



Inter-country technical consultation
on improvement of diarrhoea
management in the context of child
survival and technical updates of the
IMCI guidelines

Report
Bishkek, Kyrgyzstan, 26–28 February 2007

ABSTRACT

It is over seven years since IMCI has been introduced and much has been learnt through the adaptation and implementation processes in countries. The current technical updates have compiled the experience learnt and the new research findings.

Research results are emerging with potential implications for updating the technical guidelines of IMCI. The technical updates are provided for use by countries whenever there are opportunities to revise the country IMCI adaptations. It will be necessary to have a series of technical updates as new research findings become available. The current technical updates have compiled new evidence to inform countries immediately about IMCI adaptations and recommend adaptations in six areas.

Two recent advances in managing diarrhoeal disease – lower concentration oral rehydration salts (ORS) for prevention and treatment of dehydration, and zinc supplementation during and after the diarrhoea episode – can drastically reduce child morbidity and mortality. May 2004, WHO and UNICEF signed a joint statement that recommends use of the new low osmolarity ORS and zinc in management of diarrhoeal diseases.

To accelerate the use of zinc and new low osmolarity ORS for effective treatment of diarrhoea WHO, UNICEF, USAID, Johns Hopkins Bloomberg School of Public Health, and the Bill & Melinda Gates Foundation set up a global Operational Team for zinc. This time the Operational Team for zinc and the WHO Regional Office for Europe organized a three-day workshop in Bishkek, Kyrgyzstan for decision makers to overview the updates in management of diarrhoeal diseases.

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Introduction

Achievement of Millennium Declaration Goals determines the need for the integrated efforts of the countries aimed at prevention of child mortality caused by easily curable diseases, such as ARI, diarrhoea, measles and malnutrition.

The World Health Organization in partnership with UNICEF and other world organizations have attained success in implementation of vertical programmes for control over these diseases in the European region, as well as the implementation of the global strategy of the integrated management of childhood illnesses (IMCI). The latter strategy is aimed at the integrated tackling of problems such as enhancement of the health care system, improvement of the health services providers' performance, enhancement of child care practices at home and in the community.

It is over seven years since IMCI has been introduced and much has been learnt through the adaptation and implementation processes in countries. The Department of Child and Adolescent Health and Development (CAH) and other institutions have undertaken work to evaluate the evidence base for the technical guidelines of the IMCI strategy. Research results are emerging with potential implications for updating the technical guidelines of IMCI.

The new evidence gained from revision of some approaches to management of children with common diseases (including diarrhoea) require recurrent update of the methodical and regulatory framework on providing care for child population.

In 2004 it was recommended that CAH finalize the IMCI updates on the basis of the best available evidence and country programme feedback, prioritizing those updates most likely to reduce child mortality.

The technical updates are considered necessary for the following reasons:

- New knowledge becomes available through research into clinical management of childhood diseases. Research results should be examined in a systematic manner to improve and update the IMCI guidelines.
- IMCI guidelines should be reviewed with regard to experiences and lessons learned through the adaptation and implementation process.
- Implementation of IMCI has identified problems and questions, some of which have been addressed through operational research in regions and countries.
- Since the development of the IMCI guidelines, the epidemiology of diseases has evolved and thus a revised version has to accommodate and reflect these changes. For example, the prevalence of HIV/AIDS has increased significantly over the last 10 years and specific aspects require updating in the context of IMCI.

The current technical updates have compiled new evidence and recommended adaptations in the following six areas:

- antibiotic treatment of severe and non-severe pneumonia
- low osmolarity ORS and antibiotic treatment for bloody diarrhoea
- treatment of fever/malaria

- treatment of ear infections
- infant feeding
- treatment of helminthiasis.

At the previous workshop “Inter-country technical consultation on in-patient treatment of diarrhoea in children (Almaty, 16–18 May 2006)” there were identified and discussed evidence-based ways to improve in-patient management of diarrhoea in children. In this respect it was recommended that stakeholder-states:

- develop, endorse and implement the National Strategy for Child and Adolescent Health and Development (including the IMCI strategy);
- review the regulatory and legal framework, including issues of cross-sectoral cooperation and standards of service rendering, as well as quality control and epidemiological monitoring;
- estimate the cost of standards to provide the budgetary funding within the framework of the guaranteed services package (population at large or target groups);
- introduce the evidence-based WHO recommendations on management of diarrhoea in children into the under- and post-graduate curriculum of higher educational institutions and academies;
- introduce the IMCI protocols including the updated protocols on management of diarrhoea in children at the level of out-patient clinics and in-patient first-level facilities;
- review/develop and implement indicators for monitoring and evaluation of services efficiency and quality, including those required for licensing of health care institutions;
- develop and introduce in cooperation with healthy lifestyle centres, NGOs, communities, local regulatory bodies, and mass media the training courses for parents aimed at providing knowledge and skills in child care; and
- develop and implement the programmes for informing the population on issues of hygiene, nutrition, and water supply using the cross-sectoral approach with the involvement of such economy sectors as health care, education, culture, information, agriculture, etc.

The present workshop in Bishkek is closely related to the previous one in view of its major goal: assistance to countries in proceeding from the phase of receiving new EBM data to introduction of the updates into the applicable standards and the regulatory and legal framework, i.e. to effective actions.

The workshop was organized by the WHO Regional Office for Europe in association with the global operational team for zinc. It hosted the representatives of the ministries of health of the Central Asian countries, the leading experts in paediatrics, drug procurement policy makers, experts of WHO, UNICEF, and other international organizations (Annex 1).

The goal of the workshop

The goal of the workshop is the discussion and development of plans on effective implementation of the new global recommendations in the context of measures taken for the child survival and technical update of the IMCI guidelines.

Objectives of the workshop

- Presentation of the new technical updates of the IMCI guidelines (evidence);
- Discussion of the countries' subsequent actions aimed to update the IMCI guidelines, particularly to incorporate the new recommendations for management of diarrhoea with zinc and low osmolarity ORS;
- Development of Action Plans aimed to use the current country's capacity and resources;
- Discussion of the new scientific evidence and the IMCI areas subject to technical update (ARI, diarrhoeal diseases, fever/malaria, ear infection, infant feeding, helmenthiasis);
- Working out of recommendations for updating the policy, regulatory and legal framework and training materials, key information, drugs production and practices of diarrhoea management;
- Development of the Action Plan on introduction of the new recommendations into the PHC facilities, in-patient care practices, under- and post-graduate training of personnel.

Conduction of the workshop

The workshop was conducted in conformity to objectives set and the workshop agenda approved in advance by all the participants (Annex 2).

The review of recent changes and global progress in management of diarrhoea was presented by Kumar Sanjiv of the UNICEF Regional Office for Europe. He reported that diarrhoea remains one of the principal causes of deaths of children under 5 in the region and emphasized the value of the integrated approach to the problem in view of MDG4 achievement.

The enhanced diarrhoea control programme contains a combination of measures on prevention and effective management of cases.

