Improving paediatric quality of care at first-level referral hospitals

Final Meeting on the WHO-Russian Federation Paediatric Quality of Care Improvement Initiative

Geneva, Switzerland
27–28 July 2015

World Health Organization
Improving paediatric quality of care at first-level referral hospitals

Final Meeting on the WHO-Russian Federation Paediatric Quality of Care Improvement Initiative

Geneva, Switzerland
27–28 July 2015
Contents

Acknowledgements iv
Abbreviations vi
Background 1
Welcome remarks 3
   Introduction of participants 3
   Address by the honourable representatives of the Russian Federation 3
   Remarks by the Ministry of Health of the Russian Federation 4
Objectives and expected outcomes 5
   Objectives 5
   Expected outcomes 6
Global landscape and progress in maternal, newborn, child and adolescent health 7
Overview and highlights of the project 9
Overview of the Russian experts’ collaboration 12
Country achievements and lessons learnt 14
   Tajikistan 14
   Ethiopia 16
   Kyrgyzstan 18
   Kyrgyzstan project evaluation research 19
   Angola 22
Paediatric Quality of Care in the Russian Federation Primary Hospitals 24
Skills training in Moscow 25
Lessons learnt 26
WHO vision on quality of care for mothers and newborns 29
The Russian Federation’s perspective on the reproductive, maternal, newborn and child health (RMNCH) agenda 34
New funding proposal on quality of care improvement 35
   Proposed approach 35
   New proposal funding and timelines 36
Next steps 37
Issues for follow-up 38
Closing remarks 39
Annex 1. Agenda 41
Annex 2. List of participants 43
Acknowledgements

The meeting was organized by the WHO Department of Maternal, Newborn, Child and Adolescent Health (MCA) in collaboration with the WHO department of Reproductive Health and Research (RHR). The core team comprised Wilson Were and Bernadette Daelmans (MCA), Igor Toskin and Özge Tuncalp (RHR).

The contributions of the participants during and after the meeting are gratefully acknowledged, in particular the ministry of health representatives that made the country presentations, the chairs and co-chairs, Leyla Namazova-Baranova (Scientific Centre of Children’s Health, Russia), Svetlana Axelrod (Ministry of Health of the Russian Federation), Marleen Temmerman (RHR), Bernadette Daelmans (MCA) and the rapporteur, Susanne Carai.

Special thanks to Russian experts from the Scientific Centre of Children’s Health, Moscow, WHO regional offices and country office staff from Angola, Ethiopia, Kyrgyzstan and Tajikistan for their valuable contribution in the preparation of the background documents and country presentations for the meeting, and Susan Helary who provided administrative support.

WHO acknowledges the financial support provided for implementation of the project and convening of this meeting by the Russian Federation government.
Abbreviations

BRICS Brazil, Russia, India, China and South Africa
ETAT emergency triage assessment and treatment
FWC Family, Women’s and Children’s Health Cluster
IM intramuscular
MCA Department of Maternal, Newborn, Child and Adolescent Health
MDG Millennium Development Goal
MoH Ministry of Health
NICU neonatal intensive care unit
OPD outpatient department
PHC primary health care
QI quality improvement
QoC quality of care
RMCNH reproductive, maternal, newborn and child health
RHR Department of Reproductive Health and Research
SDGs Sustainable Development Goals
TB tuberculosis
UN United Nations
WHA World Health Assembly
WHO World Health Organization
Background

In 2012 the Russian Federation funded a 3.7 million US dollar three year collaborative tripartite initiative with the World Health Organization (WHO) and the governments of Angola, Ethiopia, Kyrgyzstan and Tajikistan to improve the quality of paediatric care in hospitals. Within the framework of this initiative, WHO, in collaboration with the Scientific Centre for Children’s Health of the Russian Academy of Medical Sciences and other technical experts, provided technical assistance to the four countries to strengthen their national health systems’ capacity to improve the quality of paediatric care and so reduce case fatality and adverse morbidity in first-level referral hospitals. The initiative supported institutionalization of the quality of care improvement concept, development of national paediatric standards and guidelines for care, capacity building for health workers, adaptation and development of tools, implementation of quality improvement (QI) processes and used the experiences and best practices gained to inform expansion nationwide.

The project was implemented mainly during the period from January 2012 to December 2014 and the initiative catalysed national implementation of QI activities and increased government and partner investments in QI processes. All countries held national stakeholders orientations, set up national QI technical working groups or integrated them into existing working groups, conducted hospital assessments in the 51 selected hospitals, identified quality of care gaps, developed QI action plans and implemented QI activities throughout the national health system.

The results show an overall improvement in quality of care in the majority of the participating hospitals, with a decline in case fatality and a trend towards reduction in child deaths rates in hospitals. There were improvements in the clinical case management of diarrhoea, pneumonia, malaria, febrile conditions, severe acute malnutrition and newborn conditions, such as routine care, asphyxia, preterm and small babies care, and neonatal infections. There was tremendous improvement in the rational use of medicines, especially in the central Asian countries, with a significant reduction in polypharmacy and unnecessary use of infusions or injections compared with baseline. The initiative also led to increased investment in QI. For example, in Ethiopia the ministry of health (MoH) purchased emergency care equipment (oxygen concentrators, Ambu bags, laryngoscopes and nasal prongs) for 108 hospitals in the country and strengthened the existing national hospital performance system. In Kyrgyzstan and Tajikistan the initiative catalysed the involvement of other stakeholders and expanded to include maternal and newborn quality of care beyond the pilot hospitals.

Lessons learnt and best experiences are now being used for national scale-up of maternal, newborn and child quality of care activities. Based on experience implementing this initiative, a new proposal to expand the scope and geographical coverage to include
maternal and newborn quality of care and an additional six countries' has been developed and submitted to the Russian Federation for possible funding. The new proposal also seeks to consolidate and strengthen the collaboration with Russian institutions and experts through technical support and secondment to WHO. The project, if fully funded, will run for a period of three years, from January 2016 through December 2018.

To facilitate reporting and sharing of experiences, a meeting took place 27–28 July 2015 in Geneva, Switzerland, bringing together the four implementing countries, experts who provided support, WHO staff and the representatives from the Russian Federation as the donor. The purpose of the meeting was to report on the results and achievements of the current paediatric quality of care project, receive feedback on the new proposal and discuss the broader WHO–Russian Federation collaboration and strategic coordinated action in the context of women’s and children’s health.

1 The proposed six additional countries for the integrated maternal, newborn and child quality of care improvement include: Armenia, Nicaragua, Sudan, Uzbekistan, Viet Nam and Zambia.
Welcome remarks

Dr Marleen Temmerman, Director, Department of Reproductive Health and Research (RHR), welcomed the participants on behalf of Dr Flavia Bustreo, WHO Assistant Director-General for Family, Women's and Children's Health (FWC). WHO convened this meeting to discuss the quality improvement project and the role of the Russian Federation in the global health agenda. The WHO departments of Maternal, Newborn, Child and Adolescent Health (MCA) and RHR are working closely together on this important activity.

Dr Temmerman expressed WHO’s congratulations to the Russian Federation on the achievement of Millennium Development Goal (MDG) 4 and MDG 5 and commended Ethiopia for the achievement of MDG 4.

All over the world countries have focused extensive efforts on supporting women to deliver at health facilities. Now countries need to ensure that the services offered are of good quality. WHO regards quality of care as a very important topic in order to achieve effective coverage and to move forward towards the Sustainable Development Goals (SDGs).

Dr Temmerman noted that WHO expresses its gratitude to the Russian Federation for providing 3.7 million US dollars as catalytic funding for improving paediatric quality of care in four countries, recognizes the excellent collaboration with the Scientific Centre of Children’s Health of the Russian Academy of Medical Science and expresses its thanks for the Russian leadership.

Introduction of participants

The meeting brought together representatives from the four implementing countries, experts who supported the implementation of the initiative, WHO staff from countries, regions and headquarters and representatives from the Russian Federation Government.

Address by the honourable representatives of the Russian Federation

Mr Rinat Alyautdinov, Deputy Permanent Representative, welcomed the participants on behalf of the Permanent Mission of the Russian Federation to the United Nations (UN) in Geneva to this meeting.

Mr Alyautdinov noted that countries adopted the Millennium Development Declaration and approved its MDGs, and governments committed themselves to attaining reductions in maternal mortality by three-quarters and under-5 mortality by two-thirds by 2015, as compared with 1990. The year 2015 has now been reached, and there has been progress, but it has been slow, and for some countries the goals remain unfulfilled. Women continue dying of complications from childbirth and more than six million children under
5 die each year globally. Lack of access to medical care, low quality of care and low quality of monitoring of serious cases of disease contribute to many of these unnecessary deaths.

Within the framework of the quality improvement initiative, the Russian Federation has committed to supporting countries where problems persist in decreasing maternal and child mortality. The Russian Federation has provided 3.7 million US dollars through WHO for Angola and Ethiopia in Africa and Tajikistan and Kyrgyzstan in central Asia to support the improvement of quality of care. These four countries have adapted international standards of care, implemented training courses and integrated quality improvement approaches into their systems. The Russian Federation has assisted these countries to improve quality of care, considers these activities of very high importance and will, therefore, continue working and improving its contribution to quality improvement.

Remarks by the Ministry of Health of the Russian Federation

Dr Svetlana Axelrod, Deputy Director, Department of International Cooperation and Public Relations, welcomed the participants on behalf of the Minister of Health of the Russian Federation Veronika Skvortsova and Professor Elena Baibarina, Director of the Department of Obstetrics and Child Health Care of the Ministry of Health of the Russian Federation.

