

Assessment of paediatric hospital care in Kyrgyzstan 24th July – 4th August 2012



Mission report

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ABSTRACT

In an effort to scale up and document best practices, the Russian Federation has provided funding to be administered by WHO to support improved quality of pediatric care project in four selected countries in central Asia and Africa. Within the framework of this Project, WHO in collaboration with Scientific Centre for Child Health of the Russian Academy of Medical Science and other technical experts will provide technical assistance to Angola, Ethiopia, Kyrgyzstan and Tajikistan to strengthen their national health systems' capacity to improve the quality of pediatric care in the first-level referral hospitals.

The main goal of the project is to reduce childhood mortality through strengthening national health systems capacity in improving the quality of paediatric care for common childhood illnesses in the first-level referral hospitals.

This is the report from the second mission that aimed at assessment of twenty hospitals in three Regions in North Kyrgyzstan (Talas, Chui, Issyk-Kul) and reaching a consensus on main interventions to improve the Quality of Hospital Care among key stakeholders.

KEY WORDS

Child, Hospitalized
Child advocacy
Child care
Delivery of health care
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Quality of health care

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Trieste, 7th August 2012.

Marzia Lazzerini, MD, MSc, PhD

Abbreviations

BF: Breastfeeding

GL: Guideline

GP: General Practitioner

ETAT: Emergency Triage Assessment and Treatment

ICU: Intensive Care Unit

IMCI: Integrated Management of Childhood Illness

MCH: Maternal and child health

PB: Pocket Book

PHC: Primary Health Care

QoC: Quality of Care

QA: Quality assessment QI: Quality improvement

WHO: World Health Organization

Executive summary

In order to address the deficiencies in quality of hospital care for children, WHO is implementing a three year health development project with financial and technical support from the Russian Federation (December 2011 to December 2014). Within the framework of this Project, WHO provides technical assistance to Angola, Ethiopia, Kyrgyzstan and Tajikistan to strengthen their national health systems' capacity to reduce case fatality from common childhood illnesses in the first-level referral (district) hospitals. This will be achieved by: a) improving the quality of paediatric care in selected first-level referral (district) hospitals in these countries; b) expanding this experience nationally through capacity building, adoption and introduction of up-to-date national norms and standards in paediatric care, based on the existing international guidelines (WHO Guidelines for Hospital Care for Children: Management of Common Childhood Illnesses with Limited Resources); c) updating international guidelines and tools on the basis of experience gained and data collected in the process of the project implementation; d) introducing the concept of paediatric care standards in the national education and training of health professional to sustain the project's results.

In Kyrgyzstan, after having obtained approval by the Ministry of Health, political as well as professional commitment for the implementation of the Project, a first mission as organized from 20 to 27 June 2012 to present the Pocket Book Technical update, train the national assessors, define the list of hospitals to be assessed, and the agenda of the Quality Assessment mission. On the first mission it was also agreed to put some efforts in measuring the impact of the intervention.

A second mission with the objective to assess hospitals and reach consensus on main future interventions to improve the Quality of Hospital Care was organized from 25th July to 3rd August 2012. This is the report from the second mission. Twenty hospitals were assessed in three Regions in North Kyrgyzstan (Talas Region, Chui, Issyk-Kul Region). The list of hospitals included sixteen district hospitals, three regional hospitals, and one national center.

Methods used for the assessment included: 1) The Paediatric Care Assessment Tool (WHO/Europe revised version November 2009); 2) Assessment of about 35 patient charts in each hospital, using ten simple criteria. 3) An extra chapter on newborn, added as locally requested by to the Paediatric Tool.

All twenty hospitals were assessed, and 713 patients' charts were also analysed. Quality of care varied largely among the hospitals, however, there were some common problems. The assessment showed that frequent important gaps exist in several different area of Quality of Care, including:

- Health Information Management System
- Drugs, equipment and supplies
- Infrastructures
- Case management of common diseases (acute and chronic)
- Supportive Care
- Children Rights
- coordination with other levels of care (PHC, regional and national centers)

Results were presented and discussed on a meeting with members of Ministry of Health and hospital managers (3rd August). During this restitution meeting agreement was reached on the existence of problems in the quality of paediatric hospital care in Kyrgyzstan, and on the need to take actions. During the team-work consensus was reached on the main areas for intervention. A proposed list of action was drafted, including strategies at different levels: national, regional and hospital levels.

Some indicators for monitoring and evaluation (M&E) were proposed, but there was not adequate time to define in details all the list of indicators.

Expected immediate future steps include the definition in details of the intervention (i.e. details on the training cascade, methods and tools for the regional supervisors). For each action people in charge and deadlines should be identified, as well as Indicators for M&E. A conference call could be organized to finalize details of the intervention, methods for M&E, and to identify any need for external support.

1. Background

In order to address the deficiencies in quality of hospital care for children, WHO implemented a 3 years (December 2011 to December 2014) health development project with financial and technical support from the Russian Federation. Within the framework of this Project, WHO will provide technical assistance to Angola, Ethiopia, Kyrgyzstan and Tajikistan to strengthen their national health systems' capacity to reduce case fatality from common childhood illnesses in the first-level referral (district) hospitals. This will be achieved by: a) improving the quality of paediatric care in selected first-level referral (district) hospitals in these countries; b) expanding this experience nationally through capacity building, adoption and introduction of up- to-date national norms and standards in paediatric care, based on the existing international guidelines (WHO Guidelines for Hospital Care for Children: Management of Common Childhood Illnesses with Limited Resources); c) updating international guidelines and tools on the basis of experience gained and data collected in the process of the project implementation; d) introducing the concept of paediatric care standards in the national education and training of health professional to sustain the project's results. WHO implements the project using relevant international, Russian and/or local expertise in coordination with the WHO regional and country offices. To achieved national ownership and professional and political commitment a national steering group is to be created in each country, bringing together (a) national partners (health authorities, scholars and practitioners, decision-makers and politicians), (b) international technical partners (WHO, UNICEF and other international organizations, Russian and international experts and nongovernmental organizations) and interested donors. The national steering groups should provide technical guidance, oversee the implementation of the Project and disseminate its results at the national level.

