Intercountry Workshop to Accelerate Integration of IMCI in Pre-service Training of Health Professionals in the South-East Asia Region

A Report
Mumbai, India, 29 November – 1 December 2005

WHO Project: ICP CAH 030
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Executive summary

The Integrated Management of Childhood Illness (IMCI) Strategy is an evidence-based effective strategy for managing common childhood illnesses. Inclusion of IMCI in pre-service education of doctors, nurses and paramedical workers will help introduce the practice of standardized protocol-based management of the most common medical conditions that afflict children. Pre-service education is a sustainable means for introducing public health interventions in national health programmes.

This workshop was organized with the express objective of obtaining country experiences in pre-service IMCI; identifying bottlenecks in implementation and the best ways to overcome these; introduce countries to tools for pre-service IMCI; and to develop country-specific frameworks to accelerate pre-service IMCI teaching.

Member Countries in the Region are implementing IMCI primarily as an in-service programme. Some experience has been gained in pre-service IMCI. India introduced pre-service IMCI in medical schools about four years ago and recently evaluated the experience. This evaluation has provided several insights into issues that need to be addressed for accelerated integration of IMCI in pre-service curricula.

Apart from plenary discussions on several aspects related to pre-service IMCI, participants were given the opportunity to observe pre-service IMCI in a real life situation. A field trip was organized to the Department of Paediatrics, L.T.M. Medical College and LTMG Hospital where the participants not only observed medical interns utilizing IMCI to manage children but also had focused discussions with interns/students and members of the faculty to obtain firsthand feedback about student and teacher perspectives about pre-service IMCI. This interaction helped in identifying of several issues (technical as well as programmatic) that need to be addressed for effective assimilation of IMCI in pre-service IMCI education of health professionals.
The participants arrived at several conclusions and made recommendations for accelerated implementation of pre-service IMCI in countries of the Region. These focus on issues related to: organization of pre-service IMCI; training of faculty; curriculum and monitoring and evaluation of students. Participating countries developed a broad framework for accelerated integration of IMCI in pre-service training of health professionals in their respective countries.
Inauguration

The workshop was inaugurated by Mr Dattaji Dalvi, Hon’ble Mayor of Mumbai. He described the work which the Mumbai Corporation was doing for the underprivileged sections of the society. He complimented WHO for organizing the workshop in one of the largest public hospitals in Maharashtra State and wished the workshop all success.

Dr Samlee Plianbangchang, Regional Director, WHO South-East Asia Region, could not attend the workshop. His address was delivered by Dr Sudhansh Malhotra, Regional Adviser, Child Health and Development, WHO Regional Office for South-East Asia, New Delhi. In his address the Regional Director stated that the Integrated Management of Childhood Illness strategy, popularly known as IMCI, seeks to improve the skills of health workers for integrated management of common childhood diseases. It also seeks to address health system issues and community and family practices that impact child health.

In the South-East Asia Region, nine of the eleven Member States are implementing the IMCI strategy. In most countries, IMCI has been introduced in child health programmes through in-service training of medical officers, nurses and paramedical workers. While in-service training of staff ensures quick introduction of an intervention, it tends to be very costly and time-consuming as a very large number of staff have to be trained.

He stated that in-service training disrupts programme implementation and clinical services as service staff have to be moved from their duty stations for training. Pre-service training of doctors, nurses and paramedical workers, on the other hand, has the advantage of young graduates coming into the workforce with the requisite knowledge and skills and starting implementation of interventions straightaway. Pre-service training has the added advantage of being more cost-effective and avoiding disruption of normal work that in-service training entails. IMCI introduces an evidence-
based protocol for treatment of paediatric conditions which will go a long way in ensuring quality care for child patients. It is for these reasons that WHO is promoting pre-service training in IMCI.

The Regional Director thanked the authorities of the Lokmanya Tilak Medical College and Lokmanya Tilak General Hospital for hosting this important workshop and wished the participants all success in their deliberations.
1. Background

The Integrated Management of Childhood Illness (IMCI) strategy has been adopted by nine out of 11 SEAR Member States in the South-East Asia Region. The primary focus has been on in-service training of health care providers so far and it is recognized that while in-service training can serve the purpose of introducing an intervention rapidly, it has larger implications in terms of costs and staff time. Pre-service training is considered to be cost-effective, sustainable and the most appropriate alternative that allows service staff to devote their full attention to programme implementation.

The introduction of IMCI training in pre-service education in medical, nursing and paramedical schools has been promoted. Bangladesh, India, Indonesia, Myanmar and Nepal have introduced IMCI training in medical and paramedical schools. This initiative has been under operation in a limited number of schools for the past five years and countries have reported varying degrees of success. Feedback suggests that countries have faced several impediments in introducing IMCI in existing pre-service curricula, but they have found innovative ways to overcome them. Experience sharing would help countries to find ways and means to remove bottlenecks in order to rapidly expand this initiative.

1.1 Workshop objectives

General objective

To review the status of pre-service IMCI training and plan for its expansion in the South-East Asia Region.

Specific objectives

(1) Achieve common understanding about issues related to pre-service IMCI and introduce participants to updated pre-service IMCI tools.

(2) Review experience of IMCI implementation in selected countries, identify bottlenecks and the best ways of overcoming these.
Achieve agreement on plans for expansion of pre-service IMCI in countries that have already introduced pre-service IMCI and introduction of the same in selected countries that have yet to do so.

2. Overview

2.1 IMCI – global scenario

Improving child survival up to the age of five years implies addressing the main causes of childhood deaths including pneumonia, malaria, diarrhoea, measles, malnutrition, HIV/AIDS and neonatal conditions. To reach the MDG 4, i.e. to reduce under-five mortality by 2/3 requires that we cannot continue to work on the basis of "business as usual". If the mortality trend plotted since the 60's continues, we will not be able to achieve the MDGs. This is true for SEA Region also. The interventions that are available now, if implemented on a large enough scale, have been shown to achieve the two-third reduction required for achieving the MDG's. IMCI has three components: improving the skills of health workers, improving the health system and improving the family and community practices. There is a need to ensure a continuum of care at the community, health facility and hospital levels and to include perinatal, young infant and older children. An adaptation process is needed to ensure that the epidemiological and socio-cultural differences of countries are taken into account.