Dr Axelrod noted that WHO convened this meeting to review the results of the three-year project to improve quality of care based on the Memorandum of Understanding between WHO and the Russian Ministry of Health. The Russian Federation is planning to increase the range of interaction with WHO and will contribute more than 20 million US dollars to national and international health. The interactive cooperation with WHO is a major priority also for the national development of the Russian Federation’s health care. The Russian Federation improved the health of its population after the presidential decision by the head of the government, Vladimir Putin, to reduce death rates.

The main instrument for improving health care in the Russian Federation is the regional programme to improve quality of care and accessibility of medical care by 2020, funded with more than 694 billion roubles (23 billion US dollars). The programme emphasizes prevention: 21 million adults and 14 million children underwent health check-ups; furthermore, perinatal centres have been constructed to decrease perinatal mortality.

Health care is an omnipresent priority, and the Russian Federation recognizes WHO’s leadership in this field. An important turning point in the Russian Federation’s cooperation with WHO was the meeting of President Vladimir Putin with WHO Director-General Margaret Chan in 2009. Many projects have been launched since then, including projects on paediatric care, non-infectious and infectious diseases. This meeting constitutes one of the steps in this process and Dr Axelrod expressed the Russian Federation’s commitment to continuing this collaboration. The Russian Federation has achieved MDGs 4 and 5 and has become a significant player in international health.

Dr Axelrod thanked WHO for organizing this important meeting and thanked colleagues and partners for their participation in carrying out an in-depth analysis and joint assessment of this project.
Objectives and expected outcomes

Dr Bernadette Daelmans, MCA, welcomed the participants on behalf of the Department. She reminded the participants that the planning for this project started in 2012 and that no one has been disappointed with its implementation and outcomes. In 2012 the major drive of global health was still to increase coverage. This project, with four countries taking leadership and the Russian Federation providing support, helped to shift the paradigm towards the position that coverage is effective only when provided with sufficient quality.

Ten hospitals in each country were selected to provide proof of principle that quality improvement makes a difference. Much more was achieved: Once the movement started, even more hospitals implemented quality improvement approaches, including hospitals in the Russian Federation itself. Governments of the participating countries have invested beyond the projects. More than 1500 health workers have been trained, more than 60 training courses have been run, centres of excellence have been established and pre-service curricula have been reviewed and updated. A preliminary report synthesizes the results, and during this meeting a more in-depth review will be carried out. The WHO Collaborating Centre in Trieste, Italy, has carried out an evaluation in Kyrgyzstan, finding among other things a more rational use of medicines in the participating hospitals. The initiative must now be sustained and expanded; it started in paediatric care but needs to be extended to maternal and newborn health. The SDGs will provide a good platform to ensure quality of care for women and children, and this meeting is an excellent platform to plan the next steps.

Dr Wilson Were, MCA, thanked the colleagues from the countries and requested them to take the message back to the countries and to the people who could not attend the meeting. The meeting aims to capture the issues, achievements and lessons learnt that arose during the implementation of the project, so that they can be taken forward while the project is extended along the continuum of care from child to newborn, maternal and adolescent health. He then reviewed the objectives and expected outcome of the meeting in detail.

Objectives

The objectives of the meeting were to:

1. report on the results and outcome of the paediatric quality of care initiative;
2. discuss and receive feedback on the new proposal for funding by the Russian Federation Government;
3. discuss the broader WHO–Russian collaboration and strategic coordinated action for women’s and children’s health.
**Expected outcomes**

Expected outcomes of the meeting included:

1. Results and outcomes of paediatric quality of care initiative reported.
2. Funding and next steps for the new proposal agreed on.
3. Broader WHO–Russian collaboration on women’s and children’s health agreed on.
Global landscape and progress in maternal, newborn, child and adolescent health

Dr Bernadette Daelmans, MCA, provided a snapshot of the global landscape of maternal, newborn, child and adolescent health as the MDG era reaches its end and the global community looks forward to the SDGs. She provided an overview of the Global Strategy on Women’s, Children’s and Adolescent’s Health 2016–2030. The survival, health and well-being of women, children and adolescents will be essential to achieving the SDGs.

With the 2010 Global Strategy for Women’s and Children’s Health of the UN Secretary-General, the health of women and children has been higher on the political agenda than ever before, new financing has become available, and many new initiatives have been launched. Today, there is a broad interest to formulate a strategy on women’s, children’s and adolescent health. There has been progress in reducing maternal and child mortality, but acceleration is required: Overall, a 49% reduction of the under-5 mortality rate has been achieved, from 90 deaths per 1000 live births in 1990 to 46 in 2013, while the maternal mortality ratio dropped by 45%, from 380 per 100 000 live births in 1990 to 210 in 2013.

Global inequities in lifetime risks still persist; however, within countries disparities between the poorest and the richest have been closing, although slowly. Areas lagging behind include the investment in child development and adolescent health as well as investments to protect the 1.4 billion people living in fragile states.

To date, data on quality of care for monitoring and comparing what is happening in countries or across countries is not available, and work must start on developing a common metric.

The vision of the Global Strategy on Women’s, Children’s and Adolescent’s Health 2016–2030 is a world in which by 2030, every woman, child and adolescent realizes the rights to health and well-being, has social and economic opportunities and is fully able to participate in shaping sustainable and prosperous societies. Implementing the Global Strategy with increased and sustained financing over the next 15 years would yield tremendous returns.

The three goals of the Global Strategy are:

- **Goal 1. SURVIVE**: End preventable deaths.
- **Goal 2. THRIVE**: Ensure improved health.
- **Goal 3. TRANSFORM**: Expand enabling environments.

The strategic action areas to achieve these goals by 2030 include:

1. Advance country leadership.
2. Maximize individual potential.
3. Strengthen health systems and financing for health.
4. Promote community engagement.
5. Enable cross-sector collaboration.
7. Research and innovation.
8. Accountably for resources and results.

Everyone has a role to play in improving the health of women, newborns, children and adolescents. Dr Daelmans said that this initiative is an excellent example of country leadership supported by technical assistance.
Dr Wilson Were, MCA, provided an overview of the three-year paediatric quality of care improvement project conducted from 2012 to 2014 with funding from the Russian Federation Government.

The objectives of the project included:

1. to establish a national concept and system for paediatric quality of care improvement
2. to assess the quality of care in selected first-level hospitals
3. to introduce the concept of national paediatric care standards
4. to build national capacity for the implementation of quality of care improvement
5. to use lessons learnt to expand the experience nationally.

Quality dimensions addressed by the project are effectiveness, efficiency, accessibility, acceptability, equity and safety.

Dr Were provided an overview of the project components and milestones as outlined in the table below.

<table>
<thead>
<tr>
<th>PROJECT COMPONENTS</th>
<th>TIMELINES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Year 1</td>
</tr>
<tr>
<td>1. Identification, orientation, analysis and assessment</td>
<td></td>
</tr>
<tr>
<td>2. National standards development and introduction</td>
<td></td>
</tr>
<tr>
<td>3. Capacity building</td>
<td></td>
</tr>
<tr>
<td>4. Partnerships and international coordination</td>
<td></td>
</tr>
<tr>
<td>5. International tools and guidelines update</td>
<td></td>
</tr>
<tr>
<td>6. Monitoring, documentation, dissemination and global report</td>
<td></td>
</tr>
<tr>
<td>7. Hospital and training equipment and supplies</td>
<td></td>
</tr>
<tr>
<td>8. International technical support</td>
<td></td>
</tr>
</tbody>
</table>

The project included six core components:

1. national orientations and engagement of stakeholders
2. establishment of national paediatric standards of care based on the WHO *Pocket book for hospital care for children*[^1]
3. situation analysis and hospital assessments in selected hospitals to identify gaps and describe problems

[^1]: Available at: http://www.who.int/maternal_child_adolescent/documents/child_hospital_care/en/
4. prioritization of interventions and development of national and hospital quality improvement plans based on the assessment findings
5. implementation of feasible quality improvement activities based on the action plans
6. monitoring, evaluation and documentation of best practices.

Findings of the initial hospital assessments included the following:

■ Paediatric quality of care varied among countries and among hospitals within countries.
■ Poor physical infrastructure existed in many settings.
■ Facilities were inadequately organized to provide emergency care.
■ Hospital statistics were collected and computerized but not used for quality improvement processes.
■ Medical records and monitoring charts were often illegible and poorly kept, and clinical status and vital parameters were inconsistently monitored.
■ There were inadequate hygienic conditions and inadequate sanitation, and child-friendly services were lacking.
■ Appropriate life-saving equipment and supplies were lacking (for example, no oxygen available).
■ Providers had inadequate knowledge of standard treatment guidelines and did not make use of them.
■ Triage and emergency treatment were mostly inadequate or not in place.
■ There was poor case management, including substandard care, unnecessary hospitalizations, unnecessary painful procedures and medications and long duration of hospital stay.

Highlights of the project’s achievements include:

At the national level all countries established national technical quality improvement working groups and mechanisms to implement and monitor performance, adopted national paediatric standards of care and guidelines and developed protocols. Countries increased investments in improving quality of care.

