



Empowering people and overcoming barriers: mHealth for HIV/AIDS Programs

Dr Heli Bathija

International Conference on

Emerging Frontiers and Challenges in Management and Control of STIs and HIV

Mumbai, 29 April 2014

mHealth Online Training Course organized by Geneva Foundation for Medical Education and Research
Collaborating Center of the World Health Organization

mHealth potential



mHealth refers to health-related uses of mobile telecommunication and multimedia technologies within health service delivery and public health systems.

- ❖ Mobile phone use continues to rise rapidly in whole world, especially the poorest areas that have not been reached before.
- ❖ Because mHealth eliminates distance barriers and improves access to medical services, it may help especially hard-to-reach populations due to its capacity to use wireless technology.

Text to Change

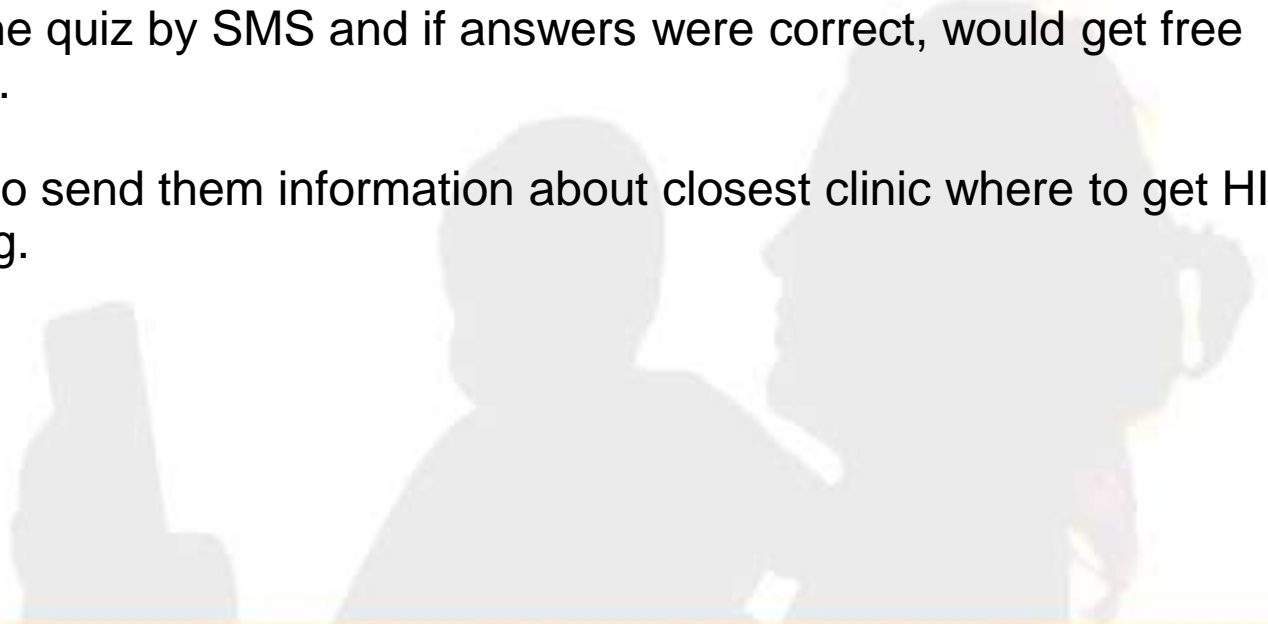


http://www.youtube.com/watch?v=4_A0wfTD1lo

The first Text-to-Change project in Uganda, had a short code phone number where people could send an SMS to opt-in and then receive by SMS quiz questions about HIV.

They would answer the quiz by SMS and if answers were correct, would get free phone time as a prize.

The system would also send them information about closest clinic where to get HIV counseling and testing.





