# INFORMATION TECHNOLOGY AS A BUSINESS ENABLER FOR EFFECTIVE HEALTH DELIVERY SYSTEMS IN KZN

## DELIVERED AT THE PROVINCIAL HEALTH SUMMIT: 02/09/2011

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**HEALTH**
KwaZulu-Natal

*K*waZulu-Natal Department of Health

# AGENDA

- ❑ KEY OBJECTIVES
- ❑ CURRENT CHALLENGES
- ❑ NEW HEALTHCARE DRIVERS
- ❑ ELEMENTS OF INFORMATION TECHNOLOGY
- ❑ CURRENT INITIATIVES
- ❑ CONCLUSION

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# KEY OBJECTIVES

- Provide IT Services that enhance delivery of Quality Medical care for residents of KZN

# DEFINATIONS

- E-HEALTH USE OF ELECTRONIC COMMUNICATION AND IT IN DELIVERY OF HEALTH

- M-HEALTH PART OF E-HEALTH FOCUSING ON USE OF MOBILE DEVICES TO EXTEND REACH OF MEDICAL CARE

- INFORMATICS  INTERSECT BETWEEN HEALTH & INFORMATION THAT LEADS TO IMPROVED CARE

- IT USE OF INFORMATION TECHNOLOGY  FOR PROVISION OF SERVICES
  - AUTOMATE & PROCESS IMPROVEMENT
  - DECISION SUPPORT
  - INTELLIGENT DIAGNOSTICS

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# CURRENT CHALLENGES

- HEALTH CARE SYSTEMS
  - o PAPER BASED
  - o INFORMATION OVERLOAD- RESEARCH
  - o HIGH PATIENT DOCTOR RATIO
  - o MAINLY CURATIVE THAN PREVENTATIVE

- ICT AND SYSTEMS
  - o INFRASTRUCTURE LIMITATION
  - o LACK OF EFFECTIVE SYSTEMS ( ADMIN OR CLINICAL SUPPORT)
  - o SWIM LANE THINKING
  - o TECHNOPHORBIA SYNDROME

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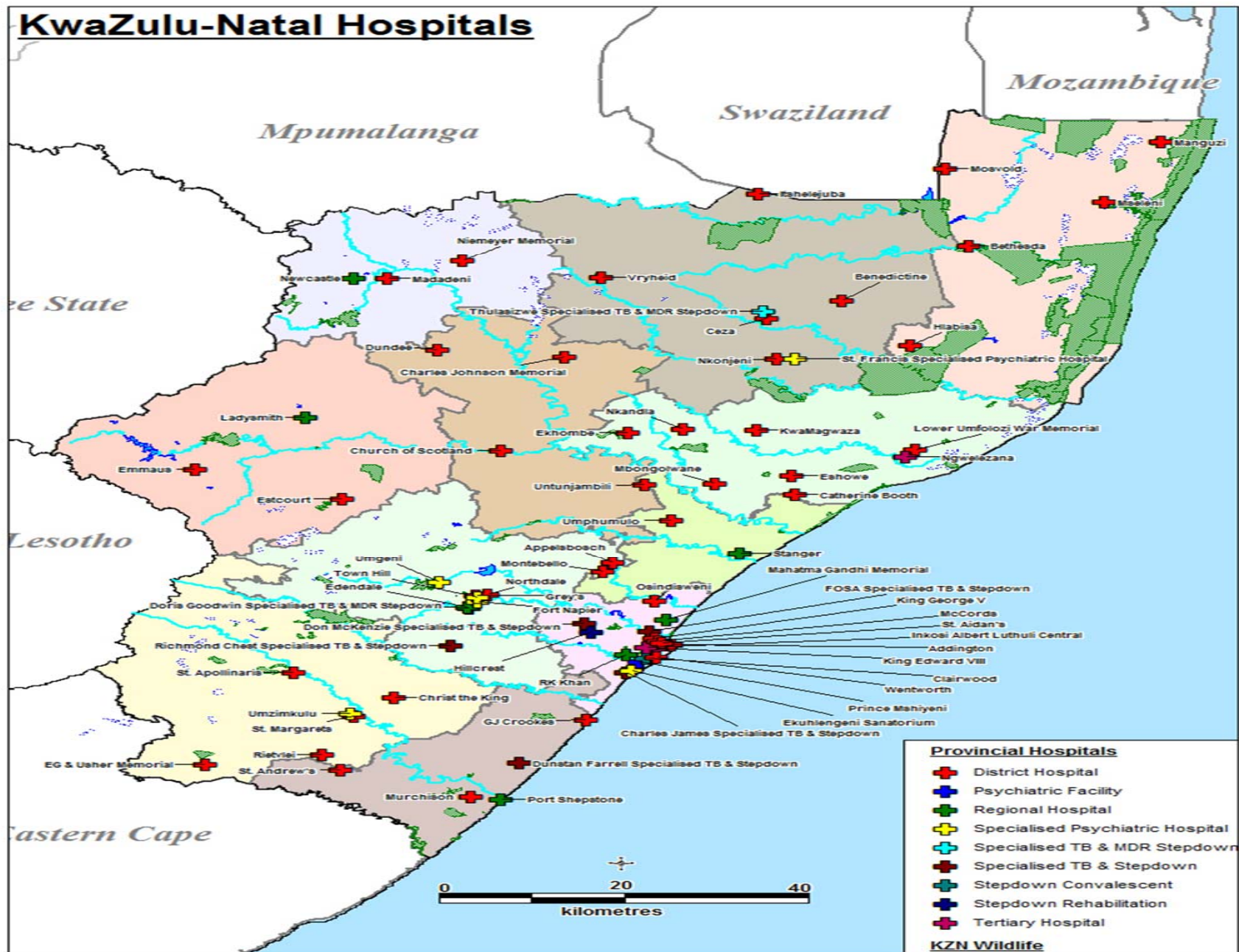# PAPELESS HEALTH CARE