At the hospital level quality improvement implementation plans were developed and quality improvement teams established; facilities were reorganized to improve triage, emergency care and patient flow; resuscitation areas in outpatient departments (OPDs) and wards were established and equipped; and critical care rooms, newborn rooms and wards and playrooms were created. The availability of essential and emergency medicines and supplies was improved. Hospitals improved case management of pneumonia, diarrhoea, severe acute malnutrition and febrile conditions. Clinical practices improved: In some settings polypharmacy was reduced by 50–80%, unnecessary infusions by 40% and injections by 15% compared with baseline and a declining trend in child hospital deaths rates was observed.
At the international level several international tools and guidelines were developed or updated, and in countries many national tools and products were developed.

Factors facilitating the success of the project included the following:

- The systematic approach of the project, including the introduction of standards of care, enabled everyone to be clear about what was expected and to be accountable.
- Targeted capacity building to improve knowledge and skills of health workers and the establishment of hospital QI teams with the involvement of hospital management were crucial elements.
- The intervention was multifaceted, consisting of training, supportive supervision and continuous monitoring.

Further success factors included the precise description of the problem to be addressed and systematic implementation, including prioritization of required improvement activities and careful planning.

In conclusion, the project was able to achieve its goals and objectives and to improve quality of paediatric care, and the approach can be scaled up in countries.

Discussion

The findings of the hospital assessments helped with redesigning the facilities. During the discussion a question was raised about how the redesign was organized and how identified gaps in the infrastructure of hospitals were filled. In some countries project funds were used and in others ministries of health took on the responsibility.

The successful implementation of the project required structures at the national level. In some countries the project found a home within quality assurance or standards departments. It is challenging if these departments do not exist, as the project scope goes beyond maternal and/or child health departments and requires, for example, national standards on infection control and standard treatment guidelines. A team responsible for supervision and mentoring and for follow-up on improvements is required, as is capacity to support training and to sustain an effective linkage between the hospital and the national level. For these tasks a responsible central body is required.

The group discussed the importance of establishing and maintaining a system for recognition and performance appraisal at the national level as well as at the hospital level. Motivation of health workers is crucial, and such a system can contribute to sustaining it.

Another lesson learnt focused on the missing link between the collection and use of facility-level data. The group raised questions about how to address the non-use of available data that could be used for QI. The extension of the project should address the ability to review and utilize the data at the facility level and particularly to ensure the quality of paediatric death audits.
Overview of the Russian experts’ collaboration

Professor Leyla Namazova-Baranova, Deputy Director of the Scientific Centre of Children's Health of the Russian Academy of Medical Science provided an overview of the WHO–Russian Collaboration to Support Improvement of Paediatric Quality of Care.

The effort to reduce child mortality has a longstanding history in the Russian Federation. In May 1913 the Empress Maria Fedorovna established a Committee for Childhood Protection with the main goal of fighting child mortality. The Russian paediatric care system consists of 1) outpatient care in polyclinics, 2) inpatient care in children’s hospitals, and 3) health resorts for recovery after illness. This system has made possible a significant decline in child mortality.

While the Russian Federation has a long history of collaboration with the WHO, this initiative was the first of its type. A special order of the Russian Federation Government provided 3.7 million USD funds for the project involving the Scientific Centre of Children's Health.

The four participating countries faced different situations in terms of economic development as well as their respective child health indicators.

Strong features of Ethiopia included the adherence to international and national guidelines, the important role of nurses, emergency triage assessment and treatment (ETAT) implementation and availability of essential drugs. Challenges in Ethiopia included the lack of qualified doctors (namely, 300 paediatricians for a population of 82 million), the lack of hospital beds and resuscitation equipment, distances to hospitals (in some areas two days' travel time) and the financial burden for the patients.

Angola’s strong features included new and well-equipped hospitals with all necessary medicines and health care free-of-charge for patients. The presence of foreign physicians from Cuba, Russia and Brazil compensates for the lack of local doctors. The links and relationships among different levels of the health-care system are weak, and clinical skills for emergency care and for very severe malnutrition were found to be insufficient.

The situation in the central Asian countries of Tajikistan and Kyrgyzstan is different from the African countries. Medical staff and beds are sufficient, the geographical availability of hospitals is high, and motivation of medical staff is commendable. Problems include out-dated clinical protocols, frequent unnecessary hospitalizations, financial burden on patients and the absence of audits. The project was able to address some of these factors, as follow-up assessments in Tajikistan showed clear improvements when compared with control hospitals. In Kyrgyzstan 10 pilot hospitals and 10 non-pilot hospitals were assessed. Polypharmacy was considerably reduced in the pilot hospitals, and the funds that were saved were reinvested in the project. The situation in the non-pilot hospitals,
in contrast, did not change: Polypharmacy remained at the same level and access to emergency care was not improved.

Additional initiatives supported by the Russian Federation include 12 million US dollars for skills training for paediatric care in 12 countries in 2014–2015, the assessment of paediatric quality of care in primary hospitals in the Russian Federation and the child rights initiative. The Russian Federation will stay involved in the second stage of this project. Is it hoped that the government will provide additional funds for the next stage of this effective project.
Country achievements and lessons learnt

Tajikistan

Dr Obidjon Aminov, Deputy Director of the Republican Paediatric Clinical Science and Surgery Centre, Ministry of Health and Social Protection of Tajikistan, presented the country’s achievements and lessons learnt in implementing the initiative to improve the quality of paediatric hospital care in 10 pilot hospitals in Tajikistan.

The fight against child and infant mortality is a priority in Tajikistan, as reflected in national strategies and polices and in the ratification of the Convention of the Rights of the Child, allowing the country to make progress towards MDG 4. Although there has been a stable decrease in under-5 mortality, MDG 4 will not be achieved by the end of the year. Considerable inequalities remain within the country, and much remains to be done. Additional efforts and resources will be needed to further reduce infant and under-5 mortality.

Until 2012 major efforts were concentrated at the primary health care (PHC) and family/community levels. However, a wider approach is needed to bring down mortality, and this project was a first step. Ten hospitals were identified to implement the initiative. WHO guidelines were adapted, translated and endorsed by the MoH to be used for training and as guidelines for the provision of care. A national expert group was established, the capacity of over 300 health professionals and academic faculty staff was built and, for the first time, intermediate level health workers were included in the trainings. It was the first project of this type addressing the gap between primary-level care and the hospital. The hospital assessments raised awareness of widespread unnecessary hospitalizations and the frequent provision of unnecessary medication, with often adverse effects. Results of the assessments were fed back to the management of the hospitals informing them about the problems found. To build managerial capacity, a one-day meeting was organized to outline what is required and expected from the management to provide good quality of care according to standards. Round table discussions were organized to feed back the assessment results to a wider audience. Five supportive supervision visits were organized. To ensure sustainability, evidence-based approaches were introduced to the curricula of medical academic intuitions. A resource training centre was established and several training courses were conducted.

The project further improved the infrastructure of the hospitals by organizing direct admission of patients to the emergency ward for treatment. Also, the project made life-saving equipment easily accessible, providing 340 equipment items and 7000 supplies (including pulse oximeters, nebulizers, vacuum suction, Ambu bags and scales). The initial assessments found that medicines for the treatment of common childhood illnesses such as pneumonia and diarrhoea were not available. Procurement was optimized, and now all essential medicines are available.
Children’s rights assessments were conducted in the participating hospitals, raising the awareness of the hospital management. These assessments resulted in health-care staff paying more attention to children’s rights, more children and parents being satisfied with the care provided and a 50% increase in the number of hospitals with equipped playrooms.

Progress was seen in all 16 areas that were assessed at baseline and during the follow-up assessments. In most areas progress was substantial. Remaining problems include high rates of malnutrition in some districts and that some hospitals do not provide refeeding formulas F-75 and F-100 or food for children or mothers. The MoH plans to train of health-care providers in September/October with a specific focus on supportive care.

In conclusion, the cooperation among the MoH, WHO and Russian partners throughout the project was very fruitful, and the project management overall was successful. The comprehensive implementation model led to measurable outcomes.

The priorities for the future are the nationwide scale-up of the project to all other districts and expansion along the continuum of care to mothers and newborns. The MOH plans to adopt an order on quality of care improvement in children’s hospitals and to develop and implement a scale-up plan with a budget component and active support from partners.

The Government of Tajikistan expressed its gratitude to WHO HQ, the WHO Regional Office for Europe and the Government of the Russian Federation for the opportunity to implement the initiative and also thanked the Russian colleagues for their technical support throughout the course of project implementation. This joint effort allowed the Government of Tajikistan to take a significant step forward in achieving their commitment on the reduction of childhood morbidity and mortality.
**Ethiopia**

Dr. Abraham Endeshaw, Director, Medical Services Directorate, Federal Ministry of Health, Ethiopia, presented the country’s achievements and lessons learnt in implementing the paediatric quality of care initiative. He provided a brief background on the current sociodemographic situation in Ethiopia and the health governance and delivery systems. Despite the low number of paediatricians, Ethiopia has achieved MDG 4 and is also on track to achieve MDG 5.

Some efforts to improve the quality of paediatric hospital care already had been carried out before the start of the project in 2012. These efforts included the adaptation and distribution of the WHO’s *Pocket book of hospital care for children*, hospital assessments and a first round of ETAT trainings. This project was a great opportunity for Ethiopia to build on and improve activities that were already ongoing.

Highlights of the paediatric quality improvement initiative included the organization of national orientation and review workshops and quality of care assessments in the 10 participating hospitals. These were followed by national workshops for dissemination of the assessment results and hospital quality improvement planning meetings.

