

# Bilingual DVD Enabled IMNCI Training Package for Health Workers

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## Background

In 2002, India and nations around the world committed themselves to achieve the Millennium Development Goals (MDG) with the fourth goal specifically focusing on reducing the under-5 mortality by two-thirds between 1990 and 2015. In India, Ministry of Health and Family Welfare approved the implementation of Integrated Management of Neonatal and Childhood Illness (IMNCI) strategy which includes both preventive and curative interventions that aim to improve practices in health facilities, in the primary healthcare system and at home. The IMNCI training is divided broadly in two categories training of health professionals and training of front-line functionaries, i.e. health workers which include Auxiliary Nurse Midwives (ANMs), Anganwadi Worker (AWW) and Accredited Social Health Activist (ASHA). Training of health workers holds the key for practicing IMNCI at household/village level. SOHS and NCIDE under the UNICEF funded project "Development of Bilingual IDVD enabled and Mobile Supported IMNCI Training package for Health Workers" introduced a long-term solution for training the health workers for the IMNCI component.

Distance Education is now recognized globally as a mechanism to meet the escalating demand for higher education, and professional development at all levels. It was planned to apply distance education methodology to the training process. Thus, apart from print material which was already developed by WHO, Ministry of Health and Family Welfare, GOI, and UNICEF, we thought of developing interactive DVD (IDVD) and mobile technology to be integrated with the existing training process. We have developed an innovative ICT enabled mechanism for providing a quality assured, cost effective and accessible training through trainee centric pedagogic approach, and simple technology where interactive content including quiz can be played on TV, Computers and Tablets. The development of interactive chart book was also a part of this project which has been elaborated in another chapter.

The IDVD package helps in training the health workers, to manage sick children rationally using the integrated management of Neonatal and childhood illness that is IMNCI approach. The package is designed to allow users to work at their own pace at their home or Public Health Centres (PHC).

## Need of the Innovation

IMNCI training has become a necessity for all levels of health functionaries starting from doctors to grassroots level workers. Training of health workers holds the key for practice of IMNCI at household/village level. But the large number of health workers and the lengthy training process requires displacement from workplace which is delaying the training goal of 100% coverage at PAN India level. It was strongly felt that an effective, accessible and sustainable distance education methodology for training health workers can make training useful and could also facilitate 100% coverage. The proliferation of Information Communication Technology (ICT) in the 21<sup>st</sup> century has created a global impact on the development of higher education in particular transformation of distance education from providing learning through print based technology to interactive, flexible, intelligent learning environments.

Initially, in view of the dynamic nature of training health workers readiness in infrastructural, technological, and content, domains were assessed. Based on the readiness assessment it was thought that the training process could be made more effective if interactive DVD and smart training (training through tablets) is integrated in the training process. It was also felt that use of local language and playing DVD through TV sets at home/training venue could make the learning feasible and interesting. This methodology can help in decreasing the duration of training besides making the training more interesting. It could also be used as a tool for re-orientation of trained health workers.

## **Description of the Innovation**

The IDVD enabled multimedia package for health workers has been developed in both English and Hindi languages. The technology used to develop the package enables it to easily convert into other languages where only 20% of software coding is required. In total, we have developed four useful products for the health workers as mentioned below :

- i. Interactive DVD enabled IMNCI package for health workers (Hindi).
- ii. Interactive DVD enabled IMNCI package for health workers (English).
- iii. Interactive DVD enabled and tablet enabled IMNCI package for health workers (Hindi).
- iv. Interactive DVD enabled and tablet enabled IMNCI package for health workers (English)

Based on the readiness assessment, we formulated an action plan for the implementation of the project. The action plan was divided into five phases, viz. incubation, analysis, design, prototype development, testing, development, and implementation.

The goal of this project was to accomplish the task of developing an interactive multimedia training package in IMNCI for helping in training the health workers to manage sick children rationally using the integrated management of Neonatal and childhood illness that is (IMNCI) approach and pilot test the product to identify learning problems, utility of the package for reorientation of doctors trained in IMNCI and to identify comfort level of health workers not exposed to IMNCI training. This package has been designed for all health workers who are involved in the care of children. The package is designed to allow users work at their own place. Each section has a large number of structured components with built in textual descriptions, images, videos, learning opportunities and self evaluations. The package provides flexibility to skip between the sections for any review or recall during learning. The content of the IDVD package was developed by IMNCI experts. The script was further edited by IMNCI experts and multimedia experts and thus vetted. The final package was pilot tested at IGNOU and further corrections were carried out in the line of the comments received during the pilot testing. The content of the package includes the IMNCI training modules followed for training the physicians. The content therefore includes 13 modules, viz. introduction and case management process, assess and classify sick young infants of the age up to 2 months, identify treatment, treat the young infant and counsel the mother, follow up care of sick young infant, good communication skill, management of young infant where referral is not possible, assess and classify sick child of the age 2 months up to 5 years, identify treatment for the sick child, treat the child, counsel the mother and follow up care for sick child.