# INFORMATION OVERLOAD

# CURRENT CHALLENGES

- 600 CLINICS NOT ON NETWORK
- TOO MANY LEGACY SYSTEMS
- LIMITED USE OF HIS
- LIMITED USE OF COMPUTERS
- MHEALTH NOT FULLY UTILISED
- BANDWIDTH LIMITATIONS
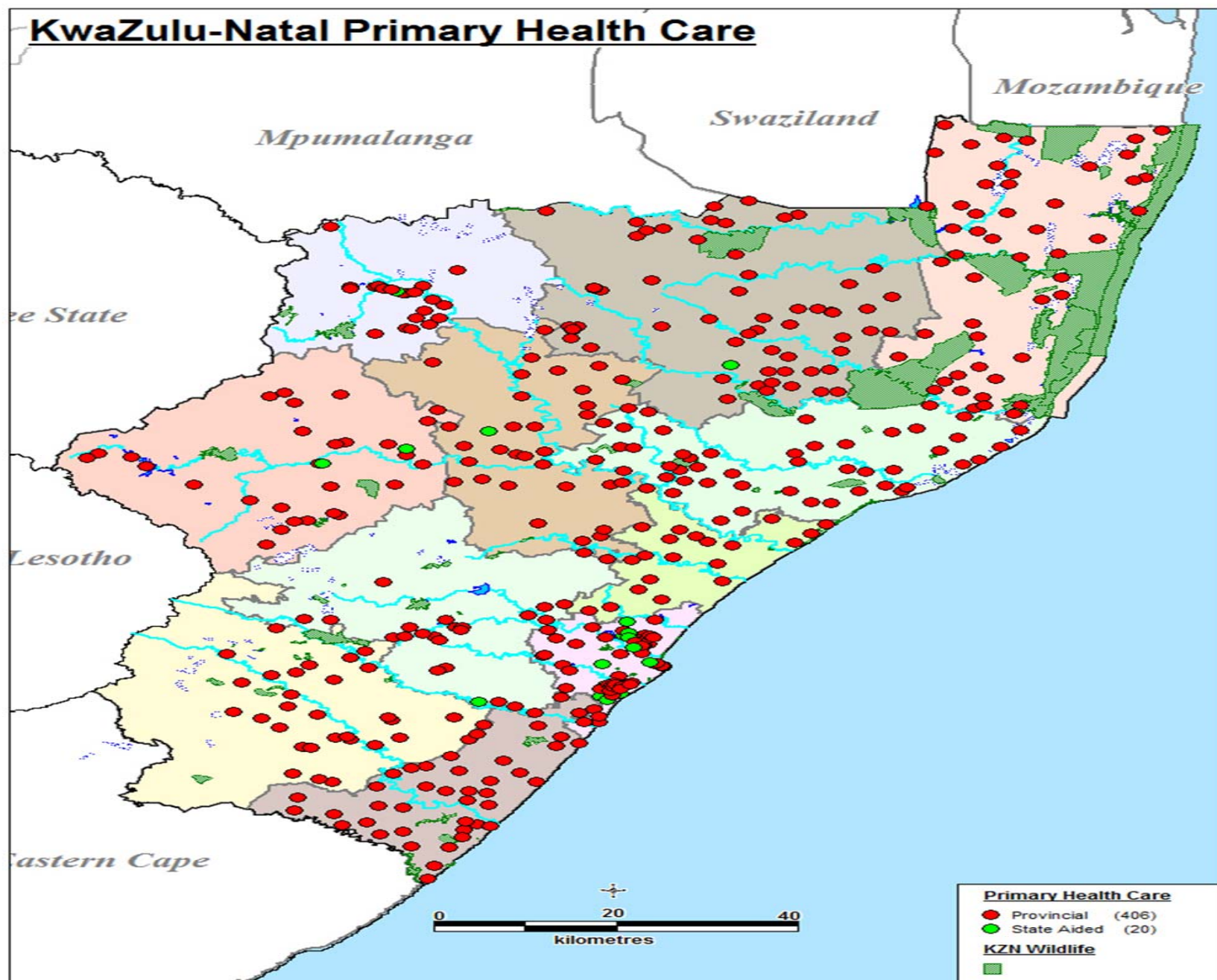- CHC/DISTRICT/REGIONAL/TERTIARY HOSPITALS (85)
- LOW COMPUTER LITERACY