INNOVATIVE MOBILE SOLUTIONS FOR SOCIAL CHANGE

[◀ Back to Text to Change](#)

Text to Change > Projects

English



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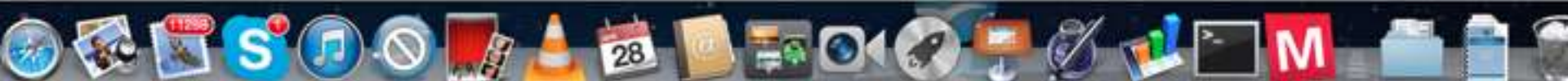
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Demonstrating advantages of mHealth



- Reaching large numbers with low cost
- Reaching young people
- Increasing knowledge and giving positive feedback to enhance learning
- Providing possibility to get sensitive information anonymously
- Increasing use of health services

10 Signal mHealth Functions

1 Registration & vital events tracking

2 Electronic health records

3 Scheduling & reminders

4 Decision support

5 Client education & behaviour change communication (BCC)

6 Provider training

7 Commodity and human resource management

8 Health financing

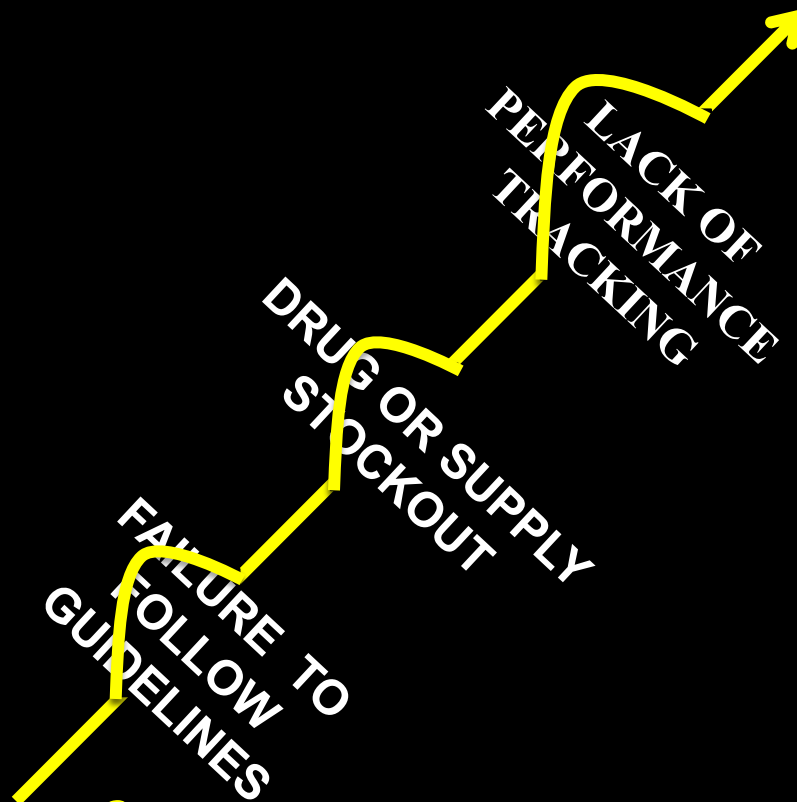
9 Communication

10 Real-time indicator reporting



mHEALTH: A Health Systems Catalyst

Effective
Coverage



Intervention of
known efficacy

From: Alain B. Labrique, PhD, MHS, MS
Director, JHU Global mHealth Initiative
Assistant Professor

People, not Widgets

**Human
Performance
Enhancement
Technology**

*Focus on people
and “systems”
(eg. patients,
clients, providers)
“Technology Agnostic”*



**Technologies for
diagnostics,
sensors**

*Focus on the
devices
(eg. microscope,
accelerometers,*

From: Alain B. Labrique, PhD, MHS, MS

Director, JHU Global mHealth Initiative

Assistant Professor



Examples in recent literature of mHealth in HIV/AIDS work

- Importance of two way messaging
- Enhancement of Male involvement
- Understanding Health workers preferences
- Using Missed calls as low cost reminders
- Facilitating Partner notification
- cost-effectiveness analysis

Ask, don't tell



A randomized, controlled trial showed that longer motivational text messages with words of encouragement were no more effective at improving adherence than short messages. A separate trial of motivational messaging showed no effect on adherence.

Although patients may eventually tire of being reminded and told things they had not specifically asked about, they do not seem to tire of being asked how they are doing.

Patients also do not seem to tire of having access to their health care providers in times of need; this is the true power of having their health in their own hands through their mobile phones.

n engl j med 369;19 nejm.org november 7, 2013
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A randomized controlled trial of soap opera videos streamed to smartphones to reduce risk of sexually transmitted human immunodeficiency virus (HIV) in young urban African American women

Rachel Jones, PhD, RN, FAAN, [Email](#) Donalt R. Hoover, PhD, Lorraine J. Lacroix, MPH

Received 10 January 2013; received in revised form 27 March 2013; accepted 31 March 2013; published online 05 June 2013.

