

Federal Ministry of Health



Public Health Institute



# Encouraging adoption of mHealth solutions by public health authorities

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# Public Health

Specialise in 'the bigger picture'



*“the science and art of preventing disease, prolonging life and promoting health through organised efforts of society.”*



FACULTY OF  
PUBLIC HEALTH

# What is attractive about mobile health solutions for public health?

The population approach: Broad coverage, high penetration

Reducing Inequalities: Interoperability, services in the cloud

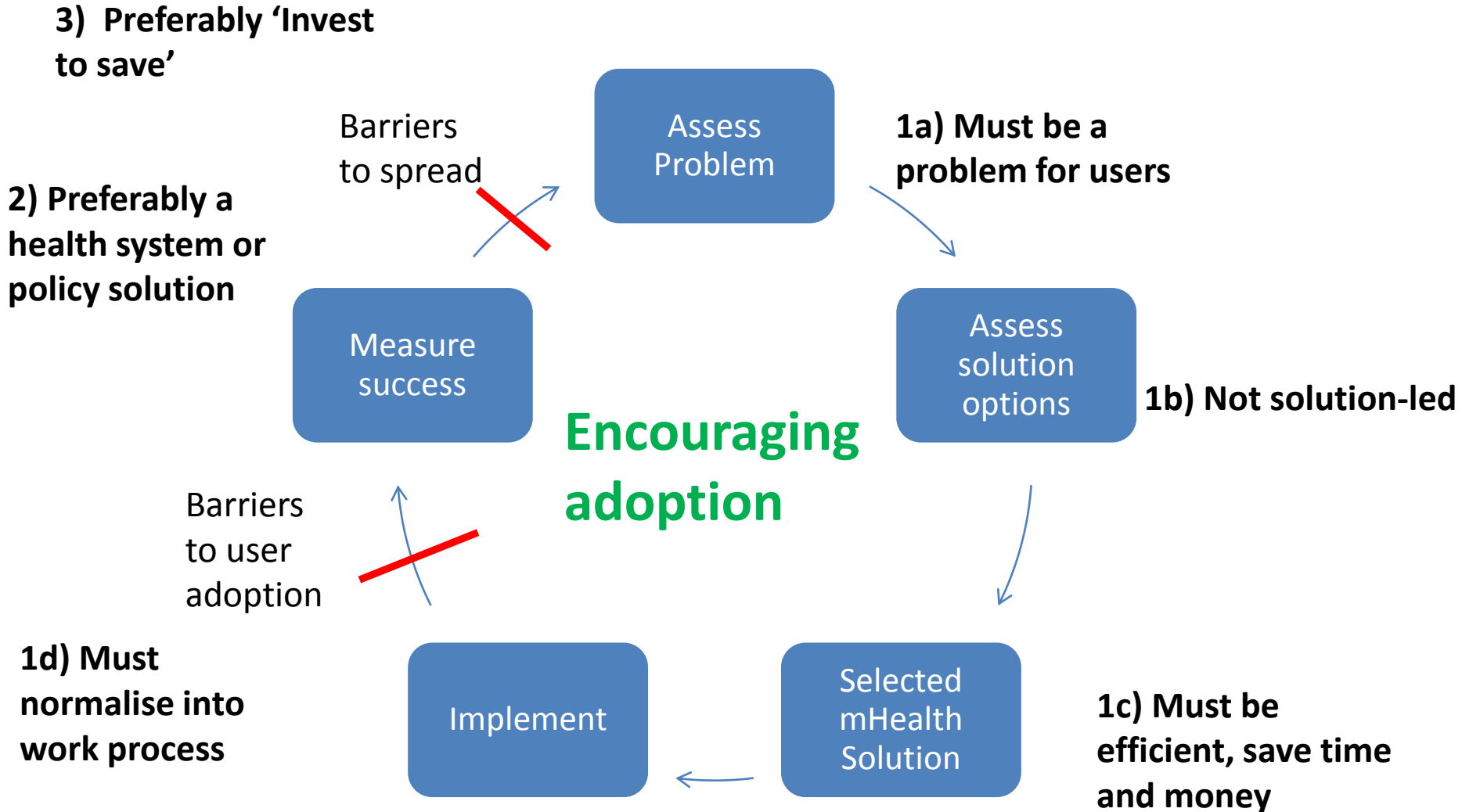
Efficiency and quality: eg Information transfer, better communication, better supervision, health messages to patients and the public