Many assessed areas were found to need improvement; emergency care was found to be particularly deficient. Therefore, paediatric guidelines, tools and job aids were updated, printed and distributed to 116 hospitals. Nine rounds of ETAT courses for 223 clinicians were conducted. Paediatric emergency equipment was distributed to 108 hospitals, with the government complementing available funds. Regular visits for supportive supervision and mentoring were carried out. By August 2015 an additional 29 health workers will have been trained on ETAT plus (the standard ETAT course plus other common surgical emergencies and orientation on the management of common childhood illnesses), which then will total 10 rounds of training and 252 health workers trained.

As progress towards quality of care was achieved in the 10 pilot hospitals, activities were scaled up to 42 hospitals and integrated with maternal and newborn health. Staffs of 84 hospitals were trained on the neonatal intensive care unit (NICU) protocol, and NICU equipment was distributed.

As result of the project, the 17 areas assessed improved significantly from 2012 to 2014, and a reduction in mortality rates was observed for children and neonates in the participating hospitals. The patient load increased in OPDs, as did the number of emergency visits, the number of admissions overall and the number of neonatology unit admissions. Paediatric services were reorganized; a separate paediatric triage area and proper triage were established, critical care rooms or corners were organized, and paediatric OPDs and wards were made more child-friendly.

Case management of common childhood illnesses, such as pneumonia, diarrhoea, fever, severe acute malnutrition and HIV/AIDS improved in the participating hospitals according to baseline and follow-up assessments. Laboratory facilities also were improved.

The partnership with the Russian Federation and WHO was fruitful throughout the project. Commitment and ownership at the national as well as at the facility level were high.
Ethiopia was able to scale-up activities early on through the integration of the paediatric quality improvement initiative with the existing system and activities, particularly through the Ethiopian Hospital Alliance for Quality (EHAQ). The Alliance’s priority in 2014 was paediatric and maternal care, giving hospitals a strong incentive to make paediatric quality of care improvement a priority. The initiative also led to resource mobilization for and increased investment in quality improvement activities and improved monitoring and evaluation.

The way forward needs to include advocacy for raising resources for continued scale-up of the paediatric quality improvement initiative as well as the introduction of ETAT and QI into pre-service training curricula and the establishment of a national paediatric centre of excellence. Due consideration needs to be given to equity factors.

Ethiopia would like to express its gratitude to the Russian Federation and the technical staff supporting the initiative as well as to WHO headquarters and the country office for their support.

**Discussion**

The group raised questions regarding the absolute numbers of deaths in the participating hospitals and whether an impact evaluation was carried out. Participants agreed that a strong evaluation component should be built into the next phase of the project.

Ethiopia will be dependent on external funds for the years to come; sustainability of the project will heavily depend on donor funds. However, facilities are allowed to raise their own resources and the government is increasingly allocating resources to the health sector. Additional measures to be taken include the establishment of the national insurance scheme, which is expected to improve health financing along with innovative local financing mechanisms. Ethiopia will keep looking for ways to harness existing resources, for example, the already established mechanisms for hospital managers working on quality assurance, to ensure scale-up without requiring too many external resources.
Kyrgyzstan

Dr Elnura Boronbaeva, Chief Paediatrician, Ministry of Health of the Kyrgyz Republic, presented the country’s achievements and lessons learnt in implementing the paediatric quality of care initiative in Kyrgyzstan. She offered an overview of the demographic situation in the Kyrgyz Republic, which has a population of almost 6 million and decreasing child and infant mortality.

The MoH issued an order to improve the quality of paediatric care in the pilot district and regional hospitals in Kyrgyzstan. A national steering group was established, 10 pilot and 10 control hospitals were selected and baseline quality of care assessments were conducted in all 20 hospitals.

The main activities within the framework of this project included the national adaptation of the WHO *Pocket book of hospital care for children* and its adoption by an MoH order as a standard clinical guideline for the management of common childhood illnesses. A training for national trainers was conducted and the training of medical staff, including mid-level staff, was carried out. Monitoring indicators and a supportive supervision tool were developed with the technical assistance of WHO experts, and six rounds of supportive supervision were carried out during 2013 and 2014. Sets of basic equipment were purchased and distributed. Also, assessments of children rights in hospitals were conducted in all pilot hospitals. A research component was included in the project (see the following section).

At the end of the project, reassessments of quality of care in the 10 pilot and 10 control hospitals were carried out. The results show consistently more improved scores in the pilot hospitals when comparing the 2012 and 2014 assessments. The greatest progress
was seen in the supply of equipment and drugs, the satisfaction of mothers and the case management of diarrhoea. Unnecessary hospitalization was reduced significantly, and unjustified painful procedures and injections were also reduced significantly in the pilot hospitals. Best practice hospitals were chosen during the final round table, creating competition among hospitals and interest in data reflecting quality of care.

Lessons learnt included the importance of intensive supportive supervision visits and the involvement of mid-level staff; in order to improve quality of care, a team approach is required.

There is solid evidence of significant gains made by this project. Therefore, the same methods should be used for scaling-up; alternative methods would have to be piloted first.

Remaining problems include low capacity in hospitals to carry out internal assessments and monitoring of the quality of health care for children and unsatisfactory continuity of care between PHC and other levels of health care. Therefore, the expansion phase of the project may include improvement activities at the primary level, and junior staff needs to be hired and retained to avoid brain drain. The MoH started addressing these challenges recently by recruiting young doctors.

Available resources for the planned scale-up include: guidelines and training materials, a team of national trainers and supervisors, tools for supervision, an external system of monitoring of supervisors and the experience of best practice hospitals that can serve as champions.

Next steps include the issuance of an order from the MOH on the mandatory optimization of paediatric care for all hospitals starting in 2016. Some hospitals will not wait for 2016 to start implementing the improvement activities and have already started.

Dr Boronbaeva concluded that given this consistent achievement through all countries, the initiative should be expanded to all remaining hospitals. She thanked the Russian Government, the Ministry of Health and partners and WHO, and she expressed her hope that the project will continue: “Thank you very much for protecting the health of our children.”

Kyrgyzstan project evaluation research

Dr Marzia Lazzerini, Director of the WHO Collaborating Centre for Maternal and Child Health, Trieste, Italy, presented the research component of the quality improvement initiative in Kyrgyzstan. The trial was designed before the start of the intervention. A protocol for the study was developed, including several procedures for quality assurance of data collection. Permission was requested and obtained from the relevant ethical committees, and the trial was registered in ClinicalTrials.gov. No other randomized controlled trial on training and supportive supervision in Kyrgyzstan has been reported in the literature.

Twenty hospitals were randomly selected in two groups of 10 pilot and 10 control districts/regional hospitals to receive or not to receive the intervention. The intervention consisted of a four-day standard training on the WHO *Pocket book for hospital care for children* and
regular supportive supervision visits. Supportive supervision was delivered by eight national paediatricians trained in the WHO Pocket Book and in supportive supervision; it was delivered every 2 months for a duration of 1–2 days at each visit. The receivers of the visits included doctors, nurses and managers. Activities during the supportive supervision visits included both monitoring of progress and provision of technical support (reinforcement of training). Activities were carried forward according to the peer-to-peer model and the plan-do-study-act QI cycle.

The study looked at 10 areas of case management (Table 2), and generated a summary score based on WHO’s Hospital care for children: quality assessment and improvement tool. The nationally adapted Pocket book for hospital care for children was used as the reference standard.

Outcomes on case management were collected prospectively at six time points in each facility on a randomly chosen sample of 35 patient charts of children ages 2–60 months with difficult breathing, diarrhoea or fever. Outcomes on quality of care, according to the WHO quality assessment tool, were collected at two time points before and after interventions.

Data on case management of 4626 children were analysed. The results showed significant improvements over time for all 10 indicators of case management in the intervention group (p for trend <0.001 for all indicators) versus no significant improvement in the control group.

All areas assessed with the WHO quality assessment tool significantly improved (p <0.01 for all indicators) in the intervention hospitals, compared with the control hospitals. Residual problems in quality of care include the need for better coordination with the PHC level and the implementation of mortality audits. It is known that in many setting

---

## TABLE 2. OUTCOMES: 10 INDICATORS OF INAPPROPRIATE CASE MANAGEMENT

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Primary outcome** | Definition: concomitant presence in the same hospitalized child of all the following three key indicators of poor case management:  
- hospitalization unnecessary  
- iatrogenic risk increased  
- pain unnecessary. |
| **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 Pocket Book recommendations:  
- The child has signs of mild pneumonia and he is diagnosed with severe pneumonia.  
- The child has signs of mild dehydration and he is diagnosed with severe dehydration. |
| **Treatment – incorrect** | Not complying with the WHO Pocket Book recommendations:  
- The child has signs of mild pneumonia and he is treated for severe pneumonia.  
- The child has signs of mild dehydration and he is treated for severe dehydration. |
| **Diagnosis and treatment – inconsistent** or **Explicit diagnosis – lacking** | Not complying with the WHO Pocket Book recommendations:  
- The child is diagnosed with mild dehydration but treated for severe dehydration.  
- The diagnosis is not made explicit in the chart. |
| **Iatrogenic risk – increased** | When compared with the WHO Pocket Book recommendations:  
- Any unnecessary (not recommended by the WHO Pocket Book) use of:  
  - antibiotics in diarrhoea  
  - sedative drugs  
  - steroids  
  - cardio-tonic.  
- Any unnecessary polytherapy (use of two or more unnecessary drugs). |
| **Pain – unnecessary** | When compared with the WHO Pocket Book recommendations:  
- Any unnecessary injection, such as intramuscular/intravenous antibiotic that could be given orally, or an 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 Pocket Book recommendations:  
- The child has a respiratory infection and the 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 – not assessed** | Both weight and height should be recorded at least once in the 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 Pocket Book recommendations (Chapter 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 a hypotonic solution) or a wrong quantity is given (either too much or too little). |
adherence to WHO guidelines is low after training alone. This study adds the finding that supportive supervision by local paediatricians every 2 months for 12 months after the standard WHO four-day training resulted in significant reduction of inappropriate case management as well as in an overall improvement of quality of care.