2.2 Does IMCI work? The evidence so far

The multi-country evaluation (MCE) of effectiveness of cost and impact has provided valuable insights. The on-going study in Bangladesh, as in other parts of the world, has revealed that IMCI improves the quality of child health care in first-level facilities. There is evidence that health facility utilization rates by sick children increased after IMCI introduction. Overall health-seeking for sick and very sick children improves. Adequate attention to all three components of IMCI is necessary for optimal effect. Evidence from Tanzania indicates that it is possible to reduce under-five mortality by 13% over two years of IMCI implementation. Further, IMCI does not increase district-level costs for total under-five care. IMCI has great potential of making a significant contribution to country efforts to achieve the Millennium Development Goals for child survival.
2.3 Why pre-service IMCI?

Children account for 30% to 70% of all patients seen in busy outpatient clinics. Most children who die in health facilities do so within the first few hours after arrival. To avoid unnecessary deaths, students need to learn rapid, yet relatively simple actions to determine the treatment the child needs (admission, medication at home or home care). When a child can be cared for in the clinic or at home, students need to know how to comprehensively examine and manage with available resources, and give preventive care such as immunizations and vitamins. They also need to know how to prescribe appropriate drugs in correct combinations and amounts, and how to counsel a child's caretaker about treatment, feeding and when to return to a health facility. The clinical guidelines for IMCI include all of the above elements of basic outpatient care for children up to five years of age.

Medical and paramedical students are rarely given opportunities to develop essential outpatient clinical skills during their undergraduate training as, in most countries, child health clerkships are conducted in the inpatient environment. The World Federation for Medical Education has recognized the importance of outpatient care in the undergraduate curriculum.

2.4 Planning for pre-service IMCI

Before the planning process for IMCI pre-service education begins in a country, an analysis may be needed of the desired characteristics of teachers and curricula, and of the competencies that students should develop.

The recommended process of planning, implementing and evaluating pre-service education includes the following four phases:

- Orient and plan
- Prepare and conduct the first round of teaching
- Review and replan
- Evaluate
The recommended process is a phased, cyclical process and not a one-time activity. There is no need to change everything at once. Within each phase, there are many tasks that can be completed in any order. However, some tasks are critical, and should not be overlooked.

2.5 **Pre-service IMCI experience – Bangladesh**

The rationale for incorporating IMCI in the pre-service curriculum is as follows:

- Pre-service training is cost-effective
- Sustainable
- The most appropriate alternative that allows service-providers to devote their full attention to programme implementation

Since 2001, facility-based IMCI is being implemented in Bangladesh. So far, more than 800 doctors and 1300 paramedics have been trained in IMCI. More than 275 doctors have received facilitator’s training. In 2005, the government started piloting community IMCI (C-IMCI) in 5 upzilas. However, for sustainability of the programme, IMCI pre-service training has been planned and since 2003, the government in collaboration with WHO, is working on introduction of IMCI in the pre-service curriculum of medical and paramedical institutions.

In 2003, the first orientation and planning meeting on IMCI pre-service training was held in Dhaka. A working group was formed to adapt the generic module which was done through a series of expert group meetings. It was field-tested in 2004. Since July 2005, the IMCI pre-service training has been started when, according to the revised curriculum the 3rd year students have been placed in the paediatric departments. So far, teaching staff of six medical colleges has been trained in IMCI. Training is on-going for the faculty members of other government and private medical colleges, nursing institutions, medical assistant’s schools.

Feedback from the medical colleges, where IMCI pre-service training is on-going, appears very positive both from the faculty members and students. There are some constraints as well. In many places clinical practice sites are not well-prepared; there is lack of commitment of the
faculty members as well. There is a lot of scope for improvement of the IMCI pre-service training through:

1. Revision of Students Handbook e.g. there is a demand from the students: in the handbook newborn care needs to be emphasized more.
2. Teaching IMCI to 4th year students when they will be more aware of different childhood problems.
3. Training of teachers and relevant clinical staffs on IMCI.
4. Continuing support for regular supply of logistics.
5. Technical assistance from WHO for strengthening of monitoring and evaluation of the programme.

2.6 Pre-service IMCI experience – India

India has adapted the generic students manual for teaching Integrated Management of Neonatal and Childhood Illness (IMNCI) to medical students. In the last three years IMNCI teaching has been incorporated in the teaching curriculum of four medical schools, one each in Karnataka, Mumbai, Ludhiana and Bhopal. Initial experience and feedback from the teaching institutions where this has been incorporated is quite encouraging. An evaluation was completed recently and shared with stakeholders. It recommends teaching of IMNCI at the earliest, jointly by paediatrics and community medicine departments and sustaining of activities after initial support has been provided by each institution individually.

In addition, India has started IMNCI teaching through distance learning as an alternate route for speedy implementation of activities. India, after initial experience of implementation has now decided that the IMNCI approach will be the centrepiece of the newborn and child health strategy in Reproductive and Child Health Project II (RCH-II). In addition to in-service training of health care providers (doctors, paramedical workers, anganwari workers) the government plans to introduce pre-service IMNCI training in medical, nursing and paramedical schools.
2.7 Pre-service IMCI experience – Indonesia

In medical faculties

IMCI was first introduced to the Ministry of Health of in Indonesia in 1995 followed by its acceptance by the Indonesian Paediatric Association (IPA). The first in-service IMCI training conducted in 1997 was for trainers, among which nine were from the medical faculties. The working group from the IPA called “MEDE-IMCI” (Medical Education on IMCI) team, developed the Indonesian students’ handbook, teachers’ guide (in which the bridging process was added), and the five-day orientation package, preceded by a study on diagnostic agreement to compare the IMCI and the conventional examination regimens. The actual implementation of the “nesting” of IMCI in the medical curricula was started in October 1998 in 15 state medical schools.

