try to update them periodically. In focus groups, health workers confirmed the positive aspects of the IMCI strategy and offered to train other health workers. This indicates that, for further successful implementation of the strategy, it is necessary to scale up training of other health workers.

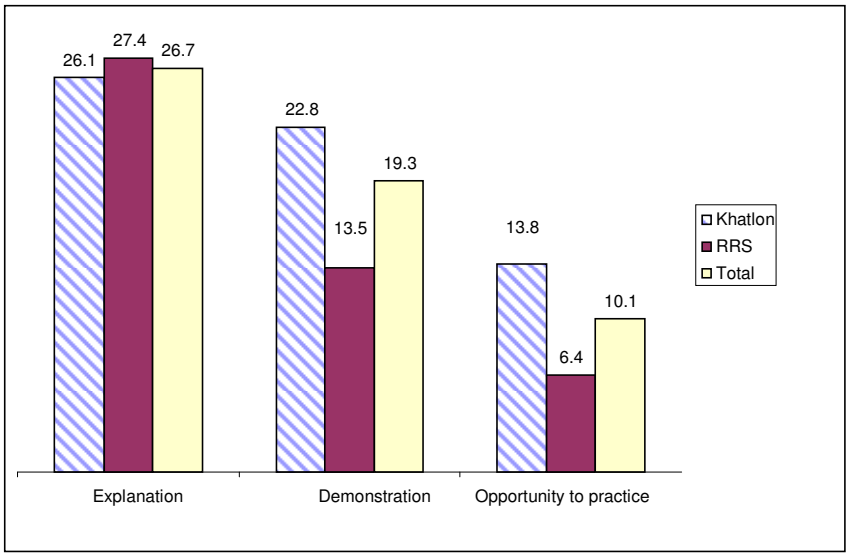
From the focus group discussion: *"IMCI strategy can help with the accurate classification of a disease and the formulation of a diagnosis. It also quickly teaches you to navigate the tactics of the management of a sick child. The strategy has improved skills in assessing sick child and the combined treatment of children".*

The protocols and classification used in the IMCI strategy clearly indicate that some children can be treated on an outpatient basis. Accordingly the training package, as adapted to Tajikistan, such conditions as pneumonia, streptococcal pharyngitis, dysentery and acute ear infection require treatment with antibiotics at home. The proper prescription of antibiotics can ensure rapid recovery and reduce the likelihood of complications. This is especially important for pneumonia, because, according to the statistics, the mortality rate from pneumonia is higher than from other diseases. The health worker who prescribes an antibiotic should correctly calculate a single or daily dose and a whole course of antibiotics in accordance with the weight and age of the child. During the course of the survey, there were 18 cases of pneumonia, including 6 (33.3%) for which a correct estimate of the antibiotics required was made. The indicators were similar in both regions. Analysis of this indicator showed that health workers sometimes deviated from the standard treatment of pneumonia and prescribed other oral antibiotics

(cotrimoxazole in 16.6% of cases) and injectable antibiotics (gentamycin in 16.6% of cases). This can be attributed not only to a persistently stereotypical view on the part of health professionals that the intramuscular route of drug administration was preferable that that oral antibiotics, had little or no effect but also to intensive advertising by pharmaceutical companies. Another reason may be that during pre-and postgraduate training health workers are given different information and are poorly informed about evidence-based medicine.

IMCI manuals recommend giving the first dose of antibiotics in a health facility. This tactic has two purposes: first, to ensure early treatment, and second, to train the carer. That is why every health facility should keep a stock of antibiotics. During the survey, the number of children needing to be given the first dose of antibiotic was 50 (34 had pneumonia and 16 an ear infection). Despite the satisfactory number of health facilities with amoxicillin in tablets (65%), only 20% of children needing the first dose of antibiotics, received it at the health facility. In addition, health workers did not pay adequate attention to educating the carers and failed to use such methods of successful counselling as explanation, documentation or an opportunity to practise carrying out a procedure themselves, even though such counselling increases parents' knowledge and improves their skills in giving antibiotics to their child.

Fig. 11 Methods of training mothers to administer oral antibiotics, %



Another important indicator of the robust and proper treatment of uncomplicated or mild respiratory diseases is treatment without antibiotics; and 65% of children not needing treatment with antibiotics left the clinic without the prescription of antibiotics. In other words, every third case was managed without antibiotics being prescribed. There are scientifically based, cost-effective methods of treating uncomplicated ARI, diarrhoea and febrile conditions that require only appropriate home care involving the child's being given extra liquids and frequent feeding. The recommendations in the IMCI guidelines for health workers are new and difficult to adopt. One reason for this is that, in the past, it was recommended that uncomplicated and mild respiratory diseases should be treated with prophylactic antibiotics and that patient's should be hospitalized, especially those under 1 year old. Other reasons are the stereotypical approach adopted by of health professionals and the fear of punishment for the improper management of a sick child.

According to the IMCI assessment standards, a health worker should identify sick children requiring urgent referral to a higher level of the health system. The survey identified five children who should have been immediately hospitalized. One was sent to an inpatient facility and the child received pre-referral treatment. Early treatment of any disease contributes to a favourable outcome. IMCI strategy provides that a child with a "red line" classification should be given the first dose of oral antibiotics or intramuscular injections in a health facility. The low hospitalization rate can be explained by the families' difficult financial situation. Furthermore, the right to make a decision regarding hospitalization and visits by health workers lies mainly with the legal parents while the child's mother alone almost never has any rights in matters relating to the child's health. Other reasons are the persistent use of alternative medicine and mothers' heavy workload in the home.

Management of children with anaemia is based on detecting signs of anaemia by examination of the child's hands and prescribing iron in tablet or syrup form to children with moderate palmar pallor and the classification of anaemia. Data analysis showed that almost half (48.3%) of the children surveyed were checked for pale hands. However, the quality of the checks was problematic, because re-assessment by the researchers revealed palmar pallor in 21% of children compared with 7.5% identified by medical staff or 3 times more. An analysis of the treatment of anaemia with iron showed that health workers did not know precise dosages, the duration of the treatment or the follow-up observation required.

Findings
A breakdown by the severity of the disease, on the basis of classification established, enables health workers to identify the next steps in treating the patient. IMCI algorithms and protocols are designed to help them treat children correctly and effectively. The survey established the true picture of the extent to which standards on determining tactics and treating sick children are met.

On the basis of these data, the following conclusions can be drawn:

- Skills by health workers in establishing a classification was shown in 72.2% of cases of children visiting a health facility.
- Despite the satisfactory level of classification, a mere one third of the children received appropriate prescriptions and treatment in accordance with IMCI standards and protocols.
- An acute problem in the management of sick children is the untimely, unreasonable and improper prescription of antibiotics. The main reasons for this are old patterns of thinking and the aggressive advertising of antibiotics. Other reasons are the variety of pre-service training at medical institutions and parents' efforts to insure themselves by requesting the "effective" treatment provided by injectable or multiple drugs.
- Failure to comply with the standard of counselling on the administration of antibiotics in the home has a great impact on the quality of care and home treatment of diseases requiring the use of antibiotics. The survey showed that the standard methods of counselling carers on giving medicines to children are applied by only a small number of health workers. The reason for this might be lack of practice in providing such counselling.

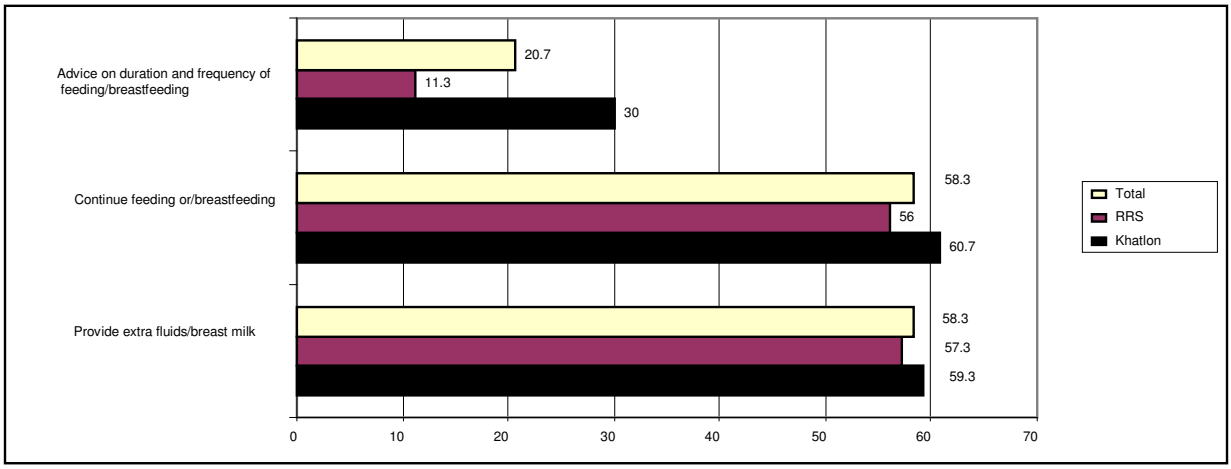
5.4.3. Counselling children's carers

Interviewing a child's carers, a health worker should ask about the daily feeding of the child, teach them how to care for a sick child at home and provide other information that is needed for appropriate child care. Without proper counselling of the parents, high-quality care cannot be attained.