In conclusion, supportive supervision by local paediatricians after standard WHO training significantly improved case management and overall quality of care in a 12-month period in hospitals in Kyrgyzstan. Hospitals also reported major budgetary savings. Further multi-country studies are needed to evaluate the best model of supportive supervision (that is, the frequency and who provides it) in different settings, as well as to formally evaluate cost-effectiveness (which from this preliminary data seems to be quite good).

A manuscript has been submitted to the *Lancet Global Health* as a report of this cluster randomized controlled trial.

**Discussion**

Recently, a follow-up visit was conducted and the results were even better than expected. The hospitals had purchased additional equipment and made further renovations without asking for financial resources from the MoH. In some regions the quality of care is higher than in the capital. The MoH officials would like to see this experience replicated in all hospitals. The stakeholders in Kyrgyzstan agreed to formally monitor the results of the intervention in a one-year follow-up.

**Angola**

Dr Margarida Correia, Paediatrician of the Angolan Paediatric Society, presented the country’s achievements and lessons learnt in implementing the paediatric quality of care
initiative. Partners for the project implementation in Angola were the Angolan Paediatric Society, WHO, the United Nations Children’s Fund, the United States Agency for International Development, the University College for Aspiring Missionary Doctors and the Scientific Centre of Children’s Health of the Russian Academy of Medical Science. Key implementation processes included a national stakeholder orientation, adaptation and translation of the WHO *Hospital care for children: quality assessment and improvement tool* and quality of care assessments in seven provinces and four hospitals in the capital. Fifty senior health professionals from the 11 referral hospitals conducted the baseline hospital assessments to identify weaknesses and strengths and to agree on improvement actions.

Child mortality is only declining slowly in Angola and the achievement of MGD 4 is far away. Findings of the baseline assessment showed that none of the hospitals provided excellent care. There was a lack of emergency triage: Many children admitted to the hospitals did not require inpatient treatment, while overcrowded OPDs led to children not receiving treatment when urgently needed. There was a lack of standardization of admission criteria and poor clinical monitoring. While the physical structure and layout in hospitals was overall fair or good, no separate wards existed for children. Laboratory support was generally good but required updating. There was a lack of human resources, and case management of common childhood illnesses was poor overall, except for HIV, because treatment protocols exist, and for acute malnutrition in settings where special nutrition units exist. Health information systems were found to be poor, and recorded information was insufficient for performance monitoring and auditing.

Feedback of the assessment findings was provided to the national health authorities and hospital directors. Hospital action plans based on priority areas and feasibility were developed to address the main weaknesses. Priority areas included the training of staff in ETAT and case management and the improvement of the health information systems. National guidelines for ETAT were developed based on WHO generic ETAT guidelines, and 11 rounds of ETAT training were conducted. A tool to improve emergency triage was developed, and 48 newborn resuscitation kits were procured and distributed to the 11 pilot hospitals. Guidelines and flowcharts for management of common clinical conditions, such as fever, pneumonia, diarrhoea, coma and seizures, were developed. The Angolan Paediatric Association provided technical support and a local nongovernmental organization, CUUAM, supported the hospital assessments. The concept of quality standards of care was launched. Overall, the initiative led to a reorganization of patient flow in the admissions and emergency departments and improved paediatric care.

As Angola faced some organizational challenges, progress was slow and the follow-up assessments have not been carried out as of this meeting’s date, but were planned for September 2015.

Next steps include the scale-up of the initiative to all Angolan hospitals and the introduction of a module on quality improvement in nursing schools and the faculty of medicine, as well as the establishment and support of a centre of excellence linked to the existing teaching institutions.

Angola thanked the Russian Federation, Russian experts and WHO for providing support to this important initiative.
Paediatric Quality of Care in the Russian Federation Primary Hospitals

Dr Tatyana Kulichenko, Chief Researcher of the Scientific Centre of Children’s Health of the Russian Academy of Medical Science, presented the experience of assessing paediatric quality of care in primary hospitals in the Russian Federation.

The objective was to develop an audit programme for paediatric care for the improvement of paediatric hospital care at the municipal and regional levels. Stages of the project included the assessment of medical care in hospitals, the training of local paediatricians, and repeated audits and assessments of medical care in the hospitals after the training.

Sixteen hospitals in seven regions were assessed using the WHO quality assessment tool. The findings showed overall good infrastructure and pharmacy and laboratory support, while the quality of emergency care and case management was poor. There was often overcrowding due to unnecessary hospitalization. The assessment found high levels of polypharmacy and out-dated treatment regimes. Hospitals are overall very well-equipped with the latest equipment; however, the equipment was often not used, and basic equipment such as pulse oximeters and oxygen was not always available. The hospital staff is not trained to provide first aid and emergency care.

Analysis was based on the 10 indicators developed for Kyrgyzstan’s evaluation research. It found that unnecessary hospitalization and inconsistent treatment were frequent. In many hospitals polypharmacy was greater than 20 drugs per child. More than 90% of paediatric patients are treated with antibiotics, and the majority received intramuscular (IM) injections 2–4 times per day.

After the analysis of the assessments, plans of action were developed and a training programme based on WHO guidelines, including a practical skills training, was carried out.

Changes after the assessments and training included the reorganization of the admission departments, upgrading of equipment and drugs required for emergency care, reduction of polypharmacy, reduction of unnecessary infusions and injections, improvement of antibiotic treatment practice and the development of day-care practices reducing unnecessary hospitalization. Detailed data will become available in September 2015.

A key problem remains the qualification of medical staff. Future steps will, therefore, include regular audits and training courses for skills upgrading.

In general, the Russian Federation used this opportunity to change the situation in their own country, and after the hospital assessments practice started to improve. Non-evidence-based practices have persisted for a long time, but this process seems to have brought about some change. However, it might be worthwhile to explore further why the hospital assessments conducted in 2002 with similar results did not improve practice, while this time change is occurring. Also, it would be helpful to look at what did not work, in order to scale up only interventions that do work.
Skills training in Moscow

Dr Ilya Mityushin, Scientific Centre of Children’s Health of the Russian Academy of Medical Science, presented the Russian experience with skills training to support improvement of paediatric quality of care. More than 400 doctors were trained on the WHO Pocket book for hospital care for children to introduce evidence-based medicine based on international guidelines and to leave behind non-evidence-based beliefs. Emergency and routine case presentations were introduced to participants. A simulation centre was opened, including special facilities for surgical training. The training programme comprises 72 study hours in two weeks, including practical sessions and a test.

A training of trainers was carried out. It included participants from 12 countries, namely, Angola, Armenia, Botswana, Ethiopia, Kyrgyzstan, the Republic of Moldova, Mongolia, Namibia, Nicaragua, Tajikistan, Uzbekistan and Viet Nam. The systematic approach to paediatric assessment and effective respiratory management was taught, as well as Pediatric Advanced Life Support (PALS) skills including the recognition and treatment of infants and children at risk of cardiopulmonary arrest.

Practical skills taught included lumbar puncture, intraosseous injections and basic cardiopulmonary resuscitation. The simulation room, PediaSIM, features high-fidelity mannequins to be used for teaching and observation. Training uses a team approach with debriefing and evaluation of case management and performance.
Lessons learnt

Dr Bernadette Daelmans and Prof Leyla Namazova-Baranova summarized the lessons learnt from the presentations of the four participating countries and the Russian Federation and from the discussions that followed.

Overall, many valuable lessons were learned and new evidence was collected. Given that this is the only project focusing on quality of child care at the hospital level, the experiences should be published and the evidence widely shared to promote the approach for adaptation and replication in other settings. Below are some of the key lessons learnt.

Ownership and political commitment: Institutionalization and leadership at different levels of the health system, thus the ministry of health, the subnational level (regional or district) and the hospital level, was found to be critical in the implementation of the project. It involved working with many stakeholders at different levels and setting up national steering working groups/committees. In addition, hospitals with motivated leadership that involved the hospital administrators and local champions worked better. In Ethiopia, where project implementation was led by the directorate of medical services responsible for service delivery standards, the project was more institutionalized and was scaled up to more facilities.

Implementation framework: The framework implemented in all participating countries using standards, quality assessments and quality improvement activities as key components brought about positive change. The framework provided a basis for a systematic approach to implementation of quality of care improvement processes. Since the standards of care were based on guidance in the WHO Pocket book for hospital care for children, it was much easier for the countries to adapt them.