In nursing and midwifery schools

IMCI teaching in the Nursing Faculty – Jakarta, was started in 1998. The initiation of IMCI teaching in Nursing and Midwifery Schools in 2000 used the same steps as in the medical schools (advocacy, teachers’ training, development of students’ handbook and teachers’ guide). Field-testing of the IMCI component in the curricula took place in 2001. To date, 15 nursing schools and 30 midwifery schools, have been covered.

Problems in pre-service IMCI training

(1) Not all the 15 state medical schools include IMCI teaching, because of:

(a) Limitation of staff being trained in IMCI
(b) Lack of political commitment from most of the Deans and Heads of Pediatric Departments
(c) No more supervision from the MEDE-IMCI team
(d) Shortage of IMCI teaching and learning materials.

(2) In the nursing and midwifery schools, although written political commitment is in place, shortage of trained teachers in IMCI and shortage of IMCI learning materials are the main problems encountered.
2.8 Country pre-service IMCI experience – Myanmar

Pre-service training is cost-effective and can provide standardization and quality assurance of the training. Therefore, activities for pre-service IMCI training have been initiated since 2000 with the support of WHO and UNICEF. All universities of medicine, nursing, community health and midwifery schools are under the Department of Medical Sciences with standardized curriculum.

**Activities**

1. Workshop on Integration of IMCI or Integrated Management of Maternal and Childhood Illness (IMMCI) Strategy into pre-service curriculum of Universities of Medicine and Paramedical Institutes, organized from 31 May to 2 June 2000 at the University of Medicine.

2. Formation of a core group for adaptation and integration of IMCI strategy into pre-service curriculum of universities of medicine.

3. Workshop on Adaptation and Integration of IMMCI/IMCI strategy into pre-service curriculum of universities of medicine and paramedical institutes.

4. Formation of working groups for ION (Institute of Nursing), IOCH (Institute of Community Health) and Midwifery Schools.

5. Workshop on finalization of integration of IMMCI training plan for ION, IOCH and midwifery school was held from 28 to 29 March 2001 at North Okkalapa General Hospital.

6. Organization of IMCI/IMMCI training for faculty members.

7. Provision of IMCI video tapes and manuals to all universities, institutes and schools for references.

8. SIO (Specific Instructional Objectives) of universities of medicine and curriculum of ION include IMCI concept and case management approach.

9. Future plan – one review meeting on pre-service training will be organized to reinforce and strengthen the pre-service training activities.
2.9 Pre-service IMCI experience – Nepal

IMCI pre-service training was initiated in medical colleges and paramedical institutes under the Council for Technical Education and Vocational Training (CTEVT) in a sequence in three phases as recommended by WHO with technical support from WHO and the Child Health Division, WHO/HQ since 1998 after providing orientation and training to the faculty members. Till now, IMCI pre-service training has been introduced at the Institute of Medicine, BPKIHS and paramedical institutes under CTEVT. The total hours in the curriculum spent is 48 and 20 respectively. It is problem-based and focuses mainly on five IMCI diseases. At least one question is asked on IMCI in the final examination of MBBS.

Clinical practice is conducted in the maternal child health clinics or in the outdoor patient department (OPD) of the hospital. The rest of the six private medical colleges, under Kathmandu University, have promised to include IMCI in their curriculum which will be revised very soon. IMCI has been included in the curriculum of nursing schools recently.

A review meeting of consultants of medical colleges and CTEVT staff after one year of implementation revealed the following issues related to implementation of IMCI pre-service training:

(1) Inadequate budget and equipment, training materials, etc.
(2) Inadequate coordination among the related organizations
(3) Inadequate supervision and monitoring at all levels.

3. Proceedings

3.1 Identification of opportunities and facilitating factors for pre-service IMCI; and constraints and bottlenecks in integrating IMCI training in pre-service curricula

At a plenary discussion led by Prof Nazmun Nahar and Prof Madhuri Kulkarni, factors related to policy, regulatory mechanisms, curriculum, training materials, examining proficiency of students and related issues that
impact pre-service IMCI were identified. The results of the deliberations are included in the conclusions and recommendations in Section 5.

3.2 Field trip

This included observation of actual practice of IMCI in the OPD setting by trained interns followed by an intensive discussion (in separate groups) with interns/students and teachers in the Department of Paediatrics, L.T.M. Medical College and LTMG Hospital.

Interaction with medical students/interns

A. Relevance of IMCI to the academic programme

The students rated the relevance of IMCI to their academic programme as 3 or 4 on a scale of 5 (1 being not relevant at all, and 5 being very relevant).

When asked why they considered IMCI relevant, the following explanations were given:

- IMCI focuses on basic care for common illnesses that cause the most morbidity and mortality among children. If a student follows IMCI, he/she should be able to manage 80% to 90% of cases that are seen in an outpatient clinic.
- IMCI is useful at the peripheral level where resources are limited.
- IMCI is useful for quick action, particularly to identify which children need immediate referral, and which children can be treated at the clinic.
- IMCI forces physicians to go beyond one condition and one diagnosis, to look at the child more holistically, and to consider that the child may need treatment and counselling for more than one illness.

The students and interns also expressed the following limitations of the IMCI approach:

- It does not include injuries, while many children with injuries are seen in OPDs
They were doubtful of its relevance to physicians in a hospital setting. At a hospital, they explained that a physician should assess additional signs, and consider additional illness, in order to reach a diagnosis. For example, in assessing cough or difficult breathing, a physician should use a stethoscope and check for possible bronchiolitis, in addition to counting breathing rate and checking for chest indrawing.

B. Placement and process of teaching

All IMCI teaching is conducted by the Paediatrics Department. IMCI is not included in Community Medicine. In their final year, students spend 10-12 days during their paediatric attachment learning IMCI. Each day is comprised of 2 hours in the classroom and 1 hour in the wards (outpatient and inpatient). In the classroom sessions students read the handbook, do video exercises, and participate in role-plays to practice communication and counselling. The teacher to student ratio in the classroom is 1 teacher per 20 students. In the clinical sessions, the group of 20 students is supervised by four senior faculty members. After signs and cases are demonstrated, students are allotted cases (typically one student per case). The students practice managing cases according to IMCI, then present their assessment and findings to the group, and receive feedback from the teachers on their performance.