Abstract

Full Text

PDF

Images

References

Abstract

Background

Love, Sex, and Choices (LSC) is a soap opera video series created to reduce HIV sex risk in women.

Methods

LSC was compared to text messages in a randomized trial in 238 high-risk mostly Black young urban women. 117 received 12-weekly LSC videos, 121 received 12-weekly HIV prevention messages on smartphones. Changes in unprotected sex with high risk partners were compared by mixed models.

Results


Unprotected sex with high risk men significantly declined over 6 months post-intervention for both arms, from 21-22 acts to 5-6 ($p < 0.001$). This reduction was 18 % greater in the video over the text arm, though this difference was not statistically significant. However, the LSC was highly popular and viewers wanted the series to continue.

Conclusion

This is the first study to report streaming soap opera video episodes to reduce HIV risk on smartphones. LSC holds promise as an Internet intervention that could be scaled-up and combined with HIV testing.

Keywords: Entertainment education, HIV prevention in African American urban women, HIV risk in women, Intervention research.

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Programme Mwana

Leveraging Mobile Technology to Strengthen Health
Services for Women and Children in Rural and
Underserved Areas

~ Merrick Schaefer
merrickweb@gmail.com



Mobile health technology has the power and potential to make PMTCT more efficient and effective

The Problem

Overburdened health system and difficult to reach areas

The Innovation

Strengthen entire PMTCT system using mobile technology

How Programme Mwana improves this

Decrease turnaround time for PCR test results, increase number of results, enable real-time problem-solving

From: Merrick Schaefer
merrickweb@gmail.com

Programme Mwana utilizes two main software components



- Health system focused, trained Clinic Staff



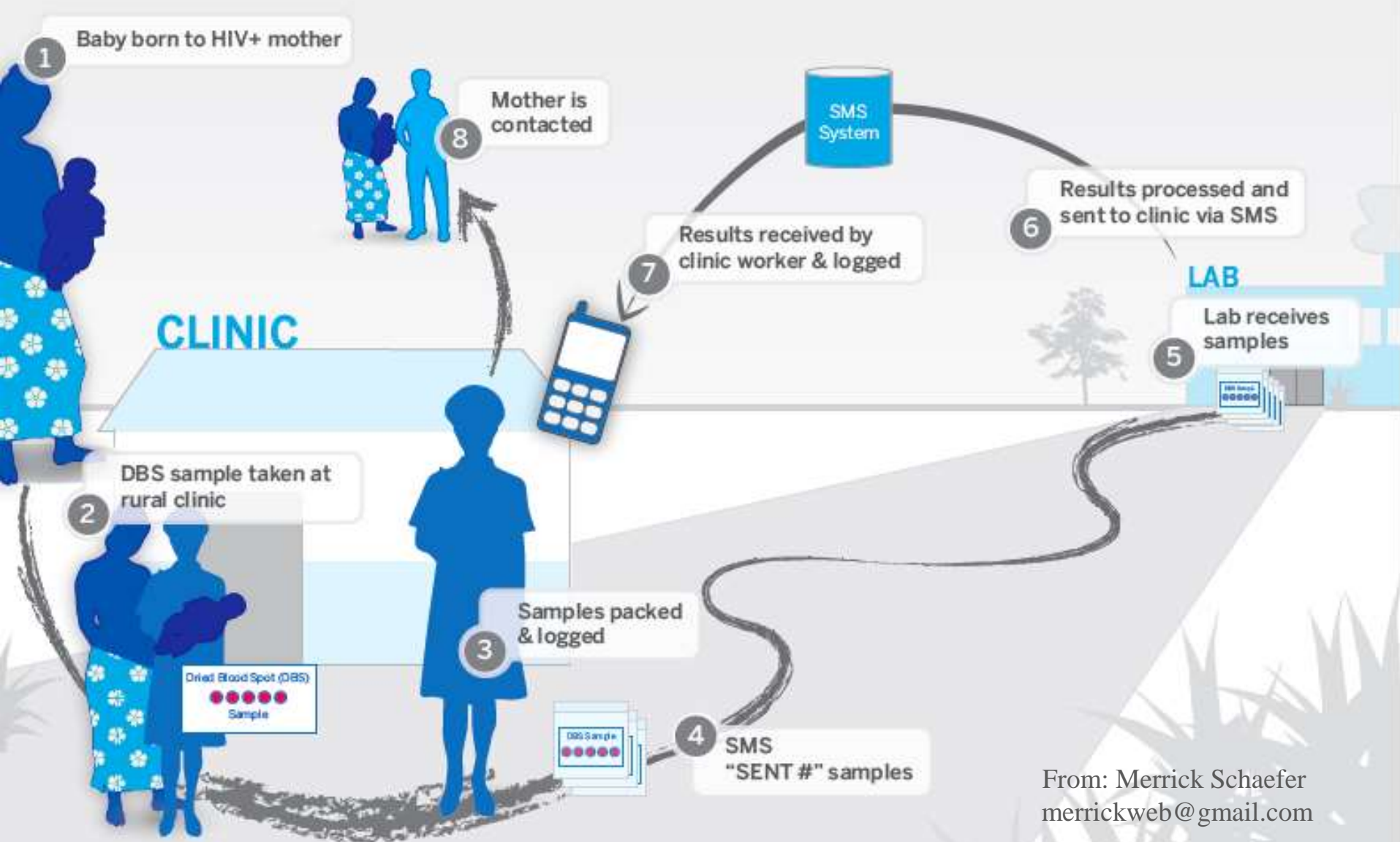
- Community focused, trained Community Health Workers (CHWs)