Adverse incentives and behaviour change: In some settings in the Russian Federation, health insurance pays significantly more for the management of a case of pneumonia than a case of bronchitis. In addition, seven days of hospitalized treatment are mandatory for pneumonia cases, otherwise no payment will be received from the health insurance. These are factors that may constitute an incentive for overdiagnosis and over-hospitalization. In fact, when reviewing X-rays of pneumonia cases, only 27% showed infiltrates, and 45% of children are released from the hospital on signature of the parents before the end of the seven days of treatment. Hospital doctors, when asked why IM injections were prescribed to children stated, “Tablets could be swallowed at home”. It is, therefore, important to address these incentives and enable doctors to change practice. Being aware of the problem is not always enough to change practice. Doctors are trained by their professors, who were trained by their professors. In order to support change, evidence needs to be compiled on when and why antibiotics should not be given, for example, for most cases of bronchiolitis.
Empowerment and motivation: Knowledge is not the only component required for behaviour change; doctors also need to be empowered and motivated. The next phase of the project should include a group problem-solving activity to support these components.

Child rights: A child rights approach based on the Convention of the Rights of the Child may be useful to address adverse incentives. A rights-based approach has already been tested out in the European Region, and a technical consultation will be held in the region to review how the rights-based approach can be combined with the technical quality improvement approach. The Convention of the Rights of the Child is very explicit and can facilitate the implementation of quality improvement of paediatric care. This is an area that should evolve during the next project phase.

National policies and regulations: Political will to change policies and regulations, for example, health insurance and payment systems of hospitals, is extremely important; the commitment of the MoH is needed to improve quality of care. That this is possible in principle was shown by the project as, for example, in Kyrgyzstan financial regulations were changed as a result of the activities. Health insurance staff was included in the hospital visits and review of patient charts. The MoH embarked on a process of supportive supervision and development of tools. Health insurance staff was included in trainings to make them aware of international guidelines and also participated in supportive supervision visits.

Supervision, self-assessment and audit: Supervision was found to be very important; however, it is important that supervision is supportive as opposed to punitive. Internal audits and self-assessments should be an integral part of supportive supervisory mechanism. Results of internal assessment should be interpreted, shared and discussed by all who work in hospitals in order to find jointly solutions. These group problem-solving activities should be implemented at the facility level and across facilities.

Capacity building and mentoring: Focused training of all health workers involved in the care of children was found to be an effective strategy to build their capacity, to bridge the gap between knowledge and practice and to address facility and systems issues. Mentoring through hospital visits by trained mentors motivated and improved relationships between the national/regional supervisory team and the health workers. This was beneficial to clinical performance and outcomes in all the three countries except Angola, which did not have mentoring as part of implementation.

Training to use a Spacer for nebulization
**Collaborative approach:** The participants agreed that the collaboration among facilities was very fruitful, and that inter-country collaboration and experience exchange is important and should continue. Hence, a collaborative approach at the facility and international levels should be continued during the next project phase.

**Linkage with PHC:** Participants agreed that while a focus on hospital quality of care improvement is important, the project should be linked to the PHC and community levels, particularly in countries where the Integrated Management of Childhood Illness is being implemented.

**Scaling up:** Key components to be scaled up in order to bring about positive change include the use of standards, assessments and quality improvement activities, such as supportive supervision and mentoring, internal self-assessments, case audits and problem-solving.

Practising inserting intraosseous needles on chicken thighs
Dr Özge Tunçalp, RHR, presented *Quality of care for pregnant women and newborns — the WHO vision* on behalf of the WHO Quality of Care Working Group.4

Due to concentrated efforts facility-based deliveries are increasing globally; thus, higher proportions of maternal and perinatal morbidity and mortality occur in facilities. Research shows that it is necessary to go beyond maximizing coverage of essential interventions to accelerate reductions in maternal and perinatal mortality and severe morbidity.

WHO’s vision: Every mother and newborn receives quality care throughout the pregnancy, childbirth and postnatal periods. This vision is in alignment with two complementary global action agendas conceptualized by WHO and partners in 2013–14 – Ending Preventable Maternal Mortality and the Every Newborn Action Plan. The vision is articulated at a critical time when WHO, in collaboration with partners, is developing the Global Strategy for Women’s, Children’s and Adolescents’ Health (2016–2030) for the post-2015 Sustainable Development Goal era.

Quality of care is defined as the extent to which health services provided to individuals and populations improve desired health outcomes. In order to achieve this, health care needs to be *safe, effective, timely, efficient, equitable, and people-centred*. The quality of care improvement framework (see Fig. 1) conceptualizes QoC for maternal and newborn health by identifying domains of QoC that should be addressed to assess, monitor and improve care within the context of the health system. Health systems create the structure that enables access to quality care and allows for the process of care to occur along two important and interlinked dimensions — provision and experience of care.

As part of this vision, and integrated into the framework, WHO proposes to use a QoC improvement strategy, an adaptation of the “plan-do-study-act” cycle, which is based on evidence synthesis, best practice and experience. This strategy provides a roadmap for continuous quality improvement. It starts by setting aims and building teams to achieve desired outcomes through implementation of evidence-based change packages (individual, multi-faceted and/or complex interventions depending on the context and the needs). It also incorporates capacity strengthening and other strategies to maximize the chances of sustaining the implementation. In this context, quality improvement should achieve the standards set for both provision and experience of care.

WHO has identified priority thematic areas, which include:

- routine childbirth care, including labour monitoring and action and routine newborn care at birth and during the first week;

---

management of pre-eclampsia, eclampsia and its complications;
management of postpartum haemorrhage;
management of difficult labour by enabling safe and appropriate use of medical technologies during childbirth;
newborn resuscitation;
management of preterm labour, birth and appropriate care for preterm and small babies;
management of maternal and newborn infections.

WHO defined eight draft standards that are applicable to all health facilities offering maternity services, covering labour, childbirth and the early postnatal period. These standards are woman-, newborn- and family-centered and specific to the priority thematic areas identified (see above). Two to 12 quality statements were developed for each standard and quality measure (at least one input, output and outcome measure). Expert opinion-based prioritization using a pre-agreed set of criteria (Delphi survey – 3 rounds) will be carried out to agree on a core list and additional measures to be selected depending on the needs of the facilities.

WHO is developing standards, quality statements and a working draft of quality measures to initiate implementation, with built-in empirical work to test and validate the quality measures.

The Quality of Care Framework (Fig. 2) proposes a quality improvement system that extends across the continuum of mother, newborn, child and adolescent health, at all levels of care. The system aims to achieve “effective coverage”, defined as high and equitable coverage, of quality care. Its implementation represents a fundamental shift in policy to accept quality of care as essential and to empower health providers to take responsibility for the improvement of their work of saving lives and averting preventable death.

A regional consultation on quality of care will be held in the WHO Regional Office for Europe in Copenhagen on 30 September and 1 October 2015. This consultation will review the existing draft regional framework for quality improvement and national regulatory frameworks to establish ways to make best use of the Convention on the Rights of the Child that has been ratified by all member states (except one), as an entry point and basis for the quality improvement process.

When moving to the next phase, the European Region would like to include, in addition to the child rights-based approach, continued supportive supervision and joint problem-solving (collaborative) between the participating health facilities.

**Discussion**

During the discussion the group raised questions on how previous experience (for example, from the WHO quality assessment tool, which already suggested many standards) is going to be used in the process of formal development of the WHO standards. The group also raised questions on how to measure the implementation of the standards. While it will be more challenging to measure standards than measuring coverage, it is possible in principle. However, measuring adherence to standards is less precise and more qualitative. Every standard statement will have a set of measures to define whether the standard is met. Currently, a Delphi process is planned to define these measures and indicators. This process will involve a wide range of experts and WHO departments (including Health Systems Governance and Financing, Health Workforce, Service Delivery and Safety, Public Health and Environment).

<table>
<thead>
<tr>
<th>Standard</th>
<th>Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Quality services for children</td>
<td>Quality services for children</td>
</tr>
<tr>
<td>2</td>
<td>Equality and non-discrimination</td>
<td>Equality and non-discrimination</td>
</tr>
<tr>
<td>3</td>
<td>Play and learning</td>
<td>Parenting</td>
</tr>
<tr>
<td>4</td>
<td>Information and participation</td>
<td>Information and participation</td>
</tr>
<tr>
<td>5</td>
<td>Safety and environment</td>
<td>Safety and environment</td>
</tr>
<tr>
<td>6</td>
<td>Protection</td>
<td>Protection</td>
</tr>
<tr>
<td>7</td>
<td>N/A</td>
<td>Chronic illness and other long-term health care needs</td>
</tr>
<tr>
<td>8</td>
<td>Pain management and palliative care</td>
<td>Pain management and palliative care</td>
</tr>
</tbody>
</table>
FIGURE 2. QUALITY OF CARE FRAMEWORK THROUGH A CHILD RIGHTS-BASED APPROACH

Fulfilling the Convention on the Rights of the Child

1. Getting started
- Identification of leadership and champions
- Defining roles at various levels (systematic process)

2. Standards
- Review of the national regulatory environment
- Definition of standards of care
- Review of and agreement on standards for all areas and levels of care
- Development of guidelines and an assessment tool based on standards

3. Assessment (external baseline)
- Assessment of quality of care and identification of gaps with reference to the established standards

4. Improvement
- Implement solutions: Implementation of improvement activities to address the identified gaps with reference to the established standards
- Technical and QI training
- Collaborative problem solving meetings
- Supportive supervision

5. Monitoring and (self-) re-assessment
- Continuous monitoring of performance and provision of supportive supervision and (self-) assessments of quality of care to measure progress towards the achievement of standards

6. Documentation and dissemination
- Documentation and publication of quality improvement efforts
- Recognizing and celebrating the achievements of the standards

7. Scaling up
- Scaling up to all hospitals and health facilities and communities

Plan
Assessment
Improvement
Act
Do
Check

Do
Plan
Assessment
Improvement
Act
Check

Do
Plan
Assessment
Improvement
Act
Check

Do
Plan
Assessment
Improvement
Act
Check

Do
Plan
Assessment
Improvement
Act
Check
The work of the WHO Quality of Care Working Group aims at consolidating existing efforts and will build on this work that has been carried out for the rights-based paediatric quality improvement project. Dr Temmerman reported that the background work for the statement on prevention and elimination of disrespect and abuse during childbirth,\(^5\) which was published last year, also used a rights-based approach.