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# KwaZulu-Natal Hospitals



**Provincial Hospitals**

- District Hospital
- Psychiatric Facility
- Regional Hospital
- Specialised Psychiatric Hospital
- Specialised TB & MDR Stepdown
- Specialised TB & Stepdown
- Stepdown Convalescent
- Stepdown Rehabilitation
- Tertiary Hospital

**KZN Wildlife**

KwaZulu-Natal Primary Health Care

# NEW HEALTHCARE DRIVERS

HEALTH CARE SYSTEMS

- o PARADIGM SHIFT
  - PREVENTATIVE RATHER THAN CURATIVE
- o NEW MODELS OF CARE
  - Primary Health Care
    - o District clinical support teams ( DHIS)
    - o Schools Health Teams
    - o Ward level- Community Care Givers
- o HEALTH CARE AS A SYSTEM
- o NHI  - Information Systems – Collaboration, Management
  - Insurance

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# ELEMENTS OF IT SUPPORTING HEALTH

- ELECTRONIC PATIENT HEALTH RECORDS
- CONSUMER HEALTH INFORMATICS
- HEALTH KNOWLEDGE MANAGEMENT
- VIRTUAL HEALTH TEAMS
- E-HEALTH/M-HEALTH
- HEALTH INFORMATION SYSTEMS (ADMIN, BILL, CLINICAL,LAB,IMAGING,ACHIEVING,SCHEDULING)
- TELEMEDICINE
- SATELLITES/ WIRELESS/ NETWORKS/STANDARDS

# ELEMENTS OF IT SUPPORTING HEALTH

- MOBILE DOCTORS
- 33 % H/HOLDS HAVE CELL PHONES- NATIONAL LEVEL
- GAUTENG 48% H/HOLDS
- W.CAPE 46% H/HOLDS
- KZN 35,5% H/HOLDS
  - 27% rural population surf the net
  - 89% send and receive sms
  - 85% prepaid  ( 90% please call me)
  - 8.6% COMPUTERS
  - 73% RADIO, 53% TV

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# ELEMENTS OF IT SUPPORTING HEALTH

- M-HEALTH (5,3 Billion mobile based prescriptions)
  - o QUALITY OF CARE
  - o SAVE MONEY
  - o OPPORTUNITIES FOR ECONOMIC DELIVERY
  - o ITEACH – PROJECT MASILULEKE SMS AIDS LINE  (MTN-KZN)
  - o EXTEND REACH OF HEALTHWORKERS
  - o SURVELLANCE NETWORK ( COMPLIANCE)
  - o TEXT TO CHANGE GAMES- GHANA
  - o ORDER MEDICATIONS, DISPATCH REF
  - o MEDICAL ALERTS
  - o INTERGRATE INTO E-PMI
  - o DOC IN THE BOX KITS FOR CHW ( VACCINATIONS, MEDICATIONS) LINKED TO PRO BY PHONE