- Too much time (2 hrs per day) is spent in classroom teaching. It was suggested that pages from the handbook should be assigned for reading the day before a class, then a short lecture (preferably using overheads/slides) should be given to summarize the reading assignment. Students appreciated the role plays to develop communication and counselling skills. They suggested that a few role plays should be done with real mothers, rather than with fellow students, to provide a more realistic and practical experience.

- The time in the clinic was too short. Students noted that there were no IMCI wall charts in the OPD, and nurses in the OPD were not familiar with IMCI. They suggested to include IMCI in the community medicine posting as well as the internship.

- Because the final year is a very hectic time for the students, they recommended introducing the IMCI case management process early in the 3rd year, either in the paediatrics rotation or in
community medicine. They noted that many of the IMCI skills, such as counting breathing rate, are taught in the 2nd year, and suggested moving the video exercise sessions related to these skills to the 2nd year. They also suggested maintaining the review of IMCI during the supervised internship.

- When asked if they felt confident to be used as clinical teachers for IMCI, the interns said they certainly could teach other students.

C. Learning materials

Students use the IMCI handbook, chart booklet, and video exercises. They also use the textbook of *Essential Paediatrics* by O.P. Ghai, in which the generic version of the IMCI chart book has been incorporated. They do not use the IMCI photograph booklet. They borrow the handbook and chart booklet for two weeks, and return them after the IMCI rotation is finished.

The students explained that:

- Some of them photo copy the IMCI chart booklet before returning it. This costs Indian Rs.600.- approximately.
- They would definitely purchase the chart booklet if made available at a reasonable price. They were not sure if they would purchase the handbook - and stated that it would depend on the cost.

*Interaction with Teachers*

Feedback from teachers was similar to the views of students. The salient features are summarized below:

- The interaction was very expressive. Regarding IMNCI – the main concern of the teachers was how to assess the students trained in IMNCI? Myanmar follows objective structured clinical examination (OSCE), four work stations and case scenario. In the pilot project, the hospital follows assessment with the help of a clinical case scenario.
- It was also mentioned that IMCI classification has been incorporated in the medical recording system in Bangladesh,
Myanmar and Nepal. In these countries, IMCI is implemented at the ministry level. Alignment of national Health Management and Information System (HMIS) with IMCI classifications needs to be addressed.

- Use of the IMCI syndromic approach should be uniform throughout the country. The university should have a structured programme for on-going training of teachers. Video films, if possible, should be made by using local cases. This would help to promote acceptance by the teachers, students and other health care givers.

- The study material, interactive CD, students’ manual and chart booklet should be available on the internet. If possible, the reading activity should be more concise.

- It was also mentioned that undergraduates will be taught by the paediatricians whereas in-service and community health care providers may be trained by the preventive and social medicine department.

- University examination should include IM(N)CI assessment.

- Justification of the signs should be incorporated in the teachers’ training programme.

- Management of severe cases (pink classifications) may be added using the WHO “Referral Care Manual”.

### 3.3 Tools for pre-service education

Materials and tools available for planning for IMCI pre-service education, and for teaching, learning and assessing student performance were introduced.

The WHO guide for IMCI: Planning, implementing and evaluating pre-service training promotes a focused and integrated approach to teaching about common child health problems, and describes a continuous, cyclical process for introducing and sustaining new teaching.
Materials for Teachers

• A list of learning objectives for IMCI (both for outpatient and referral care).
• A learning package on effective teaching called Effective teaching: Guidelines for educating healthcare providers.
• IMCI: Reference library of selected materials.
• IMCI: Technical seminars.
• IMCI: Photograph booklet.
• Video exercises.
• IMCI wall charts.
• IMCI facilitator guide for outpatient clinical practice and IMCI guide for clinical practice in the inpatient ward.

Materials for Students

• IMCI: Model chapter for textbooks.
• IMCI: Handbook.
• A pocketbook of hospital care for children: Guidelines for the management of common illnesses with limited resources.
• Management of the child with a serious infection or severe malnutrition.
• IMCI chart booklet.
• Other materials used in the in-service course, such as the mother's card, case recording form, photograph booklet (see above) and video exercises (see above).

3.4 Evaluation of pre-service IMCI in medical schools in India

Background

In 2002, a WHO-supported pilot project to introduce Integrated Management of Neonatal and Childhood Illness (IMNCI) strategy in undergraduate teaching in four medical schools in India was undertaken at the All India Institute of Medical Science (AIIMS), New Delhi, including the Lokmanya Tilak Medical College (LMTMC), Mumbai. The primary objective was to evaluate the process of introducing IMNCI in the MBBS curriculum. Evaluation of outcome (assessment of competence of students), effectiveness and impact of the programme was not planned as part of this activity.

The evaluation was done by taking feedback from the nodal persons, the teaching faculty, students, interns, and administrative staff by direct questioning and focus group discussion. The changes made to the teaching and learning process while introducing IMNCI in the MBBS curriculum...
were identified and the quality of IMNCI teaching for its context, content and the materials and methods was assessed.

**Summary of the evaluation**

- The programme was implemented as per the plan of action decided at the initial orientation at AIIMS with minor modifications; however, there was no formal IMNCI Working Group or long-term written plan of action in any of the four colleges.
- It has been perceived as a WHO project; none of the colleges had identified a long term source of budget.
- There was initial resistance to the implementation of the programme among the teaching faculty but it was well accepted with time.
- Some of the teaching faculty had not been trained in the six day facilitators’ training workshop.
- The students were being taught according to the IMNCI guidelines.
- The teachers were not unduly burdened with additional responsibility.
- The students were not burdened by this programme and felt that it was beneficial to them. It was an additional clinical skill that they were learning.
- Initially, all batches of students and some teachers had some concerns whether it would interfere with their standard paediatric teaching but gradually accepted it as an additional tool to enhance their clinical skills and eventually enjoyed the programme.
- Each batch of students taking the training at one time was small and was not more than 30 in any college. The time spent on IMNCI was from 21-56 hours across the four colleges in the final year of MBBS or the second Pediatric posting. Less than half of the total time was spent on clinical practice sessions except for one college where more than two thirds was spent on clinical practice.
- WHO provided initial support for the clinical material which was just sufficient for the initial two years. The departments had continued by photocopying the material available with them.
The students were assessed for their knowledge on IMNCI at the end of their IMNCI posting. Each college had devised their own system of assessment and the marks were included as part of the internal assessment.