Such counselling is required for the assessment of a child and for follow-up activities. In total, 50.6% of health workers identified nutritional problems in children (48.5% in the Khatlon region and 55.5% in the RRS). However, only 19.4% of mothers received appropriate advice on child nutrition. This discrepancy is due to a lack of counselling skills among health workers. In addition, they perceive the question of a child's feeding practices and nutrition as secondary. Meanwhile, children's carers are also often not aware of the crucial role of good feeding and nutrition practices, so that during a child's illness may seldom recall good feeding practices, considering a good diet to be an ineffective form of treatment.

According the IMCI protocols, a health worker should pay particular attention to advising mothers on how to care for a sick child at home. All carers, without exception, should be advised to feed a sick child more often and for longer at home and to give the child extra fluids. The survey results showed that nearly half (47.8%) of health workers gave this kind of counselling (50.3% in Khatlon province and 45.3% in the RRS).

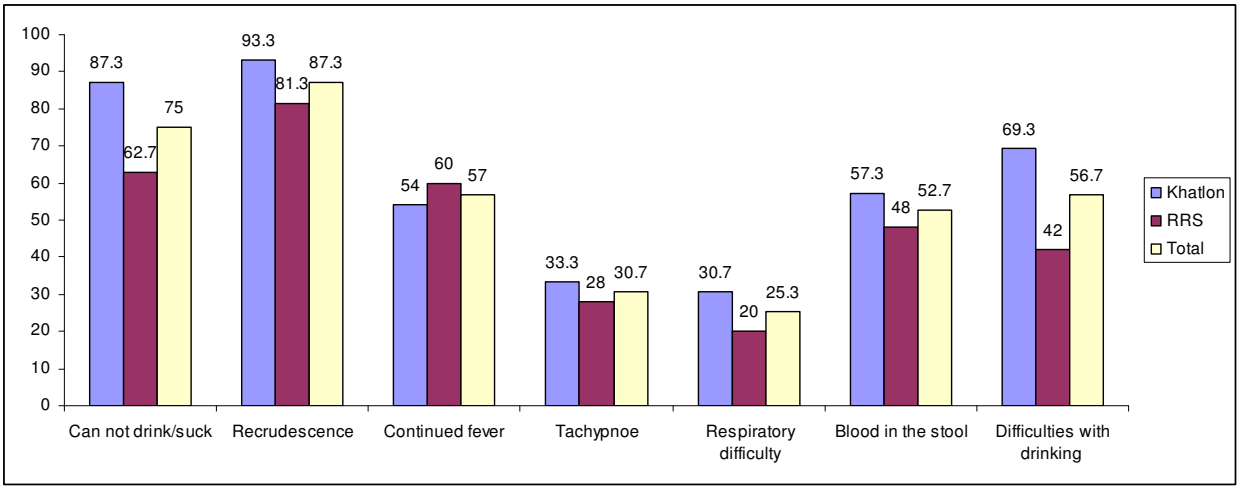
Fig. 12 Frequency of giving advice on a sick child's feeding and nutrition, %



The correct implementation of recommendations on the medical treatment of children at home depends on whether parents correctly understand how to provide treatment. Carers' knowledge about the on treatment of diseases with oral medication depends on the quality of the counselling given by the health professional; and 72.5% of carers had at least 2 advice sessions on treatment. The survey results showed that 45% of carers were able to identify the correct dose of the medication prescribed and describe how to give it. Detailed analysis showed that carers were worse at knowing how to give antibiotics than how to give and ORS solution (53.5%). This may be explained by the fact that it is more difficult to remember the dosage of and antibiotic than memorize the amount of fluid given to a sick child.

One of the main factors that explain parents' timely seeking medical help, the early commencement of treatment of severely ill children and the resulting reduced mortality is awareness among carers of the danger signs of disease. Parents' knowledge can be improved by counselling. The IMCI guidelines recommend that, during counselling, health workers should explain under what conditions they should be urgently contacted. The survey showed that 74.2% of carers were advised on three or more occasions when they should immediately contact the health worker. This result can be seen as being positive.

Fig. 13 Frequency of advice on when carers should immediately contact a health facility, %



As the figure shows, health workers often refer to general rather than specific signs.

Use of visual aids during the counselling of carers can improve absorption of the information received. In the course of training, health workers were provided with a checklist containing basic advice about nutrition and dangerous signs of disease, the presence of which should make carers immediately contact a health service provider. It is essential for health workers to use this visual aid in counselling. During the study, however, only half (50.8%) of health workers used this checklist. An analysis of the availability of leaflets or booklets containing a page of instructions showed that 71.5% of health facilities had a checklist for carers and 90% had the IMCI information booklet. This suggests that some health professionals do not use the material, or do not know or have forgotten that this memo appears in the booklet.

In interviews and focus group discussions with mothers of children under 5 years old, it became clear that the behaviour of health workers had changed, especially in personal contact. Some mothers said that health workers had started to examine children more carefully. Despite these positive changes, many mothers asked health workers to give more advice about nutrition and explain in greater detail about children's health to other family members, especially when children need referral to hospital or vaccination. Mothers considered that it would be appropriate to involve religious leaders in awareness campaign and other events, as they had great influence with the public.

From the focus group discussion with mothers*:*
"My child slept badly for a long time and was constantly fussing, but mother-in-law did not allow health workers, to visit saying that it would all clear up by itself"; "Older family members do not allow visits to the doctor, they say the child will get better on his own. the older members of the family often turn to traditional healers"; "We do not understand and do not know the danger signs, we are not aware of the consequences"; *"We cannot afford hospitalization or drugs and we have a lot of work at home".*

When carers were asked why they delayed going to a health facility or refused referral to hospital, many responded "mother-in-law does not allow it" or "it is mother-in-law who makes the decision about the hospitalization of the child and she says that the illness will end soon". The other reasons mentioned were: "there is no one to care for the other children" and "financial difficulties". To the question of why some mothers did not comply with doctors'

recommendations, the respondents said that they spent a lot of time on household chores. Some mothers were not particularly concerned about the child's illness and were inclined to disregard the health workers' advice. Many believed that the disease would clear up by itself. The other reason given was that there was no pharmacy near the health facility.

The focus group members suggested that mothers' knowledge and skills would be improved by:

- arranging meetings in the community for joint discussion of problems relating to child care, disease prevention and other matters;
- inviting the religious leaders to meetings concerned with children's health;
- involving community leaders in outreach work, such as assisting health workers in convincing parents to take a child to hospital in severe cases, when the parents reject hospital treatment.

Findings
Advising parents is a new skill for health professionals, since in pre-and in-service training this issue is not given due attention. The survey yielded the following conclusions:

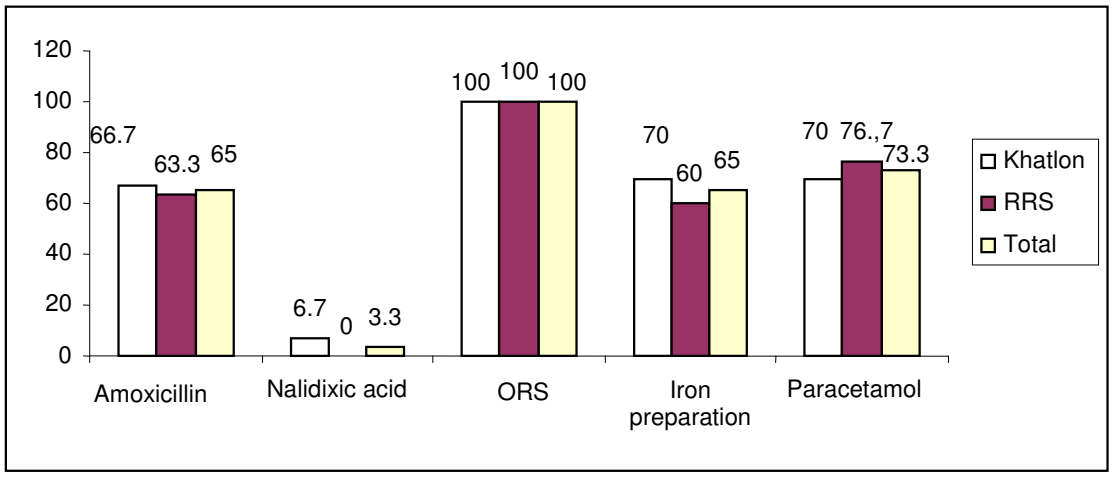
- in spite of the fact that counselling is a new skill for them, health professionals are endeavouring to meet this requirement;
- not enough attention is paid to the assessment and counselling as parts of either by health professionals or by carers;
- despite the shortcomings in counselling by health professionals, more than half of mothers remember key information on preparing an ORS solution, although less than half can recall the information on treatment with oral antibiotics at home;
- the basic method of counselling used by health workers is to explain and inform. Other, more effective methods – such as demonstrating a procedure and giving mothers an opportunity to practise it themselves – are ignored or at an rate seldom used.