All SMS are free to end users

We used staff and CHWs Personal Phones

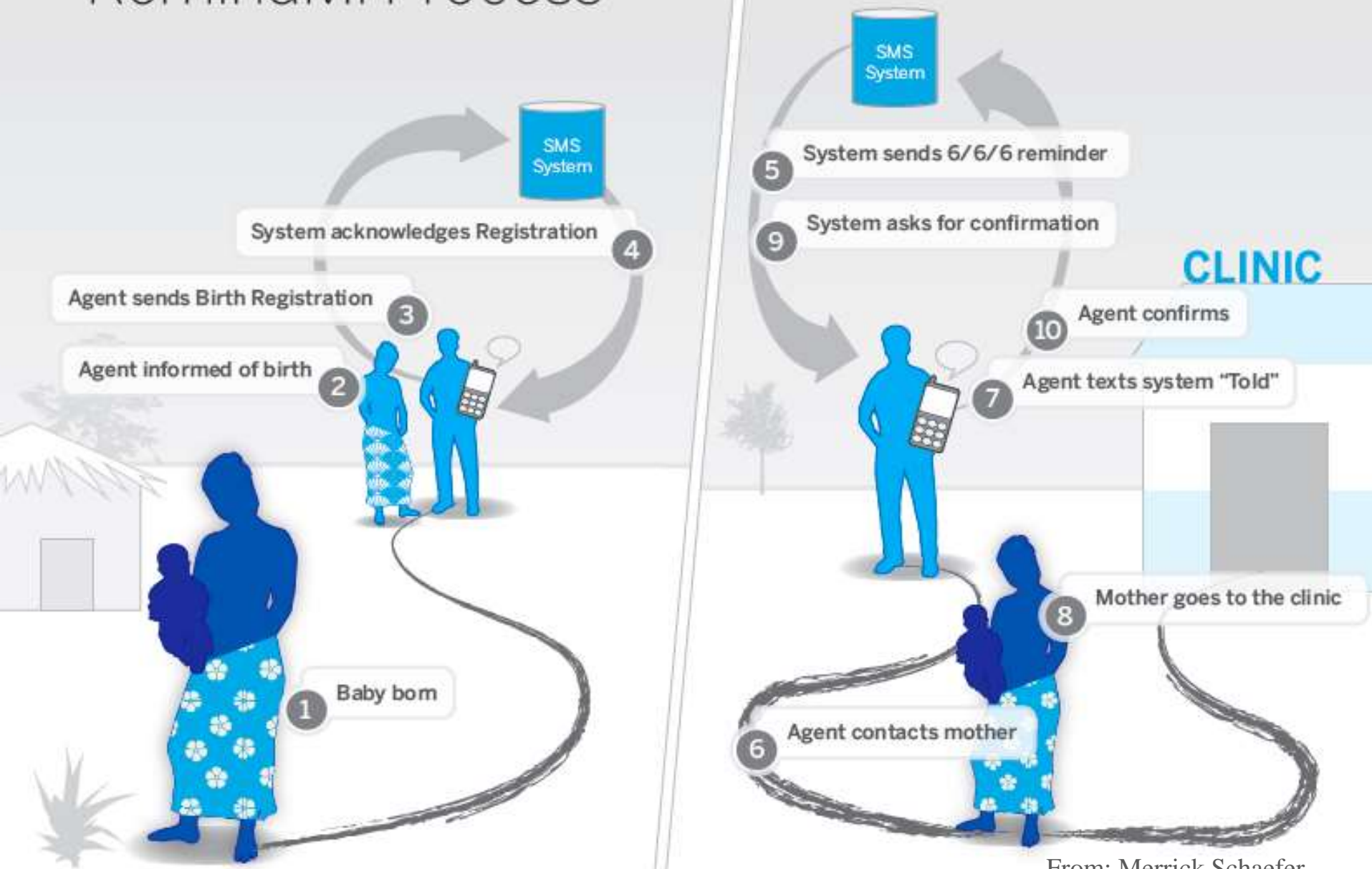
From: Merrick Schaefer
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Results160 Process