IMNCI was not being practiced by the faculty during their routine clinical care.

The colleges had taken requisite permissions to implement the programme in their curriculum. The programme had the support of their respective college administration but it was perceived as a project by the administrators. The colleges would be happy to participate in any long term training activity for both pre-service and in-service programmes.

Issues emerging from the evaluation

(1) Training of faculty

- How does the new faculty get trained?
  - Should the training courses be for six days or shorter?
  - Where should the training be held? Should the training be conducted at identified regional nodal centers or in the colleges?

- Who should coordinate the training of the faculty?
  - Should a National Coordination Committee be in charge or should it be the responsibility of the college IMNCI Working Group
  - Who will be on the training faculty?

- Should the teachers be reoriented at regular intervals? Who will be responsible for this reorientation?

- Can post-graduates and senior residents be involved?

(2) Concerns about placement of IMNCI training in the medical curriculum

- Is the final year paediatric posting an appropriate time to introduce IMNCI in the MBBS curriculum? Should it be
introduced earlier or should the IMNCI strategy be taught fragmented between semesters?

- Should other departments i.e. community medicine, be involved? In that situation, which department will have the overall responsibility or will it be a joint responsibility of the departments?
- How could internship be utilized?

(3) **How should clinical material be provided to students?**

- Who will have the responsibility of providing the clinical material?
- Should the clinical material be made available as part of the standard paediatric text books or provided separately?
- If made available separately, should the students be asked to buy the teaching material?

(4) **Concerns about IMNCI teaching**

- How will the teacher-student ratio be maintained in colleges with a large number of students?
- Is there enough time for training in crowded out-patient departments?
- Is the number of hours spent on IMNCI teaching exercise enough? Does it need to be reduced?
- Should classroom teaching be shortened or self-study be promoted?
- Will there be sufficient patients for clinical demonstrations in all colleges?
- Will there be place for displaying clinical material (wall charts) in the clinical sites (out-patient departments and in the wards)?
- Will IMNCI be routinely practiced by the teaching faculty and other consultants while assessing patients?
- Is the support staff ready to assist?
(5) **How should IMNCI be included in the final assessment**

- Students want it as part of the final professional assessment while the teachers suggest that it should be at least part of the internal assessment.
- What is the role of the Medical Council India if IMNCI has to be included in the curriculum and the professional assessment?
- Should the assessment be standardized across colleges or should it be adapted for each college/university?

4. **Group work**

The participants developed a strategic framework for expansion of pre-service IMCI in medical, nursing and paramedic training schools in their respective countries.

4.1 **Group work output**

This is provided at Annex 3.

4.2 **Monitoring introduction of IMCI teaching**

In education, monitoring is the ongoing process of collecting information about teaching so that the quality of students' learning can be improved. Monitoring answers the questions, "How well are we doing?" and "How can we do better?" For IMCI pre-service education, the important areas to monitor are:

- implementation of the plan of action;
- quality of teaching in relation to the new competencies (e.g. IMCI); and
- intermediate outcomes of teaching in terms of student knowledge, skills and attitudes.
More information about monitoring and evaluation can be found in the manual, *Effective teaching: Guidelines for educating healthcare professionals*.

## 5. Conclusions and recommendations

### 5.1 Organization of pre-service training in IMCI

1. Integration of IMCI in pre-service curriculum of medical professionals (doctors, nurses, paramedical workers) is feasible.

2. Countries need to identify which organization/unit should lead the process. Stewardship could be undertaken by the ministries of health and/or education, universities, professional bodies, medical education councils or others depending upon the administrative and legal system in respective countries.

3. IMCI working groups for pre-service education with clear membership and terms of reference need to be established/ revitalized in countries at national/sub-national levels as well as in teaching institutions to accelerate pre-service IMCI.

4. Country IMCI plans should establish a link between programmatic IMCI in-service and pre-service training to achieve maximum synergy.

5. Resource mobilization for introducing and expanding pre-service IMCI was discussed. Participants were informed that there is emerging donor interest in supporting pre-service IMCI. WHO was requested to assist countries in formulating proposals for donor support, and for incorporating IMCI pre-service into proposals for umbrella funds for maternal, neonatal and child health.

6. There is a need for advocacy with stakeholders for introducing/accelerating pre-service IMCI. The respective ministries of health with the assistance of WHO, UNICEF and other partners should plan for this.
(7) Institutions which include IMCI in their pre-service curriculum should introduce this for management of children in the out-patient departments. For in-patient management, “Hospital Care for Children” published by WHO, also called the “pocket-book”, could be adapted by countries.

5.2 Training of faculty

(1) Orientation and training of faculty of medical, nursing and paramedical schools is an important issue. Countries will also need to plan and consider for reorientation at periodic intervals at all levels. It would be important to train faculty of medical, nursing and paramedical schools in a phased manner.

(2) Existing training programmes for teachers are avenues which should be explored for training of faculty in IMCI teaching.

(3) Training of faculty should include three elements: 1) training in the IMCI clinical guidelines; 2) training in the technical basis for IMCI (e.g. technical seminars); and 3) training in effective teaching methods.

5.3 Curriculum-related issues

(1) The issue of which department/specialty should be made responsible for pre-service IMCI was discussed. A majority of participants felt that the primary responsibility should be with the department of paediatrics or child health with the active involvement of the community health/community medicine department.

(2) The issue of including IMCI teaching in the curriculum was discussed in detail. While different institutions will need to decide depending upon the local situation, there was agreement, that it should be introduced as early in the curriculum as possible and reinforced in senior years/internship.