In Kyrgyzstan, after having obtained approval by the Ministry of Health, political as well as professional commitment for the implementation of the Project, a first mission in was organized from day 20 to day 27 June 2012 to present the Pocket Book Technical update, train the national assessors, define the list of hospitals to be assessed, and the agenda of the Quality Assessment mission. Materials and methods of this second mission were agreed. Moreover, it was proposed to put some efforts in measuring the impact of the intervention. A draft protocol for the evaluation was circulated and sent to WHO headquarters.

A second mission with the objective to assess hospitals and reach consensus on main future interventions to improve the Quality of Hospital Care was organized from 25th July to 3rd August 2012. This is the report from the second mission.

2. Methods and activities

Twenty hospitals were assessed in three Regions in North Kyrgyzstan (Talas, Chui, Issik-Kul). The list of hospitals included sixteen district hospitals, three regional hospitals, and one national center (Appendix 1). The agenda for the mission are reported in Appendix 2. The assessors' teams are reported in Appendix 3.

The Paediatric Tool (revised version November 2009) was used for the assessment. It was also decided to evaluate about 35 patients charts in each hospital. Ten simple criteria were used to evaluate the patients' charts (*Appendix 4*). These criteria were proposed by Marzia Lazzerini together with Giorgio Tamburlini, and agreed among the overall team of assessors. All the criteria used the WHO Pocket book (including the Technical update 2012) as a reference, and were clearly defined. A template was developed to assess rapidly the

patient's chart. In this template the assessors just needed to cross whether for the criteria was present or absent. The feasibility of assessing 35 patients charts in each hospital was discussed on day 24th and 25th of July prior the start of the assessment, and it was decided that it feasible for each assessor to evaluate 10-15 patients chart in 60-90 minutes.

A briefing meeting was held on day 24th July with the team leaders, and subsequently on 25th of July with all the assessors to explain in details the methods of the assessment, and clarify any doubt regarding the expected results. Templates were distributed among the groups (*Appendix 4*). The templates had to be filled by each group in order to facilitate the collation of results for the restitution meeting. The list of templates included:

- a. Template to asses the patient charts
- b. Template with scoring system
- c. Template with Action Plan to be developed at each site
- d. Template with strength and weakness
- e. Baseline hospital characteristics

Since the paediatric tool does not include a section on newborn, an extra chapter on newborn was developed (*Appendix 5*).

3.Results

All twenty hospitals were assessed. The assessment visits were run smoothly and without any major problem thanks to the assistance of local authorities and hospital managers. The welcome to the assessment team was warm and attentive almost everywhere.

3.1. Paediatric tool

The assessment teams identified as number of positive aspects:

- ❖ Infrastructures has been recently renovated in some hospitals, while in others renovation or new buildings are planned.
- Staff was sufficient in most sites.
- Equipments, drugs and supplies, and laboratory equipment was generally good in most sites.
- Hygiene and cleanliness were generally good.
- There are no significant economic barriers, common drugs are free of charge for children.
- ❖ A surgery department with paediatric specialist was present in most sites.
- The hospitals provided feedings for children and mothers.
- On average, theoretical knowledge of IMCI is good even at hospital level.
- ❖ Health professionals showed a high commitment to provide good care for children and showed interest in and pride of their work.
- ❖ The attitude and interest in the assessment of Hospital Directors and Deputy Directors was also remarkable, most of them joined the team during part of the assessment.

However, the assessment showed the existence of some important gaps in several area of Quality of Care, including infrastructure, organization of supplies, support systems, coordination with PHC and other levels of care. Clinical management was characterized between some gaps in knowledge, and many gas between theoretical knowledge and actual practice.

The Summary Scores for the 20 hospitals evaluated are reported in the following Table 1 and Table 2.

Table 1. Summary scores of the East Teams

Table 1. Summary scores of the E	Day 1	Day 2		Subgroup a) Subgro			oup b				
	1. Issy Kul OBLAST Joint hospital	2.Ak su territorilal	3. Tiup district	4. Issy Kul district	5. Kemin district	6. Bishkek NATION	7. Jeti Oguz district	8. Ton district	9. nBalykchi district	10. Tokmok city/district	MEAN
1. Information system	1.8	1.5	1.7	1.4	1.4	2.3	1.7	1.5	1.7	1.3	1.6
2. Essential drugs. Supplies, Equip.	2	2	1.5	1.3	1	2.7	1.9	2	1.8	1.8	1.8
3. Laboratory	2.5	2.2	2	1.5	1.8	2.7	2	2	2	2	2
4. Emergency care	1.5	1.8	1.5	1	1.5	2.4	1.1	1.3	1.7	1.1	1.5
5. Pediatric ward facilities	1.7	1.9	1.4	1.8	0.5	2.5	1.5	1.5	1.6	1.5	1.6
6.1 Cough. difficult breathing	1.4	1	1.2	1.4	1.7	1.5	1.5	1	1.6	1.5	1.4
6.2 Diarrhea	1.5	1.2	1.4	1.3	1.4	1.5	1.2	1	1.4	1.3	1.3
6.3 Anemia growth failure	1	1	1.4	1	0.7	1.7	1.1	1	1.4	-	1.1
6.4 Fever	1.5	1.5	1.3	1.3	1.3	1.5	1.5	1	1.6	1.3	1.4
6.5 Chronic conditions	1.5	1	1	1	1	2.7	1	1	-	-	1.3
6.6 Essential surgery	-	-	-	ı	-	-	-	-	-	-	1
7. Infect prevent & support care	1.5	1.5	1.5	1.5	1.5	2	1.5	1.5	1.9	1.2	1.6
8. Child Friendly services	1.5	1.5	1.4	1.2	0.5	1.5	1.7	1.5	1.7	1.6	1.4
9. Monitoring and follow up	1.5	1.5	1.8	1.5	2	1.5	1.7	1.2	1.5	1.6	1.6
10. Guidelines and audits	2	1	1.5	1.5	1.7	2.2	1	1.7	2	1.8	1.6
11. Access	2.3	1.5	2	1.5	1.2	1.5	1.1	1.8	2	2	1.6
12. Care takers satisfaction	2	-	-	•	2	ı	2	2	2	2	2
13. Health worker satisfaction								1.5	2	1.5	1.7

