The first two eLearning courses of AFRICA BUILD were launched in the past weeks on the AFRICA BUILD Portal. Two different training programs started with an introduction to Evidence Based Medicine, oriented to reproductive health research and to HIV/AIDS research, and linked in later stages of the courses to policy making and identification of research gaps.

The two courses on reproductive health and HIV/AIDS, taught in English and French respectively, are intended for postgraduate medical doctors from Ghana, Cameroon and Mali, involved in clinical research.

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AFRICA BUILD at the CODIST-III
(United Nations. Economic and Social Council)
By Maximo Ramirez and Ana Jiménez (Spain)

AFRICA BUILD was invited to participate in the Third Meeting of the Committee on Development Information, Science & Technology (CODIST-III), held in Addis Ababa (Ethiopia) on 12-15 March 2013.

The CODIST-III overall objectives were: (1) to review ECA's activities in the area of Governance and Public Administration for the year 2012; and (2) suggest relevant programmatic orientations and activities for the biennium 2014/2015 for the Commission to better assist African countries in addressing issues of Governance and public management. This meeting evolved around the central theme of: "The Development State: What options for Africa?"

AFRICA BUILD members introduced the AFRICA BUILD Portal to the attendees (more than 200 African policy- and decision makers, parliamentarians, scientists, lawyers, journalists and librarians). This presentation was enclosed in the "Knowledge and Library and Information Services" (KLIS) Subcommittee, within the "New Trends" area. Many attendees showed interest in the AFRICA BUILD Portal, and in being involved in the project belonging to the Associates' List.
From 1968, FMPOS has trained more than 5,000 medical doctors and pharmacists from Mali and other French speaking African countries. It hosts internationally renowned research centers and collaborates with academic institutions, international organizations from Africa, Europe and America.

Education at FMPOS consists mainly of two sets of programmes:

- Initial general studies: medicine, pharmacy and dentistry. For students coming from secondary schools.
- Specialization programmes: more than 20 residency programmes in different medical and surgical specialties: surgery, gynecology, dermatology, pediatrics, infectious diseases and cardiology. The programmes are open to medical doctors.

In addition to these clinical specialties, in 2010 the Faculty started a Master of Public Health training programme with two options of qualification: epidemiology and community health.

FMPOS is one of the leading schools of health sciences in Francophone Africa. Students come from almost all French speaking African countries: Algeria, Congo, Gabon, Cameroun, Burkina Faso, Djibouti, Benin, Togo, Ivory Cost, Senegal, Mauritania to name some.

Research at FMPOS. The research done within FMPOS and in collaboration is diverse. It covers a wide range of topics and disciplines: traditional medicine, public health, anthropology applied to health, child health, etc. The institution hosts several research centers and collaborates with many national and international research institutions. The most prominent research labs are:

- The Malaria Research and Training Center (MRTC): doing research and training mainly on malaria related topics and on some other parasitic and vector borne diseases as well.
- The HIV and TB research center (Serefo). Researchers at Serefo work on basic science research, training, patient follow-up and surveillance.

FMPOS in AFRICA BUILD

Developers from FMPOS developed the “scientific news plugin” for the AFRICA BUILD Portal. It was both a challenging and rewarding experience for the developers: they learned to become part of an international community of developers, discovered new tools, and get more confident to use English as the main communication language.

Mali is taking an active part in the pilot course on Evidence Based Medicine for HIV research. Twenty medical doctors some doing a Master of Public Health and some residents in infectious diseases constitute the student population. FMPOS also provide professors and facilitators. Distance learning and the evidence based approach are new to both groups of learners and teachers but after few days they learned to appreciate the flexibility of the technology and the methodology of delivering the course. One student said “I appreciate the fact of being able to attend the course at any time from almost everywhere”.

Cheikh Oumar Bagayoko, Principal investigator. Expert in the use of ICT in the health sector, he has significant experience in coordinating and managing eHealth projects in Africa, notably through his work as Coordinator of the RAFT Network. Lecturer with the department of Public Health, he teaches health informatics.