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RemindMi Process



Mwana increased results to mothers and decreased turnaround time, which translates into better health outcomes

56% improvement in Turnaround Time of results

Sidenberg et al, Early infant diagnosis of HIV infection in Zambia through mobile phone texting of blood test results, Bulletin of the World Health Organization 2012;90:348-356.

From: Merrick Schaefer
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Mwana increased results to mothers and decreased turnaround time, which translates into better health outcomes

30% more results delivered using SMS

Schaefer, Nicholson, Mugala; Monitoring and Evaluation Presentation to the Zambia Ministry of Health; 2011

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mHealth: The Four C's

Harnessing ubiquitous information and communication technology to **C**ount events, **C**onnect individuals, **C**ompress time and **C**reate opportunities to improve health.

From: Alain B. Labrique, PhD, MHS, MS

Director, JHU Global mHealth Initiative

Assistant Professor

Intermediate Outcomes to Measure

- ✓ Health Knowledge / Demand
- ✓ Enumeration and Accountability
- ✓ Service Competence and Adequacy
- ✓ Availability of Supplies and Staff
- ✓ Effective, Timely referrals
- ✓ Continuity of Care
- ✓ Adherence to Protocols
- ✓ Performance Monitoring
- ✓ Resource Allocation
- ✓ System Efficiencies Gained