**The main premise of this presentation is that user adoption is more likely if the mHealth solution saves time and that spread is more sustainable if it saves money**

# Hypotheses to encourage adoption

1. Problem based, not solutions-led
2. Health system or policy focused solution,
3. A business case that answers who will pay and why will they continue to pay. Preferably as 'Invest to save'

# mHealth adoption cycle





*Sheffield*

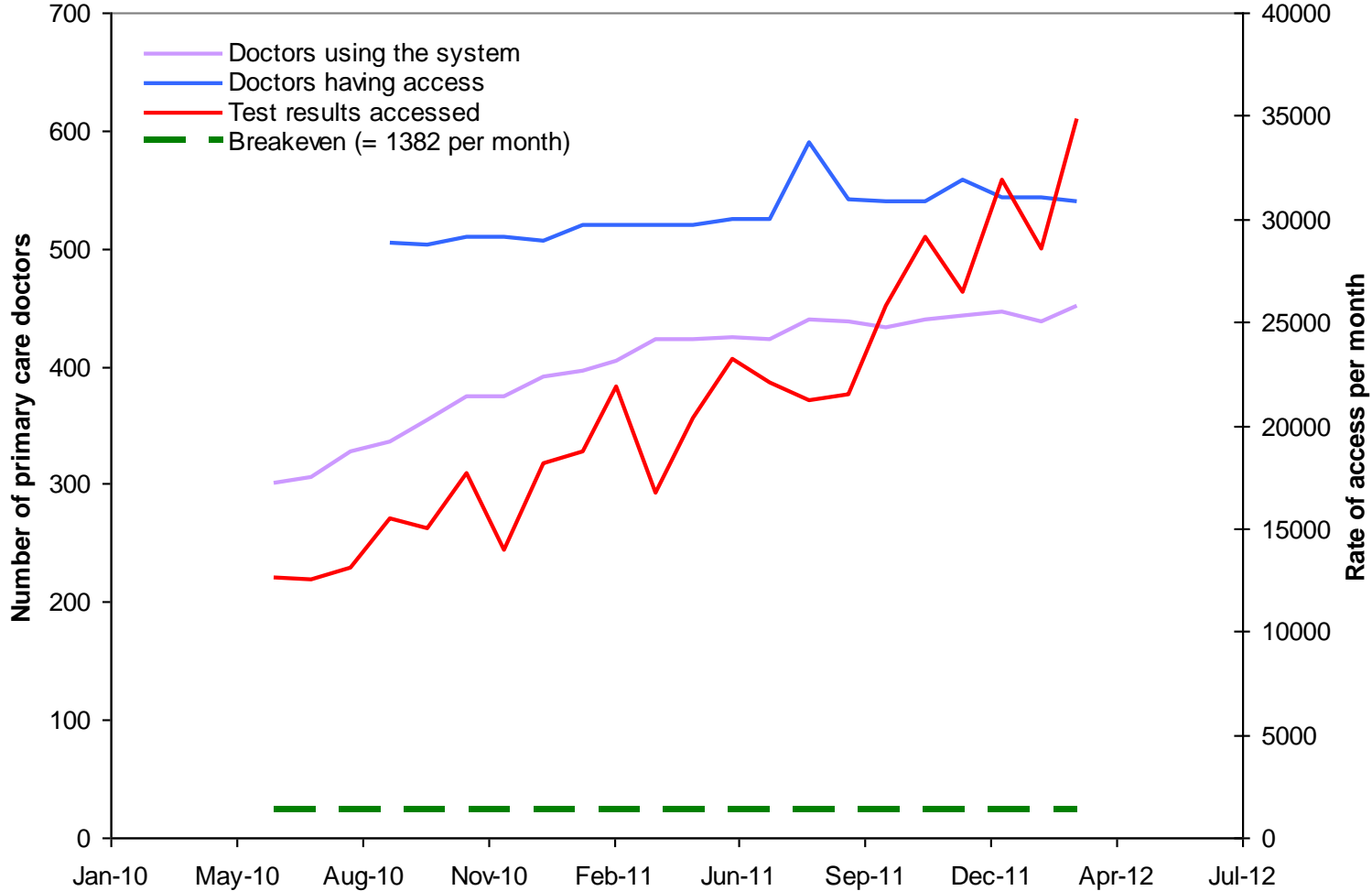
## The case study

In this case study we share the experience of introducing eHealth technology that enabled sharing of clinical tests results between physicians in primary care and secondary care settings, and the healthcare system benefits that accrued as a consequence; some anticipated, some not.