(3) Making locally adapted teaching/training materials available to students is an important issue that countries will need to address. Several options are available. Firstly, attempts should be made to
include local adaptation of IMCI in standard text books. In the interim, countries could produce IMCI training materials to achieve economics of scale and sell at cost to students. Feedback suggests that students will be prepared to buy materials at low cost. Locally adapted teaching/training materials could to be put on existing web-sites to allow easy access to students.

(4) Feedback suggests that students prefer more hands-on clinical practice. Medical students prefer less of reading material and more emphasis on clinical practice, video exercises/role plays etc. The curriculum development committee should take note of this.

(5) Once IMCI is introduced in pre-service curricula in medical, nursing and paramedical schools, adequate attention needs to be paid to assessment of IMCI knowledge and skills in the qualifying examinations for doctors, nurses and paramedical workers.

5.4 Monitoring and evaluation

(1) Countries have gained some experience in implementation of teaching of IMCI in pre-service settings. They may consider an evaluation of the initiative to guide further expansion.

(2) Monitoring of pre-service IMCI is an important issue. Country plans for pre-service IMCI teaching should include regular monitoring and feedback.

(3) Regional review meetings should be held every two years to share experiences. These meetings should include study tours to universities that are implementing IMCI to review and discuss how to sustain achievements and how to overcome common challenges.
Annex 1

PROGRAMME

Tuesday, 29 November 2005

0900 – 0930 Registration
0930 – 1030 Inaugural Session
1045 – 1115 IMCI – Global Scenario, Dr L. Muhe, WHO/HQ
1115 – 1130 Does IMCI work? The evidence so far, Dr S. Malhotra, RA-CHD/SEARO
1130 – 1200 Why Pre-service IMCI? Dr Harish Kumar, NPO, WHO India
1200 – 1230 Planning for Pre-service IMCI, Ms Rebecca Bailey, WHO/HQ
1230 – 1300 Country Pre-service IMCI Experience – Bangladesh
1400 – 1430 Country Pre-service IMCI Experience – India
1430 – 1500 Country Pre-service IMCI Experience – Indonesia
1530 – 1600 Country Pre-service IMCI Experience – Nepal
1600 – 1700 Plenary Session – Prof Nazmun Nahar and Prof M. Kulkarni

Identification of (i) opportunities and facilitating factors for pre-service IMCI; and (ii) constraints and bottlenecks in integrating IMCI training in pre-service curricula

➢ Policy
➢ Regulatory mechanisms
➢ Training Materials
➢ Harmonization with existing curricula
➢ Timing in curricula
➢ Examining proficiency of students after training
➢ Others


**Wednesday, 30 November 2005**

0900 – 1100  Visit to OPD/In-patient paediatric ward to observe pre-service training in Lokmanya Tilak Medical College and General Hospital

1130 – 1200  Interaction with teachers involved in pre-service IMCI training

1200 – 1230  Interaction with medical students/interns

1400 – 1430  Tools for planning, implementation and evaluation of pre-service IMCI – Ms R. Bailey, CAH/HQ

1500 – 1700  Evaluation of pre-service IMCI in medical schools in India – Dr S. Bhatnagar, AIIMS, New Delhi

- Process
- Tools
- Results

**Thursday, 1 December 2005**

0900 – 1100  Group Work – Dr Frits De Haan, WHO Indonesia

Dr Rabeya Khatun, NPO, WHO Bangladesh

Dr Hanny Roespandi, WHO Indonesia

Group I

Bangladesh, Nepal, Indonesia, India.

Develop strategic framework for expansion of pre-service IMCI in medical, nursing and paramedic training schools

Group II

DPR Korea, Myanmar

Develop strategic framework for introducing pre-service IMCI.

1130 – 1245  Country presentations

1400 – 1500  Plenary Discussion – Monitoring and Evaluation of Pre-service IMCI, Ms Rebecca Bailey / Dr Harish Kumar

