

# International Telecommunication Union **eHealth/Telemedicine**



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# How eHealth technology could be useful for the Global Fund

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- n The mission of the Global Fund is to fight HIV/AIDS, Tuberculosis and Malaria
- n The majority of projects funded by the Global Fund are located in rural areas where there is the shortage of health personnel and health care infrastructure



# What is eHealth? (1)

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- n The advances in medical science, biomedical engineering on one side and information and telecommunication technology on the other side are offering today wide opportunities for improving access to and quality of health care.



## What is eHealth? (2)

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- n eHealth is an umbrella term for health-related activities, services and systems, carried out over a distance by means of information and telecommunication technologies



# The Global Fund, 15th Board Meeting, 25-27 April 2007 (1)

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- n Decision Point GF/B15/DP6
- n « The Board recognizes that health systems capacity constraints have proven to be significant bottlenecks to Global Fund grant implementation ».



# The Global Fund, 15th Board Meeting, 25-27 April 2007 (2)

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- n The Board decides that the Global Fund, as a financial instrument, should continue to support the strengthening of public and private health systems, and reaffirms its strategic approach in this regard, which consists of investing in activities to help health systems overcome constraints to the achievement of improved outcomes in reducing the burden of HIV/AIDS, TB and malaria.



# World Health Organization(1)

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- n The World Health Assembly in May 2005 officially recognized eHealth and adopted **Resolution WHA 58.28** establishing eHealth Strategy for the World Health Organization.



## World Health Organization(2)

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- n It was recommended to establish eHealth Strategy « ...stressing that eHealth is the cost-effective and secure use of information and communication technologies in support of health and health-related fields... »





# International Telecommunication Union

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- n The introduction of eHealth services in developing countries requires multidisciplinary collaboration, with active participation of telecommunication operators and health care professionals.



# International Telecommunication Union (ITU)

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- n March 1994, Buenos Aires, Argentina, World Telecommunication Development Conference – approval of new Study Question – Telemedicine for Developing Countries
- n ITU-Development Sector Study Group 2
- n Question 14 – Telecommunication for eHealth



# International Telecommunication Union

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- n The main goal of the study is how to assist **developing countries** in the introduction of eHealth services and solutions, covering the **technical part**.
- n This is the unique international study group dealing with needs of developing countries



# First World Telemedicine Symposium

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- n 30 June – 4 July 1997: First World Telemedicine Symposium for Developing Countries was organized by the ITU-D in Portugal.
- n The Symposium was attended by 178 delegates from 51 different countries.
- n Health sector was represented by 98 delegates from 35 countries.



# Telemedicine

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- n During the period 1996-2000 ITU/BDT organized several missions of telemedicine experts to developing countries in order to identify their needs and priorities for the introduction of telemedicine projects.



# Telemedicine missions

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- n The following countries were visited:  
Mozambique (1996), Uganda (1996),  
Cameroon (1996), Tanzania (1996),  
Bhutan (1997), Viet Nam (1997),  
Mongolia (1998), Senegal (1998),  
Georgia (1998), Uzbekistan (2000),  
Ethiopia (2000).



# Mozambique Project

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- n January 1998 – First ITU Telemedicine project was implemented in Mozambique, connected two hospitals (one in Maputo, the capital of the country, and the second – in Beira) for teleradiology.

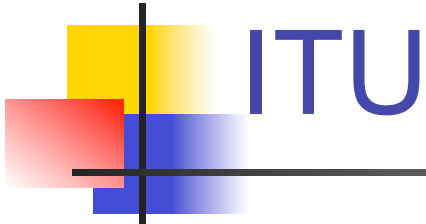


# ITU Telemedicine Projects

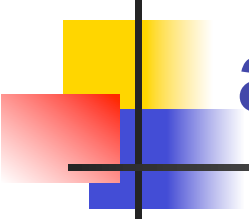
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- n Uganda
- n Senegal
- n Malta
- n Georgia
- n Bhutan
- n Myanmar
- n Ethiopia





- n **Resolution 41 of World Telecommunication Development Conference**, which took place in 2002 in Istanbul, recommended to all countries to create national eHealth Committees or Task Forces for such cooperation and coordination.



# How healthcare service in rural areas could be improved?

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- n eHealth or Telemedicine is the one practical solution which exists today.
- n Access to healthcare services could be provided via telecommunication networks: fixed terrestrial network, mobile network, satellite network.