While the use of a rights-based approach may at first seem unusual to many healthcare providers, as well as to the management and the ministries of health, it may ensure sustainability for continuous assessment. This is because most dimensions of child rights can be self-assessed, which uses less resources and external support than the quality of care assessments usually carried out by external experts.

The group raised questions on who are the stakeholders in this process. In addition to people on the ground taking care of the patients, stakeholders have to include managers and politicians.

Further work will be needed to look at the Convention and its frameworks within countries to see how they address the quality of services and how to extract and make use of the relevant parts. This work may partly be addressed by the regional consultation mentioned above.

\(^5\) http://www.who.int/reproductivehealth/topics/maternal_perinatal/statement-childbirth-data/en/
The Russian Federation’s perspective on the reproductive, maternal, newborn and child health (RMNCH) agenda

Dr Svetlana Axelrod, Deputy Director of the Department of International Cooperation and Public Relations at the Ministry of Health of the Russian Federation, provided an overview on the Russian Federation’s perspective on the global and national RMNCH agenda.

Dr Axelrod suggested summarizing lessons learnt and organizing a global forum to provide a platform for sharing experiences. She also suggested organizing a side event during the World Health Assembly (WHA). During the last assembly the Russian Federation called for several of these side meetings on different topics, such as cancer in children, tobacco control and road safety, which were considered very useful. Hence, the Russian Federation will be willing to initiate a side event on quality of care improvement during the WHA 2016. Partners of the BRICS (Brazil, Russia, India, China and South Africa) countries may be invited to participate in the sponsorship of the event.

Dr Axelrod reiterated the need to promote the ongoing work with the relevant ministries of health at country level, in regions and through several publications. A list of planned publications, including books, should be prepared. The importance of translation into Russian and other languages was stressed and should be considered in the future.
New funding proposal on quality of care improvement

Dr Wilson Were, MCA, provided an overview of the new proposal on Improving Maternal, Newborn and Child Quality of Care that has been submitted for funding. During the implementation of the paediatric quality of care improvement project, it became apparent that there was country interest in broadening the scope of the project along the health care continuum to include maternal and newborns. The new proposal, therefore, broadens the scope of the paediatric project to include maternal and newborn care, community involvement, and expansion to six additional countries (Armenia, Nicaragua, Sudan, Uzbekistan, Viet Nam and Zambia). This will address a significant number of maternal and newborns deaths that occur in the health facilities due to poor quality of care, and the growing burden of tuberculosis (TB), with an estimated 220 000 cases globally in pregnant woman.

The overall goal is to strengthen national health systems’ capacity to accelerate the reduction of maternal, newborn and child mortality by improving the quality of care in the context of the continuum of care. The objectives are to:

1. implement maternal, perinatal and paediatric quality of care improvement activities in selected hospitals;
2. introduce and build national capacity in standards of care, based on international guidelines;
3. review and introduce the concept of maternal, perinatal and paediatric quality of care improvement into the curricula of medical education and national training institutions;
4. empower mothers, families and communities to improve health-seeking behaviour;
5. integrate TB prevention, diagnosis and care into quality of care improvement for maternal, newborn and child health services;
6. develop and update WHO guidelines and tools to support maternal, newborn and paediatric quality of care improvement.

**Proposed approach**

As studies have demonstrated the feasibility and effectiveness of using criterion-based audits to measure and improve the quality of maternal, newborn and child health care, a standards-based approach will be taken. An objective, systematic and critical analysis of the quality of health care is against set criteria (standards) of best practice. In this process, standards are set with a clear objective and with structure, process and outcome criteria; current practice is measured and compared with the standards; recommendations for change are made and implemented; and practice is re-evaluated.
Components of the proposal include:
1. country ownership and orientation of national stakeholders
2. situation analysis and assessment
3. review/development and introduction of national standards of care
4. implementation of a QI process
   a. purchase and distribution of basic equipment and supplies
   b. development/update of supportive quality of care implementation tools and guidelines
   c. capacity building and integration in pre-service training
5. documentation and dissemination of best practices
6. performance monitoring and evaluation.

Implementation studies/operational research will be nested within the project to gauge impact.

The process will start by approaching the governments to obtain approval as well as political, and professional, commitment. Then, planning with the ministries of health for advocacy and orientation of decision-makers and senior managers will be carried out. A national steering group will be set up or called on to develop national project implementation plans.

**New proposal funding and timelines**

Countries were urged to move quickly to submit their final project and financial reports before a decision on the new funding proposal can be made. Angola, which had not yet submitted the final draft report, was urged to speed up the process to avoid jeopardizing the others. For further consideration of the new proposal by the Russian Government, a more detailed budget and financial report might be required.

Regarding the additional countries suggested for inclusion, Dr Axelrod will follow up with the Health Attaché of the Permanent Mission of the Russian Federation to the UN, Dr Alexey Novozhilov, and the Ministry of Foreign Affairs.

In addition to the regular project monitoring and evaluation, a research component should be built into each project in order to be able to demonstrate the impact of the intervention. In a selected number of countries, a similar approach to that taken by Kyrgyzstan may be adopted, for which extra funds will be required and will have to be set aside. For the countries joining the initiative at this stage, an evaluation of the suggested collaborative approach may be carried out, while for the countries already involved, scale-up could be studied. It was also suggested to consider and explore the addition of a reproductive health component within the research arm of the project.

The group suggested that WHO establish two positions (at P4/P5 and P2/P3 levels) as secondments to support the budgeting and financial reporting. Due to structural changes, the Government decided that the donor’s agreement would be signed between the MoH and WHO (the previous Memorandum of Understanding was between WHO and the Ministry of Finance).
Next steps

- The group agreed to scale up activities to other hospitals in the participating countries and to extend the initiative to maternal and newborn health, including high-burden infectious diseases such as tuberculosis, in the new proposal.

- The group agreed to organize a quality of care side-event at the WHA 2016, with the Russian Federation acting as the main sponsor, that is, the entity making the request.

- A concrete way forward for publications was agreed upon: Each country will draft at least one publication with support from Russian colleagues and experts, and WHO headquarters will prepare a paper on overall lessons learnt. Thus, at least five papers will be published in English and Russian.

- The WHO Regional Office for Europe committed to supporting translations into Russian and publication in Public Health Panorama, a new public health journal publishing good quality articles in English and Russian.

- One article about the rights-based approach used in Uzbekistan has already been submitted. Three papers are expected from the research component in Kyrgyzstan.

- The group agreed on the establishment of a steering group for the development of the research component and protocols for the new proposal.

- The new proposal should include an in-depth review of the financial implications of the initiative in the central Asian countries, as during the first round some hospital managers calculated savings of 68% to 72%. Additional evidence (currently only anecdotal) to support these statements would be beneficial.

- The proposal will need to define what interventions link the hospital with the primary health centres and the community. Interventions should be concrete and country-specific.

- A component of the project should look at the link with the health system, health financing and legal rules and regulations.

- While the initiative will be managed at global level, the WHO Regional Offices can facilitate the process by addressing country-specific issues through a regional consultation process.

- Participants suggested starting the second phase with a Global Forum on Quality of Care to exchange experiences, to provide new countries with the opportunity to learn from the first phase and to discuss country implementation plans. The forum will include politicians to ensure political commitment and ownership.
Issues for follow-up

- WHO will follow up on the status of the application submitted by the Scientific Centre of Children’s Health of the Russian Academy of Medical Science in Moscow to become a WHO Collaborating Centre.

- WHO will determine whether Dr Flavia Bustreo can participate in a high-level meeting to be held in September in St Petersburg, although the dates conflict with the meeting of the UN General Assembly.

- The WHO Regional Office for Europe will continue to explore the involvement of the European Paediatric Association in the implementation of the child rights-based quality of care improvement project.
Closing remarks

On behalf of Dr Flavia Bustreo, Dr Daelmans thanked the participants for an informative and stimulating meeting. She reiterated the need to conclude all the work in September and to ensure that all required technical and financial reports are submitted both in English and Russian. As achievements need to be widely shared through publications, Dr Daelmans encouraged the expert group to support the countries in drafting publications. MCA will follow up on the issue of the WHO Collaborating Centre, and the consultative processes through the regional office and regional committee will continue. WHO looks forward to the funding and launch of the new phase of the project.

Dr Daelmans offered special words of thanks to Dr Vladimir Tatochenko of the Scientific Centre of Children’s Health of the Russian Academy of Medical Science for his longstanding support to WHO and his institutional wisdom, to the experts of the Russian Federation and to the colleagues in the ministries of health of the four countries. Dr Daelmans expressed her thanks for the good partnership. Children, newborn and adolescents are the future.