The major components of the package are :

- i. **Virtual Training Scenario** : In this package we have simulated the face to face training scenario of health workers into virtual training with animated characters of master trainer and trainees. The goal behind this is to make trainees get a look and feel of the training session where the trainer like a virtual guide and facilitator is built in the virtual environment. It also includes virtual trainer – trainee discussions, frequently and intelligently asked questions. The virtual training environment is comprised of multimedia components like text, audio, still graphics, animations, and video. Video in the form of demonstrations role play, assessing signs and classifying sick children and home visit, has played a crucial role in meeting the training needs of the trainee. (See Figure 1)



**Figure 1 : Screenshot Virtual Training Scenario**

- ii. **Self-Paced Training** : The multimedia rich training material in the virtual training environment mode enables the trainee to understand difficult concepts in a self-paced and flexible learning environment. The multimedia content is engaging and interactive, simulation-based and ensures that the trainees learn exactly what they need. Training through the interactive multimedia approach, allows the learner to make many of the decisions about when, where, what and how quickly to learn. Each trainee has the same level of participation in the learning process. Participants are active rather than passive, and assume greater responsibility for their own learning. This interactive multimedia enabled training programme allows participants to begin and end a segment of the training course at any time, it is an efficient use of training time and resources. Learning activities which are organized sequentially, has objectives that must be met before proceeding to the next component. (See Figure 2)



**Figure 2 : Screenshots of Content of the Modules**

- iii. **Interactivity** : Trainees are provided instant feedback about their performance in order to stay motivated and involved. Instant feedback allows the trainees to know where they went wrong as well as what they did well at the precise moment the information is required. In an interactive multimedia enabled training environment, feedback is provided using quizzes or problem solving activities where the trainees are informed of how well they performed or if they answered questions correctly. Interactivity gives control to the trainees to take initiative and choose how, what and when they learn, making the learning more relevant to them. (See Figure 3)



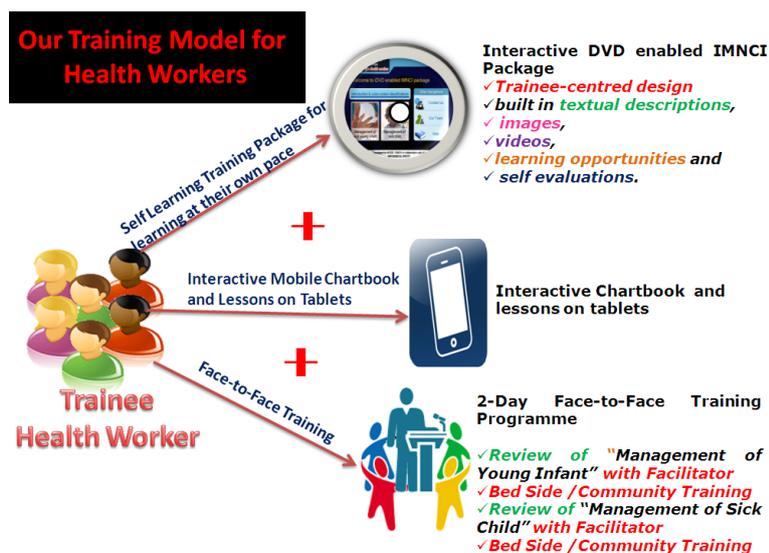
Figure 3 : Screenshot of Interactive Modules

- iv. **Quiz** : This component consists of multiple choice questions, true false, video exercise, photo exercise to help the learner evaluate himself/herself. The best part is that the trainees can play the quizzes even on TV and DVD player through remote control. (See Figure 4)



Figure 4 : Screenshot of Quiz

The training model for health workers is given in Figure 5.



**Figure 5 : Training Model for Health Workers**

## Innovative Features

Some of the innovative features of the interactive DVDs include the following :

- Trainees can obtain information and update or revise skills when they need them.
- Each trainee has the same level of participation in the learning process. Participants are active rather than passive, and assume greater responsibility for their own learning.
- As the IDVD allow participants to begin and end a segment of the training course at any time, it is an efficient use of training time and resources.
- Learning activities which are organized sequentially, have objectives that must be met before proceeding to the next component.
- The IDVD package is accessible on TV, Computers and Tablets.
- This package can be used for one-to-one learning and one-to-many learning.
- Will help in minimizing the duration of 8 days face-to-face training of health workers.
- Is a useful training tool for re-orienting the trained health workers.
- The package could easily be adapted for different local languages as per need.
- Use of local language and playing DVD through TV sets at home/training venue makes the learning feasible and interesting.

## Achievements

A very major problem faced by the innovators during the development of the IMM-IMNCI packages was regular changes 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. Similarly, IMNCI training for health workers is conducted in regional languages. Thus the package was developed in such a way that the contents could be

updated quickly without much effort. The product was successfully developed and handed over to UNICEF. The package was also provided to NRHM, Haryana which facilitated them in moving towards 100 % saturation in training of health functionaries in the IMNCI component at the grass-root.

### **Applications and Uses of the Innovation**

The IDVD package was provided to NRHM, Haryana for the training of health workers using our training model.

### **Way Forward**

This package has been designed for all health workers who are involved in the care of children. The package is developed in Hindi and English languages however; it can be converted into other regional languages also. Our training model is also tested and the same can be adopted to provide training and re-orientation to the health workers. The modules of the package can be used for broadcasting and telecasting purposes.

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