May 2004, WHO and UNICEF signed a joint policy for the treatment of diarrhoea in children. The management should include:

- Liberal use of low-osmolarity ORS and ORT to correct and prevent dehydration;
- Zinc for 10–14 days to shorten duration and severity of diarrhoea;
- Continued feeding.

The fundamental change in the global diarrhoea management policy is the recommendation to use the new more efficient ORS formula.

Zinc supplementation is a new addition to the diarrhoea treatment strategy that promises to greatly improve diarrhoea management.

Packets of the new ORS are being procured by UNICEF for global distribution; manufacturers are encouraged to produce only this new formula. Treatment guidelines, including the IMCI, have been modified accordingly.

Modern approaches to home treatment of diarrhoea were presented as well. These approaches include four rules as follows:

Rule 1: Oral rehydration (give the child more fluids than usual to prevent dehydration).

Rule 2: Zinc administration for all episodes of diarrhoea (20 mg for 10/14 days).

Rule 3: Feeding (to prevent malnutrition continue to feed the child).

Rule 4: When to return to the clinic (referral to health care workers is required if there are signs of dehydration or other problems: has serous diarrhoea, has repeated vomiting, is very thirsty, does not eat or drink normally, has a fever, has blood in the stool, seems not to be getting better after 3 days).

Drugs (antimicrobials; “anti-diarrhoeals”) are *not* recommended for the treatment of diarrhoea, except cases of confirmed shigella.

Dr Kumar provided information on the global progress in the implementation of the current approaches to treatment of diarrhoea. In Latin America, for example, use of zinc and new ORS is combined with efforts to introduce a rotavirus vaccine. Nicaragua has integrated zinc into the national programme. Some Asian and African countries introduced zinc supplementation into public and private programmes on management of diarrhoea, emergency relief programmes, and professional associations’ policy.

The leading national experts reported on local current practices of diarrhoea management, analysis of problems identified during the workshop held in Almaty, the actions taken, current challenges and ways to overcome them.

Kazakhstan

Kazakhstan takes measures to standardize the clinical management of diarrhoea within the framework of reforming the in-patient service and development of standards for management of cases.

The regulatory and legal framework has been reformed. A series of orders was issued:

- RK MoH/SES Order №04 dated January 2003 “On measures for reducing ARI morbidity in Kazakhstan”;
- RK MoH/SES Order №294 dated April 2004 “On salmonellosis preventive measures”;
- RK MoH/SES Order №293 dated March 2004 “On measures for prevention of typhoid fever and paratyphoids”.

It is of great importance that children under 5 years are procured with drugs free of charge both at the in- and out-patient levels.

The diagnosis “Functional diarrhoea” included in the clinical practice by the RK MoH Order №479 dated 2002 allows for in-hospital management of cases without the bacteriological investigation and epidemiological activities in the outbreak area. However the antiepidemic measures envisaged for treatment of acute intestinal infection are to be also applied for diarrhoea with mucus and spinach stools without any bacteriological confirmation. The double bacteriological investigation before discharge has been abolished at the in-patient level.

Orders on management of diarrhoea both in children and in adults are the same, which allows for varied interpretation of certain aspects and raises multiple problems.

The information basis requires updating: guidelines, protocols and textbooks are to be made consistent with the RK MoH/SES regulatory and legal framework and include the new recommendations for technical update.

Kyrgyzstan

The regulatory and methodical framework of Kyrgyzstan has been updated. The RK MoH Orders (dated 1995–2000) on implementation of the WHO/UNICEF programmes titled “Diarrhoeal Diseases Control” and “Integrated Management of Childhood Illnesses (IMCI).”

The IMCI strategy has been implemented since 2000. In recent years the AII morbidity and case-fatality rates among infants and children has been on the decrease. The clinical protocols for the first-level facilities have been developed; the IMCI chart booklet for in-patient child care was adapted in 2006.

However there is a series of challenges related to the implementation of the new recommendations into the under- and post-graduate training for health care workers, personnel turnover, effective performance of the ORT corners, monitoring of programmes, and measures for providing awareness of the population about the home management of diarrhoea in children. The national programme for reforming the health care system envisages measures for optimization, provision of the scope and access to the package of the qualified postnatal services, including zinc supplementation.

Tajikistan

The diarrhoea control programme in Tajikistan is being currently put into practice via the implementation of the IMCI strategy initiated in 2000. In conformity to the RT MoH №281 dated 11 September 2000, the Republican, Lenin and Varzob Centres for Diarrhoea and AII Control were reorganized into the IMCI Republican Centre and Regional IMCI Centres.

The Board of the RT MoH decided to implement the IMCI strategy nationwide. However, the large-scale implementation of the new recommendations poses certain problems such as lack of qualified personnel and the need to provide technical support of the continuation training for health care workers. UNICEF procures the country with the low osmolarity ORS. Zinc procurement is also envisaged.

Turkmenistan

Since 1995 the country is implementing the national strategy for diarrhoeal diseases control. Currently this programme is put into practice within the framework of the IMCI strategy.

First launched in 2001, Keeping Children Healthy, a health promotion campaign regarding the diarrhoeal diseases is still carried out.

However, excessive and unnecessary hospitalization of children is still present and children undergo the excessive, unnecessary, sometimes aggressive treatment with ineffective drugs and therapeutic procedures. Supportive treatment and monitoring is rather weak, parents lack knowledge in home care for sick children is insufficient. Clinical protocols (standards) for in- and out-patient treatment of diarrhoea in children have not been adopted.

Adaptation and translation into Turkmen of the WHO booklet “Providing in-patient care for children” has been started. The development of guidelines on in- and out-patient management of diarrhoea in children has been launched.

It is envisaged to hold the training courses for the teaching staff of higher educational institutions and academies and subsequently introduce the guidelines into the training courses for health care workers.

To expand the enhancement of paediatric care, mid-term review of the implementation of the in-patient care protocols, including ones on diarrhoea, is planned for 2008.

Uzbekistan

In Uzbekistan the implementation of the IMCI strategy constitutes the basis of the child health care reform. Treatment of diarrhoeal diseases can be received in ORT corners located in each and every first-level health care facility.

In recent years hospitalization of children with diarrhoea has decreased, diarrhoea morbidity and mortality rates in children under 5 have reduced as well.

However the bacteriological investigation for diarrhoea is still widely used in first-level facilities in conformity to the regulatory requirement. Along with outdated regulatory and legal framework there are problems related to the slow geographical expansion of the IMCI, lack of coordination between SES and the paediatrics service, lack of parents’ knowledge and skills in home treatment of diarrhoea.

The Ministry of Health started the revision of the Order №275 “On improvement of diarrhoea prevention and treatment in Uzbekistan” (dated 2004) and measures for procurement the first-level facilities with zinc and low osmolarity Regidron.

Thus the countries’ representatives unanimously agreed on the need to speed up the integration of the global recommendations into the currently implemented programmes and strategies aimed at MDG achievement.

