TELEMEDICINE
DEVELOPMENT IN NIGERIA

By

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Presentation Scope

- Introduction
- Disasters in Nigeria
- Need for Telemedicine Development
- Benefits
- Implementation of Pilot Scheme in Nigeria
- Challenges
- Conclusion
INTRODUCTION

- Global disaster challenges (Natural and human induced-climate change).
- Tsunami, Earthquakes, Hurricanes, Volcanic Eruptions.
- 250,000 people died due to disasters that affected 200 million in 2008. (ISDR 2009)
- The total economic cost for 2008 was US$180 billion.
- Disasters Remains Potential Threat to National Development. (Damage of physical assets and loss of infrastructure).
DISASTERS IN NIGERIA

Oil Spill in the Niger Delta

Source: sdnnigeria's photostream
DISASTERS IN NIGERIA

Floods (Flood in Kubwa, Abuja 31 August 2009)

Source: Daily Nation Oct. 2nd 2009
DISASTERS IN NIGERIA

Gully Erosion

DISASTERS IN NIGERIA

Fire Disaster and Bush Burning

Pipeline Fire in Lagos

Source: http://newsimg.bbc.co.uk/media/images/44662000/jpg/_44662252_ap.jpg
DISASTERS IN NIGERIA

Drought and Land degradation

Source: http://www.treehugger.com/_41435182_drought416.jpg
DISASTERS IN NIGERIA

Desertification

NEED FOR TELEMEDICINE DEVELOPMENT IN NIGERIA

- 70% Occur in Rural Settings.

- Satellite Communications prerequisite for emergency healthcare services (Telemedicine, Teleconsultation, and Telediagnosis).

- Telemedicine (E-Health): is an integrated system of health-care delivery that employs telecommunications and computer technology as a substitute for face-to-face contact between health service provider and client.
BENEFITS FROM DEVELOPMENT OF TELEMEDICINE IN NIGERIA

• Supports health-care delivery in distant remote sites and villages.

• Connect primary care physicians, providers, specialists and patients.

• Offers improved access to quality healthcare delivery.

• Cheap healthcare delivery.
IMPLEMENTATION OF PILOT SCHEME IN NIGERIA

NigcomSat-1

TELEMEDICINE SUBNETWORK

NASRDA HUB

HUB BASEBAND

TEACHING HOSPITALS

VOICE GATEWAY

TRANET INTERNET GATEWAY
Implementations of pilot scheme in Nigeria

Link to overseas hospital for second opinion and referral services

International Network

Nigeria Telemedicine Clearing Hospital (UCH)

NIGCOMSAT-1

Ku Link

Ka 1Mb Link

Ku Link

Ka 1Mb Link

NIGCOMSAT-1

Europe HUB Station

Broadband link

NIGCOMSAT-1

Abuja GCS HUB

Satellite dish

Residential person

Satellite dish

Residential person

NIGERIA TELEMEDICINE LINKAGE TO CALIFORNIA HOSPITAL

California, USA

Medical Expert Group
IMPLEMENTATION OF PILOT SCHEME IN NIGERIA

- Pilot Project was designed in Collaboration with Ministry of Health.

- The sub-networks integration commenced in March, 2007 with the Network Operation Centre (NOC) situated in Nigeria.
IMPLEMENTATION OF PILOT SCHEME IN NIGERIA

- The integration of the sub-network:

  Eight Remote Terminals

  One Mobile Unit

Commissioned on 17th January, 2008.
IMPLEMENTATION OF PILOT SCHEME IN NIGERIA

Remote Terminals of the Project
IMPLEMENTATION OF PILOT SCHEME IN NIGERIA

Mobile Unit
Remote Terminals and Mobile Bus are equipped with basic diagnosis equipment such as:

- **Cameras**
  - General Examination Camera
  - Image & Illumination System

- **Diagnostic Scopes**
  - Electronic Stethoscope
  - Ear, Nose & Throat (ENT) Scope
  - Ophthalmoscope
  - Dermascope
IMPLEMENTATION OF PILOT SCHEME IN NIGERIA

• Medical services
  ➕ Specialist Referral Services.
  ➕ Patients’ Remote Consultations.
  ➕ Remote Patient’s Monitoring.
  ➕ Medical Education.
  ➕ Medical Health Records and Information Databank.
IMPLEMENTATION OF PILOT SCHEME IN NIGERIA

Skin infection Examination
IMPLEMENTATION OF PILOT SCHEME IN NIGERIA

Inner picture of the ear drum
## PILOT SCHEME

- Diagnosis Report from 6 Months Project Operation

### Cases of Malaria Diagnosed across the Nation

<table>
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<tr>
<th>Centre</th>
<th>Number</th>
<th>Total No. Of Patients</th>
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<tbody>
<tr>
<td>FMC, OWO</td>
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<td>359</td>
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<tr>
<td>FMC, OWERRI</td>
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<td>FMC, GOMBE</td>
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<tr>
<td>UMTH, MAIDUGURI</td>
<td>994</td>
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</table>
Implementation of Pilot Scheme in Nigeria

- Diagnosis Report from 6 Months Project Operation

Case of Cataract Diagnosed Across the Nation

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<th>Centre</th>
<th>Number</th>
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</table>
CHALLENGES

- De-Orbiting of NigcomSat-1
- Funding
- Institutional
CONCLUSION

- Pilot Project is a Success

- Benefits out-weighs cost

- Project Replication
Thank you

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