1530 – 1700  Plenary: Conclusions and Recommendations
Annex 1

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Annex 3

NEXT STEPS FOR EXPANSION OF IMCI PRE-SERVICE EDUCATION

Bangladesh, December 2005

<table>
<thead>
<tr>
<th>Activity</th>
<th>Expected Outcome</th>
<th>Responsible</th>
<th>Collaborator/ Partner</th>
<th>By when</th>
<th>Resources needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Training of faculty members (teachers, PG students and senior medical officers)</td>
<td>Trained instructor</td>
<td>Faculty</td>
<td>IMCI cell (MOH) and WHO, centre for medical education</td>
<td>Ongoing</td>
<td>Trained facilitators</td>
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<td>Teaching materials</td>
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<td>Technical seminars</td>
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<td>Financial support</td>
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<td>2. Training of relevant clinical staff (in clinical practice sites)</td>
<td>Trained support staff</td>
<td>Faculty</td>
<td>IMCI cell (MOH) and WHO</td>
<td>Ongoing</td>
<td>Trained facilitators</td>
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<td>Teaching materials</td>
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<td>Technical seminars</td>
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<td></td>
<td>Financial support</td>
</tr>
<tr>
<td>3. Advocacy to regulatory body - BMDC, BNC, faculty of medicine and nursing of all universities.</td>
<td>Incorporation of IMCI in the curriculum in a specified schedule (IMCI hours)</td>
<td>DGHS (Directorate General of Health Services) DNS (Directorate of Nursing Services)</td>
<td>Concerned faculty and WHO</td>
<td>June 2006</td>
<td>Financial support (e.g. WHO)</td>
</tr>
<tr>
<td>4. Adaptation, review of training materials, and preparation of teaching aids.</td>
<td>Adapted, reviewed and newly prepared teaching and training materials.</td>
<td>National working group for IMCI pre-service</td>
<td>Faculties and WHO</td>
<td>June 2006</td>
<td>Financial support (e.g. WHO)</td>
</tr>
<tr>
<td>Activity</td>
<td>Expected Outcome</td>
<td>Responsible</td>
<td>Collaborator / Partner</td>
<td>By when</td>
<td>Resources needed</td>
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<tr>
<td>5. Mechanism for examining proficiency of students (during teaching)</td>
<td>Students are assessed</td>
<td>Faculty members</td>
<td>IMCI section MOH</td>
<td>Ongoing</td>
<td>Teaching aids (e.g. videos, photos, DVD, monitoring checklist, MCQ, observation, etc.)</td>
</tr>
<tr>
<td>6. Preparation of clinical practice sites</td>
<td>Prepared clinical teaching facilities</td>
<td>Respective institutes</td>
<td>Faculty, MOH and WHO</td>
<td>June 2006 and ongoing</td>
<td>Logistics (e.g. drugs, space, table, chairs, teaching materials)</td>
</tr>
<tr>
<td>7. Monitoring of IMCI teaching</td>
<td>Quality assurance</td>
<td>(1) National level monitoring cell (2) Institutional level monitoring cell</td>
<td>Faculty, MOH, WHO and education experts.</td>
<td>Ongoing</td>
<td>Manpower, material and money (and transport)</td>
</tr>
<tr>
<td>8. Evaluation</td>
<td>Quality assurance</td>
<td>External from other teaching institutions, and faculty</td>
<td>DGHS, DNS, WHO, UNICEF and other partners</td>
<td>Sometime in 2007</td>
<td>Manpower, material and money (and transport)</td>
</tr>
</tbody>
</table>
## India (Maharashtra Pre-service IMNCI)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Expected Outcome</th>
<th>Responsible</th>
<th>Collaborators</th>
<th>By when</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitization workshops</td>
<td>Formation of Working group</td>
<td>MUHS/GOM/ corporations/ MC/NCI</td>
<td>UNICEF/WHO</td>
<td>Feb 2006</td>
<td>Training material/ Funds</td>
</tr>
<tr>
<td>IMNCI curriculum discussions</td>
<td>Curriculum finalized</td>
<td>MUHS/GOM/ corporations/ MC/NCI</td>
<td>UNICEF/WHO</td>
<td>April 2006</td>
<td>Training material/ Funds</td>
</tr>
<tr>
<td>Training of Trainers/Facilitators</td>
<td>Trainers pool developed</td>
<td>MUHS/GOM/ corporations</td>
<td>UNICEF/WHO</td>
<td>April 2006</td>
<td>Institutions</td>
</tr>
<tr>
<td>Time-line</td>
<td>Training schedule developed</td>
<td>Training Institutes</td>
<td>UNICEF/WHO</td>
<td>Aug 2006</td>
<td></td>
</tr>
<tr>
<td>Teaching of IMNCI</td>
<td>10 days training completed</td>
<td>Trained Faculty</td>
<td>UNICEF/WHO</td>
<td>Aug 2006</td>
<td>Trained Faculty</td>
</tr>
<tr>
<td>Monitoring</td>
<td>Summative exam</td>
<td>Training Institutes</td>
<td>UNICEF/WHO</td>
<td>Dec 2007</td>
<td>Trained Faculty</td>
</tr>
<tr>
<td>Evaluation</td>
<td>Assessment</td>
<td>External agency/ IIPS</td>
<td>UNICEF/WHO</td>
<td>Jun 2008</td>
<td>External agency/ IIPS/ Funds</td>
</tr>
</tbody>
</table>
**Indonesia**

Strategic framework for expansion of pre-service IMCI in Indonesia

**Introductory phase of pre-service IMCI:**

**Supporting factors:**

- Reduction of the IMR and CMR is the one of GOI priorities.
- Formulation of IMCI working group (within the MoH and the IPA) – related MoH programmess and related sub-specialties
- Early participation since the adaptation process of the IMCI guidelines, preceded by relevant studies needed.

**Constraints**

- IMCI was initially perceived as too simple for medical students
- Limited numbers of teachers were trained on IMCI
- Shortage of IMCI teaching materials
- Inadequate clinical sites for IMCI clinical practice

**Framework for expansion of pre-service IMCI education in Indonesia**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Expected Outcome</th>
<th>Responsible</th>
<th>Collaboration/ Partners</th>
<th>By When</th>
<th>Resources Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advocacy to related decision makers</td>
<td>Political commitment followed by written policy</td>
<td>MoH MEDE IMCI</td>
<td>WHO Unicef Donors Prof’l orgs</td>
<td>2006</td>
<td>Advocacy package</td>
</tr>
<tr>
<td>Donors’ meeting</td>
<td>Fund raising</td>
<td>MoH MEDE IMCI</td>
<td>WHO, UNICEF</td>
<td>2006</td>
<td>Advocacy package prop’s</td>
</tr>
<tr>
<td>Workshops</td>
<td>Team revitalization Curricula IMCI impl’on strengthened Comm. Med. Included in IMCI teaching</td>
<td>MEDE-IMCI</td>
<td>Comm.Ed. Dep; Collegium of Ped. Spec prog Dean Assoc.</td>
<td>2006</td>
<td>National Workshops facilities</td>
</tr>
<tr>
<td>Reviews of Nursing &amp; Midwifery IMCI</td>
<td>Progress report &amp; feedback</td>
<td>MoH (CHME)</td>
<td>Relevant programs in MoH, Prof org.</td>
<td>2006</td>
<td>National Meeting facilities</td>
</tr>
<tr>
<td>Activity</td>
<td>Expected Outcome</td>
<td>Responsible</td>
<td>Collaboration/Partners</td>
<td>By When</td>
<td>Resources Needed</td>
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</tr>
<tr>
<td>Teaching</td>
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</tr>
<tr>
<td>TOT</td>
<td>Trained teachers &amp; Lecturers Clinical training sites strengthened at various levels</td>
<td>MoH, MEDE IMCI</td>
<td>MoH, MoEd</td>
<td>2006/7</td>
<td>National training facilities</td>
</tr>
<tr>
<td>Material printing &amp; distributing</td>
<td>Material available in all schools</td>
<td>MoH, MEDE IMCI</td>
<td>MoH, MoEd, WHO, other donors</td>
<td>2007</td>
<td>Funds</td>
</tr>
<tr>
<td>MONEV</td>
<td>IMCI strengthened Sustainability Quality assurance</td>
<td>MoH, MEDE IMCI</td>
<td>Schools, MoH, MoEd, WHO</td>
<td>2007</td>
<td>Funds, evaluation tools</td>
</tr>
</tbody>
</table>