5.4.4. Availability of supplies in health facilities

Several factors affect the quality of care provided in health facilities. One is the availability of essential equipment, medicines and disposable items. Keeping a record of medical supplies in stock can ensure high-quality pre-referral emergency care for sick children and immunization for healthy children.

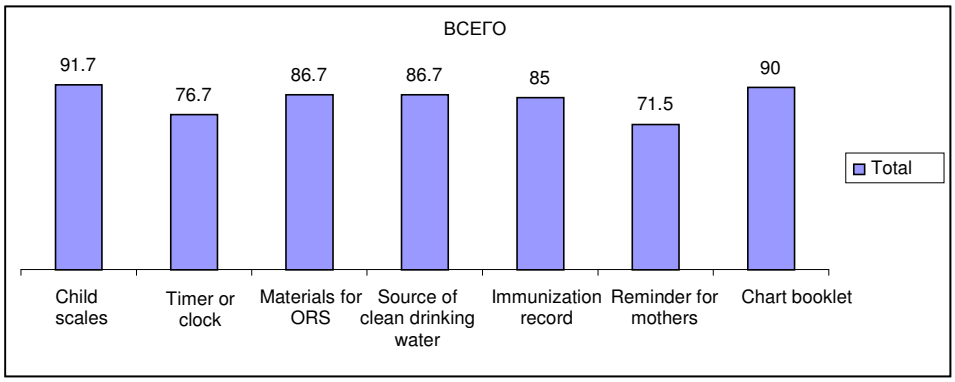
Ensuring adequate provisions of medication is a component of the IMCI strategy. An adequate supply of the 13 essential drugs included in the list of the IMCI strategy enables a health service provider to commence treatment promptly in the health facility. Of these 13, 5 (amoxicillin, paracetamol, nalidixic acid, ORS packets and iron preparations) are the essential oral drugs. In the health facilities involved in the survey, the average availability was 3 out of these 5 drugs. The list of 13 essential drugs also includes 4 injectable antibiotics (chloramphenicol, bicillin, benzylpenicillin and gentamicin), which are administered at the stage of urgent referral of children with severe illnesses to hospital. The availability of these injectable drugs amounted to 2.6.

Fig. 14 Availability in health facilities of oral drugs recommended by the IMCI strategy, on the day of the survey, %



The list of basic medical equipment and supplies required under the IMCI strategy includes working children's and adult scales, timers (working clocks with a second hand), materials for making an ORS solution, a source of clean drinking-water, an immunization chart, a log book of medicines, instructions for carers, and information booklets. Figure 15 shows the availability in health facilities of these materials and equipment.

Fig. 15 Availability of essential equipment and supplies in health facilities, %



Given the high incidence of diarrhoea, it is worthy describing the situation with dedicated treatment areas for diarrhoeal diseases. Out of the 60 health facilities visited, 86.7% had the necessary equipment for oral rehydration (cups, spoons, pots and pans to boil water, an electric stove for boiling water, measuring utensils, etc.).

In general, the availability of essential equipment and supplies was adequate.

One of the factors contributing to the successful implementation of the strategy is education and training. It is recommended that a minimum 60% of health workers admitting children to health facilities should be trained in the IMCI strategy. This would establish a "critical mass" for changing everyday practices. About 34% of health facilities included in the study had more than 60% of trained health workers (the 2 pilot regions have the same proportion of trained

Quotation from the focus group made up of health system managers *"There is a lack of medical personnel. Only a few health workers are trained in the IMCI strategy".*

professionals, 33.6%). Trained health workers are those who have attended 9- or 11-day training courses organized by various donor organizations.

Supervisory visits play an important role in implementing the IMCI strategy. The survey found that only 13.3% of health facilities had received at least one supervisory visit over the previous 6 months (20% in Khatlon province and 6.7% in the RRS). The supervisors are the staff of the IMCI centres at district and national levels, and leading health specialists who are familiar with the follow-up and supervision process. This indicator is low for the following reasons: transportation problems, the lack of fuel and motor oil available to the health system generally and the heavy workload of supervisors. The main purpose of supervisory visits is to study performance, analyse indicators and identify deficiencies. Paramedics received insufficient support from supervisors to build on their skills and case management, the quality of counselling and the availability of essential drugs and equipment were periodically estimated by supervisors. Key employees of district and regional health authorities, not being familiar with the principles of supportive supervision, failed to support health workers or provide feedback by discussing problems with IMCI staff. Often, supervisors had no idea at all of the objectives or basic principles of the IMCI strategy. No less important was the lack of an integrated system for assessing the quality of medical care delivered to children or a decision-making mechanism through with the situation could be improved.

During interviews and focus group discussions, some participants drew attention to the fact that the strategy discouraged over diagnosis and polypragmasy, making treatment more effective and less costly and delivering economies at both family and State levels. Most participants stressed that the recommendations of the IMCI strategy were ideal for family doctors. There were barriers to the implementation of the strategy, however in the form of the inadequate number of health workers, low wages, the long distances between population centres and health facilities and the lack of transport for supervisory visits.

Health workers and organizers stressed the importance of training as many health workers as possible, otherwise the same disease may be treaded in different ways in a single health facility. This not only has implications for the sustainability of the IMCI strategy but undermines health workers' confidence.

It was also noted that one of the barriers at the health facility level to the implementation of the IMCI strategy was a shortage of record forms but also duplication of records on a child's condition. Record forms were available in only 46.7% health facilities owing to lack of funds.

Quotation from focus group discussions: "What do you think, are there any obstacles, difficulties or challenges involved in scaling up the IMCI strategy? If so, what?" –"When senior doctors do not understand the concept of the IMCI strategy." "Have you discussed the difficulties faced by health care workers with the administrative staff of CDH?" –" Yes, many times." "What way can you see to overcome these difficulties?"– "Separate budgetary funding."

Moreover, a health worker is currently required to make notes in a child's medical file. If a health worker has a record form additional work, with duplicated entries is required. thus, during the study, the following was observed: health workers who had a record form had double the work, while medical personnel who lacked a record form described the child's condition, following the layout of the record form or else reverted to older procedures.

During focus group discussion, health workers made the following recommendations to address these problems:

- to train management staff (supervisors) to ensure that they are aware of the strategy;
- to motivate health workers to implement the IMCI strategy successfully;
- to develop a mechanism to evaluate and improve the activities of primary health care and inpatient facilities.

Findings
An analysis of the supplies of essential equipment and medicines available to health facilities and the situation as regards supervisory visits leads to the following conclusions.

- Most health facilities have a minimum list of equipment and materials. The situation with regard to the availability of essential equipment and drugs at health facilities can be significantly improved by the efforts of the staff and with the support of the health authorities, at no significant material cost.
- The effective introduction of the IMCI strategy into the daily practice of medical care to children depending on providing health facilities with medicines.
- Solving the drug supply problem is feasible only through integrated efforts by the health ministry (through policy papers), regional and district health offices (through monitoring and practical assistance), health facilities (by training or raising the awareness of health system managers) and pharmaceutical companies (by ensuring the availability of the medicines included in the list of essential drugs recommended under the IMCI strategy).
- The quality of supervisory visits should be improved and their number increased. Their goals and objectives need to be revised, the methods of checking health facilities defined and standardized and appropriate changes made to policy documents and instructions on assessing the quality of care delivered to children.
- Non-compliance with the requirements in official policy documents on formulating a diagnosis using the IMCI classifications provided in the IMCI manuals (duplicated records in medical documentation and forms recommended by the strategy) has a negative impact on the implementation of the guidelines and contributes to misunderstanding and mistrust of the strategy. It is essential to resolve these problems to ensure the sustainable use of IMCI guidelines in the daily practice of medical workers.

