# E-Learning
## *A Portal for Integrated Management of Neonatal and Childhood Illness*

## Background

As discussed in the article on the development and implementation of the interactive multimedia enabled IMNCI package for Health Professionalsthe Ministry of Health and Family Welfare is implementing the Integrated Management of Neonatal and Childhood Illness (IMNCI) as a key child health strategy within the National Reproductive Child Health Programmesolution. The challenges and issues of IMNCI/F-IMNCI training in India were mostly covered by the innovative solution as discussed in the article on development and implementation of the interactive multimedia enabled IMNCI package for Health Professionals.

However, some of the challenges still faced by the IMNCI training programme were also to be answered like regular updating of the training content due to updates in guidelines/strategies of specific diseases like if a new malaria vaccine is introduced then the same is to be taught to the learners while maintaining consistency, quality and equity, linking and regular access to new resources related to IMNCI training, etc. Thus the innovators strongly felt that rather than only providing IMM-based IMNCI training with a two day face-to-face training session including bed side teaching in hospitals one should focus also towards providing a mechanism for follow-up after training including continuous learning and development. It was felt that this strategy would not only ensure quality of training but also maintain a consistency in growth of knowledge and skills of the pre-service, and in-service health professionals according to the existing requirements. It was also felt that with an e-learning portal in place apart from the basic material which will be available through the IMM IMNCI package, constant availability of learning resources through the e-learning portal will enable the health professionals to access anytime, from anywhere learning resources which will result in enabling the health professionals in managing their roles and responsibilities at the organization where they work. Initially, the idea struck over a cup of coffee back in 2006, and the innovators started working on it in 2007 and developed a prototype of the portal. Finally, a proposal was submitted to UNICEF and on the basis of the demonstration of the portal the grant was sanctioned which enabled the innovators to develop the e-learning portal for IMNCI training.

## Need of the Innovation

Notwithstanding the fact that the Interactive Multimedia enabled IMNCI package was designed reasonably well, there were certain issues and ideas which on one hand could enhance the training needs of the health professionals and also facilitate the development of virtual communities to share local resources and create a repository of resources for training in IMNCI. At the crux the following issues/ideas motivated the innovators to explore the possibilities of developing an e-learning portal for IMNCI training for the health professionals.

1. A very major problem faced by the innovators during the development of the IMM-IMNCI package was regular change in a few sections of the IMNCI training curriculum. This resulted in frequent updation in the package which also resulted in revising the IMM-IMNCI package, which is not a long term sustainable solution.

2. Need of follow-up training and updation of knowledge and skill of health professionals on regular basis

3. Need of online training for health professionals to brush up their skills and get updated as and when required.

## Description of the Innovation

IMNCI online portal has been developed with the latest web 2.0 technologies, accessible from desktop computers to hand held devices including mobile devices. Such kind of online learning platform is shown in Figure 1.



**Figure 1 : Online Learning Platform (eimnci)**

This platform facilitates the fresh trainees as well as master trainers, where apart from bed side teaching, rest all can be taken care by the Online Learning System which will help the master trainees and trainees to share, collaborate, learn under a web-based (online/offline) integrated environment anytime, anywhere. IMNCI online portal has been developed with the latest web technologies and is a responsive website. It is accessible from desktop computers to hand held devices including mobile devices (smart phone/tab).

This platform has various modules for complete management of courses (Figure 2) and learners like site management, user management, enrolment, Roles, course management, assignment, module, chat module, choice module, forum module, glossary module, lesson module, quiz module workshop module wiki module, survey module, resource module, etc.



