



# mHealth Business in Nigeria

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MTN, Nigeria mHealth Stakeholder Meeting

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**Sustainable Serendipitous Situated**





# What is mHealth?

- mHealth as a technology and practice is plural, contested and constantly debated and evolving
- Emerging Ecosystem & Cuts across Established
  - Telemedicine
  - Telehealth
  - Telecare
  - eHealth/EHR
- Technically
  - Connected Mobile, Portable, Medical Devices & Sensors
  - Over Wireless, Mobile, Fixed Telecom
  - In different Settings & Contexts



# Shifting Demography & Epidemiology



Current Healthcare Picture	Global & Demographic Changes	Tomorrow's Healthcare Picture
<ul style="list-style-type: none"> <li>• Communicable diseases.</li> <li>• Lack of immunizations.</li> <li>• Lack of safe water sources.</li> </ul>	<ul style="list-style-type: none"> <li>• GDP growth increases spending on healthcare.</li> <li>• Traditional diseases controlled (TB, smallpox) and new diseases appear (SARS, avian flu).</li> <li>• Aging populations mean increase in death from non-communicable causes.</li> <li>• Declining birth rate and climbing life expectancy.</li> <li>• Adoption of 'developed country' behaviors.</li> </ul>	<ul style="list-style-type: none"> <li>• Current health care picture issues continued.</li> <li>• Shift from 'late stage' treatments to prevention and early detection.</li> <li>• Increased focus on health issues of elderly.</li> <li>• Continued health worker shortages and distribution inequities.</li> </ul>

Table 1. Looking ahead: Evolving mHealth services for evolving health needs.

UNF 2008





# Global Drivers

- Technological Changes
  - Mobile Broadband- 3G, LTE
  - Devices- Smartphones, Tablet PCs, M2M
  - eHealth Revolution
- Epidemiological Shift
  - MDGs (HIV/AIDS, TB, Malaria)
  - Chronic Diseases
  - Pandemics
  - Climate Change/Natural Disasters
- -Demographical shift
  - Aging Population



# PDA to Smartphone



Simputer



GSMA

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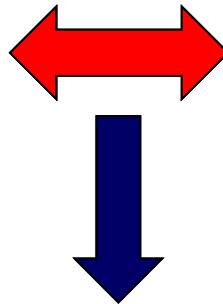


# Individualization of Care



**4Ps Concept**

- Personalization
- Prediction
- Prevention
- Participation



**Co-Drivers**

- Biomedicine
- Genetics/Proteomics
- Diagnostics
- Bioengineering
- **mHealth**

**Ambient Care**

- Hospitals
- Home
- Community
- Workplace
- Travel
- Remote

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# Health System in Nigeria



- Public vs. Private Provision
- National vs. State vs. Local Delivery
- Professional Bodies
- Profession Regulatory Bodies
- Pharmaceutical Industry
- Health Technology Standards & Regulation





# Nigeria a Diverse Market

- 50 million Subscribers for MTN
  - Mostly Voice & SMS applications
  - Limited Data services
  - ‘Pay as U Go’ dominates
- Need Market for Data Services
- mHealth
  - Basic
  - Advanced



# mHealth Overview



<b>USERS</b>	<b>CASES</b>
<b>CITIZENS</b> (Consumers, Patients)	Call Centre model in Ghana NAFDAC system Instrat System
<b>COMMUNITY</b> (Population)	SMS Casting Model Masiluleke, South Africa Instrat System
<b>CLINICIANS</b> (Health Workers)	Mobile Telemedicine, Botswana
<b>CENTRES</b> (Facilities)	Mobile Microscopy e.g LUCAS in Uganda

- Need to move Beyond SMS!
- **Clinicians & Centres** offer better Commercial Opportunities

Source: Author

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# Basic mHealth



## Data Collection/Disease Surveillance

Use handhelds to collect data; as diagnostic tools for disease surveillance (provider and public participation)

## Treatment Adherence/Appointment Reminders

SMS reminders to patients on chronic medication; Manage appointments (schedule, remind, cancel)

## Emergency Medical Response Systems

Emergency response tools; mobile phone EMR support clinical care and emergencies in remote areas