Table 2. Summary scores of the West Teams

Table 2. Summary scores of the West Teams										1	
	Day	Day		Subgroup a)			Subgroup b)				
	1	2		_							
	1.Talals OBLAST Joint	2.Chat Bazar	3. Bakai-ata	4. Jaiyl joint	5. Moskovskii	6. Chui joint OBLAST	7. karabura	8. Panfilovsky	9. Sokuluk	10. issikata	MEAN
1. Information system	2	3	2.5	1.5	2.0	1.5	2.3	2	1	2	2
2. Essential drugs. Supplies, Equip.	3	3	2.2	2.8	2.8	2.6	3	2.6	1.2	2.8	2.6
3. Laboratory	3	3	2.5	3.0	2.0	2.5	3	3	3	3	2.8
4. Emergency care	1.7	2	1.8	1.8	1.8	1.5	2.0	1.4	1.6	2.4	1.8
5. Pediatric ward facilities	1.8	2	0.75	1.0	2.0	2.3	1.8	1.5	1	2.8	1.7
6.1 Cough. difficult breathing	0.4	0.4	0.6	0	0.3	0.3	0.6	0.7	1.6	0.3	0.5
6.2 Diarrhea	0.2	0.5	0.3	0	0	-	0.8	0.8	1.8	2	0.7
6.3 Anemia growth failure	0	0	0	0	0	0	0.7	0.7	0	1.3	0.3

6.4 Fever	1	1.2	0.7	0.5	0.6	0.2	1.2	1.2	0.8	1.3	0.9
6.5 Chronic conditions	1	1.7	0	1.0	0.6	0.7	1	0.3	1	0.7	0.8
6.6 Essential surgery	2.3	3	1.0	2.0	2.0	-	2.3	2	1	1.7	1.9
7. Infect prevent & support care	0.8	1.4	2.0	0.8	1.0	1.2	1.4	1	1.2	1.8	1.3
8. Child Friendly services	0.3	1.6	0.8	0.8	0.7	0.7	0.7	0.4	0.4	0.7	0.7
9. Monitoring and follow up	0.7	1.5	1.0	1.0	1.5	1.0	1.2	1	1	1.2	1.1
10. Guidelines and audits	0	0.8	0	1.0	0.7	0	0.7	1.5	0.5	1	0.6
11. Access	2.3	2	1.75	1.5	0.8	1.5	2	2	1.5	1.8	1.7
12. Care takers satisfaction	1.7	2.6	2.3	2.0	2.0	1.3	2	2.3	1.3	2.7	2
13. Health worker satisfaction	2.5	1.9	1.8	2.1	2.0	1.3	1.7	1.7	0.8	1.5	1.7
14. EXTRA Newborn	2.4	2.8	2.0	2.0	2.0	-	2	1.2	1	2.4	2

Note: The evaluation of maternal and newborn department was not systematically included in the present assessment, due to time constrains, and to the fact that the newborn component is usually evaluated by another Assessment Tool. However, an extra chapter on newborns was developed, and it was agreed that we were going to perform the evaluation of newborns if we had met any newborn during the evaluation in the general children departments.

3.2 Patients charts

In total 717 patients charts were revised, 669 of which focusing on respiratory diseases and diarrhea (and the remaining focusing on newborns). Results of the assessment of the patients charts are summarized in Image 1.

As clearly shown by Table 1-2 and Image 1, there were large differences in the extent to which problems were found across the twenty hospitals. Quality of care varied among hospitals, but also among the same hospital, with some hospitals performing better in some areas, and worst in others area. However, there were some common problems.

Table 3 synthesizes the problems identified overall and the relevant suggested actions to improve the quality of care. The list is the result of the discussions held throughout the assessment, first within the assessors' teams, then with the hospital staff and managers, and finally within the final debriefing and follow-up meetings in Bishkek. The list is presented according to the WHO Paediatric assessment tool framework.

3.3 Barriers to implementation of guidelines

The health staff was interviewed to identify the perceived barriers to the implementation of the WHO guidelines. The reported barriers were similar to those highlighted in Kazakhstan in 2011:

- 1. Lack of training: inadequate knowledge of the guidelines (as expected, training not yet started).
- 2. Difficulty in change behaviours: persistence of routine traditional practices.
- 3. Patient driven care, and community perspective: pressure from mother and relatives in hospitalizing and prescribing injections.
- 4. Defensive medicine: fear of punishment in case of bad outcomes (or rejected admission).
- 5. Financial mechanisms: fear that hospital will be closed or staff fired, or the budget reduced. Day hospital care, or any admission lasting less than three days is not paid.
- 6. Lack of specialized personnel: lack of paediatricians and neonatologists at district hospital level; prevalence of old staff proximal to pension.
- 7. Lack of coordination with PHC and other levels of care.

Overall the assessment identifies number of common problems. The list of problems and suggested solutions are reported in the following Table 3.

Image 1. Results of the assessment of Patients Charts (N=669)