5.5. Generalized conclusions and recommendations

Diseases of the upper and lower respiratory tracts the in form of ARI and pneumonia of varying severity and diarrhoea with severe dehydration are the main causes of over 50% of deaths of children under 5 years old. Paramedics now have simple, cost-effective, efficient methods of treating such children, designed by WHO and UNICEF experts and described in the IMCI strategy manuals. Trying to incorporate their knowledge and skills into their daily practice, they may find themselves in difficulties, facing various challenges. The conclusions and recommendations presented below were developed on the basis of the data obtained during the survey and are aimed at removing barriers to the introduction of the IMCI strategy and improving the management of sick children.

Conclusion 1. Average indicators on the implementation of IMCI skills and standards in daily practice at the primary health care level can be attributed to the appropriate level of training courses.

Recommendations:

- Assess the quality of training in IMCI with standard tools/questionnaires developed by specialists from the IMCI National Centre, taking into account all the criteria and principles of training (the ratio of trainers to participants, a training agenda based on competence, the number of practical sessions, etc.).
- Carry out follow-up training in the problems identified and action to address these problems.

Conclusion 2. The small number of trained health workers and the shortage of personnel in health facilities hinder the widespread dissemination and implementation of the IMCI strategy in the field.

Recommendations:

- Accelerate integration of the IMCI protocols and standards into the curricula of pre-and postgraduate training of health workers at all levels (doctors, nurses and doctor's assistants).
- Organize classes in medical universities and colleges in strict accordance with the IMCI training standards specified in the manual for training in outpatient clinics and facilities.

Conclusion 3. Medical staff lack knowledge and skills in assessment, the proper prescription of antibiotics and counselling on care and nutrition in the home. This denies sick children appropriate care in the primary health care system.

Recommendation:
At IMCI workshops, trainers are recommended to pay particular attention to assessment, antibiotic therapy and the development of counselling skills for care and nutrition in the home.

Conclusion 4. Health workers rarely refer a sick child to an inpatient facility and do not possess the skills of persuading carers to hospitalize children suffering from complications and severe diseases.

Recommendation:

- Organize workshops to train medical staff in the principles and techniques of counselling of carers. The training should also focus on developing skills to identify and resolve problems that impede hospitalization of sick children.

Conclusion 5. Inconsistency in the requirements for entering a diagnosis in official policy documents and classifications in IMCI manuals; together with duplication of medical records, is a hindrance to the adoption of IMCI standards.

Recommendation:

- The Ministry of Health should consider approving the use of IMCI classifications when entering a diagnosis in medical records and approving record forms for use in primary health care facilities.

Conclusion 6. Supervisory visits following the training of health workers in IMCI strategy are irregular.

Recommendations:

- Train specialists in follow-up supervision, especially at the regional and district, level so as to make it easier to make supervision visits. Such an approach does not require additional funding, vehicles or human resources, especially at the national level.
- The National IMCI Centre is invited to discuss this report at the local level in each region and to develop recommendations and activities in view of the shortcomings identified by the survey.

Conclusion 7. Despite the introduction of the supervisory system at all levels of health care, the techniques and rules of the system are not adequately complied with. Key managerial staff are not properly informed about the tools available for monitoring and follow-up supervision. Currently, the primary purpose of visiting a health facility is inspection. The principles of supportive supervision are not sufficiently respected.

Recommendations:

- Discuss the possibility of developing a supportive supervision framework in the paediatric service at all levels. To develop and adopt regulatory reference documents, methodologies and tools for supportive supervision. A team of supportive supervisors should be trained in the principles and methods of conducting supportive supervision visits and follow-up observation. Consideration should also be given to involving trainers and specialists trained in various regions in supervisory visits.
- As a priority, strengthen human resource management personnel at the regional and district level. Managers in charge of mother and child health services must possess the knowledge and skills in basic programme management to protect child health and development and this should be reflected in the certification and licensing of managers.

Conclusion 8. Counselling cares on the danger signs, on good nutritional practices and on when to contact health workers without delay is often inadequate. Moreover, out of the four recommended levels of counselling, health workers restrict themselves to providing information and ignore the other three levels, namely giving a practical demonstration, giving the carer an opportunity to practise and testing parents' understanding by asking open-ended questions.

Recommendations:

- Focus the training of health workers on counselling, taking into account all the skill level at both theoretical and practical sessions. The experts conducting follow-up observations should provide back-up for health workers' counselling skills.
- Integrate into the curricula of medical universities and colleges sections on interpersonal relations and counselling skills, with particular emphasis on mother and child health.

Conclusion 9. Information and educational materials are not used the full, which affects the quality of the instruction given to mothers. Other public educational materials available in health facilities do not always correspond with IMCI recommendations. Some materials are published in Russian, which is an additional barrier to Tajik speakers.

Recommendations:

- Depending on local capacity, ensure that instructions for mothers are available in all health facilities. This can be done by printing additional copies, designing a wall poster or producing a laminated checklist to show people receiving counselling. All public educational material available in health facilities must contain consistent information on key issues. Material intended for the public should be in the local language.
- District workplans on the introduction of IMCI should include all three components of the strategy. Only the integrated implementation of all the approaches recommended by WHO can ensure the sustainable implementation of the IMCI strategy.

Conclusion 10. The older generation in a family, particularly the mother-in-law, plays a major (and often negative) role in matters relating to the treatment of a sick child in health facilities.

Recommendation:

- Work closely with local authorities responsible for social issues, with community representatives and with religious leaders, who have a strong influence on the population, with a view to eliminating difficulties relating to the health of children and women.

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Appendix 1. Questionnaire forms

Form 1. Observation checklist – child (2 months-5 years)
Questionnaire No.1A

Oblast _____ District _____Date___/Month_____/Year__
Facility name _____Facility code _____facility type _____
Surveyor IN _____ Health worker: name _____ID Sex (1) M (2) F
Trained on IMCI: yes (1) no (2) Year trained _____
Trained on child care for development: yes (1) no (2) Year trained _____
Type of HW (1) family physician (2) nurse (3) medic. assistant (4) other _____
Child Name_____ID_____ Sex (1) M (2) F Birth date ___/___/___
Age month___
Record the time when the health worker has started examination. Time _____ hour _____ minute

Assessment module

Record what you have hear and see

			YES	NO
A 3	Does the health worker, or another staff, weigh and record the weight of the child today?		1	0
A 4	Does the health worker, or another staff, check the temperature of the child?		1	0
A 5	Note the reasons the caretaker/mother gives for bringing her child to the health facility (**circle all signs mentioned**)			
	1.	Diarrhoea/vomiting	1	0
	2.	Temperature	1	0
	3.	Rash	1	0
	4.	cough or difficult breathing	1	0
	5.	sore throat	1	0
	6.	Ear problems	1	0
	7.	Well-child visit	1	0
	8.	Other (specify)_____	1	0
A 6	Does health worker ask whether the child is able to drink or breastfeed (**can swallow**)?		1	0
A 7	Does health worker ask whether the child vomits everything?		1	0
A 8	Does health worker ask whether the child has convulsions?		1	0
A 9	Is the child visibly awake? (e.g. playing, smiling, crying)?)		1	0
A 10	If a child not visibly awake, does health worker check for lethargy or "unconsciousness" (tried to wake up the child)?		1	0
A 11	Does health worker ask for cough or difficult breathing?		1	0
A12	Does health worker ask for diarrhoea?		1	0
A13	Does health worker ask for ever (or refer to disease, hot to touch, temp. +37,5 or higher) ?		1	0
A14	Does health worker ask whether the child has sore throat or examine it?		1	0
A15	Does health worker ask whether the child has earache or examine it?		1	0
A16	Does health worker check for visible severe wasting?		1	0
A17	Does health worker look for palmar pallor?		1	0
A18	Does health worker for oedema of both feet?		1	0
A19	Does health worker check child's weight against a growth chart?		1	0
A20	Does health worker ask card number 112?		1	0
A21	Does health worker check the child's vaccination card (F 63)?		1	0
A22	The health worker asked the caretaker if:			
	a.	. the child has ever been given an injection in the shoulder against tuberculosis (BCG) ?	1	0
	b.	. the child has ever been given drops against polio ?	1	0
	c.	the child has ever been given an injection against pertussis, diphtheria, tetanus (DPT) (injection in thigh) ?	1	0
	d.	the child has ever been given an injection in the arm against measles ?	1	0
	e.	the child has ever been vaccinated against viral hepatitis "B" (injection in the thigh)?	1	0
	f.	the child has ever been given a vitamin A (drops)?	1	0
	g.	. the child has ever been given vitamin D ?	1	0

A23	Does health worker ask about breastfeeding?	1	0
A24	Does health worker ask whether the child takes any other foods/fluids?	1	0
A25	Does health worker ask whether feeding changed during illness?	1	0
A26	Does health worker ask about possible "other problems"?	1	0
A28	Does health worker assess care for development of the child under 2 and/or older than 2 years? Having anaemia or low weight?	1	0

