

Information and Communication Technologies and Continuing Medical Education in East and Southern Africa

Report of a Conference

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Information and Communication Technologies and Continuing Medical Education in East and Southern Africa

*Report of a Conference held in Moshi, Tanzania
8-10 April 2003*

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SUMMARY

In April 2003, IICD, Cordaid and CEDHA jointly organised a conference to explore ways in which ICTs can be used to develop and deliver continuing medical education to rural healthcare workers in Kenya, Malawi, Tanzania, Uganda, and Zambia. With the support of PSO, representatives from universities in the region also met to explore opportunities to collaborate in the development and delivery of postgraduate and CME courses and materials for doctors. This report presents some of the background materials prepared for the meeting as well as the results of the discussions in Moshi.

The overall aim of the meeting was to identify concrete strategies and approaches by which ICTs can be used to develop and deliver continuing medical education to healthcare workers in rural areas. At the same time, it was important to identify the limitations of ICTs in CME, in order to define realistic programmes. Specific objectives of the meeting were:

1. Validate and understand the needs and demands already expressed (by CORDAID partners, by others). Clarify the demand and the problems to be addressed;
2. Explore ways in which the application of ICTs can contribute to more effective CME. Under what conditions is each applied and what might be critical success and failure factors. Test any assumptions;
3. Take stock of current e learning, health education, health information, and distance learning initiatives in the five countries. Identify current approaches, strategies, lessons, successes, and failures. Map gaps and opportunities;
4. Establish vision(s) and actions that might be elaborated at the national and regional level. Set out an agenda for further work.
5. Discuss with specific groups of stakeholders their role in Continuing Medical Education in the context of their regular activities.
6. Provide an opportunity for networking and dialogue among the various parties present.

About 40 participants came from Kenya (5), Malawi (3), The Netherlands (6), Tanzania (12), Uganda (9), United Kingdom (2) and Zambia (3). Participants came from health services and information or education providers and represented universities, training institutions, non-governmental organisations (NGOs), church-related and other umbrella organisations, and the public sector. Much regretted by several participants, invitations to Ministry of Health personnel in the five countries to attend were not taken up.

The Problem

Healthcare providers are the most important asset of any healthcare system. To ensure that they can deliver high quality levels of care, they need to be 'connected' to learning, knowledge and information. In most developing countries however, rural health workers are mostly disconnected from such learning and educational opportunities and, aside from the threat to quality of care, this leads to lower levels of morale and commitment to their work.

In response to these problems, many countries are looking at **continuing medical education** (CME). This umbrella term refers to all learning by healthcare providers, after basic training. It encompasses in-service and post-graduate learning by all trained healthcare providers, including doctors, nurses, midwives, clinical officers, public health staff, etc. It is essentially a way to 'connect' rural health workers to education and information thus enhancing their capacities and motivations.

Over the years, various approaches to CME have been tried, including:

- Out-of-country training courses;
- In-country training workshops
- CME activities at place of work
- CME activities at home
- Information and communication services that circulate information and ideas, making them available electronically, on paper or in other forms.

However, experiences from the five countries participating in the conference indicate that CME activities are falling behind and cannot keep up with the demand. Moreover, current paper and workshop based approaches are quite inefficient and costly, they are poorly coordinated, supply driven, and that the content of the information and learning provided is frequently not relevant to the diverse needs of today's rural health care workers. Finally, the motivations and incentives of the health workers to participate in CME efforts were queried.

The main question discussed in this conference was therefore whether and how ICTs can be used to develop and deliver more effective CME services in the countries represented.

ICT Opportunities

With the arrival of new ICTs, health educators and health information specialists are beginning to see many new **opportunities** to deliver CME. Examining some of these during the three-day conference, participants concluded that the ICTs can help to overcome or reduce barriers associated with distance and isolation. ICTs can bring learning resources and information to the learners, instead of making the learners travel to the places of learning. This allows health workers to learn in their own workplace and in their own time. ICTs can also provide opportunities for interactive communication and networking. They also offer opportunities for health information to be generated locally to suit local situations, thus enhancing its relevance. Finally, they offer many opportunities to bring new information and ideas from around the world to the individual workplaces of even the most isolated health workers.

Participants also considered the **added value** of ICTs to continuing medical education, examining why ICTs should be used.

Four important reasons could be discerned. First and foremost, the ICTs can make CME more efficient – by reducing duplication, by enhancing coordination, and by facilitating collaboration. Second, ICTs can make CME more demand responsive – by decentralising content development and delivery and by empowering the health workers themselves to understand and influence efforts in this area. Third, ICTs can make CME more sustainable – by reducing costs (of travel for instance), and by helping to scale up CME efforts to reach all health workers. Fourth, by making CME more attractive – participants argued that the incorporation of ICTs itself is a significant motivator for learners.

Amidst all the positive ideas on the potential application of ICTs to CME, several constraints and limitations were also mentioned. It was clearly recognised by participants that ICTs can only make a difference to CME when certain conditions are met. These included:

- That CME itself should be recognised as a high priority at all levels, including by government and health workers. The political commitment is critical; the health workers also need to be motivated;
- The local education and information needs of the health workers should be clearly defined and understood so that CME producers or suppliers are responding to real demands. Moreover, the health workers themselves need to participate in these demand assessment processes;
- The content available and the delivery mechanisms used must be relevant and appropriate and well-targeted to the demands that have been identified;
- The ICT and information/communication skills of the health workers need to be enhanced to make most effective use of the ICT-enabled CME on offer;
- The abilities of the suppliers/producers to develop and deliver relevant content needs to be upgraded to address the digital environment;
- The suppliers/producers should work together, locally, nationally, internationally, ensuring maximum coordination and value on the ground;
- Necessary 'infostructures' – hardware, software, connectivity, infrastructure, etc. needs to be present;
- The application of ICTs in CME should be guided by visions, plans, and policies developed in consultation with all stakeholders, especially with governments;
- The actual introduction of ICTs in the local situations needs to be carefully managed, particularly with regard to issues of local ownership and local hierarchy that often restrict access to ICTs that are actually available.

Next Steps

The final sessions of the conference brought participants together in different configurations, providing 'country' and 'actor' perspectives on the issues and further follow up. Each country group outlined a process by which it would take the ideas forward in their own countries – usually through some kind of wider stakeholder consultation processes leading to projects and capacity development. The educational institutions present decided to continue working together to survey current efforts in the respective institutions, to jointly develop some CME modules, and to enhance their capacities in this area. More generally, participants plan to continue the dialogue electronically and to update each other with plans, proposals, and results.

The proposals and plans from the countries will be taken up by IICD and Cordaid through their partnership to promote ICT-enabled health programmes and projects in Africa. The regional collaboration proposals from the universities will be taken up by Cordaid and PSO as part of their efforts to enhance CME and postgraduate training capacities in the region.

INTRODUCTION¹

Some Definitions

Continuing medical education (CME) refers to all professional learning by healthcare providers, after basic training. It is often used as an umbrella term encompassing in-service and post-graduate learning by all trained healthcare providers, including doctors, nurses, midwives, clinical officers, and public health professionals. The term can be used for healthcare providers working in any setting, including public sector, mission hospitals, non-governmental organisations, and the private for profit sector.

Information and Communication Technologies (ICTs) can be interpreted broadly as “technologies that facilitate communication and the processing and transmission of information by electronic means. This definition encompasses the full range of ICTs, from radio and television to telephones (fixed and mobile), computers and the Internet” (source: DFID).

CME for Rural Healthcare Professionals: Current Situation

Healthcare providers are the most important asset of any healthcare system. However, they need to continually apply skills and knowledge, which requires a process of continuous learning and improvement. Without such learning opportunities, healthcare workers, particularly those in rural or remote areas, will experience a decline in skills and knowledge, professional dissatisfaction, low morale, disillusion, lack of commitment, and reduced interest in their work. They miss opportunities for career advancement and they frequently look to urban areas for work.

A recent meeting in Addis Ababa (2002) highlighted the crisis in human resources in Africa, and the need for urgent action.

“There is an emerging crisis of health manpower in Africa. The situation threatens to defeat the efforts of African governments, private health care providers, NGOs, and donors for health improvement. Training programmes unsuited to changing health conditions, inadequate cooperation among the many parties concerned, and the losses of staff to opportunities outside Africa risk making Africa's health care facilities barely able to function for lack of qualified, motivated doctors, nurses and other health workers. This situation is made even worse by the AIDS epidemic, which reduces further the availability of trained health workers by staff deaths and increases the demand for care.” Addis Ababa, January 2002: Building strategic partnership in education and health in Africa. WHO/World Bank.

The meeting emphasized the magnitude and importance of the brain drain: *20,000 health professionals annually leave Africa for Western industrialized countries.* This is compounded by the HIV/AIDS crisis, which has led to further loss of personnel. Delegates concluded that distance learning should be systematically expanded, and that such expansion should include the strengthening of national capacities, including those of professional associations.

¹ This section draws on the background paper prepared by Neil Pakenhan-Walsh for the conference.