## Health Information Systems and Tools for Health Workers

Patient health data Collection to triage services and treatment

## Supply Chain Management

Inventory and supply chain Management using SMS

## Health Financing

E-payments and Micro insurance for health services

## Disease Prevention and Health Promotion

SMS-based health information and education on chronic and preventive care and wellness



# mHealth 4 Health Workers



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# Advanced mHealth



- **Mobile Telemedicine** e.g  
Click Diagnostics for skin &  
oral lesions and cervical  
screening in Botswana



- **Real Patient Monitoring** e.g  
A pilot with a Private Hospital  
in Nigeria by Instrat

- **Medical Apps** e.g  
Moodle4iPhone pilots using  
Android & iPhone in Peru



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# Ecosystem



- Mobile Operators
- Pharmaceuticals
- Mobile Equipments/Handset OEMs
- Medical Devices
- Software/Web services
- Hospitals/Healthcare Providers
- Research/Academia
- Entrepreneurs
- Health Insurance
- Patients/Citizens/Consumers
- Regulators

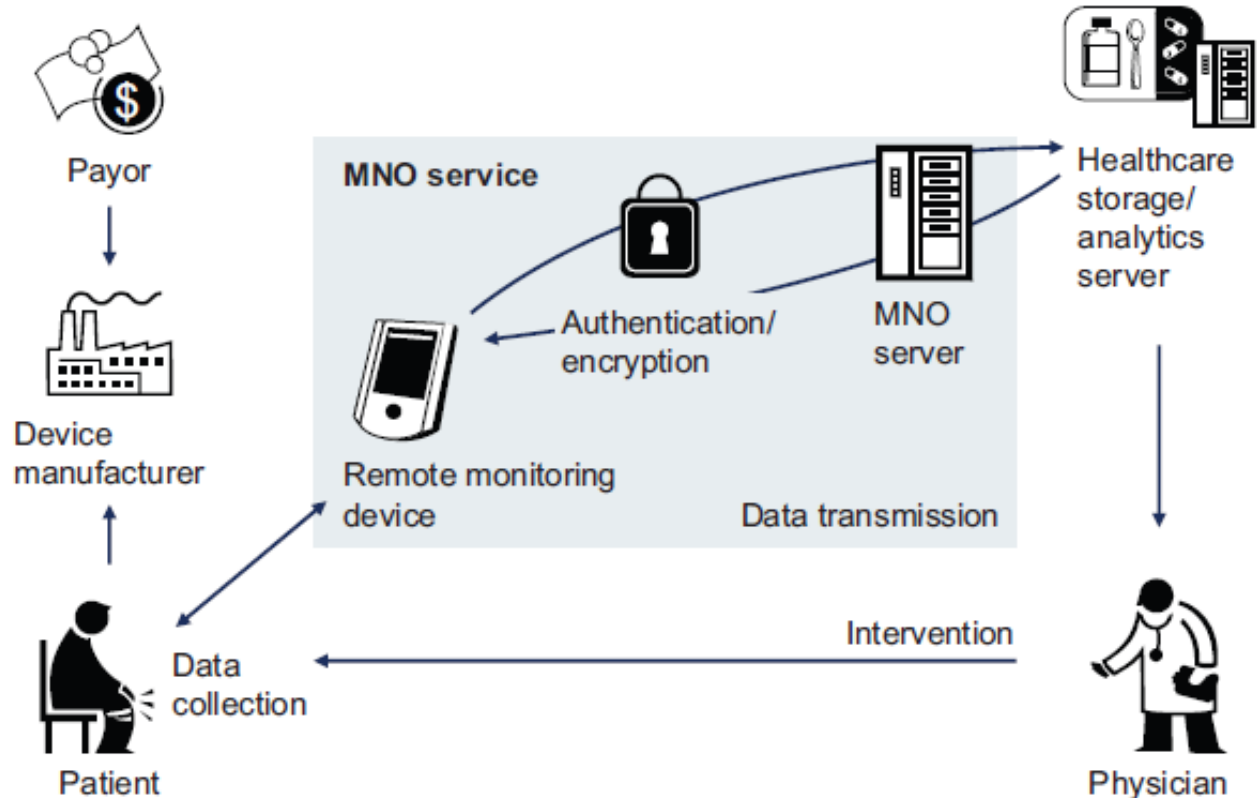
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# Mobile Operator's Role