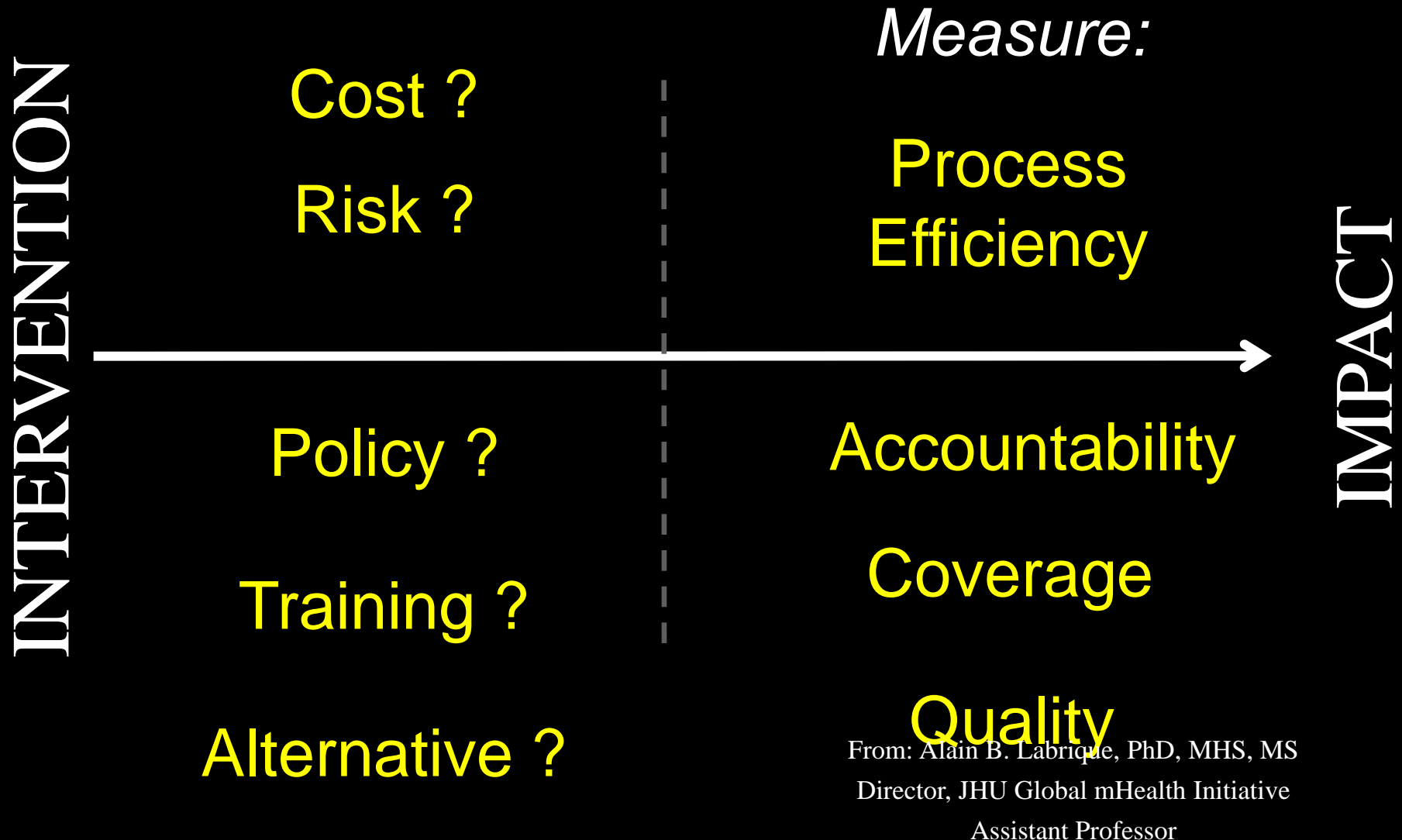


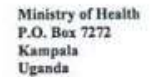
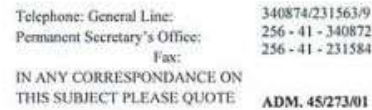
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Director, JHU Global mHealth Initiative

Assistant Professor

Investing in mHealth Strategies ?





17th January, 2012

- All Technical Programmes of MOH
- All Hospital Directors
- All District Health Officers
- All Medical Superintendents
- All key Stakeholders

RE: COORDINATION AND HARMONISATION OF EHEALTH INITIATIVES

Reference is made to the above subject.

The Ministry of Health recognizes the critical role of Information and Communication Technologies in improving the quality of health care, enhancement of human resource development, use of evidence based decision making and ultimately the attainment of the Millennium Development Goals.

While the potential advantages of ICT for development are enormous, we need to put in place an enabling environment guided by a clear eHealth Policy and Strategic Framework.

In order to jointly ensure that all eHealth efforts are harmonized and coordinated, I am directing that ALL eHealth projects/Initiatives be put to halt until:

- Approval is sought from my Office
- Sustainability mechanisms and Ownership have been agreed upon
- Interoperability with the National DHIS2 has been achieved
- Institutional Structures are utilized
- eHealth TWG has reviewed and recommended its Approval

This directive takes immediate effect.

Dr Jane Ruth Aceng

DIRECTOR GENERAL HEALTH SERVICES

Cc Ag: Permanent Secretary

From Silos to Scale...

**Pilot, Vertical
Strategies**



**Health Systems
Integration**

*Innovative,
experimental,
iterative / dynamic,
tolerant of failure,
'proof of concept'*

*Large, complex
systems; stratified
information flows;
simple strategies
preferred*

From: Alain B. Labrique, PhD, MHS, MS

Director, JHU Global mHealth Initiative

Assistant Professor

More information available:



- <https://www.mhealthevidence.org/>
- <http://www.gfmer.ch/mhealth/>