Dr Olivier Fontaine, the Child and Adolescent Health and Development Department, presented recent data on ways to enhance management of diarrhoea in children, the role of diarrhoea as one of the causes of death among children under 5 years of age and global progress in decreasing diarrhoea mortality in children. Thus, in 1980 4.6 million children died of diarrhoea; by 2003 the rate it has been reduced to 1.8 million.

Basic approaches to diarrhoea treatment recommended by the WHO are as follows:

- Treatment of dehydration with ORS solution (or with an intravenous electrolyte solution in cases of severe dehydration);
- Continue feeding or increase breastfeeding during, and increase feeding after the diarrhoeal episode;
- Use antibiotics only when appropriate (i.e. bloody diarrhoea) and abstain from administering anti-diarrhoeal drugs;
- Advise mothers on the need to increase fluids and continue feeding during future episodes;
- Provide children with 20mg per day of zinc for 10–14 days.

The latest advances in ORS formula (PRS – peroral rehydration salts with low osmolarity) and data on its efficiency were presented:

- Stool output, the volume of liquid stool lost during diarrhoea, is reduced by 25–30%;
- Vomiting, a frequent associate of diarrhoea, is reduced by 30%; and
- The need for unscheduled intravenous infusions is reduced by over 30%.

On the basis of the recent scientific evidence a group of WHO experts recommends that:

- a single ORS solution be used and that this ORS solution contain 75 mEq/l of sodium and 75 mmol/l of glucose, and have a total osmolarity of 245 mOsmol/l;
- this reduced osmolarity ORS be used in place of standard ORS for treatment of adults with cholera.

Then it was reported on the history of zinc efficiency trials in treatment of diarrhoea. Research findings demonstrate that zinc treatment leads to 15% reduction in duration of acute diarrhoea, 24% reduction in duration of persistent diarrhoea, and 42% reduction in treatment failure or death in persistent diarrhoea.

Additional preventive aspects of zinc treatment are as follows:

- Zinc supplementation for 10–14 has longer effects on childhood illnesses in the 2–3 months after treatment;
- 34% reduction in prevalence of diarrhoea;
- 26% reduction in incidence of pneumonia.

Moreover, it was announced that the community-based trial demonstrated longer-term benefits of zinc. Thus, zinc supplementation decreased the overall diarrhoea prevalence by 15%, hospitalization from diarrhoea by 19%, ALRI prevalence by 7%, hospitalization from ALRI by 19%, and decreased overall mortality by 51% for non-injury deaths.

Vomiting is the only reported adverse effect; its frequency is not high though and it can be reduced provided the taste of zinc products is masked.

Cost-effectiveness of ORS and zinc supplementation consists in the decrease of duration/severity of diarrhoea episodes, therefore in avoidance of expensive hospitalization and the use of unnecessary antibiotics and other drugs. Further cost-benefit analyses are underway.

During the workshop issues as follows were discussed: reaching the consensus, the role of health care workers, professional associations, and social mobilization in implementation of recommendations for wide use of zinc.

The role of the private sector and forms of payment (giveaway or sale of zinc formula) were considered as well.

The workshop participants unanimously agreed on the need for a formative trial of zinc implementation to evaluate public expectations and on the fact that “new ORS” is a more suitable term for the low osmolarity ORS.

Continuity and consistency are of great importance in the enhancement of diarrhoea management practice. It is reasonable to implement the new recommendations within the framework of the IMCI strategy; pilot studies are not required, motivation and time are essential.

Zinc is not panacea, though used correctly for management of diarrhoea it helps decrease severity and duration of the disease.

Example from Kyrgyzstan: Jalalabad oblast was procured and supplied with zinc though no preliminary training of the health care workers had been conducted, thus, the integration of the product was delayed. The importance of realistic approach to zinc implementation and involvement of all the stakeholders was emphasized. The participants mentioned that zinc should be registered as medicines to be sold without prescription.

Other issues considered were as follows: the cost of the product, the effectiveness of zinc used in addition to other micronutrients, challenges of local manufacturing, mechanics of supply and storage, terms of zinc integration, importance of monitoring and exchange of experience among the countries of the region.

The participants emphasized the significance of consistent dissemination of information on the new recommendations and setting up the process of procuring the health care system with zinc and new ORS.

Christa Fischer Walker of Johns Hopkins Bloomberg School of Public Health (Baltimore, USA) presented data on effective ways for translating knowledge in the field of enhancement the diarrhoea management into action.

Studies carried out in Bangladesh, Brazil, Ethiopia, Egypt, India, Mali, Pakistan and the Philippines are providing evidence that zinc can be integrated into routine diarrhoea management. Outcome measures are as follows: acceptability, compliance, ORS and antibiotic use rates.

Certain aspects of zinc implementation require further investigation such as marketing/promotion strategy, and packaging approaches (diarrhoea treatment kits vs. zinc sold separately). Remaining operations research spans integration of behaviour change interventions

to improve home management, use of EPI/National vaccination days/Vitamin A days for mass distribution.

Moreover, it is necessary to research into the use of other child health platforms for zinc marketing/advocacy/distribution.

Important data on risk of zinc deficiency in Central Asian countries and its relation to the physical development of children were presented as follows:

	Stunting among under 5s (%)	% at risk of inadequate Zn intake	Zinc deficiency risk category
Tajikistan	≥ 40	66.8	High
Turkmenistan	20–29.9	24.2	High
Uzbekistan	20–29.9	24.4	High
Kazakhstan	10–19.9	9.6	Medium
Kyrgyzstan	30–39.9	13.8	Medium

Group work

At the workshop the countries' representatives were suggested to hold a series of sessions in order to identify peculiarities typical of each country, and develop Action Plans for integration of global recommendations into the programme for enhancement of child care in first-level facilities. During the first day the group work was focused on generation of ideas aimed at revealing the initial action steps:

- identifying the key stakeholders;
- gathering clinical and scientific evidence;
- endorsing the new recommendations; and
- revising/updating policy guidelines.

A list of key stakeholders suggested to country groups is as follows:

- ministry of health;
- leading Paediatricians;
- community health workers;
- private doctors;
- pharmaceutical companies;
- drug sellers;
- ministry of finance;
- others?

During the group work it was suggested to discuss the role of each stakeholder, reveal the lead stakeholders and the information each stakeholder will need, and consider what can happen provided any stakeholder is left out of the process.

Any innovation requires revision and update of policy at the national level. In this respect there is the need to identify all policies subject to changes, including the revision of the IMCI guidelines and the regulatory framework for personnel training, and adding zinc to the National Essential Drugs List.

It was important to identify the specific evidence required to convince policy makers, the need to gather supporting documents, to analyse local care seeking behaviours and the most common treatments, as well as the need for local evidence prior or early in an intervention.

The subsequent plenary was dedicated to the role performed by public and private sectors in tackling issues as follows:

- availability of product,
- availability of information on the product,
- management aspects,
- monitoring and evaluation.

Dr Christa Fisher Walker reported that zinc was added to the WHO Essential Drugs List for Treatment of Diarrhoea and the Essential Drugs in Emergencies List for Treatment of Diarrhoea. Currently one qualified manufacturer is producing dispersible tablets for UNICEF Supply Division and for international procurement. At the same time local manufacturing is increasing in many countries.