Questionnaire No.1C
Classifications module (shows whether the health worker correctly classified signs of illness)
C1 Does health worker give one or more classifications for the child
YES (1) NO (2)
If answer is "no", do not fill the table and skip to module Treatment (questionnaire 3T)!
Surveyor: Check all classifications *MP* **Supervisor**: Check the classification of the surveyor

	Classifications recorded by health worker	**Yes**	**No**		**Classifications recorded by supervisor (Form 3A)**	**Yes**	**No**
C 05	One or more danger signs	**1**	**0**	**105**	One or more danger signs	**1**	**0**
C 10	Severe pneumonia/very severe disease	**1**	**0**	**110**	Severe pneumonia/very severe disease	**1**	**0**
C 11	Pneumonia	**1**	**0**	**111**	Pneumonia	**1**	**0**
C 12	No pneumonia, there is cough or cold	**1**	**0**	**112**	No pneumonia, there is cough or cold	**1**	**0**
C 20	a. Severe dehydration	**1**	**0**	**120**	a. Severe dehydration	**1**	**0**
	b. Moderate dehydration	**1**	**0**		b. Moderate dehydration	**1**	**0**
	c. No dehydration	**1**	**0**		c. No dehydration	**1**	**0**
C 21	Severe persistent diarrhoea	**1**	**0**	**121**	Severe persistent diarrhoea	**1**	**0**
C 22	Persistent diarrhoea	**1**	**0**	**122**	Persistent diarrhoea	**1**	**0**
C 23	Dysentery	**1**	**0**	**123**	Dysentery	**1**	**0**
C 30	Very severe febrile disease	**1**	**0**	**130**	Very severe febrile disease	**1**	**0**
C 31	Prolonged fever	**1**	**0**	**131**	Prolonged fever	**1**	**0**
C 32	Possible bacterial infection	**1**	**0**	**132**	Possible bacterial infection	**1**	**0**
C 33	Fever	**1**	**0**	**133**	Fever	**1**	**0**
C 34	Severe complicated measles	**1**	**0**	**134**	Severe complicated measles	**1**	**0**
C 35	Measles with mouth/eye complications	**1**	**0**	**135**	Measles with mouth/eye complications	**1**	**0**
C 36	Measles	**1**	**0**	**136**	Measles	**1**	**0**
C 37	Throat abscess	**1**	**0**	**137**	Throat abscess	**1**	**0**
C 38	Streptococcal pharyngitis	**1**	**0**	**138**	Streptococcal pharyngitis	**1**	**0**
C39	Not streptococcal pharyngitis	**1**	**0**	**139**	Not streptococcal pharyngitis	**1**	**0**
C 40	Mastoiditis	**1**	**0**	**140**	Mastoiditis	**1**	**0**

C 41	Acute ear infection	**1**	**0**	**141**	Acute ear infection	**1**	**0**
C 42	Chronic ear Infection	**1**	**0**	**142**	Chronic ear Infection	**1**	**0**
C 43	No ear infection	**1**	**0**	**143**	No ear infection	**1**	**0**
C 50	a. Severe malnutrition	**1**	**0**	**150**	a. Severe malnutrition	**1**	**0**
	б. Severe anaemia	**1**	**0**		б. Severe anaemia	**1**	**0**
C 51	a. Anaemia	**1**	**0**	**151**	a. Anaemia	**1**	**0**
	б. Low weight	**1**	**0**		б. Low weight	**1**	**0**
C 52	No anaemia and not low weight	**1**	**0**	**152**	No anaemia and not low weight	**1**	**0**
C 53	The problem of feeding (to list all the detected problems)	**1**	**0**	**153**	The problem of feeding (to list all the detected problems)	**1**	**0**
C 54	The problem of care for development	**1**	**0**	**154**	The problem of care for development	**1**	**0**
C 60	Other (specify)	**1**	**0**	**160**	Other (specify)	**1**	**0**
C 61	Other (specify)	**1**	**0**	**161**	Other (specify)	**1**	**0**
C 62	Follow up visit after ___ days	**1**	**0**	**165**	Follow up visit after ___ days	**1**	**0**

Module Treatment

T1. Does health worker prescribe injection?

1 Yes 2 No —► Skip to question T3

T2. . If yes, write down all the prescribed injections:

a. Antibiotics:..... (1)Yes (2) No

b. Other injections ..... (1) Yes (2) No

T3. Does health worker prescribe ORS solution?

(1) Yes 2 No —► Skip to question T5

T4. If "Yes", does health worker administer ORS package at the health facility ?

(1) Yes (2) No

T5. Does the health worker prescribe referral for the child to hospital?

(1) Yes

(2) No -► Skip to question # T 6

T5a Does the caretaker accept referral for the child?

(1) **Yes** -► - If the health worker give oral treatment to the child before referral, circle the drug in question T7 (an intramuscular injectable antibiotic must comply with the drug in questions T1 and T2. Complete filling a tool, and then accompany a caretaker with the child to the physician who conducts exit interviews for rapid re-examination. Not to interview at the exit.

(2) No

T6. Does the health worker prescribe oral treatment?

(1) Yes **(2)** No **—► Skip to module Communion, question No. 5**

T7. Record all treatment given

a. Antidiarrhoeal/antimotility (1) Yes (2) No

b. Metronidazole tablets/syrup (1) Yes (2) No

c Paracetamol/aspirin (1) Yes (2) No

d. Antibiotic tablets/syrup/(amoxicillin) (1) Yes (2) No

e. Other antibiotics tablets/syrup (1) Yes (2) No
f. Vitamin A (1) Yes (2) No
g. Multivitamins (1) Yes (2) No
h. Other vitamins (1) Yes (2) No
i. Mebendazole (1) Yes (2) No
j. Iron tablets/syrup (1) Yes (2) No
I. Unknown tablets/syrups (1) Yes (2) No
m. Others (1) Yes (2) No
n. Zinc (1) Yes (2) No

T8. Does the health worker administer or prescribe oral antibiotic?

(1) Yes (2) No –Skip to Communication Module

T9. If the oral treatment given or prescribed by the health worker includes antibiotics, record what health worker says:

a. Name ..... Second antibiotic:
b. Formulation: .....
c Amount each time: .....
d. Number of times a day: .....
e. Total days: .....
f. Name .....
g. Formulation:: .....
h. Amount each time: .....
i. Times per day: .....
j. Total days ……

Questionnaire No.1CM

Counselling module (assessment of counselling of mother (caretaker) by health worker on treatment and care of the child)

Note: In some health facilities the duties of health workers are divided, one prescribes and administer the first dose, another provided counselling. You need to go for the child.

CM1	**Does the health worker explain how to administer the treatment?**		1	0	
	1	Antibiotic	1	0	
	2	Bronchodilators	1	0	
	3	ORS	1	0	
	4	Iron preparations	1	0	
	5	Paracetamol	1	0	
CM2	**Does the health worker demonstrate how to administer the treatment?**		1	0	
	1	Antibiotic	1	0	If No, why: (1)No available (2)Does not know (3)Other _____
	2	Bronchodilators	1	0	
	3	ORS	1	0	
	4	Iron preparations	1	0	
	5	Paracetamol	1	0	
CM 3	Did the health worker ask open-ended questions to verify the caretaker's comprehension of how to administer the oral treatment?		1	0	
CM4	**Did the health worker give or ask mother to give the first dose of the oral drug at the health facility?**				
	1	Antibiotic	1	0	If No, why: (4)No available (5)Does not know (6)Other _____
	2	Bronchodilators	1	0	
	3	ORS	1	0	
	4	Iron preparations	1	0	
	5	Paracetamol	1	0	
CM5	**Did the health worker train how to give extra fluid and/or breastfeed?**		1	0	
CM6	**Does the health worker explain the need to continue feeding or breast-feeding during illness?**		1	0	
CM 7	**Did the health worker give advice on the frequency of feeding/breastfeeding?**		1	0 → skip to question CM 9	
CM8	If yes, how many times a day did the health worker advise to feed/breastfeed?		_____ once every 24 hours		

CM9	Does the health worker tell the caretaker to bring the child back immediately for the following signs? (Circle all that apply)				
	1	Child is not able to drink or breastfeed	1	0	
	2	Child becomes sicker	1	0	
	3	Child develops a fever	1	0	
	4	Child develops fast breathing	1	0	
	5	Child develops difficult breathing	1	0	
	6	Child develops blood in the stool	1	0	
	7	Child drinks poorly	1	0	
	8	Others (specify) _____	1	0	
CM10	Did the health worker say when to come with a child for the next visit?		1	0	
CM11	Did the health worker advice to the mother (caregiver) on child care for development ?		1	0	
CM13	Did the health worker ask at least one question about the mother's health (in order to assess whether the mother is not sick, assess vaccination status, about s access to family planning, recommendations for the prevention of STIs, AIDS, TB, iodine deficiencies)?		1	0	
CM14	Did the health worker use the IMCI chart booklet during the management of the child?		1	0	

End of observation

During the consultation a surveyor may need to ask the health worker classification and treatment given during the consultation, but only if these two components were not understood by the surveyor during the consultation. The surveyor must complete this form before the next child observation.