# Mobile eHealth in rural areas

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- n There are two solutions:
  - n Mobile phone can be used for management and consultations related to medical services.
  - n Mobile eHealth care clinics/units traveling in rural areas from one village to another and connected to nearby hospital by wireless communication for consultations.



# Mobile telecommunication in developing countries

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- n The number of mobile phones in many developing countries is drastically increased during the last five years offering technical platform for many mobile eHealth services to be organized.



# Mobile network coverage in selected countries (ITU, 2007)

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- n Cambodia 87%, Gambia 85%, Guinea 80%, Kenya 77%, Pakistan 90%, Rwanda 90%, Senegal 85%, Togo 85%, Uganda 80%, Zimbabwe 75%.



# Global Fund could benefit from mobile eHealth (1)

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- n The health care personnel/nurses in rural areas could use mobile phone for consultation with a doctor from nearby hospital and management of patients with some complication . It could be even simple and cheap SMS exchange.



# Global Fund could benefit from mobile eHealth (2)

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- n The patients with Tuberculosis have to take medicine on a strict regular basis in order to avoid many complications with treatment. The SMS remainder to the patient mobile phone could be one solution. The second solution is a special small box for pills which send a wireless signal to mobile phone when the patient has open a box to take a pill. This message via mobile phone will be sent to a nurse who is taking care of this patient.



## Example: South Africa (1)

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- n The Dokoza system is an innovative cost-effective interactive real-time mobile system for fast-tracking and improving medical services. It has been developed in South Africa for use in HIV/AIDS (specifically in respect of the roll-out of anti-retroviral therapy) and TB treatment.





## Example: South Africa (2)

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- n This system involves the use of SMS and mobile phone technology for information management, transactional exchange and personal communication.



## Example: Bangladesh

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- n Director General of Health Services under Bangladesh's Health Ministry Md Abul Faiz said in January 2009 that all public hospitals at the country's 481 sub-districts will be provided required logistics including **mobile phones** for establishing a unit of telehealth care center.



# Mobile eHealth centers/clinics

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- n They have already been developed in several countries: India, Indonesia, Russia, etc.
- n These mobile eHealth clinics are either for general health care or specialized on specific diseases.
- n For the Global Fund they could be specialized on AIDS, TB or Malaria.

# Russia, Mobile Clinic



# INDIA, Ophthalmology Car

- n This car has VSAT connection to the regional hospital



Tele-Ophthalmic Van – Shankara Nethralaya

# India, TeleHospital





# How developing countries are informed about eHealth? (1)

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- n The health care administrations in developing countries are not well informed about potential benefit of eHealth services



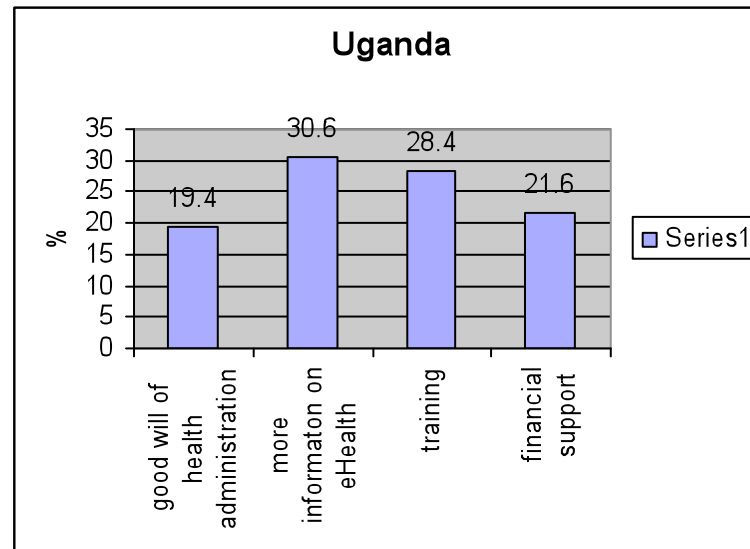
# How developing countries are informed about eHealth? (2)