At the Addis Ababa meeting, the World Bank and other partners (including USAID and the Rockefeller Foundation) agreed to establish a joint secretariat to support actions by African countries to address the health manpower crisis in Africa. Participants were to take the lead in development of country-specific action plans within framework of WHO/AFRO regional strategy, by convening meetings of country-level stakeholders. Financial support would be mobilized with assistance from USAID and the Rockefeller Foundation.

ICT for health is aligned with the objectives of the New Partnership for Africa's Development (NEPAD). With respect to health, the NEPAD report looks to ICTs to "mobilize resources for capacity building in order to enable all African countries to improve their health infrastructure and management."

In response, the G8 leaders have identified knowledge and health as being among the five key areas for African development.

More recently, the Regional Consultation on Continuing Medical Education in East Africa (31 October – 1 November 2002, Kampala), emphasized that CME is at the heart of improving the quality of health care. Participants highlighted the following:

- Importance of regional collaboration and harmonization on accreditation, recognition of medical and postgraduate qualifications, and compulsory CME for all medical staff in region (these measures are now being implemented via the East Africa Community)
- Importance of CME for middle-level health workers, notably *clinical officers*
- Constraints common to all countries: funding, donor dependence, vertical donor programmes, lack of coordination among donor-related CME activities, shortage of learning materials, low morale and poor reading culture, challenge of working environment, weak professional associations, low morale of CME coordinators (voluntary) and health professionals.
- Success of CME in Uganda, due largely to a multidisciplinary CME Council, which represents the key stakeholders: ministries of health, professional associations, medical schools. The CME Council coordinates a wide range of CME activities, including on-site training and the CME Uganda Newsletter.
- Successful distance learning is dependent on collaboration across disciplines, between institutions of higher learning, and across borders.

Access to Existing Information

Despite its massive potential, the current global information explosion has had surprisingly little impact on access to relevant, practical information for healthcare providers in developing countries, especially those working in primary care and district hospital settings. Healthcare providers in developing countries continue to lack access to the basic information they need to learn, to diagnose, and to save lives.

A survey in 2002 interviewing health workers in East Africa identified the following needs amongst health workers:

- Access to journals, texts, databases, etc.;
- Access to basic training material, especially for rural health workers;
- Access to communication technology that enhanced the sharing of information and consultation with other professionals; and
- Access to information with relevant local content and language.

Role of ICTs

ICTs present new opportunities to enhance access to sources of information. Such access can and must be strengthened immediately for all major 'infomediaries' in Africa: those who are responsible for the development of CME materials (see below). For individual end-users, the challenge is much broader and needs to be undertaken in collaboration with all those who are working to 'bridge the digital divide' between and within countries.

There is no doubt that 'modern' ICTs will play an increasingly important role in the provision and use of information in developing countries. However, no single technology or medium meets all needs. For example, the Kilimanjaro Christian Medical College, Tanzania, reports use of computers with Internet, CD-ROMs, floppy diskettes, video recorders, photocopier, radio, audio cassette recorders, slide projectors, overhead projectors, writing boards, and flip charts - in addition to standard printed materials. Each of these media is good for certain tasks in certain circumstances.

Radio is a widespread medium in even the most remote rural areas. It is frequently used for health education for the general public and in many countries the medium has been used for CME of medical personnel, mostly primary level personnel in remote areas. *TV* is a medium frequently used for health information, but is often restricted to the urban areas.

Email is a simple, increasingly accessible technology that has revolutionised international communications and exchange of information, perhaps more than any other single medium in recent years. Through email lists such as 'HIF-net at WHO', health professionals can keep informed about sources of information available worldwide.

Web-based resources: There is an increasing number of web-based resources that are relevant to CME in Africa. However, only a small percentage of materials available on the Internet (or, indeed, books in a library) are useful and relevant to the individual health professional.

Many health professionals in Africa currently have too little information. In the future, they will increasingly have the same problem as their colleagues in the 'developed' countries: drowning in a sea of too *much* information, most of it irrelevant.

Pointers are needed to practical and relevant sources of information for frontline health care workers. The price of such information should not be a barrier to access - indeed, 'essential' information should be free of charge and universally available.

CD-ROMs are particularly well suited for self-learning. For prolonged use of electronic material with high interactivity and intensive use of graphics, CD-ROM (and other stand-alone systems) comes into its own as compared with the Internet, particularly in developing countries. Previous studies have suggested that CD-ROM based training can be at least as effective as tutorial training, and

less expensive. Some local institutions are now introducing these methods into healthcare training.

Printed materials are not normally considered among the 'ICTs', but they continue to be the most appropriate medium for many end-users. While efforts continue to promote electronic access to information, in the short term it may be more realistic to ensure that every rural health worker has their own printed copy of at least one or two essential publications. (It is worth noting that many if not most 'essential' publications - including the classic *'Where there is no doctor'* - are not freely available on the Web.)

Another reason for us not to forget 'printed materials' is that the *development* of such materials is hugely facilitated by ICTs. This raises a second, related argument: It may be unrealistic to implement immediate internet access for all healthcare providers in developing countries. However, it is surely realistic, and imperative, to ensure full access for all those in Africa who are responsible for the development of health learning materials, whether the end product is a book, CD-ROM, website, or video.

Evolution of CME materials: International Sharing and Adaptation

CME information resources include 'learning' resources (e.g. educational CD-ROMs), and 'reference' resources (e.g. prescribing guides, clinical guidelines and algorithms). Essential textbooks and practical manuals have a vital role both for learning and reference.

To be useful, CME materials need to be both reliable and relevant. General observation of materials available in most health libraries in Africa suggest that the vast majority of CME materials being used by health professionals are either unreliable (e.g. out of date; or based on opinion rather than evidence) or irrelevant (e.g. written for specialists working in tertiary centres in the USA). Many of the others are difficult to read, or in the wrong language, or poorly illustrated. No wonder that many health professionals in developing countries fail to develop a culture of reading and learning.

Returning to the problem of the brain drain, there is a risk that CME may have a negative impact by providing a passport for health professionals to leave the country. Tailoring the CME to the local situation will help to minimise this risk.

Local 'health information providers' (publishers, libraries, NGOs, ministries of health...) are best placed to provide content for local 'end users'.

But local producers are inevitably constrained by lack of human and financial resources, lack of access to *source* information, and restrictions on reproduction. Such intermediaries need financial support, tools and resources to improve information access and adaptation, and to support learning of information skills, editing, writing, and educational design.

Any new materials for CME are inevitably based on a synthesis of information and knowledge from a range of sources, both global and local. Producers of CME require access to the full range of existing source materials, both internationally and nationally. It is essential that they also have skills in the critical appraisal of information sources.

In the future, health learning and reference materials for Africa will increasingly be produced locally, to meet local needs. But they will not be produced 'from scratch', with efforts duplicated, publication by publication. They will evolve collaboratively, with international partners, as adaptations and syntheses of pre-existing publications and parts of publications. They will be shared and exchanged freely and without restriction. Furthermore, they will be increasingly evidence based, increasingly easy to use, in a wider range of languages, and in a variety of media. As a result, health professionals in Africa will have access to the information they need to learn, to diagnose, and to provide the best possible healthcare.

Local ownership is essential. Local producers and end users must be involved from the earliest stages in dialogue, priority-setting, problem-solving, creative thinking, and generation of plans for action.

CME Delivery and Uptake

This text has focused particularly on the content and delivery of CME resources, but CME is of course an interactive process, involving not only personal study, but also on-the-job learning with professional colleagues, and student-tutor relationships. CME is not only about cognitive learning, but also about skills training, changing attitudes. Appropriate methodologies have to be applied, dependent on the area of CME.

Various approaches to CME have been tried, including:

- Out-of-country training courses (less common nowadays as it is increasingly recognized that this approach is usually inappropriate and is often irrelevant to level of resources in developing countries; out-of-country training, especially longer-term training, may also contribute to the brain drain)
- In-country training workshops (dominant method for last 20 years, many disadvantages: uncoordinated, carried out by multiple agencies, expensive, take essential staff away from place of work)
- CME activities at place of work (more challenging to organize, but can be done – e.g. Uganda; visiting trainers, weekly CME meetings, case studies)
- CME activities at home (requires individual ownership of materials, e.g. CME Uganda Newsletter, correspondence courses by mail).
- Information and communication services that circulate information and ideas, making them available electronically, on paper or in other forms.

The continued trend of repeated workshops for cognitive learning needs to be challenged. There is a real danger in removing the health professional from place of work. And there is little evidence that those who attend workshops are able to put their learning into practice, or pass on their knowledge effectively to others.

In Uganda, in-country workshops are increasingly being replaced by a more integrated system, whereby the CME teachers go to the district hospitals and teach on-site. This is supported by the distribution of the CME Uganda Newsletter, which is distributed in print and by email, and which includes articles and case studies by district hospital healthcare providers, side by side with selected content from international sources.

Communication Strategies

Communication between levels of health care is becoming increasingly important in the view of the decentralisation processes in all countries in Africa. Not the traditional top-down communication, but the two-way communication, between health facilities and district health offices, between district health offices and provincial, regional, Zonal and national headquarters.