Form 1 Supervisor coding

	Information needed	**Where to find data**	**yes**	**no**	**NA**
A	If antibiotic was prescribed, it is a non-IMCI reason that justifies the antibiotic treatment?	Based on re-examination (page 4, questions 160 and 161)	1	2	8
B	If antibiotic was prescribed (whatever the reason, i.e. any IMCI classification) was it prescribed correctly (amount, frequency, course)?	Yes in T8 and correct for T9 c, d and e and h, i, and j if two antibiotics	1	2	8
C	If the child was urgently referred (whatever the reason), did the child receive an appropriate pre-referral treatment?	Yes T5a and appropriate pre-referral treatment in T2 and/or T3	1	2	8

Questionnaire No.2

Form No. 2. Exit interview- caretaker of the child (2 months - 5 years)

Oblast_____District_____ Date____/____/_____

Name of HF_____HF code._____ HF type.____surveyor IN_____

Name of the child: _____ID_____Age in months_____

Caretaker: sex: (1) M (2) F Relationship to child: (1) mother

(2) father

(3) other (write down)_____

Check the time when the interview starts **Time___hour____minutes**

1. Are you satisfied with the for sick children services at this health facility?

Read all options to the caretaker

(1) yes

(2) no→ ask why? and record the answer

_____

(8) Does not know

2. How do you feel about the time the HW pay to the child?

Read all options to the take care

(1) Definitely too long
(2) long
(3) acceptable
(4) short
(8) Does not know

3. How did the health worker examine your child?

(1) good
(2) not acceptable
(3) bad
(8) Does not know

4. Did the health worker give you or prescribe any oral medicines for child at the health facility?

(1) Yes
(2) No → *Skip to question # 5*

4a If yes, then where did you get the medication?

(1) health care worker will give free
(2) buy at the pharmacy by toll-free prescription
(3) buy in the drugstore
(4) other _____
(8) Does not know

If yes compare the caretaker's medication with the samples for identification of the medicines (the list, in which the health worker wrote about taking medication or prescription)

5. Was the oral antibiotic administered or prescribed?

(1) yes
(2) No → skip to question *# 7*

5a. If yes copy the information from the caretaker's medication (the list, in which the health worker wrote about taking medication or prescription)

(a) Name_____
(б) Formulation_____

Then ask the caretaker (record what you hear):

5a1. How much will you give to child each time?_____
5a2. How many times will you give it to child each day?_____times
5a3. How many days will you give the medicine to child ? _____days

6. Was a second antibiotic prescribed or given?

(1) yes
(2) No → skip to question # 7

6a. If yes compare the caretaker's medication with the samples for identification of the medicines (the list, in which the health worker wrote about giving medication at home or prescription)

(a) Name_____
(b) Formulation _____

Then ask the caretaker (record what you hear):

6a1. How much will you give to child each time?_____
6a2. How many times will you give it to child each day?_____
6a3. How many days will you give the medicine to child? _____days

7. Was a bronchodilator prescribed or given?

(1) Yes
(2) No, skip to question # 8

7a. If yes compare the caretaker's medication with the samples for identification of the medicines (the list, in which the health worker wrote about giving medication at home or prescription)

(a) Name_____
(b) Formulation _____

Then ask the caretaker (record what you hear):

7a1. How much will you give to child each time?_____
7a2. How many times will you give it to child each day?_____
7a3. How many days will you give the medicine to child? _____days

8. Was an iron preparation prescribed?

(1) Yes

(2) No skip to question # 9

8a. <u>If yes compare the caretaker's medication with the samples for identification of the medicines</u> (the list, in which the health worker wrote about giving medication at home or prescription)

(a) Name_____

(b) Formulation _____

Then ask the caretaker (record what you hear):

8a1. How much will you give to child each time?_____

8a2. How many times will you give it to child each day?_____

8a3. How many days will you give the medicine to child? _____days

9. Was ORS prescribed?

(1) yes

(2) No, skip to question # 10

9a1. How much water will you mix with one ORS packet?_____

9a2. How many times a day will you give ORS to the child?_____

9a3. How much will you give ORS after each liquid stool?_____

10. Did the health worker give you a specific day to come back to the health facility**?**

(1) yes → in how many days? _____days

(2) No → skip to question No.11

(8) Does not know, if does not know, skip to question No.11

11. How much fluid will you give to your child?

(1) the same amount
(2) less
(3) more
(8) Does not know

12. How do you feed your baby during illness?

(1) the same amount
(2) less
(3) more
(8) Does not know

13. Sometimes children condition may worsen and they should be taken immediately to a health facility. What types of symptoms would cause you to take you child immediately to a health facility??

Do not prompt, the caretakers can recall the signs

1	Child is not able to drink or breastfeed	1 (mentioned)	0 (not mentioned)
2	Child becomes sicker	1 (mentioned)	0 (not mentioned)
3	Child develops a fever	1 (mentioned)	0 (not mentioned)
4	Child develops fast breathing	1 (mentioned)	0 (not mentioned)
5	Child develops difficult breathing	1 (mentioned)	0 (not mentioned)
6	Child develops blood in the stool	1 (mentioned)	0 (not mentioned)
7	Child drinks poorly	1 (mentioned)	0 (not mentioned)
8	Other specify_____	1 (mentioned)	0 (not mentioned)
9	Other (specify)_____	1 (mentioned)	0 (not mentioned)
10	Other (specify _____	1 (mentioned)	0 (not mentioned)

14. Have you received or you shown mother's card today? Show mother's card.

(1) Yes
(2) No
(8) Does not know

End of interview.

Thank the caretaker for answering your questions and ask if she/he has any questions. Be sure the caretaker knows how to prepare ORS for a child with diarrhoea, how to give the prescribed drugs, and when to return if the child becomes worse at home

Record the time of interview end
Time ___hours ____minutes

Form 2. Supervisor **coding**

Information needed	Where to find data	Codes		
If an antibiotic prescribed (whatever the reason), does the caretaker describe correctly how to give an antibiotic?	Yes to question No. 5 and caretaker's answers correct in 5 a1, 5a2, 5a3	**(1) yes**	**(2) No**	**(8) NA Didn't receive antibiotic**
If ORS solution has been given or prescribed does the caretaker describe correctly how to give ORS?	Yes to question 9 and caretaker's answers correct in 9a1, 9a2, 9a3	**(1) Yes**	**(2) No**	**(8) NA Didn't receive ORS**

Form 3. Re-examination of the child (2 months-5 years)

Oblast________________________________District___________________________ Date____/____/______
Name of HF__________________________HF code.______ HF type.____surveyor IN______
Name of the child: ____ID________Age in months_______________
Sex (1) M (2)F Weight____kg Temperature ___-
Complaints:____

First visit __ Return visit __

Assess (circle all signs present)	Classify
Check for general danger signs: 1. not able to drink or breastfeed 2. vomits everything 3. lethargic or unconscious 4.convulsions	Is there a general danger sign? yes (1) No (2)
Does the child have cough or difficult breathing? **yes___** no___ **How long? __ days** Count the number of breaths in one minute Breaths in one minute. __ Look for chest indrawing. Look and listen for stridor Look and listen for asthmatoid breath? If asthmatoid breath: if this episode repeated?	
Does the child have diarrhoea**?** **yes___** No __ **How long? __ days** , * Look: if the child is lethargic or? **Is there blood in the stool?** Restless or irritable ? *** Look for sunken eyes.** * the child not able to drink or drinking poorly? Drinking eagerly, thirsty? * Pinch the skin of the abdomen. Does it go back: very slowly, slowly, immediately	
Does the child have fever? (by history, feels hot, 37,5 ° C or above) **Yes** __ No __ **How long? __ days** Look or feel for stiff neck **If more than 5 days** Look for signs of measles: have generalized rash and fever been present every day? One of the signs: cough, runny nose or red eyes **Has the child had measles within the last 3 months?** **Has the child been in a malaria area in the last year?** _ **If the child has measles** Look for ulcers in the mouth. If Yes, are they deep and extensive? **or he had measles the last 3 months** Look for pus draining from eyes Look for clouding of the cornea _ **If a child is from malaria zone** **or the child is there for the past 9 months** *No common cold *No measles *No other causes of fever	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _
Is there a sore throat? Yes __ **No__** Are there any white patches in the throat? Look for white patches in throat	