Abdrahamane ANNE, holds a Master Degree in Information Sciences. He has worked as system librarian in charge of databases and ICT related matters. He teaches several courses related to internet: information retrieval, web sites creation, digital publishing. In AFRICA BUILD, he oversees the work package 3, 5 and 6

Dr Mahamadoune Niang, coordinates the implementation of the pilot course, conducting discussion with the teaching staff, attends online meetings to coordinate with ITM, organize the webcast, provides support to students.

Mr Adama Ouattara and Mr Ousmane Coulibaly, contribute to the development of the AFRICA BUILD Portal.
Last decade many e-learning approaches have been carried out both in Africa and in Western Countries. Many learning materials have been produced and many courses have been taught. The technology is in a state of maturity to offer mechanisms to help users find materials easily, relate them, create new materials and establish relationships between producers and consumers of such materials. The social web has created a new way of learning and the semantic web is emerging by creating tools that substantially improve the location of information. Massive Open Online Courses (MOOCs) are gaining popularity. Reputable institutions as MIT or Stanford are launching massive distance learning experiments with a high level of satisfaction. On the other hand, universities are starting to consider another kind of curricula more adapted to these new paradigms.

“... It is important to note that the ability to make use of healthcare information is directly related to having appropriate human resources and a suitable setting for data integration, analysis, and sharing” (Prof. Ohno-Machado, L. AFRICA BUILD expert)

The AFRICA BUILD Portal (ABP) aims to offer a modern infrastructure, to support this kind of massive and online learning initiatives, which could help considerably to African countries, by strengthening their capacity of three main health pillars: Education, Collaboration and Research.

The ABP is a Professional Network that offers to users — health professionals, researchers, educators, etc.— several resources in an integrated manner. It provides e-learning features and numerous research tools in a social environment that drives users to the establishment of virtual communities by sharing knowledge and tools.

The ABP is one of the most ambitious objectives of AFRICA BUILD: a Web-enabled platform, oriented to low bandwidth connections, aiming to foster Health Training and Research through the Information and Communication Technologies (ICTs). It targets to build a sustainable research landscape held on three different foundations: (1) to offer an extensive and open access catalogue of e-learning courses (related to health topics); (2) to implement the technological support needed to give access to training and research resources in an effective way (bearing in mind low bandwidth Internet connections and scarce technological power in Africa); and (3) to foster the creation of virtual communities and links of African researchers, educators, policy-makers and other health-related professionals enabling south-south collaboration.
From Evidence to Policy: Expanding Access to Family Planning

Expanding access to contraceptive services for adolescents

Policy and programmatic actions

- Enact policies requiring the provision of accurate, age-appropriate and comprehensive sexuality education for all adolescents.
- Eliminate social and non-medical restrictions on the provision of contraceptives to adolescents.
- Engage adolescents as full partners in designing, implementing and monitoring programmes for contraceptive information and service provision. Alongside this, draw upon the support of parents, and other influential adults for the provision of contraceptive information and services.
- Make available a full range of contraceptive methods through outlets that different groups of adolescents are likely to frequent, including social marketing outlets, educational and social facilities, and the health system.
- Ensure that health information systems gather, analyse and use age-disaggregated data on the need for, and use of, contraceptives.

Background

Adolescents, both unmarried and married, face many sexual and reproductive health risks stemming from early, unprotected, and unwanted sexual activity (1). Key factors underlying this issue are lack of access to sexuality education, and to accessible, affordable, and appropriate contraception. There is an urgent need to implement programmes to meet the contraception needs of adolescents, while dismantling the current barriers to adolescents from accessing services.

The number of sexually active adolescents is increasing globally. This is leading to a large and growing unmet need for contraceptive services appropriate to the unique needs of adolescents. Many individuals worldwide initiate sexual activity during their adolescent years within, or outside of, formal unions. The level and context of sexual activity among adolescents varies widely by sex and location. About 14% of adolescents girls in developing countries are married by the age of 15 years, and as many as 30% are married by age 18 (1). Adolescents who are married or are in a formal union need contraceptive services, because early pregnancy is associated with increased maternal and neonatal morbidity and mortality. However, social norms usually lead to women becoming pregnant soon after marriage. Sexually active adolescents who are not in a formal union also have an unmet need for contraceptives. This is a need that is often not acknowledged or measured. Moreover, substantial proportions of adolescents experience coercive or have transactional sex, and in such situations, have limited opportunities to protect themselves.