ICTs are increasingly being utilised, for data collection and communication, for supervision, for consultation (professional and managerial), and for exchange. In particular, ICTs have revolutionized communication by enabling rapid interaction. Their impact on health services is therefore much wider than 'a new type of correspondence course'. The embedding of CME in coaching, support, supervision, or human resource development, could generate a momentum of change, unknown to the health services in Africa.

The Conference

As never before, ICTs present new opportunities to enhance CME for rural health workers in Africa. They have the potential to overcome or reduce barriers associated with distance. ICTs can be used to develop and deliver learning resources and information to people in remote and rural areas, allowing them to learn in their own workplace and in their own time. ICTs can also provide opportunities for interactive communication. They also offer opportunities for health information to be generated at the periphery and to help inform practice and policy at the centre.

The overall aim of the meeting was to identify concrete strategies and approaches by ICTs can be used to develop and deliver continuing medical education to healthcare workers in rural areas of Kenya, Malawi, Tanzania, Uganda, and Zambia. At the same time, it was important to identify the limitations of ICTs in CME, in order to define realistic follow up activities.

KEY ISSUES

Setting the Stage

To outline some of the realities of CME for rural health professionals, several presentations were made during the workshop by CME workers (either information or health). These included:

- CME in East and Southern Africa – Margaret Mungherera, President, Uganda Medical Association;
- Current realities of CME for rural health professionals – by Inviolata Baganizi and Richard Tuwmesigye, Uganda;
- Content development for CME – Maria Musoke, Makerere University, Uganda and Christine Kanyengo, University of Zambia;
- Use of ICT for Information Exchange at Community Level – Caroline Nyamai-Kisia, AfriAfya, Kenya;
- Example of Successful ICTs Delivery for Cooperative Networking and/or Content Development – Andrea Mandelli, UCMB, Uganda;
- ICTs for CME: The Ugandan experience – Sam Luboga, Iga Matovu, and Barole Ceaser Scott, Makerere University, Uganda.

Issues Emerging

During the conference, issues raised by the presenters were further discussed in plenary and in small groups. The clustered list of issues bearing on the effectiveness and impact of CME issues² were as follows:

- Appropriate content
 - Difference between groups (professional and urban / rural)
 - Availability of appropriate content
- Coordination and collaboration
 - Coordination of training programmes
 - Coordination of information
 - Collaboration
- Supply and demand
 - Supply vs. demand-driven

² In addition to these issues, participants agreed that two further issues had a significant impact on the use of ICTs for CME, but that they were outside the scope of this conference. These were: Government policies on CME, and the 'reading culture' or its absence in rural areas.

For each cluster, participants formed a group and were asked to answer the following questions and to report back in plenary:

1. Outline the issues underlying the themes;
2. Elaborate how ICT can influence the issues underlying the theme;
3. Recognise that Impact, Sustainability and Motivations are cross-cutting issues that must be taken into account in outlining issues and establishing points of ICT influence

The groups were 'self-selecting' in that participants chose the themes that they were interested in, and joined the relevant group. The three presentations are summarised below.

CME in Uganda

The Uganda Medical and Dental Practitioner's Council has made CME mandatory for annual re-registration and license to practice. This is because CME is essential for:

- Professional growth and promotion
- Maintaining professional expertise and competence
- Staying professionally relevant
- Professional innovation
- Research/creation of new knowledge

Current CME approaches in Uganda, using 'original technologies,' are stretched and challenged because:

- Uganda is a big country - It is difficult to travel long distances to attend conferences and training workshops
- Doctor population ratio is 1:28,000. Health workers cannot afford the disruption of services traditional CME entails
- Shortage of print material and training personnel
- Print materials quickly get outdated
- Print materials are expensive to import and difficult to distribute, store and protect from damage
- Print materials offer limited opportunity for interactive learning
- Difficult to refer to repeatedly
- Time and place dependent
- Health care and employment has been decentralised to districts. CME is affected by competing priorities

Why ICT based CME?

- Timely delivery of Information to target audiences unconstrained by distance and time
- Access to Mega databases, such as those on the Internet
- Access to free full text journals and books
- "Free from damage"
- Regularly updated
- Relevance ensured by tailoring learning to need
- Reduces disruption of service entailed by long distance travel.
- Learning can be made context based. Around a patient it permits Tele-consultation removing the need for long distance referrals
- Better quality care (both technically and ethically) of patients made possible by on the minute referencing
- Prevention of loss of life due to avoidable errors

Based on a presentation Sam Luboga, Iga Matovu, and Barole Ceaser Scott, of the Faculty of Medicine at Makerere University.

Appropriate Content

<p>ICT and content development</p> <ul style="list-style-type: none"> <input type="checkbox"/> Identify the target groups <input type="checkbox"/> Involve target groups in development of content <input type="checkbox"/> Content must fit into career development (it will be a motivator; avoid fragmented programmes) <input type="checkbox"/> Synchronize content through cooperation and coordination for appropriateness <input type="checkbox"/> Local production of materials with appropriate language and values <input type="checkbox"/> Use of students in Health Centre training institutions as a bridge
<p>Key issues</p> <ul style="list-style-type: none"> <input type="checkbox"/> Improve performance (performance = knowledge + skills + attitudes) <input type="checkbox"/> Role modelling (teaching by example) <input type="checkbox"/> Mechanisms in order to detect needs and demand (rapid appraisal; survey) <input type="checkbox"/> Present information so that people demand and want it (motivated to use the information) <input type="checkbox"/> CME to be part of job description (to be institutionalised) <ul style="list-style-type: none"> – Social marketing (carrot & stick) – ICT is a “carrot” for CME – Top management commitment <input type="checkbox"/> Lower level health workers are largely not valued <input type="checkbox"/> Impact killer point substitute primary duties with ICT mediated CME
<p>Role of ICTs</p> <ul style="list-style-type: none"> <input type="checkbox"/> Vertical and horizontal rapid communication <input type="checkbox"/> Supervision and feed back <input type="checkbox"/> Establish a system to review training materials (networking; process can start on line) <input type="checkbox"/> Do not underestimate the pace of change in adapting to new technology <input type="checkbox"/> Note that ICT includes phone, radio systems, etc, and is not restricted to computers and the Internet

Coordination and Collaboration

<p>ICT and collaboration</p> <ul style="list-style-type: none"> <input type="checkbox"/> Sharing experiences <input type="checkbox"/> Learning through linking <input type="checkbox"/> Producing of learning materials <input type="checkbox"/> Planning and budgeting <input type="checkbox"/> Training 	
<p>Key issues</p> <ul style="list-style-type: none"> <input type="checkbox"/> Training programmes <ul style="list-style-type: none"> – Not coordinated – Duplication – Out of station workshops – Understaffing <input type="checkbox"/> Coordination of information <input type="checkbox"/> Information overload / under load 	<p>Sustainability</p> <ul style="list-style-type: none"> <input type="checkbox"/> Costs! <input type="checkbox"/> Effectiveness <input type="checkbox"/> Efficiency <input type="checkbox"/> Technical know how <input type="checkbox"/> Infrastructure e.g. electricity <input type="checkbox"/> Equipment - workshops already in place in some places <input type="checkbox"/> Policy makers can be convinced <input type="checkbox"/> Cheap to conduct user training
<p>Role of ICTs</p> <ul style="list-style-type: none"> <input type="checkbox"/> Collecting information <input type="checkbox"/> Storing information <input type="checkbox"/> Monitoring progress <input type="checkbox"/> Evaluation 	<p>Motivation and impact</p> <ul style="list-style-type: none"> <input type="checkbox"/> From use of ICT <input type="checkbox"/> From new knowledge <input type="checkbox"/> From easier communication <input type="checkbox"/> Getting feedback <input type="checkbox"/> Speed of doing things <input type="checkbox"/> ICT help in impact assessment

CME Supply and Demand

<p>CME supply and demand</p> <ul style="list-style-type: none"> ❑ Rural health workers are not sensitised to the value of CME and tend to resist new ideas and knowledge ❑ Locally available information is often outdated and not useful; but imported information may also not be suitable to the local situations ❑ Workshops delivered in standard, one-off, and repetitive ways; often to the same people several times, with political influenced participation ❑ Lack of donor coordination contributes to this 	<p>Key issues</p> <ul style="list-style-type: none"> ❑ CME and ICT producers tend to operate in a vacuum in relation to real needs ❑ Hence, many real demands are not being met ❑ Content, that is often not relevant, not appropriate, not affordable, not applicable, is often pushed to rural health workers ❑ Rural health workers do not know their own CME / Information needs, nor what is available
<p>Role of ICTs</p> <ul style="list-style-type: none"> ❑ ICT can help people to express their own demands – through networking, training, small ‘shared’ resource centres – empowerment; it also motivates ❑ Local capacity to understand and use and manage and budget and plan ICT is critical ❑ Networking with neighbours often suits local demands better ❑ Proper needs assessments necessary to bridge supply-demand gaps ❑ Two-way flows not one-way from suppliers 	<p>Sustainability</p> <ul style="list-style-type: none"> ❑ Need adequate equipment, power sources, infrastructure, maintenance, to be locally available ❑ Proactive ‘marketing’ approaches help to mobilise necessary resources and tools ❑ Ongoing evaluation of CME results as well as ICT contributions to CME