## Regulators



SOURCE: Expert interviews; McKinsey

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# Creating Value



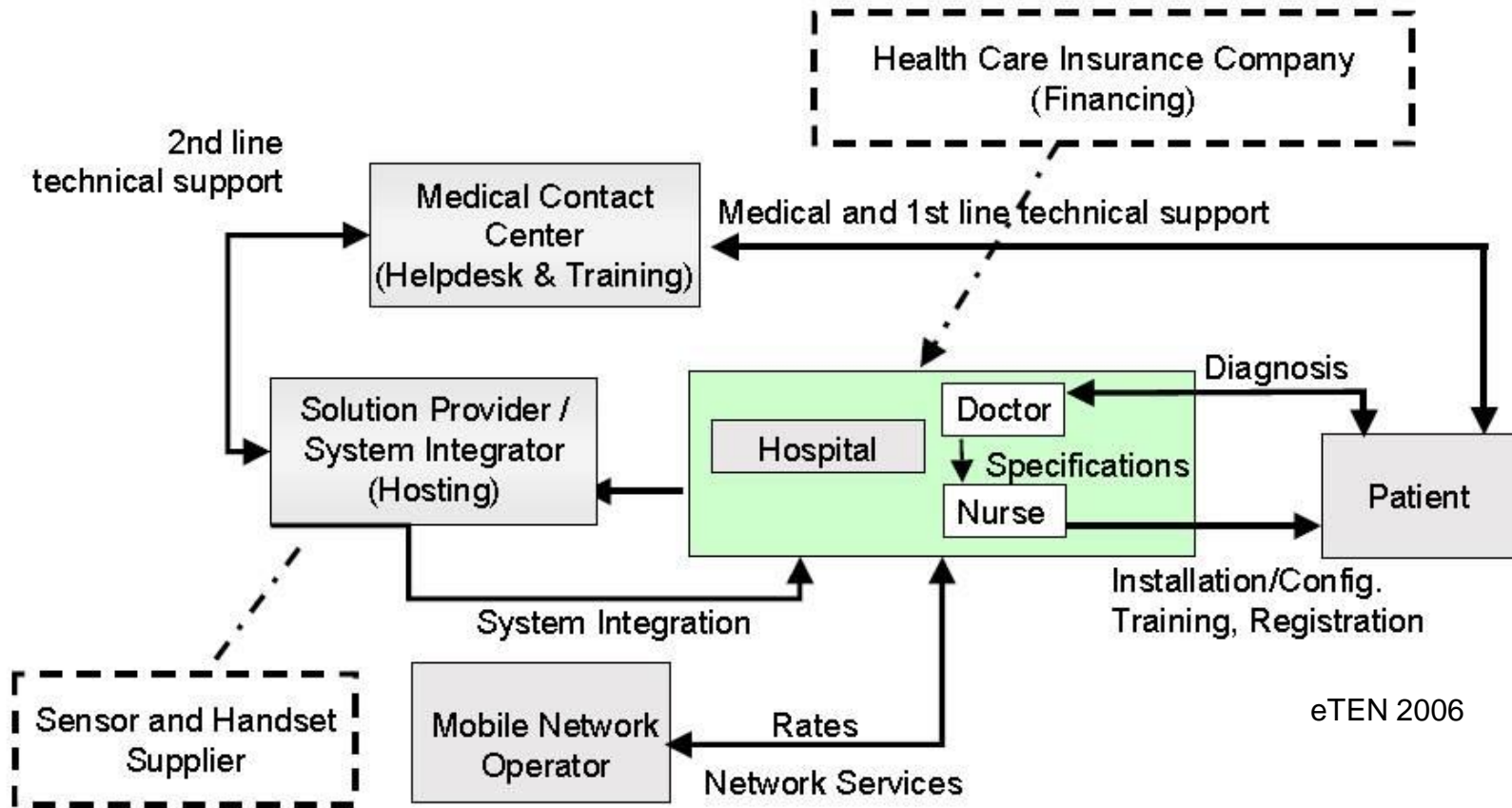
<b>Medium:</b>	Sensors	Mobile Base Unit (MBU)	GPRS UMTS	Management system	Mobile + fix networks	Medical service traffic
<b>Players:</b>	Sensor supplier	Handset + Solution Supplier	Mobile network operators	Tech. solution provider	Health Care provider	Network ops. Service provider

eTEN 2006

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# Network Value



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# Business: Platforms



- Mass Distribution
  - Kiosks, Vendors
- Billing Systems
- Set Customer Care Systems
- Known Brand
- Value Added Service Development
- Secure & Authentication Architecture
- Data Storage & Analysis
  