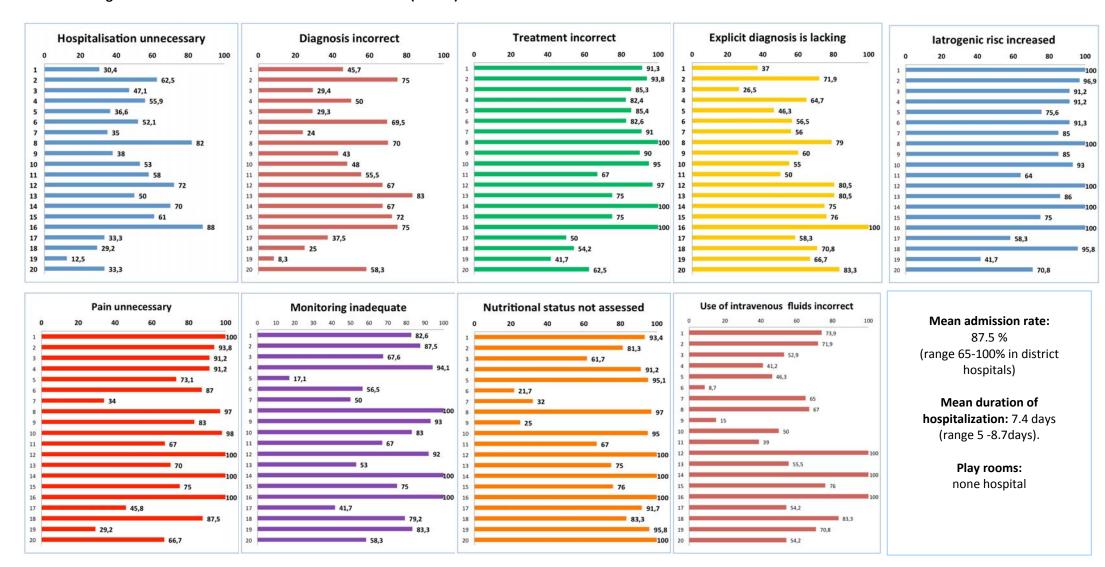


Table 3. List of common problems and suggested solutions

	PROBLEMS	SOLUTIONS
1. Information system and medical charts	 Hospital's statistics always collected, often computer based, but: Frequent low awareness Frequent inconsistencies Data on children sometimes lamped with adults Focusing on Volume of work, and Health Insurance Foundation plans, not on Health outcomes and QoC NOT used for quality improvement processes Medical notes always present. However: Sometimes difficult to read Mothers do not have access Poor monitoring of vital parameters, some inconsistency in parameters/ clinical status 	 Hospital statistics Improve internal critical analysis and knowledge among the staff on Hospital's statistics. Monitor the Admission Rate (range 65-100%), and the duration of stay (average duration range 5-11 days) Use these indicators to make actions plans together with PHC. Adopt indicators of QoC, not only of volume of work Medical notes: Improve readability and content of medical notes Improve monitoring charts Check internal consistency by Clinical audits
2. Essential drugs. supplies. equ	 Most of the drugs and equipment is available. However some important problems: Not available on national level: zinc. In district hospitals some life-saving although rather cheap equipment is lacking (eg. Oxygen, Oxygen for transportation, oxymeter, Ambu and masks children-sized, aereosol, scales + Salbutamol, ceftriaxon, diazepam + Amoxicilin, ORS low osmolarity, phenobarbital. Not all staff know how to perform some procedures (butterflies, agocannulas, NG tubes). Deficiency in distribution and readiness of the equipment Deficiencies in drug- ordering and drug storage (fridge) 	 Supply basic equipment. Make sure than all departments are equipped with basic supplies (not only the reanimation) Have a full emergency set ready for emergencies and transportation Precise responsibilities on how and how often to check all the equipment/supplies in each departments Educate on the value of oral antibiotics, and on the importance of Emergency treatment Hold regular re-training to make sure that all the staff know how to use the equipment.
3. Laboratory	Generally good, all minimum set of lab exams available in all sites. But	

	 In some facilities exams not available in the night Generalized lack of Quality control 	 Strengthen Quality Control. Make sure that emergency tests are available in reasonable time.
4. Emergency care	 Tendency to rely entirely on reanimation dept (ex. 20% of hospitalizations!) Long distances between first admission and reanimation. Structural deficiencies: no hot water, physical barriers (tiny doors, stairs, old and out of work elevators) Inadequate transportation: few ambulances (10% of accesses), no oxygen, no roller table, no immobilization for patients with trauma, no practical solution found to deal with physical barriers Inadequate organization: Equipment not ready, not always team work, drugs kept in different places, unnecessary furniture, no bulbs, no soap, no wall charts TRIAGE AND EMERGENCY TREATMENT NOT IN PLACE or INADEGUATE IN MOST PLACES RESULT= delayed and inadequate emergency care Some lack of human resources in district hospital (few specialized doctors, most of which in the old age, proximus to pension) 	 Implement a Triage system for doctors and nurses. Reorganize the Emergency rooms: add heating source, improve lightening, add soap, remove physical barriers, add charts on walls. Provide emergency equipment and supplies if needed: oxygen for transportation, pulse oxymeters, Ambu, diazepam, salbutamol. Precise responsibilities on how and how often to check all the equipment/supplies in each departments Hold regular role-play on different emergency cases, including the transportation to reanimation. Human resources: Add Triage and WHO PB in the pre- diploma curriculum. Staff retention policies (including adequate training and Quality Improvement projects and other QoC based incentives) for doctors working in the districts
5. Pediatric ward facilities	 Heterogeneous: some very good facilities, some under renovation, but several with long-lasting problems: Toilets: frequently too few (sometimes 1/20 beds), lack of water, lack of hot water, no soap, no toilet paper. Rooms: frequently crowded (4-6 children), old beds/mattress/linen, no commodities for mothers Heating: efficient in winter? Kitchen for mothers: camping-like No play room, no toys, no child-friendly images on wall, no sufficient light and windows (infection dept) 	 Improving for what is possible with immediate cheap solutions the conditions of pediatric ward Water supplies: distribute hot water at fixed times Toilets: chemical products to solve the obstructions, manual flashing; add soap and paper Privacy: distribute families in different rooms Child-friendly atmosphere: toys, light, colors draws on walls) Kitchens: more equipment for mothers

	Long-durations of hospitalization	
All clinical Areas	 Knowledge of IMCI assessment criteria and treatment; but: IMCI knowledge not applied in practice Hospital stereotypes: "Children have the right to be hospitalized" (i.e. "all should be hospitalized") We use only parenteral antibiotic (IM), because all children coming to hospital received previous antibiotics "Large spectrum new antibiotic are always better than oral" "Small children will not accept oral antibiotics" "Anemia and growth failure are not a hospital problem." We are pulmonologist, we do not know how to treat diarrhea or otitis" 	 Common to all clinical area Adopt evidence-based national guidelines. Fight Hospital stereotypes by increasing coordination with PHC, community participation, and evidence-based knowledge (for example, on the value of oral antibiotics) Make a plan for diffusion (web site, teaching). Encourage internal training (it should include: assessment + treatment + monitoring) Use clinical guidelines for clinical audit, establish a QI team and organize Clinical Meeting to discuss clinical management and use the Pocket Book as standard
6.1 Cough, difficult breathing	 Frequent substandard care: Over-use of parenteral antibiotics such as third generation cephalosporin + others (amikacin, etc), even when not needed by clinical severity Wrong dosages for long duration, risk of antibiotic resistance Almost all by IM injections (2-4/day per 7-10 days)>> unnecessary pain Large use steroids for simple pneumonia Low use salbutamol, incorrect dosage or inadequate spacers, high use aminophillin Almost all pts will have 1-2 X ray, with wrong diagnosis Lack of adequate monitoring in pts charts 	6. Improve effective communication on individual cases both with 1 st level (PHC) and 3 level (regional and national hospitals), and send feedback (DEFECT CARD) Output Description:
6.2 Diarrhea	Adequate theoretical knowledge, but not applied in practice: Large use antibiotics Large use IV fluids Imprecise ORS and IV fluid prescription (quantity, quality, preparation) Use of steroids	