Are there any enlarged lymph nodes? Look for the increased cervical lymph nodes Ia able to drink	
Does the child have an ear problem? Yes ___ No ___ Is there ear pain? Is there ear discharge/pus draining ?_____ days. Feel for tender swelling behind the ear	
Check: Are there signs of severe malnutrition? Look for palmar pallor: severe or some. Look for oedema of both feet? Determine weight for age: weight low __ no low weight __	
Check vaccination status: BCG, HBV-1, HBV-2, HBV-3, OPV 1, OPV 2, OPV-3, OPV-4, DPT-1, DTP-2, DPT-3, DTP-4, measles	To come back for vaccination: Date _____
Assess feeding practice: Are you breastfeeding? Yes __ No __ If Yes, how many times a day? ____ Are you breast-feeding at night? Yes __ No __ Does the child receive other foods or liquids? Yes __ No __ If yes, what foods or fluids? _____ How many times a day? ___ Times. What do you use for feeding? _____ How much servings * _____ Who feeds the child and how? _____ Has the feeding changed during the illness? Yes ___ No ___ If so, how? _____	
Also assess the care for development, if the child has anaemia or low weight or looks younger than 2 years • How do you play with your child? • How do you communicate with your child?	Care problems

Other problems:

_____

No.	Questions	YES	NO
01	**Did your child receive vaccination today?**	1	0
02	**Did the health worker ask you to bring back a child to receive vaccination another day?**	1	0
03.	**Is the child's vaccination card/passport?** *(If the child does not have a vaccination card, ask questions 1–5a inclusive). If the child has a vaccination card, skip to question 6)*	1	0
03–1	**Has your child ever been given BCG vaccination against tuberculosis? " – That is an injection in the left shoulder that caused a scar?**	1	0
03–2	**Is there a scar of BCG on the left shoulder of the child?**	1	0
03–3	**Has your child ever been given vaccination for the prevention of tetanus, whooping cough and diphtheria – a injection in the thigh?**	1	0
03–4	**Has your child ever been given vaccination to prevent her/him from hepatitis B – an injection shot in the thigh?**	1	0
03–5	**Has your child ever been given "vaccination drops" to protect him/her from getting disease – that is, polio?**	1	0
03–5a	**Has your child ever been given vaccination against measles?**	1	0
6	**Has your child ever been given vitamin A drops?**	1	0
7	**Has your child ever been given vitamin D drops?**	1	0
8	**Does your family use the iodized salt for cooking?**	1	0
9	**Does the child, leaving the health facility, still needs a vaccination today?**	1	0
10	**Who is the main caretaker for the child?**	(1) Mother (2) A female relative (3) Other	

Supervisor, please, copy the classifications in appropriate box on page__, Form 3

Form 4. Equipment and supplies checklist
HF code_____

Oblast _____ Rayon/district_____ HF name _____	Date:_____/_____/_____ HF code_____ HF type 1 2 3 4 IN of surveyor_____

Discuss (define) with the head of facility the number of health workers, who usually have child case management responsibilities (0–5 years).

Table 1: Characteristics of health workers with child case management responsibilities (0–5 years)

HW category	Total number of health workers assigned to facility	Total number of health workers assigned to facility who usually manage children	Total number of health workers usually managing children present today	Total number of health workers usually managing children IMCI and care for growth and development trained	Total number of health workers usually managing children IMCI and care for growth and development present today
Doctors					
Nurses					
Midwife					
Paramedic \medical assistant					
Lab Assistant					
Others					
Total					

Ask a health worker to show you around the facility. During the inspection, answer the following questions.

Necessary equipment and supplies module (estimate of available equipment in the HF)

Ask questions E2 – E6 in the vaccination room.

E2. Does the facility have needles and syringes for vaccination ? (disposable)

(1) yes
(2) No, if No, skip to question E3.

E2a. if appropriate needles, how do health workers use these needles?

(1) once; (2) many times

E1	Does the health facility have available the following equipment and supplies?	yes	No
A	Are scales for adult (older age children) available and working?	1	0
B	Are baby scales (children under 1 year) available and working?	1	0
C	Is the clock or timer available and working?	1	0
D	Is everything necessary for mixing ORS available?	1	0
E	table (for mixing of ORS, for demonstration)	1	0
F	chairs for caretakers	1	0
G	containers (for the preparation of ORS, boiled water)	1	0
H	cups, spoons, measuring capacitance	1	0
I	container for boiling water	1	0
J	burner for boiling water	1	0
K	pot for treatment cups, spoons	1	0
L	spacer	1	0
M	Is there a source of drinking water? Describe the source (underline your choice): water, pump, well, well, irrigation ditch	1	0
N	Are there form-stocks for recording IMCI?	1	0
O	vaccination cards of children (F 63)	1	0
P	mother's card	1	0
R	IMCI chart booklet	1	0
S	Drug logbook	1	0
T	ERP logbook	1	0
U	accessible means of transportation for patients requiring referral	1	0

E4. Does the health facility have a functioning refrigerator?

(1) yes
(2) No

E5. Does the health facility have ice packs and/or cold bag?

(1) yes
(2) No

E6. Does the health facility have the following vaccine in stock?

1 BCG (1) yes (2) No
2 polio (1) yes (2) No
3 DTP (1) yes (2) No
4 Measles (1) yes (2) No
5 HBV (1) yes (2) No

Module: Accessibility to drugs

Check the drug stocks. Answer the following questions, based on what you see.

Д 1. Does the health facility have the following drugs the day of visit?

A) ORS_____ (1) Yes (2) No
B) recommended antibiotic for pneumonia – amoksitsillin _____ (1) Yes (2) No
C) first line antibiotic for dysentery – nalidixic acid___ (1) Yes (2) No
D) recommended antibiotic kotrimoksazol _____ (1) Yes (2) No
E) Vitamin A _____ (1) Yes (2) No
F) iron supplementation tablet/syrup _____ (1) Yes (2) No
G) paracetamol _____ (1) Yes (2) No
H) eye tetracycline ointment (1) Yes (2) No
I) gentianviolet (1) Yes (2) No
J) salbutamol tablet/syrup (1) Yes (2) No

K) salbutamol spray (1) Yes (2) No
L) zinc tablets (1) Yes (2) No

Д 2. Does the health facility have the following injectable drugs the day of visit?
A) chloramphenicol IM (1) Yes (2) No
B) bicillin 1 (1) Yes (2) No
C) benzylpenicillin IM (1) Yes (2) No
D) gentamic IM (1) Yes (2) No
E) sterile water for injection (1) Yes (2) No
F) Ringer's solution/saline solution: (1) Yes (2) No

Module: Facility services assessment
Ask the following questions to the health worker, who has been observed during the child management. If there are several health who have been observed managing cases in the same facility, discuss the following questions with all of them and try to reach a consensus for each question. Add comments at the end of the form, if there are any problems.

S1. How many days per week is the health facility open? _____ days/week

S2. How many days per week are child health services provided? _____ days/week

S3. How many days per week are vaccination services available? _____days/week

Other:_____

S5. How many times during the last 6 months did the facility receive a supervisor (coordinator visit)? _____ including:
republican level _____
regional level _____
district level _____
If never, skip to question S8
S6. How many of these supervisory visits were follow-up visits to HWs who have been recently trained in IMCI course? _____ visits
How many of these supervisory visits were follow-up visits to HWs who have been recently trained in care for child growth and development ? _____ visits
Ask the health worker question S7, based on the most recent supervisor's visit, which was not an IMCI follow-up visit.
S7. Did the supervisor observe case management of a sick child the last time he/she visited the facility ?
(1) yes
(2) No
(3) I do not know
S8. Did you refer the severely-ill child?
(1) hospital – please, give the name_____
(2) a private doctor
(3) specify other: _____

S9. How long does it take for the patient to get to the referral centre/doctor, using the most common local transportation? _____hours
S10, Have you ever wanted to refer a very severely-ill child but been unable to do so?
(1) Yes. Why?_____
(2) No
S11. If you had to refer 10 children to the hospital, how many of them do you think will end up going to the hospital? _____

Module: Facility records
Ask the health worker responsible for records, to help you identify records for all visits to the health facility. Do not include impatient records. Use these records to answer the questions below. It is not enough information is available to answer the question, mark NI (not enough information)
Adaptation note: The availability of records will vary by country and by level of HF. Procedures to be used for arriving at estimated of attendance (outpatient services and home visits) should be calculated in each site.
R1. What is the total number of visits to the health facility for outpatient services during the past month??
Number of visits (outpatient services and home visits) _____
R2. How many of these visits were made by children aged from 2 months – up to 5 years?