Some of the obstacles that adolescents face in obtaining contraceptives are also faced by adults. Others are specific to adolescents. These barriers relate to availability, accessibility and acceptability. In many places, contraceptives are just not available to anyone. Where contraceptive services are available, adolescents (especially unmarried ones) may not be able to obtain them because of restrictive laws and policies. Even if adolescents are able to obtain contraceptive services they may not do so because of fear that their confidentiality may not be respected, or that health-care workers may be judgmental. Adolescents may not use contraceptives correctly and consistently because of limited or incomplete knowledge of how to use them, misperceptions about their effects, and fears of the reactions of others.

Full article at: [http://apps.who.int/iris/bitstream/10665/75160/1/WHO_RHR_HRP_12.21-eng.pdf](http://apps.who.int/iris/bitstream/10665/75160/1/WHO_RHR_HRP_12.21-eng.pdf)
There is growing awareness that using the latest available evidence in clinical practice is essential to improve decision making in clinical care and research. Evidence Based Medicine is the process of transforming clinical problems in questions and then searching the best available evidence from systematic research to answer these questions. After having appraised and interpreting the existing evidence, it is finally applied to patients in clinical practice. Apart from providing optimal care, applying Evidence Based Medicine encourages health care workers to identify research gaps, or to adapt existing policies to the latest evidence.

Improving health research and its application is the aim of the first two eLearning courses that were launched in the past weeks on the AFRICA BUILD Portal. Two different training programs start from an introduction to Evidence Based Medicine, oriented to reproductive health research and to HIV/AIDS research, and link in later stages of the courses to policy making and identifying research gaps. The 2 courses around reproductive health and HIV/AIDS, taught in English and French respectively, are intended for postgraduate medical doctors from Ghana, Cameroun and Mali involved in clinical research.

Various learning methods are used to render the content of the courses, such as webcast interactive sessions, online discussions, group exercises, small self-assessments, and sharing of existing learning resources. Participants and teachers are encouraged to share research issues or clinical practice experiences in a Community of Practice, a virtual community of researchers who can continue to develop research ideas, exchange information and knowledge regarding new tools and evidence, as well after the short lifespan of the project.

Bamako, Mali 28/01/2013 at noon, about 20 medical doctors specializing in public health or infectious diseases gathered to take a pre-course quiz, access the first webcast and join the virtual community and groups discussion forums around HIV/AIDS research.

In Madrid, simultaneously the UPM technical team provided assistance via chat. Bamako : « Please, re-initiate the quiz for student X », Madrid : « It’s done », Bamako « Thank you, indeed it’s fixed ».

Weekly sessions around one topic in Evidence Based Medicine are held, and students can learn and exercise more on the topic at his/her own speed and at any time using the web portal.

«So, it’s like a Facebook for science » concluded one participant from Mali. For some of the students, this is the first time to use collaborative tools and be involved in online discussions. Most knew how to send and read emails and browse the Internet but are not familiar with discussion forums. Common questions such as «How do I send message to all the members of my group?» or « When should we meet to do the group work?» are answered by the local AFRICA BUILD team members. «A physical meeting is not mandatory. Use the group discussion to give your input and to tell your group what you think».

When asked for suggestions, some participants express the need to access the learning resources offline.