International Perspectives

The following comments were delivered at the Conference on behalf of 'HIF-net at WHO' (www.inasp.info/health) subscribers worldwide:

- Greater links are needed between international agencies and health professionals in developing countries - especially doctors and others working in health centres and rural hospitals. (Kenya)
- No matter how hard you try, you don't seem to make a difference in your own country. The state doesn't recognize your efforts. You learn, you have good ideas, if you're lucky your project is implemented - then the government changes and the project stops. (Peru)
- What can be done to make sure that health providers who try to improve their knowledge and skills are professionally rewarded and see the fruits of their ideas? (Peru)
- There is a poor culture of reading and writing - this could be helped by providing opportunities for rural health workers to share their experiences and health stories. (South Africa)
- Health workers are overworked and underpaid. (South Africa)
- Health professionals need to see why they need to invest in CME (South Africa)
- Many rural health professionals have skills and knowledge, but they do not have the money, equipment or time to apply them (South Africa)
- Appraisals should be based on good performance, providing opportunities for promotion (South Africa)

- ICTs can provide communication with specialists for rural doctors in developing countries - this brings not only diagnostic help, but also opportunities for discussion and education. (Switzerland)
- Health workers do not see the relevance of the data they collect because there is no feedback from central services. (Tanzania)
- Health Management Information Systems claim to be bottom-up, but financially it is the reverse (Tanzania)
- Health workers lack motivation and are poorly supervised (Tanzania)
- There are no allowances for trainers (Tanzania)
- CD-ROM can be used to deliver distance learning modules (UK)
- On-site learning tends to be the best but if it involves ICT such a site needs to be equipped with all the necessary equipment and materials. For instance if the training is on the Internet then factors such as internet connectivity, bandwidth etc. will create some problems. (Zambia)
- Donor driven workshops tend to have specific objectives by donors sponsoring them, but they do not normally solve local problems. (Zambia)
- There is no problem if the locals initiate an idea and communicate to cooperating partners to fill in gaps but who will fill in gaps without embedded benefits. (Zambia)

THE € 500,000 EXERCISE

On the second day, participants were divided into four multidisciplinary, multifunctional small groups that went across country borders. The aim was to begin to synthesise the ideas and experiences shared so far and to set out scenarios in which ICTs could be applied to CME challenges.

The basis for discussion was a hypothetical case exercise in which participants brought together their ideas (see box).

Government of U'Kenzawi

Ministry of Health
Office of the Minister

To: Chair, Health Education Advisory Committee
Ref: Use of Information and Communication Technologies

17 May, 2003

The Member of Parliament for Techiman South has invited the Minister to speak on ICTs and Health Capacity Building at a seminar of the 'e-network' next week. As you are aware, this network is calling for government to actively use ICTs in all of its activities.

The Honourable Member has also tabled a question in Parliament in which he asks what actions are being taken by the Minister of Health to bring the potential benefits of new ICTs to support the work of health workers in rural areas.

As you know, the Minister recognises the key contribution of the many health cadres to the health and wellbeing of our people. It is a high priority that they receive appropriate pre and post-service training as well as necessary continuing education and information to ensure that they provide the best standard of care that is possible.

According to the Honourable MP, these new information and communication technologies can be used to solve almost every education and information need of our rural health workers. However, the Minister is extremely sceptical.

Therefore, the Committee is requested to assist the Minister in formulating his Parliamentary reply and speech on this topic.

Please prepare a short note that outlines:

1. your vision on what these ICTs would bring to our health workers in rural areas
2. key 'building blocks' that would need to be put in place to help achieve this vision
3. priority action to be taken with a possible EURO 500,000 investment in this area

It would be most helpful if your advice can be provided as a powerpoint presentation of no more than 4 slides that can be used by the Minister.

Signed
G.E. Xond
For the Minister

The outcomes were acted out in a series of role-plays and participants ‘voted’ on the most effective presentation of plans, and on the role-playing itself. Highlights of the presentations are set out below.

Team 1

<p>Vision</p> <ul style="list-style-type: none"> <input type="checkbox"/> Updated information is available to all health workers <input type="checkbox"/> ICT will help rural health workers with continuing medical education <input type="checkbox"/> ICT will lead to improve performances and improve health facilities and service delivery <input type="checkbox"/> ICT will facilitate planning, communication, CME, Telemedicine, make the task of evaluation much easier, and will motivate health workers 	<p>Key building blocks</p> <ul style="list-style-type: none"> <input type="checkbox"/> End users empowered and involved in needs assessment <input type="checkbox"/> Infrastructure – electricity, telephone, human resources, funds, content <input type="checkbox"/> Coordinating committee
<p>Prioritised action plans for € 500,000</p> <ul style="list-style-type: none"> <input type="checkbox"/> We will use those funds for establishing information centres (resource centres) <input type="checkbox"/> District local government contributes for electricity <input type="checkbox"/> A district without a computer will get one computer <input type="checkbox"/> Data radio will be distributed with no connection to internet <input type="checkbox"/> A central server for content hosting will be installed 	<p>Definitions</p> <ul style="list-style-type: none"> <input type="checkbox"/> ICT is information and communication technology <input type="checkbox"/> It is a means of delivering information to users electronically <input type="checkbox"/> Examples: Mobiles phone, video, TV, computers

Team 2

<p>Vision</p> <p>A countrywide network with ICT for rural health care workers delivering a better quality of care to all</p>	<p>Key building blocks</p> <ul style="list-style-type: none"> <input type="checkbox"/> Policy <input type="checkbox"/> Appropriate materials <input type="checkbox"/> Telecommunication networks <input type="checkbox"/> Training <input type="checkbox"/> Technical support <input type="checkbox"/> Implementation <input type="checkbox"/> Monitoring and evaluation
<p>Prioritised action plans for € 500,000</p> <ul style="list-style-type: none"> <input type="checkbox"/> With € 500,000 we can organize and implement a network at ten different sites that are regionally balanced <input type="checkbox"/> This network will consist of ten computers, training materials, technical support and maintenance that will be able to train hundred Primary Health workers in every region 	<p>Sustainability issues</p> <ul style="list-style-type: none"> <input type="checkbox"/> In the end we will train 1,000 primary health care workers and the training will be sustained for the next three years <input type="checkbox"/> During those three years the District Health Management Boards will be involved in budgeting to sustain this network in their activity program

Team 3

<p>Vision</p> <ul style="list-style-type: none"> ❑ Updated information is available to all health workers ❑ ICT will help rural health workers with continuing medical education ❑ ICT will lead to improve performances and improve health facilities and service delivery ❑ ICT will facilitate Planning, Communication, CME, Telemedicine, Evaluation can be much easier and Motivates health workers 	<p>Key building blocks</p> <ul style="list-style-type: none"> ❑ End users empowered and involved in needs assessments ❑ Infrastructure (Electricity, telephone, human resources, financial resources, content etc.) ❑ Coordinating committee
<p>Prioritised action plans for € 500,000</p> <ul style="list-style-type: none"> ❑ We will use those funds for establishing information centres (resource centres) ❑ District local government contributes for electricity ❑ A District lacking a computer will get one ❑ Data radio will be distributed with no connection to the Internet ❑ A central server for content hosting will be installed 	<p>Definitions</p> <ul style="list-style-type: none"> ❑ ICT are information and communication technologies ❑ ICT are a means of delivering information to users electronically ❑ Examples include telephones, mobile phones, video, computers, the Internet, radio, satellite dishes etc.

Team 4

<p>Vision</p> <ul style="list-style-type: none"> ❑ Every health care worker has the capacity to deliver high quality health care to the community ❑ Every health care worker upgrades his or her knowledge and skills through access to timely and appropriate information and learning resources 	<p>Key building blocks</p> <ul style="list-style-type: none"> ❑ Needs assessment for Continuing Medical Education and ICT needs ❑ Priority setting and action planning – selection of appropriate technology for communication ❑ Upgrading of infrastructure – necessary hardware for communication ❑ Content development – networking among CME providers and development and review of materials ❑ Skills development of health workers ❑ Networking between health care workers: medical Q and A between district hospital and health centres ❑ Quality Assurance – Monitoring and evaluation
<p>Prioritised action plans for € 500,000</p> <ul style="list-style-type: none"> ❑ Focus on one Province as pilot: focus on the province with the poorest health indicators ❑ Needs assessment ❑ Skills training for health workers ❑ Local content development or adaptation (within the province) 	

STAKEHOLDER ASSESSMENTS

The conference brought different categories of organisations together to work on the issues. Prior to a country-by-country breakdown to formulate action plans, the participants split into three broad stakeholder groups to examine aspects of the ICTs and CME issue. Each group explicitly looked at the potential for collaboration, also across countries in a regional perspective.

