



on Network

# ICT Applications and Services

## Handheld Computers as a means to improve health care delivery

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# The Problem?

While computers have provided some improvements in efficiency and speed of information management, for the most part the HMIS to be found in the majority of health districts today is little different to the system I worked with 20 years ago as a District Medical Officer in rural Africa.

# Can the Handheld Change this?

- **The Handheld computer offers:**
  - **Mobility**
  - **Ease of use**
  - **Versatility**
- **Proposed uses for the Handheld include**
  - **Static Content**
  - **Broadcast Content**
  - **Data Collection (Patient Surveys)**
  - **Data Collection (Trainee Surveys)**
  - **Patient Encounters & Case Management**
  - **Decision Making Tools**
  - **Continuing Education**
  - **Prospective Evaluation**

# Increasing acceptability and use

- “Computer, Handheld” is now a search category on Medline.
- Over 10,000 applications are available for the Palm OS alone.
- Personal acceptance by the majority of health care workers – 72% of US physicians.

# Is any of this applicable to developing countries?

- Many failed attempts at introducing ICT in developing country settings.
- High expectations – often not met
- Failures generate cynicism and indifference
- Costs are off-putting
- Lack of supportive infrastructure makes individuals reluctant to invest

# Key findings from the field in Africa

- A useful and viable technology
- An effective tool for collection of health data.
- An effective tool for information dissemination.
- Medical reference materials helped improve provision of healthcare.
- An appropriate technology for use in the African context.
- An inexpensive alternative to PCs (power per dollar).
- Simple to use, and easily integrated into the daily routines of healthcare professionals.
- Offer enormous potential to help bridge the digital divide

# Key lessons learned from the field

- Basic training in handheld use is essential
- Focused training for data collection vital for both users and managers
- The handheld changes the way that a survey should be designed and conducted.
- Technical support is critical.
- Content must be locally relevant to have the greatest impact.
- The power supply must be appropriate to the situation
- Synchronizing onto a central data system must be simple and convenient.

# Challenges to be overcome

- Despite the affordability by comparison to PCs, the cost is still be too high for the average person in Africa.
- More locally relevant content in electronic format is needed.
- Repairs are currently not feasible in Africa.
- Broader ICT infrastructure is needed to support handhelds
- Issues of privacy, data protection, and security must be directly addressed



# Opportunities for the future

- Clear market opportunity for handheld computers
- Potential for linking handheld computers with wireless capabilities
- Market opportunity for locally relevant medical content in electronic formats, targeted to African countries.
- Partnering handhelds with community access point initiatives offers an powerful model
- Linking handheld computer initiatives with alternative power development efforts.
- Improving service delivery in national Ministries of Health as well as international healthcare organizations and programs.
- Specific utility in rural healthcare settings

# Conclusion

Handheld computers could revolutionize technology and information access for the people of Africa. But none of this potential can be realized unless the technology companies and content providers rise to the occasion. The industry needs a wake-up call to look into the untapped markets where their attention would make a real difference to people's lives.