There is a series of problems related to product development or technology transfer as these may take time. Taste masking is the most challenging manufacturing component.

During the second day of the group work the participants were suggested to discuss ways for tackling issues related to availability of product, management, subsequent monitoring and evaluation. Working groups were to develop the national Action Plans regarding these issues, indicate the presumed timing and consider the role of both public and private sectors.

Questions as follows were raised: Is it possible to set up local manufacturing? Where will zinc be procured from in the interim? Who will pay for the zinc?

Burning issues related to supply or production of low osmolarity ORS are as follows:

- Though manufacturers are producing low osmolarity ORS, many countries do not know that they need to request it specifically;
- Sachets can look very similar so it is easy to trick the purchaser who does not pay attention to detail;
- Some companies are slow in transition to the new formula.

Current challenges in supply management are related to stocking zinc and monitoring of its use (especially, at early phases). Improving the current supply chain should be the highest priority.

IMCI strategy has been implemented in many countries therefore updating the diarrhoea component is not difficult. However local training materials need to be updated to reflect the new recommendations. New materials should be tested prior to use.

Updated materials are available including:

- The treatment of diarrhoea: a manual for physicians and other senior health workers;
- Diarrhoea treatment guidelines: Including new recommendations for the use of ORS and zinc supplementation;
- Guidelines for the control of shigellosis: including epidemics due to *Shigella dysenteriae* type 1;
- Technical updates of the Integrated Management of Childhood Illnesses (IMCI).

Monitoring and evaluation of effectiveness trials and programmatic lessons learnt through implementation of the new recommendations demonstrated success at the community level. Indicators for new DHS and MICS surveys have been incorporated.

Monitoring and evaluation outcomes were presented to working groups to discuss and use the global experience while developing country plans on implementation of the new recommendations. The national plans comprise measures taken, terms for executive organizations and participants of the implementation process.

The outcomes of the group work were reported and discussed upon completion of each session (Annex 3).

The third day of the group work concerned the overview of the IMCI technical updates and evidence.

Proposed areas of technical updates:

1. acute respiratory infections (antibacterial treatment of severe and non-severe pneumonia; use of rapid-acting bronchodilators in management of wheeze and fast breathing);
2. diarrhoeal diseases (low osmolarity ORS; antibiotics for *Shigella dysenteriae*);
3. fever/Malaria (Antimalarials);
4. ear infections;
5. infant feeding (exclusive breastfeeding; HIV and infant feeding);
6. management of young sick children (0-2 months)
7. helmenthiasis.

Suggested process for further IMCI adaptations and examples of adaptations in IMCI chart booklet format were discussed.

Suggested process for further adaptations of IMCI

For countries currently implementing IMCI, the summary recommendations may be introduced into existing IMCI or ARI and CDD guidelines at opportune times during IMCI review or replanning meetings, when printing new materials or conducting re-adaptation meetings to

include HIV, or new malaria policy. The new evidence may be presented by medical officers from the WHO or other UN or partner agencies. It is particularly important that the technical basis of the proposed recommendations is discussed and consensus is achieved.

Adaptations of these technical updates require extensive and multiple changes throughout the charts, modules, facilitator guides, and other training materials. These changes go well beyond filling in the blanks. The adaptation changes should also be made in pre-service training materials such as the model IMCI chapters, model textbooks, student assessment tools, etc.

Policy changes

With the current technical updates, it is important to address availability of the recommended medicines, including low osmolarity ORS, ciprofloxacin, ACT combination antimalarials and topical quinolone ear drops. The adaptation changes should include change in policy of these medicines at first-level facilities.

To translate the new technical updates into policy changes, several steps are suggested.

- Initial discussions among senior decision-makers. This could be in a form of a seminar or a briefing. It should consist of reviewing the nature and scope of the technical updates and how they relate to the national country adaptations of IMCI.
- Endorsement of the technical updates and development/re-adaptation of the national IMCI policy accordingly.
- Setting up a small working group that takes the task of making further adaptations and dissemination.
- Logistical issues – Some new drugs and supplies (e.g., zinc, low osmolarity ORS, ciprofloxacin, topical quinolones) may need to be added to the Essential Drugs List and made available at health facilities of all levels.
- Role of IMCI programme managers – staff responsible for IMCI or ARI and CDD programmes in governments or partner organizations need to ensure that issues of logistics, costs, training and monitoring related to the new IMCI recommendations are discussed and appropriate actions are taken.

Health care workers are to be informed on the IMCI technical updates during advanced training courses and awareness-raising workshops, via printed materials, professional associations and monitoring of IMCI facilitators.

Dr Olivier Fontaine outlined evidence on application of new approaches to treatment of acute respiratory infections (ARI) in children.

Findings of the presented scientific trials are as follows:

Duration of therapy:

- Oral amoxicillin OR cotrimoxazole 3-day therapy is as effective clinically as 5-day therapy in the treatment of children 2–59 months old categorized as WHO defined non-severe pneumonia;
- 5-day therapy results in higher proportion of antimicrobial resistance as compared to 3-day therapy;

- Higher risk of treatment failure with radiological pneumonia; age < 1 year and duration of illness > 48 hours.

Frequency of administration of antibiotics:

- Twice daily amoxicillin is a feasible alternative;
- Twice daily amoxicillin is as effective as twice daily cotrimoxazole for treatment of non-severe pneumonia.

Combination of antibiotics:

The combination of injectable ampicillin/gentamicin is superior to injectable chloramphenicol for the treatment of very severe pneumonia in low resource settings.

The recommended updates for management of wheeze in children are based on the fact that the majority of children with wheeze do not require antibacterial therapy and are as follows:

- The clinical outcome of children with transient wheeze is similar when treated with oral or inhaled salbutamol;
- A significant proportion of children with wheeze and FB and LCI can be managed by bronchodilator therapy alone;
- A third cycle of bronchodilator therapy at screening is beneficial;
- Audible wheeze is present is a relatively smaller proportion of children with wheeze;
- A low cost bottle spacer is as effective as a commercial spacer for bronchodilator therapy in young children with wheeze.

New approaches to treatment of ear infections include recommendations as follows:

- Chronic ear infection should be treated with topical quinolone ear drops for at least 2 weeks in addition to dry ear wicking;
- Cotrimoxazole may not be appropriate for AOM, where there is high cotrimoxazole resistance;
- Oral amoxicillin is a better choice for the management of acute ear infection in countries where antimicrobial resistance to cotrimoxazole is high.

Lessons learnt by the WHO from implementation of the IMCI strategy in some countries were compiled in the new Young Infant Algorithm that was incorporated into the IMCI guidelines (1995). Dr Aigul Kuttumuratova of the WHO Regional Office for Europe reported on evidence for this update.

The Generic IMCI young infant algorithm did not include recommendations for the first week of life.

Revised Young Infant IMCI includes single algorithm for 0–2 months, including the first week; assessment of a very severe disease and local infections with fewer signs but a high overall sensitivity and specificity. In assessment of persistent diarrhoea blood in stools has been dropped.

