Exploring Natural Progression of Health-related Uses of Mobile Phones: An Egyptian Case Study

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Presentation Outline

- Research background
- Study aim, objectives, methods
- Egyptian context
- Mobile phones in Egypt
- Results: Lay user & health sector benefits & barriers
- Recommendations for the way forward
Appeal of the mobile phone

**General Population**
- Business
- Safety and security
- Social status
- Direct communication
- Privacy
- Enable work and study away from home

**Health Sector**
- Enhanced coordination
- Emergency response
- Health Service Management
- Health consultations
- Telemedicine
- Disease surveillance
- Maintaining multiple roles
Why study mobile phones and health?

- Mobile phones enable communication in motion
- Numbers of subscribers (over 1.5 billion worldwide) with rapidly increasing coverage
- Direct relationship between improved communication and access to health care
- Technology prioritized by people in developing countries for work and social communication
- Infrastructure simple and cheaper to deploy than Internet
The real digital divide
Aim

Explore formal and informal health-related uses of mobile phones in Egypt
Objectives

- Anticipate and identify changes in health services resulting from improved access to mobile phones and fixed-line telephones.
- Investigate and document changes in health communication in domestic settings.
- Explore potential mechanisms for formal health sector integration and future research.
Egypt background

- Population: 70 million in 2005
- GNI: $1,490 USD*
- <5 mortality: 52.2/1000*
- Infant mortality: 41.8/1000*
- Maternal mortality ratio: 170/100,000*
- Teledensity (2001): 24.38 (Cairo); 3.21 (Minia)**
- Teleaccessibility (2001): 84.15 (Cairo); 14.41 (Minia)**

*World Development Report 2002
**Infocom Technology Inc. 2002
Mobile phones in Egypt

- Since 1997, increase in users as cost decreases and social pressure increases
- Number of subscribers 3.3 million (2001)
- Number of subscribers 5.2 million (2003)
- Number of subscribers 14 million (2005)
- Number of fixed-line telephones 10.4 million (2005)
- Expectations within the general public of a national mobile phone service provider
Study design

- Ethnography/ qualitative research
- In-depth interviews (n=66)
- Sample: urban, rural, male, female, lay users, health professionals
- Natural group discussions
- Participant observation
- Media analysis
- Development of case studies
Health-related uses of mobile phones

- Improved access to and coordination of emergency health services
- Improved access to and coordination of general health services
- Family communication and well-being
- Limitations to domestication of mobile phones for health
Emergency response

- Primary application: addressing automobile accidents
- Improved access for lay users to emergency transportation and health services
- Decreased response time in emergencies
- More efficient management of emergency health care personnel
- Improved health facility preparedness
- Potential outcome: fewer fatalities and injury complications
Emergency response

- Lay users use mobiles to contact family to coordinate help and/or for health information
- Altruistic behaviour of neighbours and bystanders
- Creation of the new “middleman and woman”
- Emergency health professionals use text messaging to request assistance from multiple parties (1 text to 10 doctors)
- Increased efficiency in health service delivery
General health services

- Facilitating work in multiple locations
- Remote patient monitoring
- Health consultations
- Patient control over health services
- Telemedicine
- Disease surveillance, prevention, and control
- Potential outcome: increased efficiency and mobility
Limitations

- High cost, resulting in minimal use of technology – reserved for extreme cases (out of pocket)
- Risk perceptions
- Reliability of phone systems in health facilities
- Liability and cost-recovery for services rendered-from-a-distance
- Innovations among individuals not universal application-lack of knowledge of range of potential functions of mobile phones
- Poor quality of health information and services especially in rural areas
A little Egyptian mobile phone humour

From El Akhbar Newspaper November 5, 2002

From El Akhbar Newspaper October 31, 2002
Implications of study findings

- All mobile phone and health network elements must be functional to yield the greatest benefit.
- Critical mass of mobile and fixed-line users phone extend benefits to others beyond direct subscribers (telecommunications herd immunity).
- Intermediaries have emerged as part of the pattern of usage and must be incorporated into future integration of technology.
The way forward…

- Need to move from case studies and anecdotes to intensive evaluation of health impact of mobile phones: time saved, fatalities averted, and complications minimized.

- Need to explore the role of industry: Corporate Social Responsibility and social marketing of technology.

- Need to define the role of the health sector—identify key areas in which technology can leverage public health objectives.