Financed by Cordaid and PSO, the first group of universities was facilitated by Dr. Jaap Koot. It was premised on the notion that regional collaboration between training institutions is essential because the individual institutions, alone, do not have the required knowledge and expertise in all of the priority areas. Too weak to develop CME and distance learning programmes on their own, they may succeed by joining efforts and promoting South - South collaboration. Bringing together representatives from universities, the group therefore examined possibilities for collaboration among the institutions in developing and delivering CME and postgraduate training in the region.

Two further groups – representing non-governmental organisations (NGOs) and church-related organisations – examined, from their perspectives:

- The rationale for CME for rural health workers. Note that the target group of rural health workers was to include all levels, and not be restricted to doctors. This means including medical officers, nurses and others;
- Setting out the role of CME in daily institutional activities; and
- Suggesting ways to enhance CME for all rural health workers through greater collaboration.

Universities

Participants in this group were drawn from:

- University of Zambia, Medical School
- Makerere University, College of Health Sciences, Uganda
- Uganda Martyrs University, Uganda
- University of Malawi, College of Medicine
- Kilimanjaro Christian Medical College, Tanzania
- Hubert Kairuki Memorial University, Medical Faculty, Tanzania

Inventory of Postgraduate and CME Courses

A first inventory of ongoing postgraduate training programmes and CME programmes was made (See appendix 1) Some universities are looking for international experience for further development of the postgraduate courses, like Makerere University for developing a course of “Master in General Practice” and the Malawi College of Medicine for a course in “District Specialist”.

Benefits, Opportunities and Hindrances for Collaboration

The benefits of collaboration are obvious: most of the disease patterns and epidemiology is similar in all countries in the region. Also the socio-economic situation is similar in most countries, which makes it easier to understand each other's situation.

One problem for further collaboration between medical schools in the region is that the Medical Councils are not recognising registrations from other countries. Neither is there a mutual recognition of academic programmes. For example, some countries have a three-years' M. Med programme, others have a four year' M. Med programme. WHO-AFRO is stimulating harmonisation, but does not have the power to impose it. In the East African Community harmonisation of internships programmes is discussed, which will result in mutual acknowledgement of registrations.

Another important problem is caused by financial limitations. It is costly to bring professors and lecturers from other universities in the Region. Faculty from European universities can pay for their own travel. However, in most academic fields expertise is available in the region.

Added Value for Joint Programmes

The added value is clear. In fact there are numerous examples of regional programmes. In the University of Zambia there are regional training programmes in veterinary medicine and in agriculture, recognised in all SADC countries. KCMC runs a programme for Community Dermato-Venereologists for clinical officers, which is recognised in Commonwealth Countries. Malawi runs a programme for anaesthetic clinical officers, which is recognised in a number of Southern African countries. Makerere runs a regional training programme for computer sciences, community based rehabilitation, diploma in quality of health care, programme in infectious diseases, clinical epidemiology and a programme in palliative care.

All these programmes are regionally organised and the qualification recognised by the Medical Councils.

It is striking that those regional courses are hardly known in the participating countries (and even among the participants in this course).

Action: To make an extensive list of all approved regional postgraduate courses for clinicians, paramedical and nursing staff and publish the list. This list will be sent around for local persons to verify the existence and recognition of registration in countries. The participants agree on the added value of joint development of CME and postgraduate courses and propose some concrete steps to take. A first step is a publication listing postgraduate and CME courses.

The following proposal will be worked out:

- Preparatory e-learning course for self-study by participants;
- Post-test after e-learning; and
- Conference or training programme in one of the universities for people who passed the test (incentive: travel costs will be paid)

It is necessary to develop the contents of training programme, using expertise in developing e learning. Sponsors can be identified for taking this process further.

There is a proposal for joint development of a postgraduate anaesthesia programme, whereby students follow modules in different universities; the student will rotate from university to university. Similar ideas could be worked out for other specialities as well.

Western Universities

Many Western universities maintain contacts with universities in the Region. However, those relations are on a one-to-one basis. In general there is a mutual benefit whereby Western universities are offered research opportunities or teaching in tropical health, and assist the Regional universities in return. There is no university that assists in South-South exchange. South-South exchange could be stimulated through the Inter-University Council (for the East African Community), but this happens rarely. One of the universities should take the initiative to stimulate the Inter-University Council in this regard.

Joint Publications

Many publications are already available via the Internet (Medical Digests, African Scientific Journals, etc.). Joint publication of digests etc. could be useful for those institutions that do not have access to the Internet (district hospitals).

Joint publication of CME materials is an option that could be investigated. (Maybe use a website for that purpose?)

Action: Explore further the possibilities for joint publications and appropriate ways.

Non-Governmental Organisations

<p><i>Rationale for ICTs in CME</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> Motivation <ul style="list-style-type: none"> – Improving contacts – Reducing isolation – Increasing feeling of security – Entertainment value <input type="checkbox"/> Management <ul style="list-style-type: none"> – Arranging visits – Patients referral – Ordering drugs <input type="checkbox"/> Increasing efficiency <ul style="list-style-type: none"> – Stock control <input type="checkbox"/> Information management <ul style="list-style-type: none"> – Sharing information – Reporting data and feedback <input type="checkbox"/> Benefit of communication access for wider community <ul style="list-style-type: none"> – Reduces travel – Shortens distances <input type="checkbox"/> Improving Quality of Care <ul style="list-style-type: none"> – Good clinical governance – Reporting epidemics – Motivates for life long learning 	<p><i>Rationale for CME for RHWs</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> Up-to-date information <input type="checkbox"/> CME-Content delivery <input type="checkbox"/> Increase area of CME coverage <input type="checkbox"/> Improved communication of CME <input type="checkbox"/> Increased opportunity of interaction between CME provider and HCW <input type="checkbox"/> Improves learning techniques <ul style="list-style-type: none"> – On-line sessions – Variety of learning methods (e.g.: videos) <input type="checkbox"/> Opportunity of quick solutions <input type="checkbox"/> Provides speed and accuracy in accessing information
<p><i>Role of CME in NGO daily work</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> Providing up-to-date information <input type="checkbox"/> Providing knowledge and skills <input type="checkbox"/> Updating and upgrading knowledge <input type="checkbox"/> Producing materials <input type="checkbox"/> Developing a method to disseminate all incoming materials <input type="checkbox"/> Coordinating production and distribution <input type="checkbox"/> Providing forum for sharing clinical information: e.g.: from e-learning through to clinical conferences <input type="checkbox"/> Provides capacity building and leadership <input type="checkbox"/> This role of NGO's varies some are counterproductive: e.g.: bringing highly qualified personnel instead of developing local personnel 	<p><i>Enhancing CME by collaboration</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> On the spot supervisory visits to rural health facilities <input type="checkbox"/> Providing CME supervision guidelines <input type="checkbox"/> Establish CME resource centres and stock them with ICTs <input type="checkbox"/> Decentralizing of CME activities into regions and districts e.g. zonal CME centres <input type="checkbox"/> Having a national CME structure <input type="checkbox"/> Having a regional CME structure e.g.: ECSA-CoME <input type="checkbox"/> Establish CME consortia to strengthen collaboration e.g.: Afriafya in Kenya <input type="checkbox"/> Provision of policies to facilitate and support CME, link with MOH is crucial <input type="checkbox"/> Collaboration with partners and donors <input type="checkbox"/> Internal capacity building within partner organizations

Church-Related Organisations

<p><i>Rationale for ICTs in CME</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> Facilitate communication <input type="checkbox"/> Improved co-ordination <input type="checkbox"/> Increased motivation <input type="checkbox"/> Retention of staff <input type="checkbox"/> Sharing experience <input type="checkbox"/> Efficiency <input type="checkbox"/> Enhance CME 	<p><i>CME in daily institutional activities</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> Update information <input type="checkbox"/> Enhance efficiency in daily work <input type="checkbox"/> Motivating factor: improved quality of care <input type="checkbox"/> Career advancement <input type="checkbox"/> Staff retained and provide service <input type="checkbox"/> Improved quality if staff is updated <input type="checkbox"/> Acquisition of new skills <input type="checkbox"/> Builds self-confidence <input type="checkbox"/> Change KAP
<p><i>Enhancing the role of umbrella organisations in CME</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> Already providing technical assistance <input type="checkbox"/> Providing link with gvt/work in partnership <input type="checkbox"/> Influence policy <input type="checkbox"/> Develop training materials and can harmonize CME material <input type="checkbox"/> Support supervisory visits <input type="checkbox"/> Collaborate with DHMTs <input type="checkbox"/> Infrastructure already in place 	<p><i>The way forward</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> Need to network on CME <input type="checkbox"/> Identify focal persons meeting <input type="checkbox"/> Need of support at least for the initial meeting <input type="checkbox"/> Group to moderate or provide support supervision <input type="checkbox"/> Prioritise lower cadres, accreditation and recognition, introduce newsletter

NEXT STEPS – COUNTRY PLANS

Participants developed country-specific next steps towards enhancing CME through the deployment of appropriate ICTs. With the exception of Malawi where insufficient participants were present, groups were asked to focus on the types of processes and next steps that need to be initiated so that the ideas in this Conference could be taken forward.

Uganda

Is there justification to proceed with CME and ICT?