**Figure 2 : Screenshot Course Management**

## Innovative Features

Some of the innovative features of the E-IMNCI training portal for online learning are :

1. It provides online access to e-training IMNCI Modules with text, animations, graphics, embedded youtube video (Figure 3).
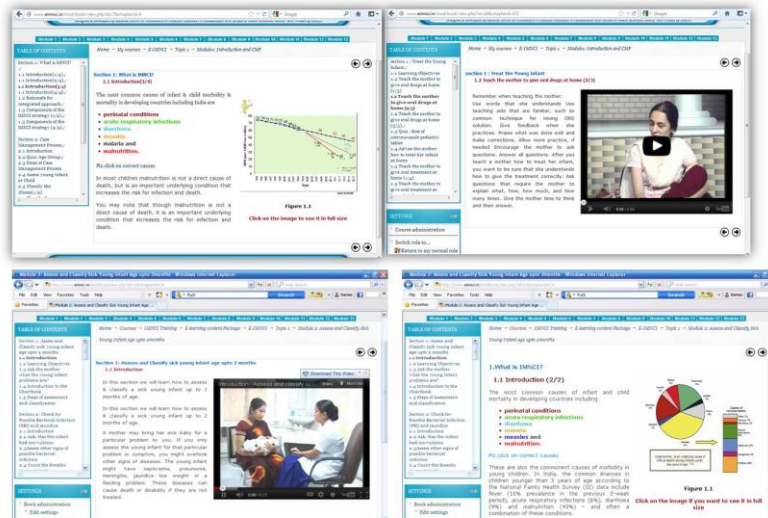


**Figure 3 : Screenshots of the Online Training Modules**

2. It has a provision of synchronous interactions between the trainee and trainers through private, group chat forums. Trainees and trainers interact asynchronously through discussion boards, and Blogs. See Figure 4.
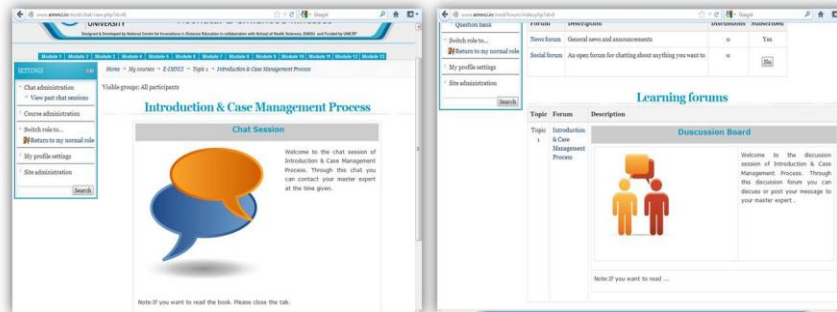


**Figure 4 : Screenshots of Chat and Discussion Forum**

3. It provides easy authoring tool for trainers with remote content authoring over the web or intranet. See Figure 5.
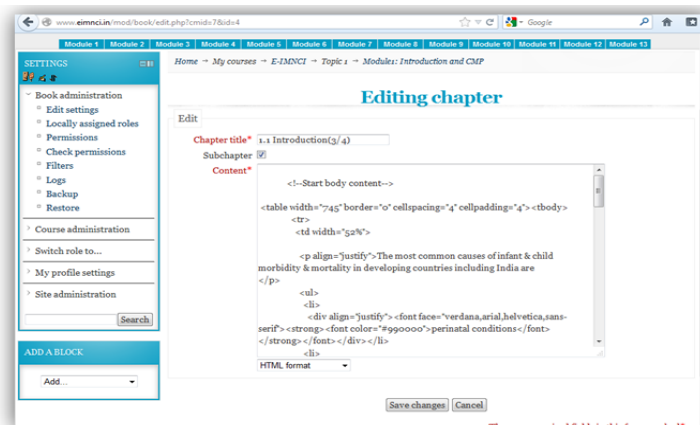


**Figure 5 : Content Authoring in HTML View**

4. It has inbuilt Trainee Management System : The platform allows the trainer to create groups of trainees which is very helpful in assigning projects to trainees that will work together. The trainee management also enabled the trainer to keep track of trainees as they login into the portal. See Figure 6.