- **3 Proposed Models**



# Connector



- Network
  - Connectivity
  - Voice & Data Transmission
    - Apps
    - SIM services
    - Security
  - Architecture
- Models
  - B2B



# Provider



- Form Partnerships
  - Developers
  - Health Providers
  - Service Providers
- Services
  - Enterprise Solutions
  - Apps
  - Billing
- Model
  - B2B & B2C



# Integrator



- Form Partnerships
  - Medical Device OEM
  - Mobile Phone OEM
  - Health & Service Providers
- Services
  - Remote Monitoring
  - Telemedicine
  - Data Collection
- Model
  - B2B & B2C



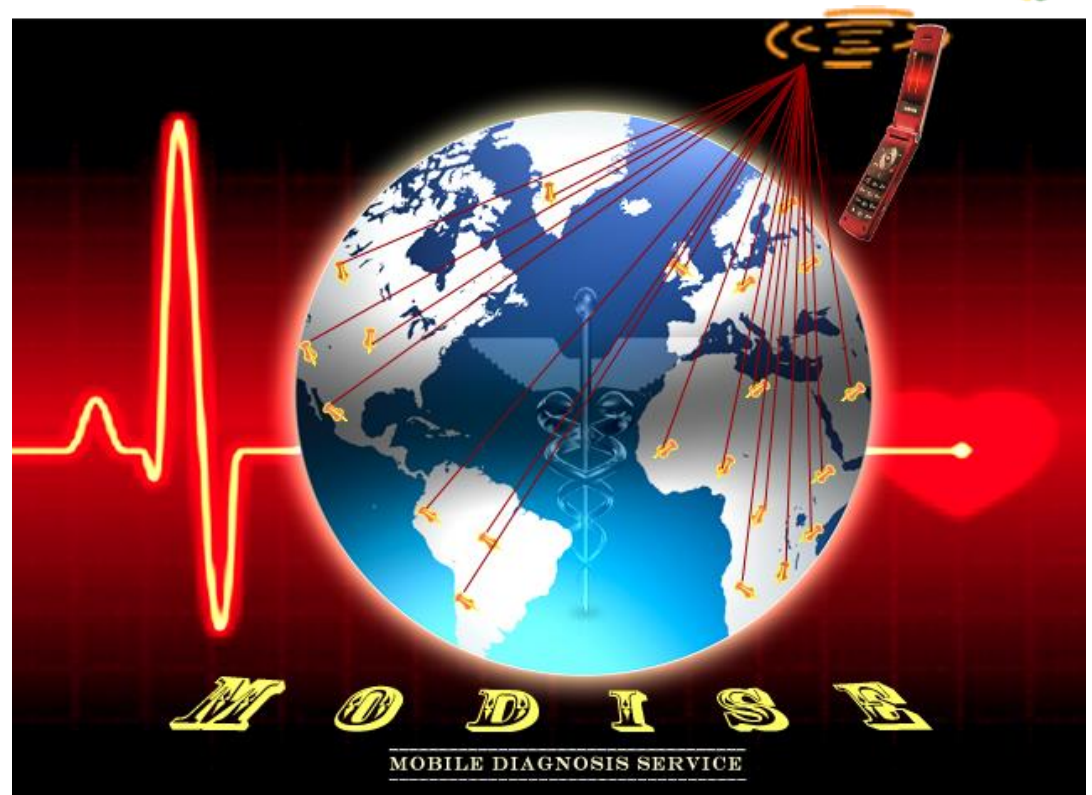
# MoDiSe



MISSION: Collaborate with **private sector innovators** / **biotechnology researchers** and **local entrepreneurs** to facilitate the development of **Point of Care** tools to prevent, diagnose and treat **neglected tropical and non-communicable diseases** in the developing world-

[www.modise.org](http://www.modise.org)