Yes there is. Challenges notwithstanding, no effort should be spared to make ICT for CME both accessible by all health workers and user friendly. Original technology CME cannot be expected to cope with present day demands.

Already some action has been taken and continuing this process is relevant.

Follow up actions between now and July 2003

- Nominate a liaison officer – Dr. Sam Luboga
- Liaison officer to establish a task force / advocacy steering committee
- Draw up invitation list for stakeholder meeting, budget, venue, agenda/ programme, etc
- Plan for the outcomes of the stakeholder meeting

July 2003 onwards – monitoring mechanisms

- To follow the action plan
- A steering committee – responsible

What do we need to do to move forward?

- Stakeholder meetings. As a follow up of October. 2002 CME conference. (July 2003)
- Review the existing policy on CME and ICT
- Develop a national action plan
- Funds

Ideas to manage monitoring and follow up

Is it valid to proceed? YES since there are strengths to build upon and expand. In addition there is demand and interest has been expressed. Those to be involved should include:

- MOH, MOES, MOLG, MOI, MOWTC
- Health professionals: council, practitioners, associates
- Training institutions
- Umbrella organisations, UCMB etc
- Information professionals and organisations
- Development partners

Tanzania

Is there justification to proceed with CME and ICT?

Yes for the main reasons below:

- CME improve qualification
- Policy
- Printed form
- ICT
- Accreditation needed through CME
- Zonal CME centres with computer, Internet, technical support, email needed

Who are to be involved?

- Government
 - National level
 - Training departments of MOH
 - Zonal CME training centres
- Regional
 - Regional coordinator
 - Computers and training needed
- NGO/ Private
 - Collaborate
 - Integrate

What do we need to do to move forward?

- Accreditation policy to be developed by MOH, CSSC, media council of Tanzania, National C for technical education
- Regional
- District - full time jobs - comprehensive plans

Ideas to manage monitoring and follow up

- Repeat and recommendations to Director of Human Resource for health at the Ministry of Health
- Commence a Zonal initiative - steering by zonal coordinator
- The country liaison person is Dr. Martin

Zambia

Is there justification to proceed with CME and ICT?

- Health workers should accumulate 100 points before registration
- Update skills of staff
- Computers and other infrastructure in place

Who should be involved?

- MOH, medical and general/ nurses council
- UNZA (ZADE), school of medicine
- Umbrella organisations such as CHAZ, diocese etc
- Colleges offering CME
- Other NGOs – ZIHP
- Zambia Nurses Association
- ICT organizations (copper net, micro-link, Zamtel)

What do we need to do to move forward?

- Get the people together
- An assessment of what is going on
- Present in forum
- Trying to get a conference together

Problems in Zambia

- No coordination
- A lot of duplication
- Wanting to know the impact of what is going on
- Content needs to be harmonised
- Involvement of the workers is lacking

Ideas to manage monitoring and follow up

- Core group first in place to drive the programme
- Formulate TOR for the core group
- Conduct periodic evaluation of work done
- The country liaison person is Ms. Beatrice Musamba

Kenya

Is there justification to proceed with CME and ICT?

- Yes, it is valid; PROVIDED there is involvement of Ministry of Health
- The absence of an overall effective CME coordinator (due to the dominance of the vertical programs) fails to provide CME guidance to the country

Who should be involved?

- Church organizations and NGOs are using and providing CME often using ICTs
- The Ministry of Health should have a leading role to enhance CME
- Medical associations, training institutions, Christian organizations and NGO's and other relevant stakeholders including relevant donors and UN Agencies should collaborate to coordinate future events

What do we need to do to move forward?

- A report from this workshop, which should include a recommendation to the ministry of health
- A meeting organised under the auspices of the Ministry of Health, including professional associations, training institutions, representatives of relevant NGO's and UN agencies
- We suggest that this meeting will be financially supported by IICD and Cordaid
- Strengthening existing policies

Ideas to manage monitoring and follow up

- The country liaison person will, with the help the CME promotion team, be the focal person to give follow up to the Moshi meeting. The person is Dr. Caroline Nyamai-Kisia

CONCLUSIONS

To round off the discussions, a brief summary and overview of the topics discussed during the conference was presented. The main points were:

Development context

Work on CME directed to the plight of rural healthcare providers fits closely to the development goals adopted by the international development community. Specifically, as well as eradicating poverty, the Millennium Development Goals call on us to:

- Reduce child mortality;
- Improve maternal health, and;
- Combat HIV/AIDS, malaria and other diseases.

We are also urged to work together and to:

- Engage in development partnerships

Rural health crisis

On the ground, it is clear that rural healthcare providers - the most important asset of the healthcare system are increasingly 'disconnected' from essential learning, knowledge, and information. As a result, the quality of the care they provide suffers.

CME to addresses the crisis?

Examples and cases from the participants show that efforts to 'connect' rural health workers to education and information means that we need to find ways to enhance their capacities and motivations. Appropriate, targeted and well-coordinated CME as well as relevant information are primary tools to address these capacity gaps. However, current paper and workshop based CME approaches struggle to cope with the scale of the challenges; CME is not yet fully effective.

The participants identified the following weaknesses of CME:

- CME is uncoordinated
- CME quality is variable and the content is often not relevant
- CME content is supplier driven and is 'pushed' to health workers, often without full awareness of the local needs/demands
- CME does not reach all health workers
- CME methods are not sustainable
- The CME capacities and motivations of rural health workers are limited

One option is for health workers and health education providers to make much more use of ICTs to make CME more effective.

Can ICTs contribute to more effective CME?

It was clear from the examples of current ICT use in this area, especially in Uganda and Kenya, that ICTs offer substantial benefits and opportunities to traditional CME providers:

- ICTs help to overcome or reduce barriers associated with distance [isolation].
- ICTs bring learning resources and information to the learners, instead of the learners to the learning places.
- ICTs provide opportunities for interactive communication and networking [multi-directional flows].
- ICTs allow more relevant local health information to be generated locally; they also facilitate access to global information.

Moreover, ICTs can add value to CME:

- ICTs make CME more efficient – by reducing duplication and fragmentation, by enhancing coordination, and by improving management and collaboration;
- ICTs make CME more sustainable – by reducing costs, spreading the load, and making it possible to scale responses up to the demands;
- ICTs make CME more demand responsive – by decentralising content development and delivery and by empowering the health workers themselves to address their own capacity and skills gaps;
- ICTs make CME more attractive – the newer technologies seem to have a ‘mobilising’ and encouraging impact on the motivations of rural healthcare workers to follow CME.

However, all this is only possible if:

- CME is itself recognised at all levels, including by government and health workers, as having a high priority;
- Local education and information needs are clearly defined and understood [also involving the health workers];
- The content available and the delivery mechanisms used are appropriate and targeted to the specific needs of rural healthcare workers. Standard or generic content and delivery tools will need adapting to local needs;
- The ICT and information/communication skills of rural healthcare workers are enhanced so they can actually make use of the new forms of CME;
- The abilities of CME suppliers and producers to develop and deliver relevant content are upgraded;
- The CME suppliers and producers work together, locally, nationally, and internationally;
- Necessary ‘infostructures’ – connectivity, computers, hardware, etc., - are present;
- These actions are guided by visions/plans/policies that include the views of all stakeholders, especially governments;
- We look carefully at how the ICTs are introduced and owned in the local situations – we need situations where, for instance, access is not hindered by local issues of power and hierarchy.

Outstanding questions

While conference participants raised and answered many questions, two unresolved issues were highlighted as still unresolved.

The first revolved around the notion of information versus education. The participants came from the health education as well as the health information fields. The term continuous medical

education was accepted and used by all. However, the discussions were often focused on something we could call 'continuous medical information' (CMI). Certainly, information and education are both delivered using similar ICT platforms and technologies. However, the impacts of education on the capacities of health workers are likely to be different from those of information. Should we therefore distinguish between CME and CMI?

The second question revolved around who the producers or suppliers of CME actually are. Traditionally, CME producer are a rather small number of 'higher' institutions reaching out to their graduates and other health workers. Nowadays, there are also many international initiatives with generic content that is sometimes developed and delivered with local partners. Local intermediaries or 'infomediaries' are critical in the actual delivery of CME, acting as brokers between the learners and the tutors. With the empowering potential of new ICTs, can we also expect to see the rural healthcare workers themselves becoming producers of CME?

Next steps

As was indicated above, the various **country groups** each identified a process to follow up the discussions in Moshi. This usually comprises broadening the participation by involving other stakeholders, getting the national Ministries of Health on board, and convening specific project and programme formulation exercises at national or zonal levels. A country liaison person was nominated for each country. IICD and Cordaid will meet with the various teams to agree concrete ways to support these dialogue and design processes.

At the **regional level**, the universities agreed to work together to identify existing CME courses and materials and to jointly develop further e-learning activities. Cordaid and PSO will continue to work with this group and others and to mobilise resources to support the agreed collaboration and related capacity building. It was also noted that there is much interest in CME at the international level and that it would be useful to work with INASP Health and groups like AMREF to benefit from their international health contacts and networks.