	 Use of other drugs (anti-diarrheal) Inadequate monitoring, weight only measured once a day, sometimes only at admission and discharge. Unnecessary examinations eg. coproculture 	
6.4 Fever	 General lack of differential diagnosis of fever conditions. Urinary tract infections: generally substandard knowledge on diagnosis and treatment (ampicillin alone). Meningitis: frequent inadequate knowledge on antibiotic treatment (ampicillin alone) Otitis: no otoscope available, inadequate antibiotics Febrile convulsions: frequently sent to specialist. 	
6.3 Anemia growth failure	 Awareness of signs of acute malnutrition and criteria for anemia, but: Scales and height-meters (small and old children) often lacking Length (and sometimes weight) is not measured, and chronic growth delay (highly prevalent) is never diagnosed. Lack of adequate knowledge of Growth Charts Anemia is not adequately investigated (only iron test > with an overload of cases referred to Bishkek) Hospital stereotype: "anemia and growth are not a hospital disease" Children do not have a personal booklet were their growth and development progress is registered 	 Provide scales and length-measure devices in all departments Compulsory measurement of both weight and height on patients' charts Fight the hospital stereotype on nutritional status Promote larger use of growth charts both for weight and height Develop national GL for anemia and growth deficit Strengthen district laboratories for differential diagnosis of anaemia Develop a child personal booklet were their growth and development progress is registered
6.5 Chronic conditions	Good treatment in third level centers. But: In regional/district Hospital generally not treated by pediatrician, just sent to specialist.	 Develop national GL for pediatrician on chronic diseases such as diabetes, asthma, chronic diseases Strengthen communication between 1-2 level hospitals and national center, with a system of active supervision

		(DEFECT CARD)
7. Infect prevent & support care	 Frequently observed problems: Parenteral antibiotics: over use, patients driven. Large use of IV fluids, inappropriate quantity ad quality (ex. glucose + Novocain) Large use steroids in some hospitals. Inappropriate treatment of fever (drugs not approved in children, or prescribed even for low fever) Foods are provided, but no special foods for children, no well equipped kitchens. Health education (BF, complementary feeding) not systematically done, not enough educational material (poster, video). 	 Adopt WHO PB GL for treatment of fever, IV fluids. Adopt as indicator of QoC the use of intravenous fluids, and the number of painful procedures Discourage the use of steroids outside well defined clinical criteria. Special foods for children, better equipped kitchen for mothers Strengthen Health promotion in hospital and in the community
8. Child Friendly services	 The staff is generally committed and kind. However: Few hospitals have adopted a chart of children rights. Very frequent unnecessary painful procedures (IM injections). Frequently no child-friendly atmosphere: no light, no colors, no draws on walls, no toys, play room, Frequent low/very low privacy. Mothers generally not admitted to reanimation. 	 Implement and present to patient the Charts for Children rights. Reduce IM injections, use oral antibiotics (use the number of IM injection as an indicator) Reorganize departments to be more child-friendly. Improve privacy (divide families in different rooms). Attention to the privacy and rights of adolescents. Admit mothers to ICU.
9. Monitoring and follow up	 Mothers refer that children are frequently assesses, but: The most important parameters (respiratory rate, weight) are often not recorded. The national monitoring chart include space for few parameters. Frequent inconsistencies among parameters reported and clinical status described in patients charts. 	 Include explicit criteria for monitoring on clinical GL Stress the importance of monitoring, use adequate parameter as a main indicator. Use clinical audit to verify monitoring
10. Guidelines and audits	IMCI is well known in theory, but not adopted in practice.	 Diffuse the WHO GL, and use these as reference for clinical audit.

	 A mix of other different GL exist in hospital. The most diffuse GL does no differentiate among diseases in children and adults. Few charts on wall. Old textbooks of paediatrics It is not clear on which GL are based the existing clinical audits. Low diffusion of Evidence- Based Medicine, language barriers, low access to internet, low participation to Scientific Meetings 	2. 3. 4. 5.	Produce cheap educational materials, and charts for the walls to help the health staff Involve in this national process the Health Insurance Foundation. Strengthen coordination with PHC Promote the culture of Evidence-Based Medicine (EBM), facilitate participation to Scientific Meetings and membership to Scientific Societies, facilitate the access to internet
11. Access	 No economical barriers to Health care (children up to 5 years receive care for free, drugs are for free). However: Apparent low performance of PHC (many children referred should be treated by PHC), Low communication and coordination between different levels of care, including all levels hospitals versus PHC. Patient attitude to self-access hospitals: self referral account for 43% of all cases in the National Center Bishkek. Some delay in referral (still several deaths occur at home) Some problem in the transportation (about 10-15% of case reaching the hospital are transported by ambulance, generally 1-2 ambulances are available for every hospital) Some chronic diseases must pay expensive drugs out-of pocket (cyclosporine) 	2. 3. 4.	Evaluate the performance of PHC Strengthen coordination among different levels of care Strengthen community education and participation Strengthen the transportation system Cover chronic diseases

3.4 Restitution meeting

A restitution meeting was held in Bishkek on the 3rd of August. The agenda of the meeting is reported in *Appendix 6*. The list of participants included high level officials from the Ministry of Health in charge for MCH, PHC/hospital care, Quality Improvement, health systems, and Chief doctors of the assessed Hospitals. The objectives of the meeting were: a) share the preliminary results of the hospitals' assessment; b) discuss problems and agree on recommendations for improving quality of hospital care for children in Kyrgyzstan and in particular in assessed hospitals; c) discuss a list of indicators for the monitoring of the Project (both activity-based and outcome indicators).

Overall the meeting was quite productive. There was a quick agreement on the existence of problems in the quality of paediatric hospital care in Kyrgyzstan, and on the need to take actions. During the team-work consensus was reached on the main framework for the intervention, which will include actions at different levels: national, regional and hospitals. The following is a synthetic list of actions presented and agreed.

