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**HANDHELD COMPUTERS AS AN  
EMPOWERMENT TOOL FOR A  
COMMUNITY HEALTH WORKER  
(CHW) IN DEVELOPING  
COUNTRIES.**

# My Research

- My Master thesis-identifying the use of mobile or portable devices (PDAs & mobile phones) and wireless networks by CHWs in developing countries.
- Proposed PhD- on in-depth interpretative qualitative study of CHWs in daily activities within health posts and community.
- **Issues and Challenges**
  - Funding
  - Difficulty in changing field.
  - Getting support

# Empowerment

- Ability of individuals to gain control socially, economically, politically and psychologically through access to information, knowledge and skills, decision-making, individual self-efficacy, community participation and perceived control (Zimmerman 1988).
- Decentralization of decision making power (Psionos 2000). Conclusion

# Introduction

- **Health Promotion (HP) (Ottawa Charter 1986)**

**A process of enabling people (Health workers) to increase control over, and improve their health (health system).**

**..... Involves advocacy, enablement, mediation (WHO 1986).**

- **HP develops from Alma Ata declaration of PHC 1978.**
- **Five strategies: supportive environment; strengthen community action; develop personal skills; healthy public policy; reorient public policy.**

# PHC

- PHC are essential health care.....practical, scientifically sound and socially acceptable technology.....universally accessible to the community.....their full participation...at very stage of development .....for self- reliance and determination (WHO 1978).
  - Operates thorough District Health System (DHS).
  - Health Information System (HIS)
  - Information network- District Health Information System (DHIS).
  - Empowered health workers .....heartbeat of DHIS (RHINO 2006).

# MDGs

- **Millennium Development Goals (MDGs).**
- **A set of 8 developmental goals (UN 2001).**
- **3 direct related to health:**
  - **Reduce child mortality**
  - **Improve maternal health**
  - **Combat HIV/AIDS, malaria, TB & others.**
  - **Empowerment of women.**
  - **Goal #8 (target 18) promotes use of ICT.**
  - **WHO prescribes use of PHC especially in developing countries.**

# INFORMATION SOCIETY

- **Information Society- WSIS declaration (WSIS 2003) (for MDGs).**
- **ICT 4 Dev.**
  - **Affirms communication as a fundamental social process, basic human need & bedrock of all social organisation (DHS).**
  - **Recognise that education, knowledge, info & comm..... core of human progress, endeavour & well-being.**
  - **Assistive technologies- equitable access in public domain like health.**
  - **WSIS declaration in whole is similar to Alma Ata of PHC 1978 & Ottawa Charter 1986.**

# CHWs.

- CHW work closely with families (community) to promote healthy lifestyles.....,facilitates access to health care services.
- CHW act as an interface with population in the community.
- CHW provides essential PHC services.
- CHW as developmental agent in the community.
- CHWs are mostly women.
- CHWs tackles poverty and health issues...  
but no access to information tools for optimal performance..... CHWs needs to be empowered with Handheld computers in the community for quality health care delivery (Drury 2005).

# Handheld Computers.

- **Handheld computer or Personal Digital Assistants (PDA).**
  - a small, lightweight computer
  - to fit in a person's hand.
  - powerful devices: to store; access; and organize a large volume of information quickly and easily (Ladd 2005).
  - ❖ **Types: Operating System, size, technicality, power etc.**
  - ❖ **Smartphone= PDAs but difference in OS and design and function.**
  - ❖ **Connectivity: GSM, WiFi, Wimax, Satellite.**
  - ❖ **Application tools: GPS, GIS**

# Uses of PDA /Mobile IS

- Access to information and knowledge.
- Data collection.
- Communication.
- Coordination.
- Disease Surveillance.
- Referral system.
- Service monitoring.
- Participation in decision making.
- Community Digital Assistant (CDA).

# **PDA as an empowerment tool**

- **Empowerment ('E') is 3 levels: intrapersonal, interactional & behavioural**
- **Women empowerment with ICT (Pattanaik 2005).**
- **Social Justice good of the individuals and their inhabited community (Griffiths 1998).**
- **'E' thru ICT would enable Professionalism & Social Inclusion (Berkeley 2001).**
- **Social Inclusion = lowering of barriers to learning & participation in organisation and community (Booth et al, 2000).**
- **Professionalism leads to improve quality health care provision and community participation.**
- **'E' by CHWs is defined by face-to-face interaction with Patients (community) less or rather than organisational level (DHS) (Holthe et. al. 2005).**

# **PDA as an empowerment tool**

- ‘E’ of CHWs at local level improves patient care and organisational efficiency (Holthe et. al. 2005).
- CHWs could act as Remote Volunteers and set up Virtual Networks in the community (Pattanaik 2005).
- ‘E’ is a stage or process to development (Smith 2005).
- Without empowerment no development (ICT4D).
- ICT as an enabler of development process for LDCs to solve poverty, illiteracy, disease, unemployment, hunger, corruption & social inequalities (Keniston 2002) & Knowledge 4 Development (Nath 2001).

**A case study from a developing country will be presented.**

# Case Study

- **Veronica (woman) is midwife in rural Uganda in a health Post.**
- **No electricity & means of communication.**
- **Limited or no access to newspaper.**
- **GSM present but person with handsets.**
- **Veronica empowers with PDA connected thru GSM.**
- **Uses for PHC work and Community Dev.**
  - **Health Information & data**
  - **CME to diagnose & treat common illnesses. Educate community members on disease outbreak and prevention.**
  - **Improved response from the central (Drug supply) (6mths to 1wk).**
  - **Public News- Community reads news from the PDA.**

# Conclusion

Case study illustrates the definitions above  
**EMPOWERMENT.**

Holthe et. al. (2005) reported perceived benefits of empowerment thru ICT as:

- Job satisfaction.
- Participation.
- Involvement.
- Confidence.
- Motivation.

**Thank you for listening!**