HIV and infant feeding constitutes another major problem related to epidemiological changes in the region.

Data on risks of mother-to-child HIV transmission were presented.

In absence of interventions:

- | | |
|--|--------|
| • During pregnancy | 5–10% |
| • During labour and delivery | 10–15% |
| • During breastfeeding | 5–20% |
| • Overall without breastfeeding | 15–25% |
| • Overall with breastfeeding until 6 months | 25–35% |
| • Overall with breastfeeding until 18 to 24 months | 30–45% |

With full package of interventions (ARVs, replacement feeding, elective caesarean section) <2%.

Mechanisms of HIV transmission via breast milk are understood incompletely. Role of cell-free and cell-associated virus is not quantified. Association between virus levels in plasma and milk is unclear.

Recent UN recommendations support multi-drug prophylaxis for pregnant women. Whatever ARVs used, UN infant feeding recommendations for HIV-positive women still apply.

Global Strategy for IYCF and HIV is as follows:

- Mother's milk is unsuitable only under exceptional circumstances;
- Only health workers should demonstrate preparation of breast-milk substitutes, and only to mothers who need to use it;
- Infants who are not breastfed constitute a risk group;
- All HIV-infected mothers should receive counselling;
- Adequate replacement feeding is needed for infants born to HIV-positive mothers who choose not to breastfeed.

HIV and infant feeding is a great challenge that is why the integrated infant feeding counselling course is required.

During the discussion of the IMCI technical updates, guidelines on diarrhoea management were presented and it was mentioned that the WHO is currently working on similar guidelines for ARI.

The participants pointed out the need for the guidelines and revision of the IMCI area on infant management.

The duration of the IMCI courses was also considered. The World Health Organization (Geneva), including the Regional Office for Europe, is currently conducting the systematic review and analysis of the IMCI programmes in a series of countries via questionnaires. The findings will be consolidated and presented later on.

Dr Aigul Kuttumuratova mentioned that the electronic version of the IMCI training programme is being developed. Field-test is to be carried out in May.

In the final speech Dr Sanjiv Kumar reiterated that the IMCI strategy is of high importance to the countries of the Region. The opinion that it was designated for African countries shows misunderstanding of the essence of the strategy. For example, in India the IMCI strategy was first implemented in 1990. It is vital to constantly review and update the IMCI strategy taking into consideration challenges of a certain country.

The participants unanimously agreed on the need to set up new IMCI working groups that take task to revise the guidelines in the terms of challenges in pharmacological support and lessons learnt through implementation of the IMCI strategy.

At the next regional forums (particularly, the CARK Forum in Turkmenistan) the countries are to report on the implementation of the new recommendations that were discussed during the present workshop.

In conclusion the participants positively assessed the workshop in view of improvement of management of diarrhoea in the context of decreasing the child mortality and the technical updates of the IMCI guidelines. A resolution comprising recommendations for countries was adopted (Annex 5).

Annex 1

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Annex 2

WORKSHOP AGENDA

Day 1: 26 February

Session 1. Opening and background information

09:00–09:45 Opening speeches, objectives and expected results of the workshop. Introduction of WHO and UNICEF participants (*WHO regional Office for Europe, MoH/Kyrgyzstan*)

Session 2. Evidence-based update on diarrhoea management

09:45–10:35 Review of recent changes for the management of diarrhoea. Global diarrhoea management policy (*Kumar Sanjiv, UNICEF Regional Office for CEE/CIS*)

10:35–11:00 Coffee break

11:00–12:00 Country presentations (Diarrhoea management: current practices and challenges. 10-minute presentations by country representatives) *Country representatives*

12:00–13:15 Update on diarrhoea management. What is new? (*Olivier Fontaine, WHO Headquarters*)

13:15–14:15 Lunch

Session 3. Current regional practices on diarrhoea management

14:15–14:45 Translating knowledge into action (*Christa Fischer Walker, Johns Hopkins Bloomberg School of Public Health*)

14:45–15:00 County experience in implementation of updates (*Dr Guljan Kitarova, MoH/Kyrgyzstan*)

15:00–15:15 Discussion

Session 4. Group work 1: Brainstorming on identification of unsolved issues and challenges in integration of the WHO recommendations into current clinical practices on diarrhoea management

15:15–15:30 Group work 1: Introduction (*Christa Fischer Walker, Johns Hopkins Bloomberg School of Public Health*)

15:30–17:00 Group work (coffee break 16:00): Country groups discuss questions in terms of national experience

18:30 Reception in Ak Keme Hotel (93 Mir Prospect)

Day 2: 27 February

Session 5. Group work 2: Addressing the challenges and possible solutions

- 9:00–9:30 Plenary: Summary of Group work 1 (*Facilitator – Dr Aigul Kuttumuratova, WHO Regional Office for Europe*)
- 9:30–10:30 Role of private sector in the context of demand and supply: presentation – 30 minutes, discussion – 30 minutes (*Olivier Fontaine, WHO Headquarters*)
- 10:30–11:00 Coffee break
- 11:00–11:15 Group work 2: Introduction (*Christa Fischer Walker, Johns Hopkins Bloomberg School of Public Health*)
- 11:15–13:00 Group work 2
1. Country groups discuss questions as follows (considering both private and public sectors):
 - Availability of product
 - Availability of information on the product
 - Management aspects
 - Monitoring and evaluation
 2. Development of a National Plan and setting the projected timeline
- 13:00–14:00 Lunch
- 14:00–15:00 Presentations of national plans (5 minutes each)

Day 3: 28 February

Session 6. Group work 3: Update of practices and monitoring

- 9:00–9:30 Overview of IMCI technical updates (*Dr Aigul Kuttumuratova, WHO Regional Office for Europe*)
- 9:30–10:30 Acute respiratory infections – presentation and discussion (*Olivier Fontaine, WHO Headquarters*)
- 10:30–11:00 Coffee break
- 11:00–11:30 Wheezing – presentation and discussion (*Olivier Fontaine, WHO Headquarters*)
- 11:30–12:00 Ear infections – presentation and discussion (*Olivier Fontaine, WHO Headquarters*)
- 12:00–13:00 Lunch
- 13:00–14:00 Sick young infant – presentation and discussion (*Dr Aigul Kuttumuratova, WHO Regional Office for Europe*)
- 14:00–15:00 HIV and infant feeding (*Dr Aigul Kuttumuratova, WHO Regional Office for Europe*)
- 15:00–15:30 Coffee break

Session 7. Consensus on way forward

- 15:30–16:00 Value of country adaptation and further clinical updates
- 16:00 Closing