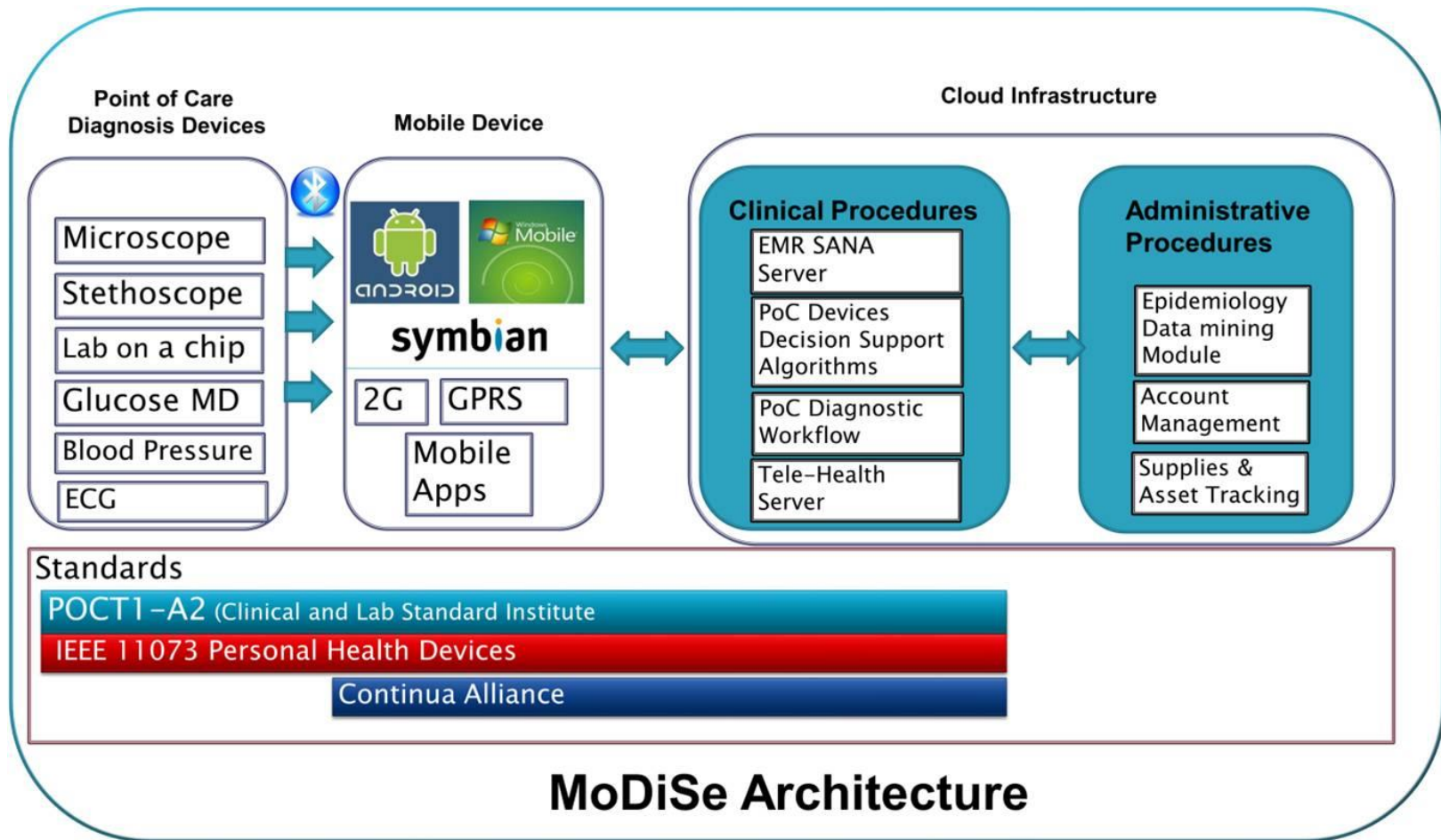
Incorporated in Canada



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# MoDiSe: Our Concept





# Proposition to MTN

- **Consultancy**
  - Nigeria Market & Service Scoping
  - Develops MTN Business Strategy
    - South Africa
- **Collaboration**
  - Technology Transfer
  - Build International Partnerships