Abrahammane Anne
Université des Sciences des Techniques et des Technologies de Bamako
07 February 2013
The faculty of Health Sciences of BUEA is a new Faculty of Medicine created 6 years ago in BUEA in the south West region of Cameroon. It is one of the four Faculty of Medicine of the Public sector in Cameroon. The recently appointed dean Pr. NGOWE Marcellin manifested his interest in e-health. The purpose of this conference was to introduce the e-health in BUEA. Pr Djientcheu the focal point of telemedicine at the FMSB, focal point of AFRICA BUILD and the President of the Cameroonian society for Health Informatics (SOCIM) was the invented speaker

In the introduction, the Dean of the Faculty highlighted the quantitative and qualitative gap of lecturers and recognizes the needs to improve the level of training of his students. In his presentation Pr Djientcheu explains the meaning of terms as: e-health, cyber santé, telemedicine, medical informatics and AFRICA BUILD. According to the experience of FMSB who is becoming an “AFRICA BUILD center of excellence” in IT and health specially in the domain of training, education and research, the speaker presented e-learning as one of the solutions available. The speaker advise the administration of the faculty to start by the creation of informatics club in the faculty, to broadcast e-learning and program develop by AFRICA BUILD and other platform as RAFT and UMF.

The conference was hold in one of the amphitheatre of the FHS in enthusiastic climate in the presence of about 300 persons (students and lecturers, the dean of FHS and the vice rector of the university).

The event was covered by the national television.
The Fogarty International Center's programs provide funding to carry out research and train researchers in several global health topics. Through these extensive programs, Fogarty and its partners throughout the National Institutes of Health (NIH) are working to build sustainable research capacity in low- and middle-income countries. One of these programs is the Medical Education Partnership Initiative (MEPI).

The Medical Education Partnership Initiative (MEPI) supports foreign institutions in Sub-Saharan African countries and their partners to develop or expand and enhance models of medical education. These models are intended to support to increase the number of new health care workers by 140,000, strengthen medical education systems in the countries in which they exist, and build clinical and research capacity in Africa as part of a retention strategy for faculty of medical schools and clinical professors.

http://www.fic.nih.gov/Programs/MedicalEducation/Pages/mepi-map.aspx
AB: Based on your experience, what are the main challenges facing the use of technologies for health research and education in Egypt (and Africa in general)?
SA: The main challenges facing the use of technologies in education in Egypt and Africa are lack of a national plan with standards and requirements and regulation. Also needed is a National plan and vision for the teaching of IT from primary to the completion of secondary because we need to start early to ensure future generations are at a level comparable to the rest of the advanced countries. Other challenges: poor infrastructure to provide access to the internet in the country or in the individual schools, lack of funds to access the technology and to maintain and update it for the individual schools, public mistrust about technology and its use, lack of knowledge of the educators and poor English literacy which most of the software is written in. People resist major change…that’s human nature.
Therefore you have some schools mainly the private ones who have a comprehensive plan for introducing IT to their students and staff and others that have absolutely nothing, while still others may have one very old outdated computer for 20 students or more with an internet connection that is inconsistent. Of course the people that suffer most from lack of IT knowledge are the underprivileged students and schools. One of the main educational and awareness challenges to raise awareness as to the benefits of an effective Health Information System (HIS). Many are not able to comprehend the ROI related to implementing the system. Practitioners most likely need to travel outside of Egypt in order to see a system such as this, how it is being utilized in order to be able to compare the outcomes in a real world setting. Children’s Cancer Hospital Foundation (CCHE) is always ready to share and educate other institutions on how the system works and its implications to improving patient care.
The main challenges facing the use of technologies for health research is funding and support for research, is poor and there is general mistrust of research being viewed as experimentation. Equipment can be expensive and researchers may not have the resources to acquire what they need. The other challenge can be not using the existing technologies to optimum use, for example not understanding how to retrieve and analyze all the different types of data that an advanced system can capture. Many health researchers in this region do not have access to hospitals who have computerized records and so they have to manually search for data which is often inconsistent or missing completely. Healthcare professionals are not always compliant with entering data on the system so data used for research may be inaccurate or incomplete.

AB: As a pioneer in implementing a Hospital Management & Information System (HMIS) at Children’s Cancer Hospital-Egypt (CCHE), can you summarize the benefits and challenges of these technologies for your routine work in Egypt?
SA: At CCHE, we aspire to make the most effective use of our system through continuing education, monitoring of staff performance and improving any areas of weakness.