NATIONAL STRATEGIES

- 1) Review National adaptation of the WHO PB, and approve it as a national strategy
- 2) Prikaz of the Ministry of Health on QI for child care, including M&E activities
- 3) Revise national Essential drug list by adding on low osmolarity ORS, zinc, gentian violet
- 4) Training of the Health Insurance Foundation inspectors, review the tool of the Insurance organization and make them consistent with the WHO PB
- 5) Conduct an assessment of training of IMCI in pre service and post diploma
- 6) Training on PB should be obligatory for hospital staff who manage sick children and provide credit hours considered during the Professional Competency Assessment (Medical doctor's attestation)
- 7) Develop indicators of Quality of Care
- 8) Develop national system of M&E
- 9) Review the system of hospital financing (for example, paying cases that are hospitalized for less than 3 days and organize day hospital, pay also cases treated at hospital level as outpatient)
- 10) Issue a regulation on continuity of care and built a system of effective communication among different levels of care.

REGIONAL STRATEGIES

Proposed system of supportive supervision: regional coordinators supervising 4 hospitals

The regional coordinator should do 1 visit/month for 3 months and then every 3 month – agenda to be agree with Hospitals.

At each visit the Regional Coordinators should:

- 1) Check that the GL are in place (and distribute)
- 2) Check the progress on the action plan
- 3) Check Patients charts (same Indicators used for 1st Assessment)
- 4) Check training
- 5) Check the work of QI Hospital team

Notes on training:

- -External training will be provided at Oblast Level for 4-5 Key people from each hospital (paediatrician, infectionist, reanimatiologist 5 days; 3 days for the others and nurses) in each hospital,
- Internal Training will also be needed (Indicator =70% staff internal trained). It was discussed than an effective training cascade could use different approaches, such as the fact that the supervisors may deliver internal training during the assessment visits (duration to be agreed, 1-3 days). Different courses are needed: Training on ETAT for all, 5 days for specialists, 3 days for the others, separate curriculum for nurses.

Notes on the QI Hospital team:

Members: paediatrician, deputy director, drugs supply, chief nurse, infection control. With the following tasks:

- 1) Clinical audit and clinical meetings (Involve medical school and university)
- 2) Coordination with PHC and Oblast/national centers (defect cards analysis) Held meetings face to face 1/months together with PHC responsible and people of Health Promotion (i.e. Republican centers for Health Promotion- national and regional

Village Health Committee. Major education themes: ORS therapy; Treatment of wheezing; Treatment of fever; Value of oral antibiotics

HOSPITAL STRATEGIES

- Built QI teams, with these members: Head of Children dept, chief nurse (also responsible for drugs and equipment distribution, including the PB), Infection control
- Strengthen motivation of personnel
- Reorganization of admission dept and transportation
- Signs so that people know where to go
- Reorganize admission department to be near the Reanimation
- Statistics: admission rate, duration of and use of antibiotic, poly-therapy, IV, diagnostic test
- Increase feedbacks to PHC
- Training o personnel on ETAT, transportation
- Clinical audit with all staff -plus self assessment
- Audit of all death cases
- Structure of the hospital, child friendly environment
- Educating the parents
- Play roles

Some indicators for monitoring and evaluation (M&E) were proposed, but there was not adequate time to define in details all the list of activity based and outcome based indicators.

3.5 Future steps

There is the need to further refine and discuss the details of the intervention (such as for example the training cascade, the methods used by the regional supervision). For each action people in charge and deadlines should be identified, as well as adequate Indicators for M&E. A conference call could be organized to finalize details of the intervention, methods for M&E, and to identify any need for external support.

4.Conclusions

This first mission was successful in reaching its objectives. Twenty hospitals were assessed-the whole list of expected hospitals-, and consensus was reached on main strategies to improve quality of care at different levels (national, regional, hospital). Further work is needed to develop in details the intervention, methods of implementation and indicators of M&E.

Appendix 1. List of hospital assessed

East

- 1. Issyk-kul joint oblast hospital
- 2. Ak-Suu territorial hospital
- 3. Tyup territorial hospital
- 4. Jety-Oguz territorial hospital
- 5. Issyk-Kul territorial hospital
- 6. Ton territorial hospital
- 7. Balykchi city territorial hospital
- 8. Kemin territorial hospital
- 9. Tokmok city territorial hospital
- 10. The National Center for Protection of Mothers and Children

West

- 1. Talas joint oblast hospital
- 2. Talas territorial hospital
- 3. Kara-Bura territorial hospital
- 4. Bakai-Ata territorial hospital
- 5. Chui joint oblast hospital
- 6. Panfilovskii center for general medical practice
- 7. Sokuluk territorial hospital
- 8. Issyk-Ata territorial hospital
- 9. Moscovskii territorial hospital
- 10. Jaiyl territorial hospital

Appendix 2. Agenda of the assessment Mission

EAST – Issyk-Kul and Chui Oblast

Day of the week	Date	Facility	Distance	Night stay
Wednesday	25.07	Departure to Issyk-Kul oblast	400 km (6-7 hours)	Kara-Kol
Thursday	26.07	Issyk-kul Oblast Merged hospital	-	Kara-Kol
Friday	27.07	AkSu Teploklyuchenka TH	10 km	Kara-Kol
Saturday	28.07	I Group – Tyup TH	29 km (to Tyup) 120 km to Cholpon- Ata	Cholpon-Ata
		II Group – Djety-Oguz TH	38 km (1 hour)	Bokonbaevo
Sunday	29.07	Rest – summary of preliminary results		Cholpon-Ata
Monday	30.07	I Group – Cholpon-Ata TH	-	Cholpon-Ata
		II Group – Ton TH		Balykchi city
Tuesday	31.07	I Group – Kemin TH II Group – Balykchi City	!20 km (2h) in the morning)+ After	Bishkek
		Hospital	assessdep. to Bishkek 90km (1h) -Dep. to Tokmok,	Tolmok
Wednesday	01.08	I Group – MCH National Center in Bishkek	-No travel -Dep to Bishkek 60	Bishkek
		II Group – Tokmok TH	km	Bishkek