# The eHealth Innovation

- The original business case modelled the costs and benefits for diabetes care, but actual benefits extended to all other clinical areas
- Prior to introduction clinicians complained they could only see the tests results that they had requested. This meant that hospitals repeated tests already carried out by primary care clinicians and visa versa.
- The new system reduced the number of tests that needed to be done, and improved clinical care by including a full set and history of tests

# Growth in system access & user adoption



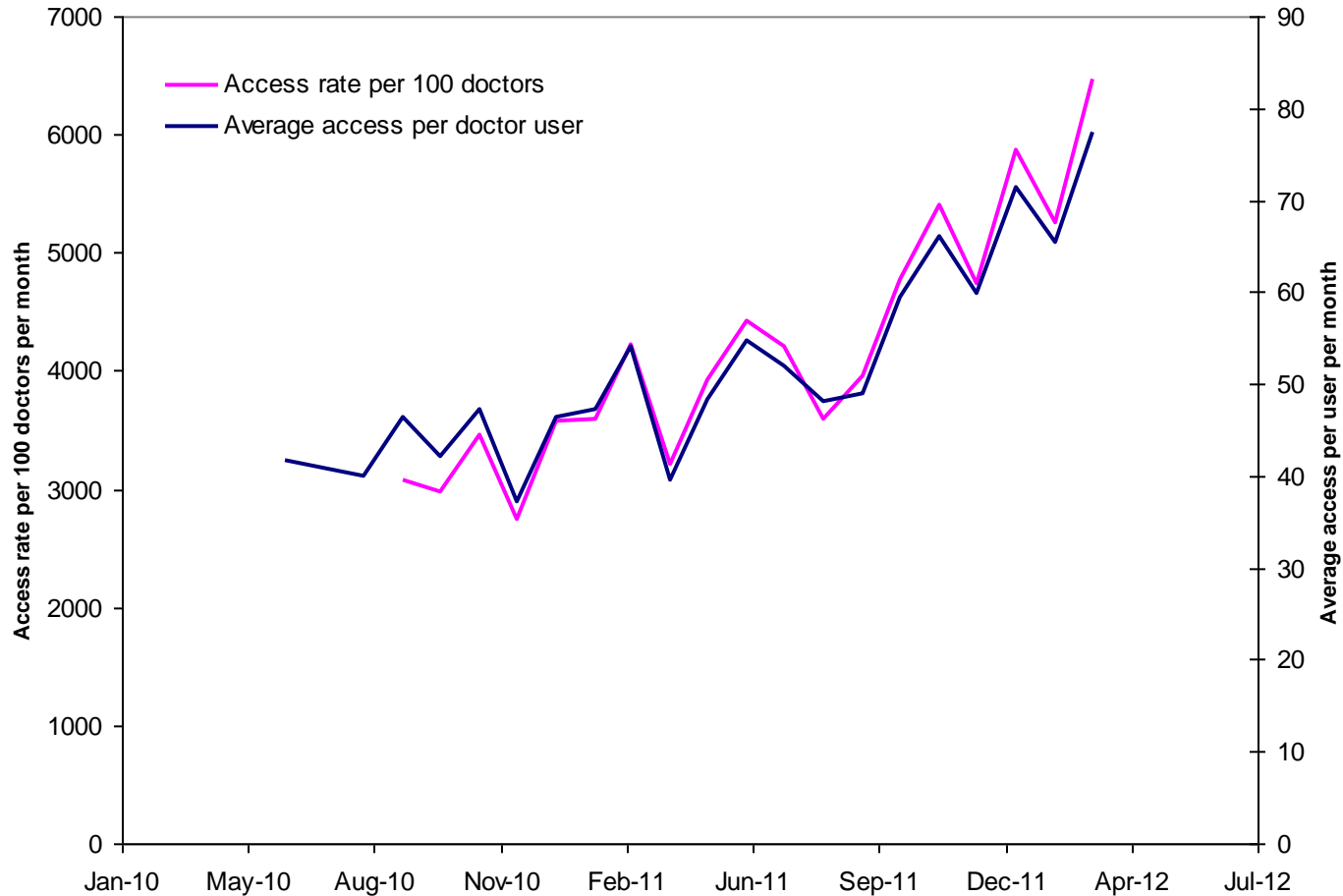
Break even estimated to be 1382 tests avoided per month