More generally, calls for **improved networking** and exchanges were made throughout the meeting, emphasizing the need to learn from each other, and especially the greater relevance of much CME materials developed within the region as compared to materials imported from elsewhere. One follow up is to extend the conference e-discussion platform into a wider discussion and information sharing forum on ICTs and CME in East Africa. Face to face workshops, meetings or training events will also be organised as needed to enrich and deepen the exchange of ideas and experiences across the countries. In these efforts, it should be possible to rely on expertise and networks within the region for much of this.

APPENDIX I: INVENTORY OF ACTIVITIES IN POSTGRADUATE EDUCATION AND CONTINUING MEDICAL EDUCATION OF UNIVERSITIES IN EASTERN AND SOUTHERN AFRICA

This first inventory was prepared by representatives attending the stakeholders group from universities.

College of Medicine, University of Malawi

M.Med programmes of four years

- Anaesthesia
- Surgery
- Medicine
- Paediatrics
- Obstetrics and Gynaecology
- Public Health
- Pathology
- Haematology
- Microbiology

CME Programmes

- Diploma Tropical Medicine
- Orthopaedics
- Anaesthesia
- Paediatrics
- Nutrition
- Embalming
- Forensics
- Outreach programme medical specialists

Postgraduate training for Clinical Officers

- Orthopaedics
- Anaesthesia
- Ophthalmology

Collaboration

- Welcome Trust
- Malaria Programme
- UNC
- Liverpool
- MSU

Makerere University Medical School, Kampala, Uganda

M.Med programmes of four years

- Surgery
- Internal Medicine
- Obstetrics and Gynaecology

- Paediatrics and Child Health
- Ophthalmology
- Ear Nose Throat
- Anaesthesiology
- Microbiology
- Pathology
- Radiology
- Orthopaedics
- Psychiatry
- Community Practice

Masters in clinical epidemiology

Masters in public health

Masters of Science

- Anatomy
- Pharmacology
- Physiology
- Medical Illustration

Postgraduate diploma

- Community Health
- Public Health Nursing
- Quality of Health Care

CME Programmes

- Uganda Health Information Digest
- Support supervision by consultants
- Telemedicine
- ICT training for health workers
- workshops regional centre for quality of health care
- outreach programmes by medical specialist

Collaboration

- Case Western (USA)
- Maastricht University (the Netherlands)
- Karolinsky University (Sweden)
- Moi University (Kenya)
- Transkei (SA)
- Kent, Surrey and Sussex (UK)

Uganda Martyrs University, Ngozi, Uganda

Postgraduate programmes (1 yr)

- MSc Health Services Management
- Diploma Health Services Management
- Diploma Health Promotion Education

CME Programmes

- Management courses for district health teams and hospital management teams
- Modular programmes for health managers (1 month)
- CD-rom for health facilities

Collaboration

- Kingston University (UK)
- Padua University (Italy)
- Rand University (SA)
- Makerere University (Uganda)

University of Zambia, School of Medicine

Postgraduate Programmes M.Med (4 years)

- Obstetrics and Gynaecology
- Medicine
- Paediatrics
- Surgery
- Psychiatrics

Master Public Health (18 months)

Master Science

- Parasitology
- Microbiology
- Pharmacy
- Physiotherapy

CME Programmes

- Counselling

Collaboration

- University of Manchester (UK)
- University of London (UK)
- Karoliska Institute (Sweden)
- University of Cape Town (SA)
- University of Nebraska (USA)
- University of Miami (USA)
- Universities in Japan, Slovenia, the Netherlands

Hubert Kairuki Memorial University, Medical Faculty, Tanzania

Postgraduate courses

- M.Med obstetrics and Gynaecology (3 yrs)
- M.Med Paediatrics (not yet started)
- M.Med Surgery (not yet started)
- M.Med Internal medicine (not yet started)

CME Programmes

- Basic Computer Skills
- Health education to the general public

Collaboration

- University of Dar es Salaam
- Tumbaini University
- SAUT
- AMANET
- Southern Connecticut University (USA)
- Yale University (USA)

Kilimanjaro Christian Medical College, Moshi, Tanzania

Postgraduate programmes

- M.Med programmes 10 disciplines (4 years)
- Master Public Health (1 year)
- M.Sc. Urology (2 years)
- M.Sc. anatomy, pharmacology, biochemistry under development
- Bachelor Nursing (3 years)
- Bachelor Prosthetics (3 years)
- Advanced diploma dermato-venereology (2 years)
- Diploma courses orthopaedic technology, occupational therapy

CME Programmes

- KCMC PG seminars (2x per year)
- Weekly clinical conference
- Dermatology week
- Urology week
- Continuous Paediatric Education Programme (outreach)
- Laboratory Quality Assurance
- IQCCE (Quality Assurance Health centres)

Collaboration

- East Africa: MUCHS, MOI, Mbarara, Kairuki, Makerere universities
- Europe: Berlin, Nijmegen, Bergen, Copenhagen, Oxford, Nottingham Universities
- USA: Harvard, Duke Universities

APPENDIX II: PARTICIPANTS

No.	Organisation	Country	Name and address	e-mail address
1.	AMREF	Kenya	Mr. Thomas van der Heijden, Board member AMREF	heijdenmuller@kilionline.com
2.	Mission for Essential Drugs and Supplies (MEDS)	Kenya	Mr. Jonathan Kiliko, P.O.Box 14059, 00800 Nairobi, Kenya	training@meds.or.ke
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16.	Christian Social Service Commission	Tanzania	Dr. Frederick Kigadye	kigadye@cssctz.co.tz
17.	Kilimanjaro Christian Medical College	Tanzania	Dr. Mark Swai, Director Hospital Services, KCMC, P.O.Box 3010, Moshi, Tanzania	mswai@kcmc.ac.tz
18.	Kilimanjaro Christian Medical College	Tanzania	Dr. W. Dolmans, Director of Postgraduate Studies, KCMC, P.O. Box 3010, Moshi, Tanzania	dolmanswm@kilionline.com
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20.	Muhimbili University College of Health Sciences	Tanzania	Mr. Stephen Mapunda, Systems Administrator, Information & Communications Unit, P.O Box 65001, Dar es Salaam, Tanzania.	mapunda@muchs.ac.tz
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22.	CEDHA	Tanzania	Dr. David Martin	cedhatz@cedha.ac.tz
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24.	Sengerema District Designated Hospital	Tanzania	Mr. Daniel Mihayo, Assistant Nursing Officer in charge of the Sengerema designated District Hospital	sengerematelecentre@yahoo.com
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26.	Kilimanjaro Christian Medical College	Tanzania	Dr. Henning Grossmann, Regional Dermatology Training Centre, KCMC, P.O. Box 3010, Moshi, Tanzania	admin@rdtc.or.tz
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40.	University of Zambia	Zambia	Ms. Christine Kanyengo, School of Medicine, Box 50110, Lusaka, Zambia	ckanyengo@library.unza.zm
41.	University of Zambia	Zambia	Mr. Chishimba D. Nkosha, Directorate of Distance Education, PO Box 32379, Lusaka, Zambia	dnkosha@impala.unza.zm

APPENDIX III: PARTICIPANTS' EXPECTATIONS

Participants' expectations have been grouped under common themes and are set out below:

- **To discuss policy issues around ICT/CME**
 - Helping us to know how government authorities can be persuaded to support CME / ICT programmes / activities
 - How to get support for ICT programmes
 - Can we come up with binding policies?

- **That there are opportunities for networking, information exchange and linking**
 - Lively discussions
 - Exchange of information
 - Sharing ideas
 - Find out how CME/ICT could be enhanced, in particular by sharing experiences
 - Getting ideas and information on what has been going on other countries, in order to improve what is actually taking place in our country of operation
 - How linking information networking stations can help in CME
 - Form new links
 - Networking of key implement of ICT in CME, etc
 - Learn from others opportunities existing in using ICT for CME
 - To meet some people and have some fun while we learn

- **To explore CME issues and challenges in Eastern and Southern Africa, including limitations and opportunities**
 - Update myself on what is happening in the region about CME / ICT
 - How to minimize the challenges in ICT & CME in developing countries
 - To learn from each other what might help Africans
 - Learn limitations and opportunities of ICT in CME
 - Learn what the actual situation is with regard to CME and ICT in the various countries
 - State of affairs in CME in Kenya, Malawi, Tanzania, Uganda, and Zambia
 - ICT/CME regional network
 - Start of collaboration between CME – developing institutions
 - Can we form a regional CME called ECACOME for our region?