WEST – Talas and Chui Oblast

Day of the week	Date	Facility	Distance	Hotel
Wednesday	25.07	Departure to Talas oblast	470 km	Hotel in Talas City
Thursday	26.07	Talas Oblast hospital	-	Hotel in Talas City
Friday	27.07	Chat Bazar	Chat Bazar 40 km	
Saturday	28.07	I Group – Kara- Bura TH II Group – Bakai- Ata TH	60 km 40 km	Гостиница 59 квартал
Sunday	29.07	Departure	470 km	Karabalta
Monday	30.07	I Group – Chui Oblast Merged hospital II Group – Yssyk-Ata TH	25 km	
Tuesday	31.07	I Group – Sokuluk TH II Group – Panfilovskaya TH	25 km	Karabalta
			85 km	
Wednesday	01.08	I Group -Djail TH II Group – Moskovskaya TH	60 km 45 km	Bishkek

Appendix 3. Assessors' teams and sub-teams

EAST

- a) Marzia Lazzerini (WHO), Shukurova Venera (KGZ), Kulichenko Tatiana (RUS) + Tsoy Elena (interpreuter)
- b) Kuba Monolbaev (WHO CO), Davletvbaeva Marina (KGZ), Botbaeva Janara (KGZ), Bakradze Maya (RUS).

WEST

- a) Zaure Ospanova (WHO), Margieva Tea (RUS). Shalabaeva Baktigul (KGZ), Aigul Kuttumuratova (WHO RO).
- b) Yuri Akoev (RUS), Shingareva Marina (KGZ), Artykbaeva Jildes (KGZ).

WHO-I= WHO external assessors, WHO Country Office and WHO Regional Office KGZ= Kyrgyzstan National assessors RUS= Experts from Russian delegation

Appendix 4. Templates used or the assessment

4.1 Template to assess the patient charts

CASE DEFINITIONS

CASE DEFINITIONS	N. I. WIND I D. I.
Hospitalization- Unnecessary	Not complying with the WHO Pocket Book recommendations: - The child had signs of "Non severe pneumonia" but was hospitalized
	- The child had "mild dehydration" but was hospitalized
Diagnosis- Incorrect	Not complying with the WHO PB recommendations:
Diagnosis- incorrect	- The child has signs of mild pneumonia at he is
	diagnosed with severe pneumonia
	- The child has sign of mild dehydration and he is
T	diagnosed with severe dehydration
Treatment- <i>Incorrect</i>	Not complying with the WHO PB recommendations:
	- The child has signs of mild pneumonia at he is treated
	for severe pneumonia
	- The child has sign of mild dehydration and he is
	treated for with severe dehydration
Diagnosis and treatment	Not complying with the WHO PB recommendations:
Inconsistent	- The child is diagnosed as mild dehydration but treated
or Explicit diagnosis lacking	as severe dehydration
	- The diagnosis is not made explicit in the chart
Iatrogenic risk- <i>Increased</i>	When compared with the WHO PB recommendations:
	- Any unnecessary (not recommended by the WHO Pocket
	Book) use of:
	antibiotics in diarrhoea,
	sedative drugs;
	steroids;
	cardio-tonic;
	- Any unnecessary poly-therapy (use of 2 or more unnecessary
	drugs)
Pain- Unnecessary	When compared with the WHO PB recommendations:
-	- Any unnecessary injection such as intramuscular/intravenous
	antibiotic that could be given orally, or IV line in a child who
	could be rehydrated orally
	- Any other invasive procedure, such as unnecessary lumbar
	puncture or other invasive procedures
Monitoring- inadequate	Not complying with the WHO PB recommendations:
5 '	- The child has a respiratory infection and respiratory
	rate is not monitored at least twice a day
	- The child has diarrhoea and weight is not monitored
	at least twice a day
	- The child has meningitis and the neurological status is
	not monitored at least twice a day
Nutritional status- <i>Not assessed</i>	Both weight and height should be recorded at least once in the
1.42 Indian search 1100 assessed	patient chart, and if there is a problem of acute or chronic
	under-nutrition, this should be made explicit in the patient
	chart.
Use of IV fluids- Incorrect	When compared with the WHO PB recommendations (Chapter
ose of ty fluids. Hilloffell	10.2):
	- Intravenous fluids are prescribed when they are not
	needed, such as when the child is able to drink
	- When IV fluids are needed, a wrong type of fluids is
	given (such as an hypotonic solution) or a wrong
	quantity is given (either too much or too little).

Patients chart review: Data extraction form

Use as reference the WHO Pocket Book and the "Case definition below" – and just put a cross in the Table Chose patients charts randomly chosen among cases of Respiratory infections, Diarrhoea, Fever At each hospital 35 cases should be reviewed (10-13 for each assessor)

DateName of hospital		-			-								
	Case 1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
1.Hospitalization Unnecessary													
Necessary	X												
2.Diagnosis Incorrect													
Correct													
3.Treatment <i>Incorrect</i>													
Correct													
4.Explicit diagnosis Lacking													
Present													
5.Iatrogenic risk <i>Increased</i>													
Not increased													
6.Pain Unnecessary													
Necessary													
7.Monitoring <i>Inadequate</i>													
Adequate													
8. Nutritional status <i>Not assessed</i>													
Assessed													
9.Use of IV fluids Incorrect													
Correct													

ONLY FOR THE TEAM LEADER At hospital/department level

- 10. Toys and play therapy a: present /lacking
- 11. Medium length-of-stay (hospital official indicator): report here
- 12. Number of cases hospitalized on total cases assessed (hospital official indicator):

4.2 Template with summary scores

Summary scores for 10 hospitals

Summary scores for 10 nospitals	Day 1	Day 2	Subgroup a)								
	Hospital name	MEAN									
1. Information system											
2. Essential drugs, supplies, equip.											
3. Laboratory											
4. Emergency care											
5. Pediatric ward facilities											
6.1 Cough, difficult breathing											
6.2 Diarrhea											
6.3 Anemia growth failure											
6.4 Fever											
6.5 Chronic conditions											
6.6 Essential surgery											
7. Infect prevent & support care											
8. Child Friendly services											
9. Monitoring and follow up											
10. Guidelines and audits											
11. Access											
12. Care takers satisfaction											
13. Health worker satisfaction											
14. EXTRA Newborn											

Each group (WEST and EAST) need to prepare the table for 1st August evening

(it is suggested to fill in the table each day, after day 2 each subgroup will have its own table, on day 1st August you will need to give both tables to Marzia)

4.3 Template with Action Plan to be developed at each site

ACTION PLANS – Compile here the action plan, one for each hospital

Name of hospital Date of assessment

ITEMS	Summary	Impa mort ar mort	tality nd	Feasi	bility	Action needed	Prio	ority	Timetable and responsible person
		H ig h	L o w	H ig h	L o w		H ig h	L o w	
									_

Instructions

- Please distribute the above matrix at the meeting with the hospital manager and deans of department, which would need to be compiled by the hospital staff. Make sure that they understand how to compile it (provide examples if needed).
- At the end of the assessment discuss the action plan together and agree on a definitive version. We suggest to compile the matrix directly in your note-book.