Annex 3

OUTCOMES OF GROUP WORK

Working group of Kazakhstan

Basic measures	Phases of implementation
Launch of model practices centres	<ol style="list-style-type: none"> 1. Identification of the source to supply the production in question (2–3 quarter 2007) 2. Identification of pilot hospitals (Almaty Child Hospital of Infectious Diseases #1, 120 beds) 3. Appointment of the Executive Hospital Officer (2 quarter 2007) 4. Reports at medical workshops in Almaty health care institutions (policlinics)
Orientation meeting. Development of Action Plan	<ol style="list-style-type: none"> 1. Meeting with decision-makers, key specialists of MoH of Kazakhstan and leading paediatricians (2–3 quarter 2007) 2. Meeting with paediatricians, representatives of pharmaceutical companies, professional associations, international organizations, etc. (4 quarter 2007)
Official registration and procurement Registration, identification of suppliers and drawing up the budget Procurement Update of the National Protocols and the Essential Drugs List	<ol style="list-style-type: none"> 1. Meeting with the Pharmaceutical Committee of the MoH of Kazakhstan (2 quarter 2007) 2. Initiation of products registration (4 quarter 2007) 3. Evaluation of the capacity of the pharmaceutical market (3 quarter 2007) 3. Update of the IMCI National Protocols /standards and the Essential Drugs List (till the end of the year)
Update of the information basis	<ol style="list-style-type: none"> 1. Update of the IMCI protocols and training modules 2. Update of teaching materials in higher educational institutions 3. Preparation of visual aids for health care workers and population

Working group of Kyrgyzstan

Key Stakeholders:

Setting up of the National Board comprising of:

- Regulatory and legal framework: MoH of the Kyrgyz Republic, Obligatory Health Insurance Fund, Department for State Sanitary and Epidemiological Control, Republican Health Information Centre, Department for Drug Supply and Medical Equipment, Reproductive Health Centre, Health Care Service, Association of Family Doctors;
- Education, monitoring and evaluation: Ministry of Education and Science, Kyrgyz State Medical Academy, Kyrgyz State Medical Institute of Post-Graduate Studies, medical training schools, National Centre for Paediatrics and Children Surgery (IMCI Centre), Republican Clinical Hospital of Infectious Diseases, Republican Centre for Health Promotion;
- Executives: Family doctors groups, health promotion rooms, Rural Health Committee, pharmaceutical companies (private and public), pharmacies;
- Funding: Ministry of Finance, Obligatory Health Insurance Fund, donor organizations.

Role of Each Stakeholder:

- Lead stakeholder: MoH of the Kyrgyz Republic;
- Which stakeholders are critical to have on board from the beginning: Obligatory Health Insurance Fund, Republican Health Information Centre, Department for Drug Supply and Medical Equipment, Reproductive Health Centre, Health Care Service, Association of Family Doctors, Kyrgyz State Medical Academy, Kyrgyz State Medical Institute of Post-Graduate Studies, medical training schools, National Centre for Paediatrics and Children Surgery (IMCI Centre), Republican Clinical Hospital of Infectious Diseases, Republican Centre for Health Promotion;
- Who needs to be informed, but not part of the stepwise process: MoH of the Kyrgyz Republic, Department for State Sanitary and Epidemiological Control;
- What information will each stakeholder need? – Findings of randomized efficiency trials of zinc in management of AII, basic zinc suppliers, cost.

What happens if a stakeholder is left out of the process?

- MoH of the Kyrgyz Republic – lack of regulatory and legal framework, lack of coordination
- Kyrgyz State Medical Academy, medical training schools – lack of graduates retraining
- Kyrgyz State Medical Institute of Post-Graduate Studies – lack of training for health care workers
- Obligatory Health Insurance Fund – no funding for reduced prescriptions for zinc and PRS
- Department for Drug Supply and Medical Equipment – obstacles to registration, introduction into the Essential Drugs List lack of registration and extra package of zinc
- Republican Health Information Centre – Is it necessary to review the family doctors' report forms on the number of children that received zinc?
- Health Care Service, Republican Centre for Health Promotion – lack of social mobilization
- Association of Family Doctors – major executives – primary health care facilities
- Reproductive Health Centre – lack of development and approval of clinical protocols
- Donor organizations – lack of technical and financial support during the early implementation phases

Gathering clinical and scientific evidence:

- Consolidated report on the experience learnt worldwide and presented in the scientific literature
- Republican Health Information Centre: AII morbidity in children, infant and child mortality rates, 24-hour case fatality, causes of child mortality, average duration of admission, % of children hospitalized with AII, etc.
- Community care-seeking sources are as follows: the FAP (rural health post/ midwife station), family doctors groups and in-patient hospitals

Endorsing the new recommendations:

- Hold an orientation meeting of the National Board on introduction of zinc
- Develop recommendations on promotion of zinc for treatment of AII in children at the PHC facilities and hospitals
- Review guidelines on AII
- Work out education programmes on under- and post-graduate training regarding introduction of zinc for AII treatment, review IMCI modules
- Adopt guidelines and education programmes
- Integrate information on use of zinc for AII treatment into under- and post-graduate training programmes
- New recommendations: use of zinc for AII treatment: dosage 10 mg/day for infants under 6 months, 20 mg/day for children over 6 months, in ORT corners – low osmolarity ORS

Resources:

Funding is required for:

- Adaptation and copying of manuals for trainers and guidelines, review of IMCI modules
- Procurement of zinc products and low osmolarity ORS
- Training and informing

Revising/Updating National Level Policy:

- Review all orders and guidelines, IMCI modules, under- and post-graduate training programmes
- Review the family doctors' report forms, specifically the registration of AII morbidity
- Add zinc to the Essential Drugs List
- Identify possible ways of zinc production at the national level
- Identify possible zinc suppliers
- Identify sources of funding: donor organizations during the early implementation phases (2 years), the government (Obligatory Health Insurance Fund, extra package) and population (since the 3rd year)

Working group of Tajikistan

First steps:

- Meeting regarding identification and informing the key stakeholders
- Study on gathering of clinical and scientific evidence
- Setting up a working group to update current strategies and guidelines
- MoH of the Tajik Republic: Endorsement of the new documents

Key Stakeholders:

- Ministry of Health
- Ministries of Finance, Trade, Economy and Culture
- Republican Centre for Procurement of Drugs and Medical Goods
- Pharmaceutical companies and pharmacies
- Health care workers, including private practitioners

Role of Each Stakeholder:

1. Which stakeholders are critical to have on board from the beginning? – Leading specialists of each institution
2. Who will be the lead stakeholders? – MoH of the Republic of Tajikistan
3. Who needs to be informed, but not part of the stepwise process? – Population, local authorities, local community leaders
4. What information will each stakeholder need? – Guidelines and protocols, experience learnt from other countries
5. What happens if a stakeholder is left out of the process? – The process can be stopped at any phase

Gathering clinical and scientific evidence:

1. Identifying what scientific evidence will be needed to convince policy makers. – Results of national trials, literature references, and data from the Cochrane Library, etc.
- Q: Do we have supporting documents? – We do have documents, but the ones on zinc are required
- Q: Do we know local care seeking behaviours and the most common treatments? – Yes, we do
- Q: Can we translate a global body of evidence into benefits for our country? – We can
- Q: Will there be local evidence (i.e. formative work, etc.) needed prior or early in an intervention? – No

Endorsing the new recommendations:

1. Discuss with key stakeholders early in the policy change process
- Q: What are the nature and scope of the new recommendations? – Cross-sectoral strategy is required
- Q: How will these relate to the needs of the country? – Budget, planning, protocols and accounting system are to be changed
- Q: What are the implications of implementing new recommendations and what are the resources required? – Approach to treatment is changing, resources required are estimated at US\$ 150 000.00 per year

Revising/Updating National Level Policy:

- Q: Does a new national policy have to be made? – No, it doesn't
- Q: Is the revised version of the IMCI guidelines already in place? – Not yet
- Q: Does zinc need to be added to the National Essential Drugs List? – Yes, it does
- Q: What other policies are critical? – Introduction to educational programmes, to ИГҶ, to PHC and public “global” health programme

What can be done?