- **To discuss sustainability issues around CME and ICT**
 - Better funding for ICT/ CME projects
 - Strengthening collaboration between donors and education institutions on ICT and CME
 - How can we ensure sustainability?
 - How to go about introducing ICT and CME in a poor country
 - Learn from others how CME can be enhanced with the limited resources available in rural areas

- **To learn about practical experiences and applications of ICT to support CME**
 - Get more experience on how ICT supports CME
 - Explore real ways for ICT to support CME
 - Learning new methods of delivering CME
 - To hear about practical ways of using ICT for CME in our own context
 - Learn realistic CME / ICT approaches
 - Learn from practical experiences in CME and ICT
 - Application of, and access to, ICT learning programmes
 - Learn more on ICT Information on ICT opportunities

- **To look at how CME can be enhanced through use of ICT**
 - Identify the appropriate technology support for CME
 - From this conference I expect to learn from experiences of how best we can deploy CME to rural health professionals especially with the use of ICT
 - Find out training and e-learning needs, see how we can address the needs and have a fruitful interaction
 - I hope to acquire knowledge & skills on CME so as to improve ICT and supervision in our district
 - Strengthening training for trainers with ICT skills
 - Use of eLearning in CME
 - Ways of assessing the impact of ICT and CME in knowledge, skills, and attitudes of health workers

- **To look at how we develop ICT content for rural health workers**
 - To identify the critical need for having content appropriate for the rural health worker and identifying ways of getting it there on time
 - Generating information on ICT which would help us to provide relevant, reliable and inflammable CME to our target groups
 - How to create/ motivate health workers to have a reading / learning culture
 - To establish prerequisites of ICT skills for rural health workers in order that they access ICT mediated CME

- **To visit Moshi and local area**
 - Have time to see Kilimanjaro and Moshi
 - See a bit of Moshi

- **To identify next steps and ways forward**
 - Ideas for action and communication structure to follow it through
 - Identify areas for follow up

- **Clear recommendations on how to effect CME in rural areas**
 - Learn more about use of ICT in rural health facilities and come up with a plan of action for using ICT to deliver relevant information

APPENDIX IV: EVALUATION

Comment	Issue	Rating
I learnt a) what is being done in other institutions b) the current situation/realities about CME&ICTs c) the potential of ICTs in CME and networking enhancement.	Content	+
There was a good opportunity to learn what others are doing	Content	+
No discussion on content for ICT ??? programmes – because – somehow – to review available HLM. How to integrate relevant ??? into ICT format.	Content	-
What other people are doing offered good learning	Content	+
ICT in CME will go a long way in enhancing the knowledge, skills, of rural health workers	Content	=
Rural health workers are too important to be neglected – a very important human resources in health care	Content	=
ICTs in CME a way to go	Content	=
Very educative conference	Content	+
Expectations fully met	Content	+
Served as an eye-opener on what opportunities are in the market offered by support NGOs and on what local initiatives have already taken off	Content	+
The meeting clearly outlined how ICTs have to be designed to meet the needs of the majority of end-users	Content	+
My scope of use of ICTs in CME is widened	Content	+
That together we can strengthen ICTs in CME	Content	=
Things learned: rationale for use of ICTs in CME; How to enhance CME; planning for CME using ICTs	Content	=
There is a lot of locally available potential in CME but remain undiscovered	Content	=
Regional collaboration is possible in bringing changes	Content	=
My expectations were met – very good outcomes. It has been worthwhile being here	Content	+
The conference was interest on ICTs in CME	Content	+
Local initiatives are very important	Content	=
There is more going on in east Africa in the field of ICTs for the sake of CME than I thought	Content	=
We have a very long way to go before rural HCW will actually access CME using ICT	Content	=
Most expectations met	Content	+
I have come out of this conference with a better understanding of ICT/CME issues	Content	+
Workshop quite educative and informative about the relationship between CME and ICT	Content	+
I still went home not knowing the ICT initiatives available for a rural health worker	Content	-
NPW: very good outcomes	Content	+
Developing local content needs to be explored	Content	=
ICT – health workers in rural areas can benefit from information technology	Content	=
The examples on how ICT applications can support CME were useful	Content	+
I still wonder whether this is a demand-driven or supply driven	Design	=

conference!		
Visiting Moshi not done	Design	-
There was time which could have let the participants visit Mt. Kilimanjaro	Design	-
The workshop was participatory. However the organisers minimised the contribution of the participants such that those who presented papers including the keynote were not paid anything for the time and effort they put in. "Colonisation" of ideas by the North continues and using Africans as guinea pigs to satisfy the North's agenda	Design	-
A trip to the relevant surrounding areas esp KCMC would have enriched the meeting and met one of our expectations	Design	-
Not met: visiting Moshi local area	Design	-
Attention was not paid to everybody who untiringly worked hard to compile material especially the initial presentations (compiling data, processing it for consumption at the workshop)	Design	-
The conference was supply-driven and thus whatever will happen after the conference is quite dependent on the zeal/level of commitment by the organisers	Design	-
The workshop encouraged participation and was not boring at any one time	Facilitation	+
Time management was sometimes poor	Facilitation	-
The meeting was well structured and facilitated and allowed enough interactive exchanges of experiences	Facilitation	+
Well organised conference, participatory exercises, good facilitating	Facilitation	+
Day 3 – the best day - we could at last do concrete plans how to improve CME and use ICTs for this	Facilitation	+
Markets were good; selected groups ok	Facilitation	+
The conference was loosely coordinated. It was hard to know who was facilitating what!	Facilitation	-
Development of country next steps was a good thing to carry this forward	Follow up	+
Concrete action plans look likely to be produced	Follow up	+
More efforts will now be put on ICTs as teaching and learning resources	Follow up	+
CORDAID and IICD are really willing to support ICT/CME further	Follow up	=
Plan nationally – start locally	Follow up	=
NPW: country coordinators will need support	Follow up	=
NPW: international liaison person needs to be clarified – for now and for medium term	Follow up	=
All the expenses we incurred were not refunded	Logistics	-
Transport arrangements [could be] better done from centre/organizers	Logistics	-
Participants had to literally beg to get the inland travel paid when the organisers know that there are no receipts	Logistics	-
Out of pocket not received	Logistics	-
Organisers/sponsors should realise that all expenses incurred should have been taken into consideration and paid	Logistics	-
Leaving out MOH representatives was a big gap and lost opportunity	Participants	-
We have lamented about absence of government representatives	Participation	-
Lack of or absence of government representatives made it difficult to discuss policy issues relating to ICT/CME	Participation	-

APPENDIX V: PROGRAMME

Tuesday, 8 April		
09.30 – 11.00	Opening Keynote	CORDAID, IICD, CEDHA, KCMC Dr. Margaret Mungherera (President, Uganda Medical Association) Overview of current situation of CME.
11.30 – 12.30	Ice breaker	Meet the participants - create outline 'map' of participants
12.30 – 13.00		Introducing the conference Participant expectations
13.00 – 14.00	Lunch	
14.00 – 15.30		Stocktaking – Part 1 Presentations to illustrate key issues: <ul style="list-style-type: none"> • Current realities of CME for rural health professionals • Use of ICTs for CME content development • Use of ICTs for CME delivery • Use of ICTs for information exchange at community level - relevance to CME
16.00 – 17.30		Stocktaking – Part 2 Market: 3 minute presentations from participants Group exercise: what's the most interesting thing you have seen? Reconvene for short plenary: rapporteur summary of market, discussion among participants of interesting things they have learned
17.30 – 17.40		Evaluate/review of the day
Wednesday 9 April		
09.00 – 10.00		PLENARY BRAINSTORM CME and ICTs – Needs, demands, opportunities
10.00 – 10.30		PLENARY BRAINSTORM Using ICTs in CME
11.00 – 13.00		SMALL GROUPS Addressing key issues
13.00 – 14.00	Lunch	
14.00 – 15.30		SMALL GROUPS Addressing key issues
17.30 – 17.40		Evaluate/review of the day
Thursday 10 April		
09.00 – 11.30		PARALLEL SESSIONS – ACTOR FOCUS Group 1 Universities/educational Group 2 NGOs Group 3 Faith-based
12.00 – 13.00		PARALLEL SESSIONS – ACTOR FOCUS Group 1 Universities/educational Group 2 NGOs Group 3 Faith-based
13.00 – 14.00	Lunch	
14.00 – 15.30		PARALLEL SESSIONS- COUNTRY FOCUS 1 Kenya 2 Tanzania 3 Uganda 4 Zambia
16.00 – 16.30		Next steps Conclusions Closing by CEDHA

IICD PROFILE

The International Institute for Communication and Development (IICD) assists developing countries to realise locally owned sustainable development by harnessing the potential of information and communication technologies (ICTs).

IICD realises its mission through two strategic approaches. First, Country Programmes bring local organisations together and help them to formulate and execute ICT-supported development policies and projects. The approach aims to strengthen local institutional capacities to develop and manage Country Programmes, which are currently being implemented in Bolivia, Burkina Faso, Ecuador, Ghana, Jamaica, Mali, Tanzania, Uganda and Zambia.

Second, Thematic Networks link local and international partners working in similar areas, connecting local knowledge with global knowledge and promoting South-South and South-North exchanges. Thematic Networks focus on sectors and themes like education, health, governance, the environment, livelihood opportunities – especially agriculture – and training.

These efforts are supported by various information and communication activities provided by IICD or its partners. IICD is an independent non-profit foundation, established by the Netherlands Ministry for Development Cooperation in 1997. Its core funders include the Directorate-General for Development Cooperation (DGIS), the UK Department for International Development (DFID) and the Swiss Agency for Development and Cooperation (SDC).