4.4 Template with strength and weakness

SUMMARY OF STRENGTH AND WEAKNESS

Insert here a synthetic overall summary of strength and weakness identified among hospitals as seed

	STRENGHT	WEAKNESS
1. Information system		
2. Essential drugs. supplies. equ		
3. Laboratory		
4. Emergency care		
5. Pediatric ward facilities		
6.1 Cough. difficult breathing		
6.2 Diarrhea		
6.3 Anemia growth failure		
6.4 Fever		
6.5 Chronic conditions		
6.6 Essential surgery		
7. Infect prevent & support care		
8. Child Friendly services		
9. Monitoring and follow up		
10. Guidelines and audits		
11. Access		
12. Care takers satisfaction		
13. Health worker satisfaction		
14. EXTRA Newborn		

4.5 Baseline characteristics

Baseline characteristics of the 16 District Hospitals Please compile the table before July 15th

	Hospital name													
DATA ON THE CATCHMENT POPULATION (DISTRICT)														
Total population number														
Total children (0-18 years)														
Ethnicity (%)														
Living under the poverty line (% of population)														
Mortality rate, all children (0-18 years)														
Mortality rate, children under 5 years														
Mortality rate, children under 1 year														
Adult literacy rate														
Improved drinking-water sources (% of population)														
Improved sanitation facilities (% of population)														
DATA ON THE HOSPITAL (year 2011)														
Number of accesses (include both direct access and referral), all children														
Accesses, children under 5 years														
Accesses, children under 1 year														
Hospitalised, all children (0-18)														

Hospitalised, children under 5 year
Hospitalised, children under 1 year
Number of paediatrics beds
Number of paediatricians
Number of general doctors
Number of nurses
Number of reanimatologists
Health staff already trained in Pocket
Book
Mortality rate, all children (0-18 y)
Mortality rate, children under 5
Mortality rate, children under 1

Instructions:

- Please compile with the most recent statistics (use the statistics from the whole year 2011 for hospitals- do not use data from period shorter than 1 year, such as 3-4 months statistics).
- Add here the sources of information used:

Appendix 5. EXTRA CHAPTER_ Newborn and Young infant

Criteria	0	1	2	3	Comments
Routine care at delivery and soon afte	r de	eli	vei	ry	
Neonatal resuscitation is correctly performed both by nurses and doctors					
All newborn babies get adequate routine care at delivery (observe the baby, dry the baby, hive him/her to the mother, cover him/her, encourage					
All newborn babies get adequate routine care after delivery (rooming in, breastfeeding, Vit K, umbilical cord clean, conjunctivitis prevention,					
Prevention of neonatal infections					
Good basic hygiene procedures are used including hand-washing nrocedures and clean injections IV Lines are removed when they are no					
Inger necessary The mother is counselled on how to treat the baby at home to prevent infections, and how to recognize signs					
Danger signs and serious bacterial in	fect	io	ns		
Risk factors for severe bacterial infections are identified and correct antibiotic prophylaxis is given					
Danger signs and signs of severe infections are correctly identified					
Correct general treatment and correct choice of antibiotics is given					
Supportive Care					
Temperature is checked at procedures are in place to ensure a good thermal					
Fluids need are correctly evaluated, fluids are correctly administered and Oxygen need is correctly evaluated, it is					
correctly administered and monitored					
Kangaroo Mother care is encouraged					
Common neonatal problems	•				
Jaundice is correctly assessed, treated and monitored					

Conjunctivitis is correctly assessed and			
treated			
Baby born from mothers with syphilis			
are correctly assessed, both the mother			
and the child are treated with			
Baby born from mothers with TB and			
HIV are correctly assessed, and			
referred to specialized centers			
according to national guidelines			

Summary

Criteria	0	1	2	3
Routine care at delivery and soon after delivery				
Prevention of neonatal infections				
Danger signs and serious bacterial infections				
Supportive Care				
Common neonatal problems				

Main s	stren	gth
--------	-------	-----

1.	
2.	

Main weakness

2.

Overall score for section

Additional Comments

Summary score -Newborn and young infant		To be improved		
(to be circled)		2	1	0

Appendix 6. Agenda of the debriefing meeting

3 August 2012

VENUE OF THE MEETING: Ak Keme Hotel, Bishkek, Kyrgyzstan

PATICIPANTS OF THE MEETING: Suggested participants for the Debriefing meeting with key stakeholders, not more than 35-40 participants, ONLY KEY NATIONAL EXPERTS:

- O High level officials from the Ministry of Health in charge for MCH, PHC/hospital care, Quality Improvement, health systems, pharmaceuticals and HR
- o Chief doctors of the 10 Project Hospitals only (WILL BE DEFINED LATER)
- o Academicians and National research institutes
- o Professional associations (paediatricians, GPs and nurses)
- Quality management/licensing/accreditation institution(s)
- o International partners (UNICEF, UNFPA, USAID, WB etc

AGENDA:

09:00 - 13.00

- Opening Speech (Ministry of Health and WHO CO)
- Meeting introduction and objectives (WHO CO 10 min)
- Introduction of participants (10 min)
- Findings and recommendations of the quality of paediatric hospital care assessment in the Project regions (Marzia Lazzerini 1h)

Coffee Break (20 min)

- Continuing Discussion (30)
- QI strategies and support for improving QoC (Aigul Kuttumuratova WHO Regional Office for Europe 25 min)
- Group work on defining strategies and actions to improve the quality of paediatric care in the first level referral hospitals
 (Action on national level, Hospital, Regional coordination including training and active supervision) (1h)

13:00 - 14:00 Lunch

14:00 - 17:30

- Restitution of group work
- Consensus building for priority actions
- Consensus building monitoring process and indicators
- Closing