Technical co-operation support for pre-service IMCI education:

- Invite resource persons/experts from WHO HQ/SEARO and other countries
- Set up global network on pre-service IMCI
- Develop multi-center study proposals on relevant and needed topics

Opportunities:

- Commitment by 50 medfacs to implement problem based learning methodology which is suitable for IMCI teaching.
- About 540 nursing and midwifery schools (D-3) are under the responsibility of MoH.
## IMCI Pre-Service Education in Myanmar

<table>
<thead>
<tr>
<th>Activity</th>
<th>Expected Outcome</th>
<th>Responsible</th>
<th>Collaborator/Partners</th>
<th>By When</th>
<th>Resources Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advocacy Meeting for Faculty Members of: • Paediatric • Departments of Universities of Medicine • University of Nursing • Institute of Community Health • Midwifery Schools</td>
<td>Faculty members informed and supportive of pre-service training of IMCI</td>
<td>Professor/Head Department of Child Health, University of Medicine, Magway</td>
<td>WHO DOH</td>
<td>Jan 2006</td>
<td>400 US $</td>
</tr>
<tr>
<td>Core Group/Working Group Meetings (Core groups are existing)</td>
<td>Inclusion of IMCI package in SIO of relevant Universities, Institute and schools</td>
<td>Core Groups</td>
<td>WHO DOH</td>
<td>Feb 2006</td>
<td>500 US $</td>
</tr>
<tr>
<td>Adaptation of training materials • Completed • Modifications may be needed Meeting on review of existing materials</td>
<td>Training materials adapted</td>
<td>Faculty members of Universities of Medicine, Institute of Community Health, University of Nursing, Midwifery Schools</td>
<td>WHO DOH</td>
<td>Feb 2006</td>
<td></td>
</tr>
</tbody>
</table>

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*Intercountry Workshop to Accelerate Integration of IMCI in Pre-service Training of Health Professionals in the South-East Asia Region*
<table>
<thead>
<tr>
<th>Activity</th>
<th>Expected Outcome</th>
<th>Responsible</th>
<th>Collaborator/Partners</th>
<th>By When</th>
<th>Resources Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decisions about which departments will implement</td>
<td>Already determined (Department of Child Health) (Universities of Medicine)</td>
<td>Department of Child Health (Universities of Medicine)</td>
<td>WHO, DOH</td>
<td>Feb 2006</td>
<td></td>
</tr>
<tr>
<td>Curriculum changes included in SIO for 5 days training</td>
<td>5 days IMCI training included in SIO</td>
<td>Faculty members of Universities of Medicine, Institute of Community Health, University of Nursing, Midwifery Schools</td>
<td>WHO and Department of Health</td>
<td>Feb 2006</td>
<td></td>
</tr>
<tr>
<td>• Training of faculty mostly completed for Universities of Medicine:</td>
<td>Training of faculty members completed</td>
<td>Faculty members of Universities of Medicine, Institute of Community Health, University of Nursing, Midwifery Schools</td>
<td>WHO and Department of Health</td>
<td>Mar-Jun 2006</td>
<td>US$4000</td>
</tr>
<tr>
<td>• Need reorientation on teaching methodology</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>• Need – other Universities</td>
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</tr>
<tr>
<td>Mechanism for examining proficiency of students after training</td>
<td>Assessment by Objectively structured scoring system developed</td>
<td>Faculty members of Universities of Medicine, Institute of Community Health, University of Nursing, Midwifery Schools</td>
<td>WHO and Department of Health</td>
<td>Next Academic year</td>
<td></td>
</tr>
<tr>
<td>Activity</td>
<td>Expected Outcome</td>
<td>Responsible</td>
<td>Collaborator/Partners</td>
<td>By When</td>
<td>Resources Needed</td>
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<tr>
<td>Monitoring Adaptation of indicators</td>
<td>Indicators adapted</td>
<td>Faculty members of Universities of Medicine, Institute of Community Health, University of Nursing, Midwifery Schools</td>
<td>WHO and Department of Health</td>
<td>July 2006</td>
<td>US$1000</td>
</tr>
</tbody>
</table>
# IMCI Pre-service Education

## Next Steps for Introduction or Expansion, Nepal

<table>
<thead>
<tr>
<th>Activity</th>
<th>Expected Outcome</th>
<th>Responsible Agency/Office</th>
<th>Collaborators/Partners</th>
<th>By When</th>
<th>Resources Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactivation of already identified Focal Person</td>
<td>Coordination with all Medical colleges strengthened</td>
<td>Institute of Medicine and Child Health Division</td>
<td>WHO – HQ and SEARO</td>
<td>As soon as possible</td>
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</tr>
<tr>
<td>Strengthen coordination with universities/CTEVT/Nursing Schools</td>
<td>IMCI Preservice implemented in private Medical Colleges/Nursing Schools</td>
<td>Institute of Medicine, Child Health Division and Nursing Schools</td>
<td>WHO – HQ and SEARO</td>
<td>As soon as possible</td>
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</tr>
<tr>
<td>Review Meeting of Medical Colleges and CTEVT</td>
<td>Problems/Constraints identified, Plan of Action made</td>
<td>Tribhuvan University, Kathmandu University, Child Health Division and WHO</td>
<td>WHO – HQ and SEARO</td>
<td>Feb 06</td>
<td>---</td>
</tr>
<tr>
<td>Orientation of Faculty Members of New Medical Colleges</td>
<td>Faculty Members motivated</td>
<td>Institute of Medicine and Child Health Division</td>
<td>WHO – HQ and SEARO</td>
<td>May 06</td>
<td>---</td>
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<tr>
<td>Evaluation of IMCI Preservice implementation</td>
<td>Future direction identified, Sustainability maintained</td>
<td>Professional body</td>
<td>WHO – HQ and SEARO</td>
<td>July 06</td>
<td>??</td>
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</tbody>
</table>