Challenges: Another challenge is to ensure that we stay on top of the latest technology so as not to be left behind and lose site of new strategies that improve work, and saves time, money and effort while improving the level of care at the same time. This requires constant investigation in exploring the different things that might be useful for us to use. This could be in the area of hardware, software, new equipment like tablets, iPads which are now being used by a lot of hospitals in the West. The primary challenge is ensuring a high level of staff compliance in regards to proper data entry in the system they are using. The technology changes quickly and if the system is not kept up to date, it will not be able to accommodate hospital growth. Implementation and support: change is always resisted by humans and deploying or upgrading a hospital information system may also invite employee criticism.

The benefits are numerous: We have instant access to the numbers of: patients we have, their treatments, the types of diseases, their ages, and outcomes. We know accurately how many visits are being made to each department, what kinds of lab tests are being ordered and their cost. We know many patients we have in the hospital as day patients and are admitted on a daily basis, how much the treatment is costing per patient, our equipment inventory, our staffing and Human Resources details as some examples. The HMIS provides an effective solution to hospitals that plan to reduce the costs of administrative and clinical transactions, and at the same time, provide better service to our patients. It aids hospital administrators by significantly improving operational control and streamlining operations. It enables improved response to demands of patient care because it automates the process of collecting, collating and retrieving patient information. Clinical pathways mapped to the system improve diagnoses and treatments offered. It provides doctors and hospital staff with the decision support system that they require for delivering patient care, which is comparable to global standards...
Interview with Prof. Sheriff Abou El Naga

... By enabling an automated and intelligent flow of patient information, the HMIS enables hospitals and doctors to better serve their patients. Additionally, the HMIS provides a host of direct benefits such as easier patient record management, reduced paperwork, faster information flow between various departments, greater organizational flexibility, reliable and timely information, minimal inventory levels, reduced wastage, reduced waiting time at the counters for patients and reduced registration time for patients. The indirect benefits would be an improved image of the hospital and increased competitive advantage.

AB: How did the implementation of the healthcare information systems at CCHE improve the health research, education, and care at the hospital?
SA: All of this is important for us to develop our strategic plan for expansion, developing new treatments, and generally meeting the needs of both staff and patients. Using these advanced technologies and analyzing the outcomes and other data has resulted in the survival rate for our patients being over 70% which is on par with the West. CCHE Staff are proud of the fact that they have a unique IT knowledge and are anxious to learn and take courses. Enabled the management and integration of clinical, financial, lab, nursing, radiology, pathology and operational information. By integrating this data we have significantly improved strategic fact based decision making. They manage the data related to the clinic, finance department, laboratory, nursing, pharmacy and also the radiology and pathology departments. By a simple click of the mouse they receive important data pertaining to hospital finance systems, diet of patients, and even the distribution of medications. With this information they can monitor drug usage in the facility and improve its effectiveness and conformance to regulatory protocols. An effective HIS also delivers benefits such as:
- enhances information integrity
- reduces transcription errors
- reduces duplication of information entries
- optimizes report turnaround times

AB: You conduct several capacity building programs for the CCHE clinical staff to get acquainted with implemented systems. Can you briefly describe these programs (in terms of the program type, duration, attendees profile and size)?
SA: CCHE implanted a Cerner Hospital Information System. Clinical staff is given orientation to the system as well training from IT staff as well as periodic training from Cerner. Some of the training is limited to as specific task or update while some is comprehensive international training for super users and support staff. Practitioners are informed of how services could be delivered more effectively to reduce costs, improve quality, and extend reach through the use of the HIS. As with any new technology, it takes some time to learn how to use depending on the level of use as well as the ability of the user to effectively use the technology.

AB: Do you find eLearning approaches utilized at CCHE is more convenient and effective rather than face-to-face training programs?
SA: Elearning has its benefits for giving access to international institutions but face to face is equally important for exchange of ideas and experience with colleagues, other Egyptian students and international partners. Ideas from international courses may not apply here, language may be a problem in communicating the student's ideas. Face to face training also encourages team work and good communication within the individuals' department if they are attending together. We hold many courses and educational sessions for all levels of staff together which really has promoted a sense of loyalty to the organization and a sense of family. 57357 is one big family staff and our patients and families together.