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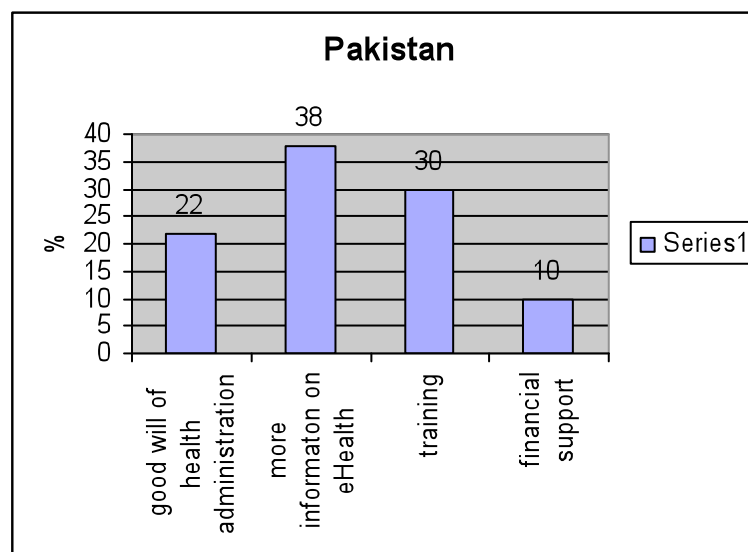
- n The Telemedicine Group of ITU-D SG 2 made a study among medical staff in five countries and found the following level of information: Pakistan-61%, Mexica-18%, Uganda-73%, Bhutan-31% and Malaysia-66%.
- n This average level is still low.



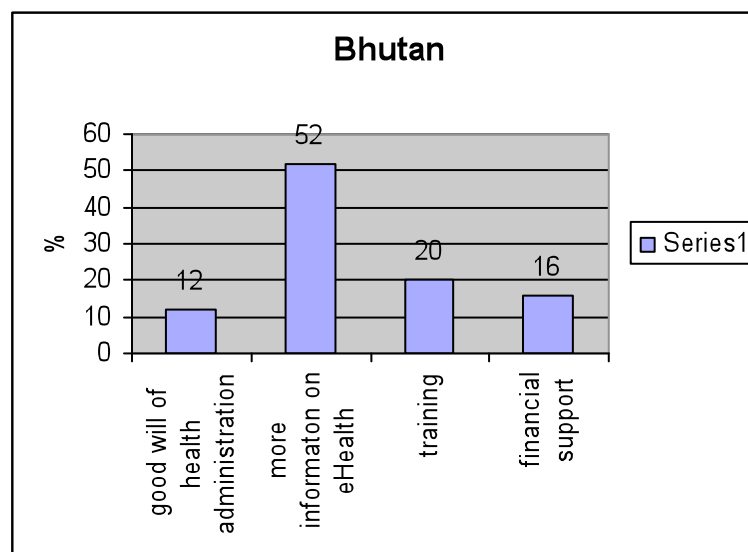
# How to speed up the introduction of eHealth? (1)



# How to speed up the introduction of eHealth? (2)



# How to speed up the introduction of eHealth? (3)





# Survey' Conclusion

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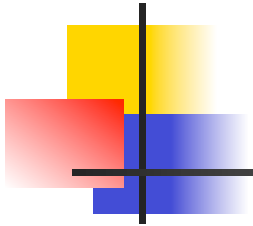
- n At the moment, money is not a main obstacle for the introduction of eHealth services. **15.9%**
- n Medical staff needs more information about best telemedicine practice and training. **69.7%**



# Countries proposal to the Global Fund

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- n The health administrations in developing countries do not know how to include eHealth component as a tool to strengthening national health care system into their proposal for funding.
- n Countries need assistance and guidance.



# ITU Proposal (1)

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- n Let us make a trial in one or two developing countries selected by the Global Fund.
- n The objective of this trial is to study the efficiency of a project implementation with support provided by mobile eHealth technology (terrestrial mobile telecommunication network).



## ITU Proposal (2)

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- n The ITU will develop a project document related to the introduction of mobile eHealth technology. Before doing that the ITU will check the availability of mobile telecommunication network in selected countries and if it is OK the ITU will try to involve the local mobile operator to be a partner of this trial/ project.



## ITU Proposal (3)

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- n Together with a local medical staff the ITU will develop operational procedure on how to use a mobile phone to support the treatment and management of patients. If it is required, the additional software has to be developed.





## ITU Proposal (4)

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- n ITU will cover all its expenses related to the trial and evaluation.
- n ITU will provide the necessary training.



# Conclusion

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- n Successful eHealth services require more than just technology.
- n For any eHealth system to work in practice – in real clinical situation – suitable, committed and well trained personnel are essential.



# Conclusion 1

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- n Experience demonstrates that there is no single solution that will work in all settings. The complexity of technologies and the complexity of needs and demands of healthcare suggests the gradual introduction, testing and refining of new technologies.



## Conclusion 2

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- n Effective governance of eHealth requires codes, regulations, and standards to ensure satisfactions of the consumers.
- n Issues include legal liability, ethical standards, privacy protection, and cultural and social standards.