**Figure 6 : Trainee Tracking**

5. It has an Evaluation Management System : Trainers can design and build quizzes with different types of questions, like multiple choice, true/false, short answers, essay questions, etc. The IMNCI training modules also had a variety of interactive quiz like picture, video, simulation, etc. See Figure 7.
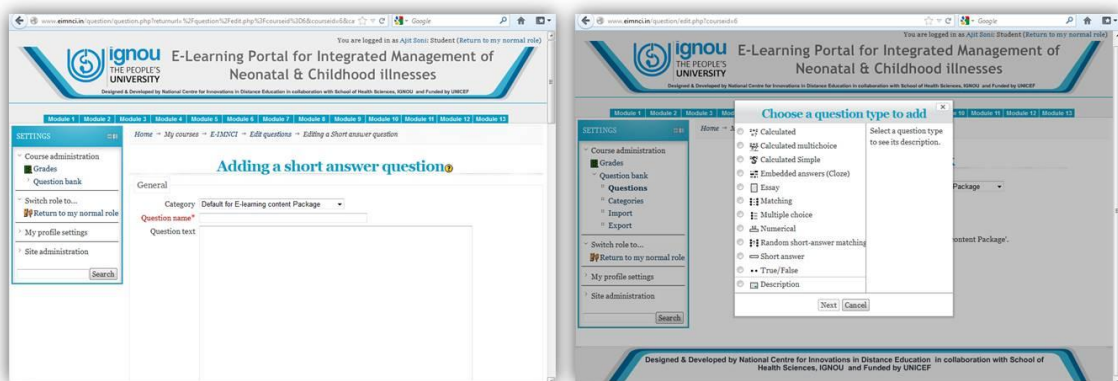


**Figure 7 : Creation of Quiz**

The conceptual framework of the IMNCI model enabled us to experiment and try new ideas as and when required by the stakeholders, thus enabling a quick adoption of it.

A product which is incompatible with the existing social and technological environment cannot be spread as rapidly as the one which is compatible. As in our case the health professionals even at the grassroots are fully aware of using computers and tabs for their day-to-day work, hence the interactive multimedia package is compatible to their social and technological environment making the IMNCI model rapidly being spread at the grassroots. Another fact that the IMNCI training is to be imparted to health professionals who are geographically distributed but have some essential similar attributes like their educational background is MBBS, so they are like individuals who share common meanings and beliefs, thus enabling the spread of the IMNCI training up to the grassroots effectively and with a high degree of rapidity.

Financial resources are cited as a constraint for Governments to scale up the IMNCI key health interventions in some countries including India. The technology enabled intervention has enabled conducting training for large scale of medical professionals in minimum time frame where the number of face-to-face training sessions is reduced from eight to two, which includes bed side teaching also. This has lead imparting of the training to be cost-effective.

For sustaining an innovation it is very important that it is flexible. An innovation which is not closed, i.e. an innovation system which is flexible enough to try new ideas, accommodate new technological interventions, simple, user friendly, and platform independent is generally sustainable than other complicated innovations. The conceptual framework of the IMNCI model enabled us to experiment and try new ideas as and when required by the stakeholders, thus enabling it to be sustainable.

## Achievements

With the help of UNICEF funded project the entire portal for providing IMNCI training was developed, launched and tested.

## Applications and Uses of the Innovation

The System is ready for use for the IMNCI master trainers and trainees to undergo training virtually. This system can also be used as an Online Certification System for providing training and certification to the IMNCI trainees. This is a blending of E-IMNCI training portal for online learning and face-to-face bed side teaching. The trainees over internet can access this platform and go through the various modules using easily accessible and cost-effective technology. The trainers and the trainees can collaborate through synchronous and asynchronous mode of learning within their group and with other groups of trainees distributed in other parts of the country.

## Way Forward

The benefits of the IMNCI model using the interactive multimedia package for health professionals is perceived better than the exiting training model. This has attracted many health professionals, government organizations, state governments and central government. In order to sensitize the program manager, professional bodies this material could be made available at the website under the partnership of IGNOU, UNICEF, and ministry of health. A strong need is also felt to provide an online certification system for the IMNCI training programme.

## Coordinators and Innovators

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