(Outpatient services and home visits)

_____ Visits by children under 5 years

R3. How many of these visits were made by children aged from 0 to 2 months?

_____ Visits by children from 0 to 2 months

Appendix 2. List of health facilities in Khatlon region and RRS

No.	Name of health facility	CODE	District
1	RHC No.3 Marx 3	01	Vaksh
2	RHC Dusti	02	
3	RHC Tajikistan	03	
4	RHC Mashal markaz	04	
5	Family Health Centre	05	
6	MH Sovetobod	06	
7	MH Yakadil	07	
8	MH Inkilob	08	
9	MH Chapaev No.4	09	
10	MH Leningrad	10	
11	MH Tojik 1	11	
12	MH Fidokor	12	
13	MH Sohtmoni Vaksh	13	
14	MH Jitergen	14	
15	RHC B – Kainar	15	Yavan
16	RHC Parchasoi	16	
17	RHC Dashtobod	17	
18	RHC Buston	18	
19	District Medecine Centre	19	
20	MH Obi- muki-2	20	
21	MH Kolfisabad	21	
22	MH 8-March	22	
23	MH Odok Kainar	23	
24	MH Haidar	24	
25	MH Ohujar	25	
26	MH Navobod	26	
27	MH Chu-chu	27	
28	MH Tajoiobod	28	
29	RHC Guliston	29	Sarband
30	MH D. Malenkov	30	

No.	Name of health facility	CODE	District
1	RHC Nilu	40	Hissar
2	RHC Nokhi	41	
3	RHC Kavshduzon	42	
4	MH Hurak-bolo	43	
5	MH Sabzazor	44	
6	RHC Istiklol (former DPF)	45	Rudaki
7	RHC Navobod	46	
8	RHC Kiblai	47	
9	MH Alajabor	48	
10	MH Mirzochul	49	
11	MH Dusti	50	
12	MH Shurien	51	
13	MH Changob	52	
14	MH Choltosh	53	
15	MH Mehtari	54	
16	MH Chimteppa	55	
17	MH Pakhtakor	56	
18	MH Pistazor	57	
19	RHC Girdob	58	Vakhdat
20	RHC Lilchak	59	
21	RHC Bahor	60	
22	District Health Centre	61	
23	MH Hangoobod	62	
24	MH Chirtak	63	
25	MH Galchigi	64	
26	MH Arbobdara	65	
27	MH Shaudrez	66	
28	MH Zafarobod	67	
29	MH Dashtibeki khurd	68	
30	MH Kushon	69	

Appendix 3. Agenda of the 3-day training of surveyors

Date: 25–26, June 30, 2009
Venue: Dushanbe, Republican Clinical Hospital

Day and Time	Activities
1st day 09:00–09:15	Opening, welcoming the participant
09:15–09:45	Guidelines, administrative and general information for participants
09:45–10:00	Introduction. Training goals and objectives
10:00–10:15	Participants' expectations.
10:15–10:30	Training protocol and technical characteristics
10:30–11:00	Organization of a team of surveyors
11:00–11:20	Break
11:20–13:00	Tool 1: Checklist of observation – a sick child κ Role-play for instrument No. 1
13:00–14:00	Lunch
14:00–15:00	Tool 2: Exit interview – sick child Role-play for instrument No. 2
15:00–15:45	Tool 3: Re-examination of the sick child (2 months-5 years) Role-playing for instrument No. 3
15:45–16:00	Break
16:00–16:20	Registration card – Review
16:20–18:00	Tool 4: Checklist of equipment and supplies Overview: Role-playing for instrument No. 4 How to visit a health facility for practice.
2nd day 09:00–13:00 10:45–11:00	Visit a health facility. Practice tools No. 1, 2 and 3 Discussion of the completed instrument number 1 and 2.Review of registration form Break
13:00–14:00	Lunch
14:00–15:30	Visit to a health facility. Practice tool No. 4 Checklist of equipment and supplies
15:30–15:45	Break
15:45–17:30	Role-playing for instruments No. 1,2 and 3. Discussion of the visit to a health facility and the completed forms No. 1,2,3 and 4
3rd day 09:00–11:00	Role playing for verifying the reliability of questionnaires
11:00–11:20	Break
11:20–12:00	The methodology of focus group discussions
12:00–13:00	General rules of logistics of the survey. Discussion of open-ended questions. Meeting with supervisors
13:00–14:00	Break
14:00–15:00	Building-up teams, scheduling of teams visits to health facilities.
15:00	Departure of the survey teams in the studied areas

Appendix 4. Table No. 1. Priority indicators

No.	Indicator name	Khatlon oblast (%)	RRS (%)	TOTAL (%)
1	Children, checked for three general danger signs	27.3	32.0	29.7
2	Children checked for the presence of cough, diarrhoea and fever	28.7	54.7	41.7
3	Children who have been weighted and have their weight checked against a growth chart	41.3	46.0	43.7
4	Children who have their vaccination status checked	36.7	34.7	35.7
5	Index of integrated assessment The mean number of 10 tasks performed for each child	6.3	6.8	6.5
6	Children under 2 years of age whose caretakers are asked about breastfeeding, complementary foods and feeding practices during illness	45.8	55.5	50.6
7	Children who do not need urgent referral but who need an oral antibiotic, who are prescribed the drug correctly	41.6	21.4	30.7
8	Children who do not need urgent referral and who do not need antibiotic for one or more IMCI classifications, who leave the health facilities without having received or been prescribed antibiotics	63.6	66.1	65
9	Sick children whose caretakers are advised to give extra fluid and continue feeding	50.3	45.3	47.8
10а	Children, prescribed ORS, whose caretakers can describe correctly how to give treatment	75.2	31.7	53.5
10б	Children prescribed oral antibiotic, whose caretakers can describe correctly how to give the treatment	25.0	62.1	45
11	Children needing referral who are referred to the inpatient facility by the health worker	0.0	50.0	20.0
12	Health facilities that received at least one routine supervisory that included the observation of case management during the previous 6 months.	20.0	6.7	13.3
13	Index of availability of essential oral drugs. Availability of essential oral drugs the day of visit for outpatient treatment of a sick child (arithmetic mean of indices from all HFs is 5)	3.1	3	3
14	Index of availability of injectable drugs for pre-referral treatment. Availability of injectable antibiotics for pre-referral hospital treatment of severely ill children and infants on the day of visit (arithmetic mean of indices from all HFs is 4).	2.1	3	2.6
15	HFs having the equipment and supplies to support full vaccination services on the day of survey	33.3	33.3	33.3
16	Index of availability of essential vaccines the day of visit (arithmetic mean of indices from all HFs is 4).	0.6	1.6	1.1
17	Health facility with at least 60% of the health workers managing children trained in IMCI	36.6	36.6	36.6
18	HFs having available ORS	100	100	100
19	Health workers prescribed zinc tablets to children with diarrhoea	65.7	65.1	65.4

Table 2. Supplementary indicators

No.	Indicator name	Khatlon oblast (%)	RRS (%)	TOTAL (%)
1	Sick children, brought to HF and checked for the presence of "other problems"	15.3	26.7	21.0
2	Sick children with low birth weight, assessed for nutrition problem	53.3	57.8	55.8
3	Sick children with low birth weight for the IMCI classifications correctly established	66.6	73.6	70.5
4	Children whose IMCI classification established by the health worker are consistent with IMCI classifications established by the surveyor (expert)	63.3	77.7	72.2
5	Children with pneumonia correctly prescribed an antibiotic	33.3	33.3	33.3
6	Children with diarrhoea administered ORS in the health facility	93.5	95.2	94.3
7	Children with anaemia prescribed treatment correctly	23.6	0.0	15.5
8	Children who do not need urgent referral and who received the first amount of antibiotic in the health facility	20	20	20.0
9	Children with severe classification needing urgent referral who received appropriate treatment and referral	0	50.0	20.0
10	Children who do not need urgent referral, who need an antibiotic and/or ORS who are prescribed the drug(s) correctly and received at least two advises concerning treatment	61.3	83.5	72.5
11	Sick children whose parents have at least three messages when they should immediately bring the child back to the health facility	83.7	64.9	74.2
12	Children with low birth weight, whose caretakers are counselled on the child's diet according to age	28.6	11.8	19.4
13	Children whose mothers received advice on giving extra fluids and nutrition	50.3	45.3	47.8
14	Children not needing urgent referral, whose mother, leaving the health facility, have this card or report that the health worker showed this card	32.0	69.6	50.8
15	Health facilities having available essential equipment and supplies	36.7	63.3	50.0
16	Percentage of health facilities having available the IMCI chart booklet and mother's card	66.7	70.0	68.3