In her closing remarks Dr Svetlana Axelrod thanked WHO, the partners from countries, Professor Leyla Namazova-Baranova and all other colleagues for supporting this important work. She offered best wishes to Dr Flavia Bustreo. She extended thanks to all country staff who were involved in the project implementation and assured them that their hard work is recognized at the highest level. She expressed her happiness that this initiative has had a positive influence on paediatric care, as children make up 100% of our future population.
## Annex 1. Agenda

**WHO-Russian Federation Final Meeting on the Paediatric Quality of Care Improvement Initiative**  

### DAY 1

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenter/Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00–09:15</td>
<td>Welcome, Introduction of participants</td>
<td>Dr Flavia BUSTREO, ADG, FWC</td>
</tr>
<tr>
<td>09:15–09:30</td>
<td>Address by honourable representatives of the Russian Federation</td>
<td>Mr Rinat ALYAUTDINOV, Deputy Permanent Representative.</td>
</tr>
<tr>
<td>09:30–09:45</td>
<td>Remarks by Ministry of Health of Russian Federation</td>
<td>Dr Svetlana AXELROD, Deputy Director, Department of International Cooperation and Public Relations</td>
</tr>
<tr>
<td>09:45–10:00</td>
<td>Objectives and expected outcomes of the Meeting</td>
<td>Director, MCA</td>
</tr>
<tr>
<td>09:50–11:00</td>
<td>Global landscape and progress in maternal, newborn and child health</td>
<td>Dr Bernadette DAELMANS</td>
</tr>
<tr>
<td>10:00–10:30</td>
<td>Discussion</td>
<td></td>
</tr>
<tr>
<td>10:30–11:00</td>
<td><strong>TEA/COFFEE BREAK</strong></td>
<td></td>
</tr>
<tr>
<td>11:00–11:20</td>
<td>Paediatric quality of care initiative overview and highlights</td>
<td>Dr Wilson WERE</td>
</tr>
<tr>
<td>11:20–11:40</td>
<td>WHO-Russian Collaboration in supporting improving paediatric quality of care</td>
<td>Prof Leyla NAMAZOVA-BARANOVA</td>
</tr>
<tr>
<td>11:40–12:30</td>
<td>Country achievements and lessons learnt in implementing paediatric quality of care initiative:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● Tajikistan</td>
<td>Dr Obidjon AMINOV</td>
</tr>
<tr>
<td></td>
<td>● Ethiopia</td>
<td>Dr Abraham ENDESHAW</td>
</tr>
<tr>
<td>12:30–13:00</td>
<td>Evaluation of the paediatric quality of care implementation in Kyrgyzstan</td>
<td>Dr Marzia LAZZERINI</td>
</tr>
<tr>
<td>13:00–14:00</td>
<td><strong>LUNCH BREAK</strong></td>
<td></td>
</tr>
<tr>
<td>14:00–14:50</td>
<td>Country achievements and lessons learnt in implementing paediatric quality of care initiative:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● Kyrgyzstan</td>
<td>Dr Elnura BORONBAEVA</td>
</tr>
<tr>
<td></td>
<td>● Angola</td>
<td>Dr Margarida CORREIA</td>
</tr>
<tr>
<td>14:50–15:10</td>
<td>Assessing paediatric quality of care in primary hospitals in Russia</td>
<td>Dr Tatiana KULICHENKO</td>
</tr>
<tr>
<td>15:10–15:30</td>
<td>Skills training to support paediatric quality of care improvement: Russian experience</td>
<td>Dr Ilya MITYUSHIN</td>
</tr>
<tr>
<td>15:30–16:00</td>
<td><strong>TEA/COFFEE BREAK</strong></td>
<td></td>
</tr>
</tbody>
</table>
### Facilitated wrap up:
- Short interventions on key lessons learnt
- Recommended on next steps

## Day 2

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00–09:20</td>
<td>WHO vision—Current and expected approaches to improving maternal, newborn and child quality of care</td>
<td>Dr Özge TUNCALP</td>
</tr>
<tr>
<td>09:20–09:40</td>
<td>Russian Federation perspective on the global and national RMNCH agenda</td>
<td>Dr Svetlana AXELROD</td>
</tr>
<tr>
<td>09:40–10:00</td>
<td>Overview of the maternal, newborn and child quality of care improvement proposal</td>
<td>Dr Wilson WERE</td>
</tr>
<tr>
<td>10:00–10:30</td>
<td>Feedback and short interventions the new proposal:</td>
<td></td>
</tr>
<tr>
<td>10:30–11:00</td>
<td><strong>Tea/Coffee Break</strong></td>
<td></td>
</tr>
<tr>
<td>11:00–11:40</td>
<td>Future collaboration and next steps</td>
<td></td>
</tr>
<tr>
<td>11:40–12:00</td>
<td><strong>Closing remarks</strong></td>
<td>Dr Flavia BUSTREO</td>
</tr>
</tbody>
</table>
Annex 2. List of participants

WHO-Russian Federation Final Meeting on the Paediatric Quality of Care Improvement Initiative
27–28 July, WHO/HQ, Geneva, Switzerland

RUSSIAN GOVERNMENT

Mr Rinat ALYAUTDINOV
Deputy Permanent Representative
Permanent Mission of the Russian Federation to the UN and other international organizations at Geneva
Geneva, Switzerland

Dr Alexey NOVOZHILOV
Health Attaché
Permanent Mission of the Russian Federation to the UN and other international organizations at Geneva
Geneva, Switzerland

Professor Elena BAIBARINA*
Director, Department of Obstetrics and Child Health Care
Ministry of Health of the Russian Federation
Moscow, Russian Federation

Dr Svetlana AXELROD
Deputy Director, Department of International Cooperation and Public Relations
Ministry of Health of the Russian Federation
Moscow, Russian Federation

Ms Lidia I. GABUNIYA
Ministry of Health of the Russian Federation
Moscow, Russian Federation

Ms Alla A. TALANOVA
Ministry of Health of the Russian Federation
Moscow, Russian Federation

RUSSIAN EXPERTS

Professor Leyla NAMAZOVA-BARANOVA
Deputy Director of the Scientific Centre of Children’s Health of the Russian Academy of Medical Science
Moscow, Russian Federation

Dr Ilya MITYUSHIN
Scientific Centre of Children’s Health of the Russian Academy of Medical Science
Moscow, Russian Federation

* Unable to attend

Dr Tatyana KULICHENKO
Chief Researcher
Scientific Centre of Children’s Health of the Russian Academy of Medical Science
Moscow, Russian Federation

Dr Maya BAKRADZE
Head, Department of Acute Pathology
Scientific Centre of Children’s Health of the Russian Academy of Medical Science
Moscow, Russian Federation

Dr Vladimir TATOCHENKO
Scientific Centre of Children’s Health of the Russian Academy of Medical Science
Moscow, Russian Federation

Dr Tea MARGIEVA
Head, Department of Nephro-urology and Metabolic Diseases
Scientific Centre of Children’s Health of the Russian Academy of Medical Science
Moscow, Russian Federation

MINISTRY OF HEALTH AND PROJECT REPRESENTATIVES

Dr Henda Aline VASCONCELOS
Head of the Reproductive Health Department
Ministry of Health
Luanda, Angola

Dr Margarida Gaspar CORREIA
Pediatrician of the Angolan Paediatric Society
Luanda, Angola

Dr Elnura BORONBAEVA
Chief Paediatrician
Ministry of Health of Kyrgyz Republic
Bishkek, Kyrgyzstan
Dr Abraham ENDESHAW  
Director, Medical Services Directorate  
Federal Ministry of Health  
Addis Ababa, Ethiopia  

Dr Obidjon AMINOV  
Deputy Director  
Republican Paediatric Clinical Science and Surgery Centre  
Ministry of Health and Social Protection  
Dushanbe, Tajikistan  

Dr Susanne CARAI  
Consultant and Rapporteur  
Berlin, Germany  

Dr Marzia LAZZERINI  
Director  
WHO Collaborating Centre for Maternal and Child Health  
Institute for Maternal and Child Health  
Trieste, Italy  

WHO COUNTRY OFFICES  

Dr Maria José COSTA  
Medical Officer  
WHO Country Office, Angola  

Dr Kubanychbek MONOLBAEV  
Public Health Officer  
WHO Country Office, Kyrgyzstan  

Dr Haik NIKOGOSIAN  
Acting WHO Representative and Head of Country Office  
Russian Federation  

Dr Wegen SHIRKA  
National Professional Officer  
Child and Adolescent Health  
WHO Country Office, Ethiopia  

Dr Zulfiya PIROVA  
National Professional Officer Reproductive, Maternal,  
Newborn, Child and Adolescent Health  
WHO Country Office, Tajikistan  

WHO REGIONAL OFFICES  

Dr Assumpta MURIITHI  
Medical Officer, FRH  
WHO Regional Office for Africa  
Brazzaville, Congo  

Dr Aigul KUTTUMURATOV  
Medical Officer, Child Health  
Regional Office for Europe  
Copenhagen, Denmark  

Dr Martin WEBER  
Programme Manager, Child and Adolescent Health and  
Development  
Regional Office for Europe  
Copenhagen, Denmark  

WHO HEADQUARTERS  

Dr Flavia BUSTREO, ADG, FWC  
Dr Marleen TEMMERMAN, Director, RHR  
Dr Bernadette DAELMANS, MCA  
Dr Senait KEBEDE, MCA  
Dr James KIARIE, RHR  
Dr Avinash KANCHAR, CTB  
Dr Matthews MATHAI, MCA  
Dr Igor TOSKIN, RHR  
Dr Özge TUNCALP  
Dr Wilson WERE, MCA