- Add to the WHO Essential Drugs List for treatment of diarrhoea
- Add to the Essential Drugs in Emergency List for treatment of diarrhoea
- Select one qualified manufacturer, e.g. UNICEF, for international procurement

- Study feasibility of local manufacturing or export from the neighbouring countries, e.g. Turkmenistan

Zinc – Product challenges

- Local manufacturing is not feasible yet
- Where will zinc be procured from in the interim? – JIKA/UNICEF
- Who will pay for the zinc? – At present – donors, further on – government

Low osmolarity ORS – Product challenges

- Low osmolarity ORS is already available
- Many suppliers already procure new ORS formula (UNICEF, PSF, IDA, MISHFarma)

Supply Management Issues: short-term action plan (1)

- Meeting with stakeholders – March 2007
- Request to donors – March 2007
- Revision of the Essential Drugs List – June 2007
- Revision of the Essential Drugs in Emergency L for treatment of diarrhoea – June 2007
- Revision of treatment protocols for PHC facilities – April 2007 (before the seasonal outbreak)

Supply Management Issues: short-term action plan (2)

- Training and awareness – throughout a year
- Update of training materials – September 2007
- Development or revision of indicators for monitoring and evaluation – September 2007
- First supplies – November–December 2007
- Pilot implementation – envisaged for the next diarrhoea season

Supply Management Issues: long-term action plan

- Revision of the national budget with regard to state purchase via National Purchase Centre
- Selection of qualified suppliers (GMP)
- Provision for continuous supplies
- Continuation of training courses
- Expansion of partnership
- Monitoring and evaluation of the work quality
- Assessment of the situation – goal has been reached

Monitoring and Evaluation – Challenges

- The need to develop indicators for monitoring and evaluation of zinc implementation procedures (or revise the current ones)
- Donor funding to support successful monitoring and evaluation strategies are needed

Monitoring and Evaluation – Progress to Date

- Despite successful experience learnt through community implementation in other countries, disputable issues may require trials
- Indicators for new DHS and MICS surveys can be incorporated in Tajikistan
- Experience of Tajikistan can be applied in neighbouring countries

Working group of Turkmenistan

Key Stakeholders:

1. Who are the key stakeholders?
 - Ministry of Health: Therapeutic Department, Drug Licensing Department, Sanitary and Epidemiological Service, *Zdorovye* Information Centre
 - National Mother and Child Care Centre
 - Leading paediatricians
 - Primary health care workers
 - Ministry of Education
 - Medical institute and schools
 - State Centre for Drugs Registration and Quality Control
 - Network of pharmacies (public and private)
 - Ministry of Finance
 - Pharmaceutical Companies
 - Partner organizations

Role of Each Stakeholder:

2. Which stakeholders are critical to have on board from the beginning? – Ministry of Health, National Mother and Child Care Centre, State Centre for Drugs Registration and Quality Control, Ministry of Finance
3. Who will be the lead stakeholders? – Ministry of Finance
4. Who needs to be informed, but not part of the stepwise process? – Network of pharmacies (public and private), first-level health care workers
5. What information will each stakeholder need?
 - Ministry of Health – efficiency evidence, feasibility analysis of local manufacturing, data on possible suppliers and comparative analysis of expenditure for each variant
 - National Mother and Child Care Centre – information required for development of protocols and the MoH Order on implementation
 - Medical institute – information required for updating educational programmes and the MoH Order on implementation
 - State Centre for Drugs Registration and Quality Control and TurkmenPharmacia – pharmacological record and expenditures estimation provided by the national supplier, study of foreign producer market
 - Ministry of Finance – expenditures budget

Gathering clinical and scientific evidence:

1. Identifying what scientific evidence will be needed to convince policy makers.
 - Q: Do we have supporting documents? – Yes (pocket chart booklet and other WHO documents)
 - Q: Do we know local care seeking behaviours and the most common treatments? – Yes
 - Q: Can we translate a global body of evidence into benefits for our country? – Yes
 - Q: Will there be local evidence (i.e. formative work, etc.) needed prior or early in an intervention? – No
2. Discuss with key stakeholders early in the policy change process
 - Q: What are the nature and scope of the new recommendations?
 - Update of the protocol on diarrhoea management by introduction of data on new ORS formula and zinc
 - Feasibility trial of local manufacturing of pure zinc

- Negotiations with the local manufacturers regarding production of the new ORS formula
- Update of the Essential Drugs List

Revising/Updating National Level Policy:

- ♦ Identify all policies that must be changed
- Q: Does a new national policy have to be made? – Yes
- Q: Is the revised version of the IMCI guidelines already in place? – Yes
- Q: Does zinc need to be added to the National Essential Drugs List? – Yes
- Q: What other policies are critical? – Medical school education, drug procurement, information distribution

Short-term Action Plan:

1. Goal 1.

1.1 Update of the protocol on diarrhoea management by introduction of data on new ORS formula and zinc

1.2 Update of IMCI guidelines

Actions:

- Workshop on adolescent health with the representatives of the National Mother and Child Care Centre and pharmaceutical sector (March 2007, executive: MoH)
- Revision of IMCI protocols, modules and guidelines (March–May 2007, executive: National IMCI Centre)
- Endorsement of protocols and guidelines for in-patient hospitals (June 2007, executive: MoH)
- Revision of the student book on paediatrics used in the Medical Institute (March 2007, executives: MoH and Medical Institute)
- Revision of the IMCI information materials (March–July 2007, executive: *Zdorovye* Information Centre)

Short-term Action Plan (2):

Goal 2. Procurement for product availability in the country

Actions:

- Negotiations with the local manufacturers regarding the new ORS formula production (March–April 2007, executives: pharmaceutical committees and TurkmenPharmacia)
- Feasibility trial of local manufacturing of pure zinc (March–April 2007, executives: pharmaceutical committees and TurkmenPharmacia)
- Study of the foreign producer market (March–April 2007, executives: pharmaceutical committees and TurkmenPharmacia)
- Analysis of ways to buy new ORS formula and zinc, final recommendations that consider the budget (May 2007, executive: MoH)
- Update of the Essential Drugs List (November 2007)

Medium-term Action Plan

Goal 1: Revision of the national child and adolescent health care policy

Actions:

- Submission and discussion of MICS results (May 2007)
- Review of the IMCI programme quality (April–May 2007)
- Situation analysis (...2007)
- Orientation meeting on the child and adolescent health strategy (...2007)

Monitoring

- Development and adoption of indicators:
 - Number of children that received new ORS formula and zinc
 - Number of health care institutions where new ORS formula and zinc are available
 - Number of health workers trained

Working group of Uzbekistan

Goals	Measures	Executives	Terms
<i>Short-term action plan</i>			
Providing information for MoH, including the Sanitary and Epidemiological Service	Board of the Head Department for Mother and Child Care	D. Makhmudova M. Usmanova	March 10
Informing the key stakeholders, including adjacent authorities, on the global recommendations, identification of their roles and objectives	MoH Meeting	M. Ibragimova	April
Identification of policies and strategies related to new recommendations, their update/revision, endorsement. Include the new recommendations into <ul style="list-style-type: none"> ➤ discussion of the national child and adolescent health strategy (March 2007) ➤ programme for improvement of drug accessibility for population ➤ current update of the IMCI protocols ➤ update of key community practices 	Working group	K. Yagdarova	April March 2007 2007 June IMCI Centre
Update of the regulatory and legal framework of the Sanitary and Epidemiological Service and Paediatric Service	Working meetings and scheduled work	MoH; Paediatrics Research Institute	538!!!! 537 – December 275– August
Development of the Action Plan on implementation of the new recommendations with regard to envisaged technical and managerial challenges. Barriers and ways to surmount them	Working group	Head Department for Mother and Child Care; IMCI Centre; Centre for Pharmaceutical Policy and	May

		Medical Supplies	
Identification of indicators and methods for control over the implementation	Working group	IMCI Centre; the Sanitary and Epidemiological Service; Head Department for Mother and Child Care	June
Presentation of the National Plan. Discussion	Republican Scientific-Practical Conference	Paediatrics Research Institute	October
Add zinc and new ORS formula to the Essential Drugs List	Regular/working meetings within the framework of the Essential Drugs List revision	Drug Policy Centre M. Ibragimova	December
<i>Medium- and long-term action plan</i>			
Discussion regarding the supply chains <ul style="list-style-type: none"> • Donors • Outside suppliers 	Regular working meetings	M. Ibragimova Head Department for Quality Control of Drugs and Medical Supplies; UzPharmSanoat; Dori-Darmon Invest JSC	
Public awareness	Introduction into the family education programme	MoH UNICEF	
<i>Long-term action plan</i>			
Introduction of global recommendations into the national standards for personnel certifying, licensing and training			
Study of public treatment practices			

Annex 4

SPECIFICATIONS OF ZINC PRODUCTS FOR USE IN THE MANAGEMENT OF DIARRHOEA

Dosage:

- Each individual dose of zinc should contain 10 mg or 20 mg of elemental zinc.
- For oral solutions, the concentration of elemental zinc should be either 10 mg/5 mL or 20 mg/5 mL.
- For tablets, each tablet should contain either 10 mg or 20 mg of elemental zinc. Tablets containing 20 mg of elemental zinc should be scored.

Type of zinc salt:

- The zinc salt used to prepare oral solutions or tablets for use in the management of diarrhoea should be soluble in water. Therefore, only the following zinc salts should be used:
 - Zinc sulfate
 - Zinc acetate
 - Zinc gluconate.

Type of tablets:

- As the zinc tablets will be used in infants and young children, it is essential that the tablets be dispersible.
- This means that the tablets should completely disaggregate in less than 60 seconds in 5 mL of tap water or breast milk.

Taste-masking:

- Zinc salts have a bad metallic taste that led to the use of zinc as a vomiting agent until the beginning of the twentieth century. To get infants and young children to take zinc tablets or zinc oral solution repeatedly every day for 10–14 days, it is essential that this metallic taste be totally masked.

Packaging:

- Tablets and oral solutions should be packaged to provide a full treatment of 10–14 daily doses of zinc (i.e., for oral solutions containing 20 mg/5 mL, bottles should contain 50–75 mL of oral solution; for tablets, a blister should contain 10–14 tablets).

Shelf life:

- The zinc product should have a shelf life of at least two years.

Product formulation and production:

- It is recommended for the management of diarrhoea to use a product containing **only** zinc. It is especially important not to use zinc formulation also containing **iron**, because iron may interfere with zinc absorption.

Product registration:

- Zinc tablets and oral solutions should be registered as medicines to be sold over the counter (OTC).

Annex 5

RESOLUTION

**Inter-country technical consultation on improvement of diarrhoea
management in the context of decreasing of child mortality and technical
updates of the IMCI guidelines
26–28 February 2007, Bishkek, Kyrgyzstan**

The members of the Inter-country technical consultation on improvement of diarrhoea management in the context of decreasing of child mortality and technical updates of the IMCI guidelines,

Acknowledging holding of the consultation to be timely and relevant and confirming the importance of improvement of evidence-based diarrhoea management in children at the first-level facilities and the need to develop recommendations for respective update of the policy, protocols and guidelines,

Having considered the latest advances and experience in management of diarrhoea in children, including the efficiency of zinc and low osmolarity ORS proved by international practice, as well as current diarrhoea management practices;

Having increased awareness of the health care authorities, clinicians and pharmacologists about evidence and recommendations for adaptation of the IMCI guidelines;

Having identified ways for implementation of the new recommendations and their integration into the national Child and Adolescent Health and Development Strategy/the IMCI programmes;

Having reached a consensus regarding approaches to introduction of changes into evidence-based management of diarrhoea, health care policy, regulatory and legal framework, protocols and guidelines, and monitoring of their implementation;

1. RECOMMEND that stakeholder states hereon:

- develop, approve and implement the National Plan on adaptation and introduction of the technical updates of the IMCI guidelines;
- revise the respective regulatory and legal framework, including issues of cross-sectoral cooperation, standards of service rendering and monitoring;
- identify the key stakeholders, their roles and obligations, such as zinc and ORS procurement, setting up local manufacturing, short- and middle-term Action Plans, objectives and the resources required;
- introduce the evidence-based WHO recommendations on management of diarrhoea in children into the under- and post-graduate curriculum of higher educational institutions and academies;
- integrate the updated IMCI protocols on management of diarrhoea in children at the first-level facilities;
- review/develop indicators for monitoring and evaluation of the efficiency and quality of services, including those required for licensing of health care institutions;

- in cooperation with healthy lifestyle centres, NGOs, communities, local regulatory bodies, and mass media develop and introduce the training courses for parents aimed at providing knowledge and skills in child care.
2. REQUEST the WHO Regional Office for Europe to prepare and send out the report to the participants of the consultation and the ministries of health of the stakeholder states to inform them on the outcomes of this workshop in order they identify priority areas and develop detailed country plans on improvement of diarrhoea management in children, revision of the IMCI guidelines in terms of the latest WHO recommendations and lessons learnt from their implementation, revision of the adopted country plans and their presentation at the next suitable regional workshops held with the participation of the ministers of health of Central Asian states till the end of the year 2007.