# ELEMENTS SUPPORTING HEALTH

- – ISO TC215 / CEN TC251
- – HL7 International/ WHO
- – ITU / IEC / IEEE
- – GS1/CDISC
- Health Enterprise & Networks Framework
- Security Models
- Point of care applications
- Enhances patient centric approach ( refines clinical workflow, clinical  business process and reduce and optimize clinical processes)

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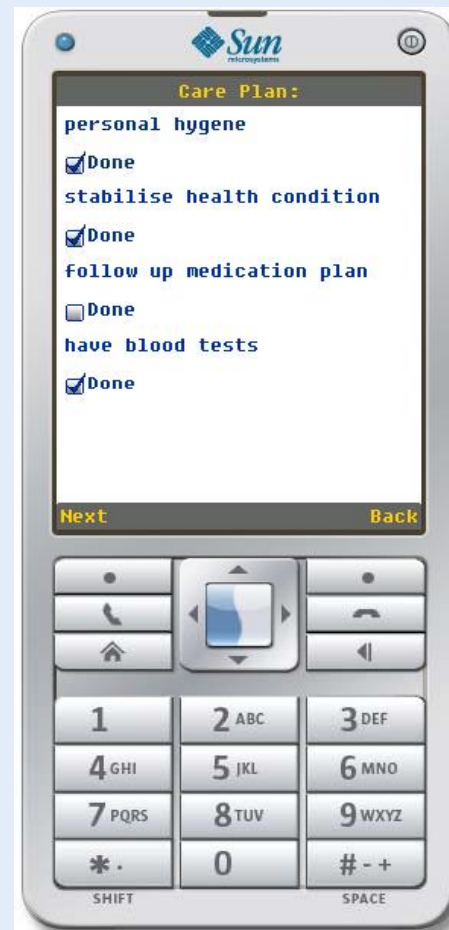KwaZulu-Natal Department of Health

# CURRENT INITIATIVES

- DEVELOPMENT OF E-HEALTH STRATEGY

- NETWORK INFRASTRUCTURE FOR FACILITIES- NODAL POINTS

- BROADBAND & SATELLITE TECHNOLOGY

- PUSH TO TALK TECHNOLOGY FOR FACILITIES

- SMS FOR DISCHARGED PATIENTS WITH FREE CALL BACK

- USE OF MOBILE HANDSETS TO PROVIDE LOCATION SPECIFIC POINT OF CARE APPLICATIONS

- PROMOTE SYSTEMS (ARV, TB, MORTUARY, AMBULANCES)
- PERFORMANCE MANAGEMENT SYSTEMS

# SCHEDULED CARE PLAN

# LOGIN and Menus



**Screen 1 — Care Data Aid:**

Caregiver Authentication:

Login:
manuelz   `Abc`

Password:
********   `Abc`

Exit                    Next

**Screen 2 — Menu**

1. Observations
2. Measurements
3. Intervention Planned
4. Wound Screen
5. Patient Details
6. Submit Report

Back                    Select

**Screen 3 — Main Menu**

1. Overdue Visits
2. Schedule
3. Patient List

Back                    Select
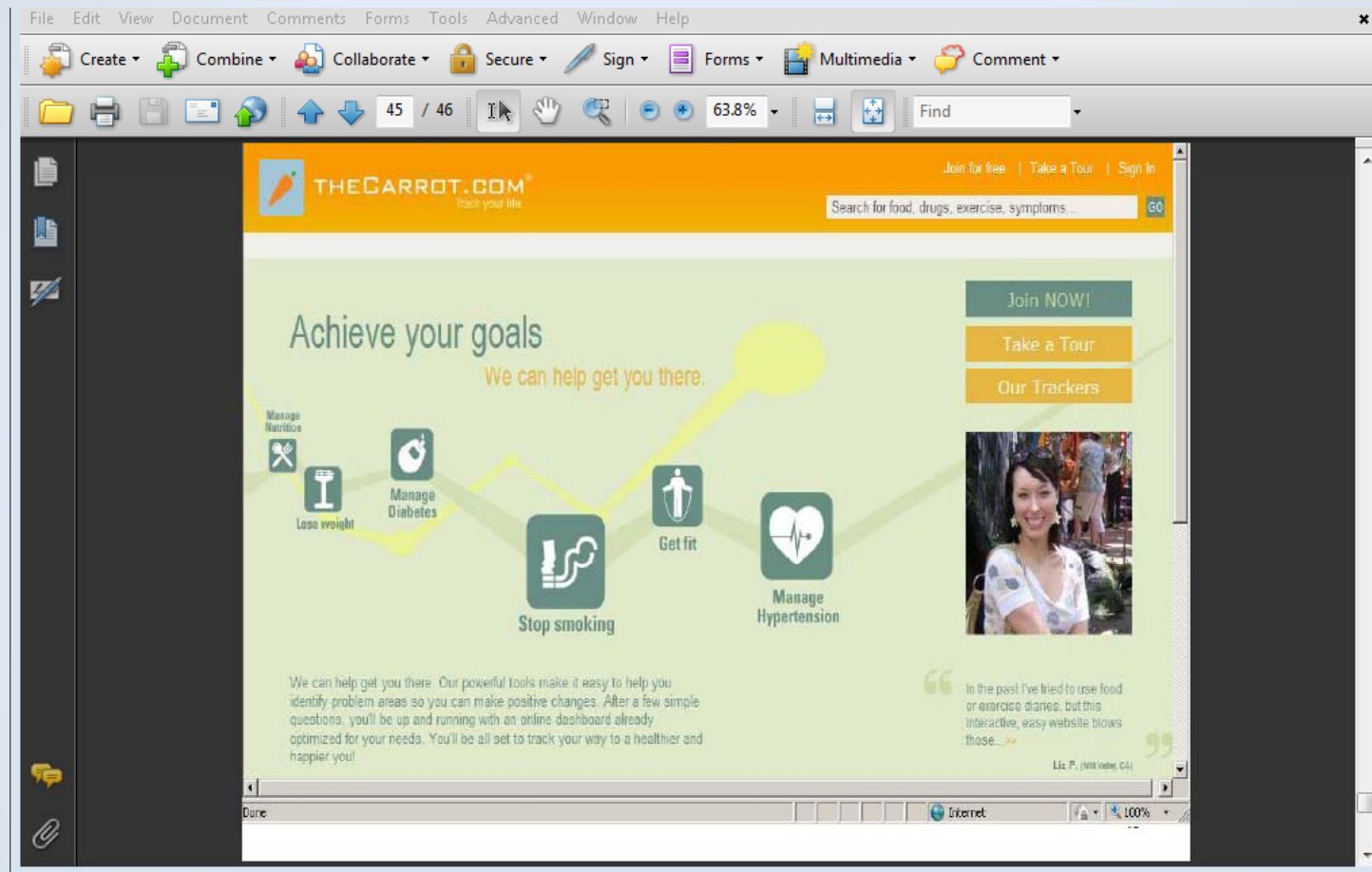
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# OBSERVATIONS

# CURRENT INITIATIVES

- E-PATIENT HEALTH INFORMATION RECORDS

- MOBILITY FOR MEDICAL PROFESSIONALS/ PHC/CHW.

- HEALTH INFORMATION SYSTEMS WITH ALIGNED PROCESSES

- CONSOLIDATION OF SYSTEMS / HEALTH PORTALS ( 8.6%)

- INTER-OPERABILITY ( MEDICAL AID, HOME AFFAIRS)

- COMPLIMENTARY MOBILE TELEMEDICINE VEHICLES

- SMS BROADCAST TO TARGET GROUPS( SCHOOLS, TEENAGERS)

- PATIENT BILLING & EDI – MEDICAL AID

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# SELF ASSISTED HEALTH CARE

# CONCLUSION

❖ EXPLOIT OPPORTUNITIES PRESENTED BY ICT REVOLUTION TO PROVIDE EFFECTIVE HEALTH CARE

❖ ICT AS  A TOOL TO UNLOCK BARRIERS OF DISTANCE

❖ SYSTEMS FOR IMPROVED PATIENT CARE MANAGEMENT

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# CONCLUSION

- Hosea 4:6 " MY PEOPLE PERISH FROM LACK OF KNOWLEDGE"

- "KNOWLEDGE IS THE ENEMY OF DESEASES"
  - -SIR MUIR GREY

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- THANK YOU