Equivalent to one test avoided per twenty instances of GP access (or less)

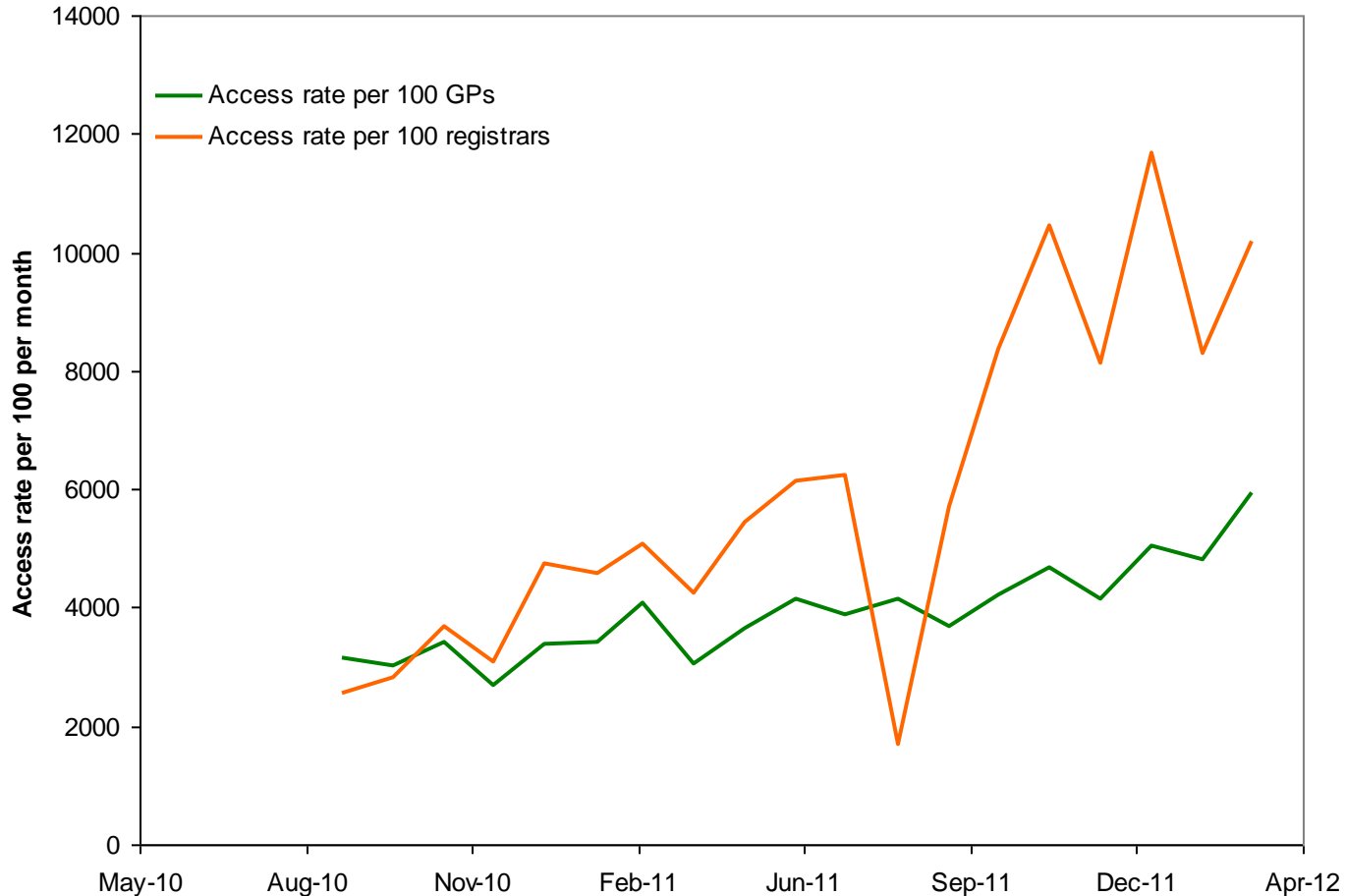
Estimated payback period of around one year



# Per doctor / per user rate of access



# GP versus GP-registrar usage rates

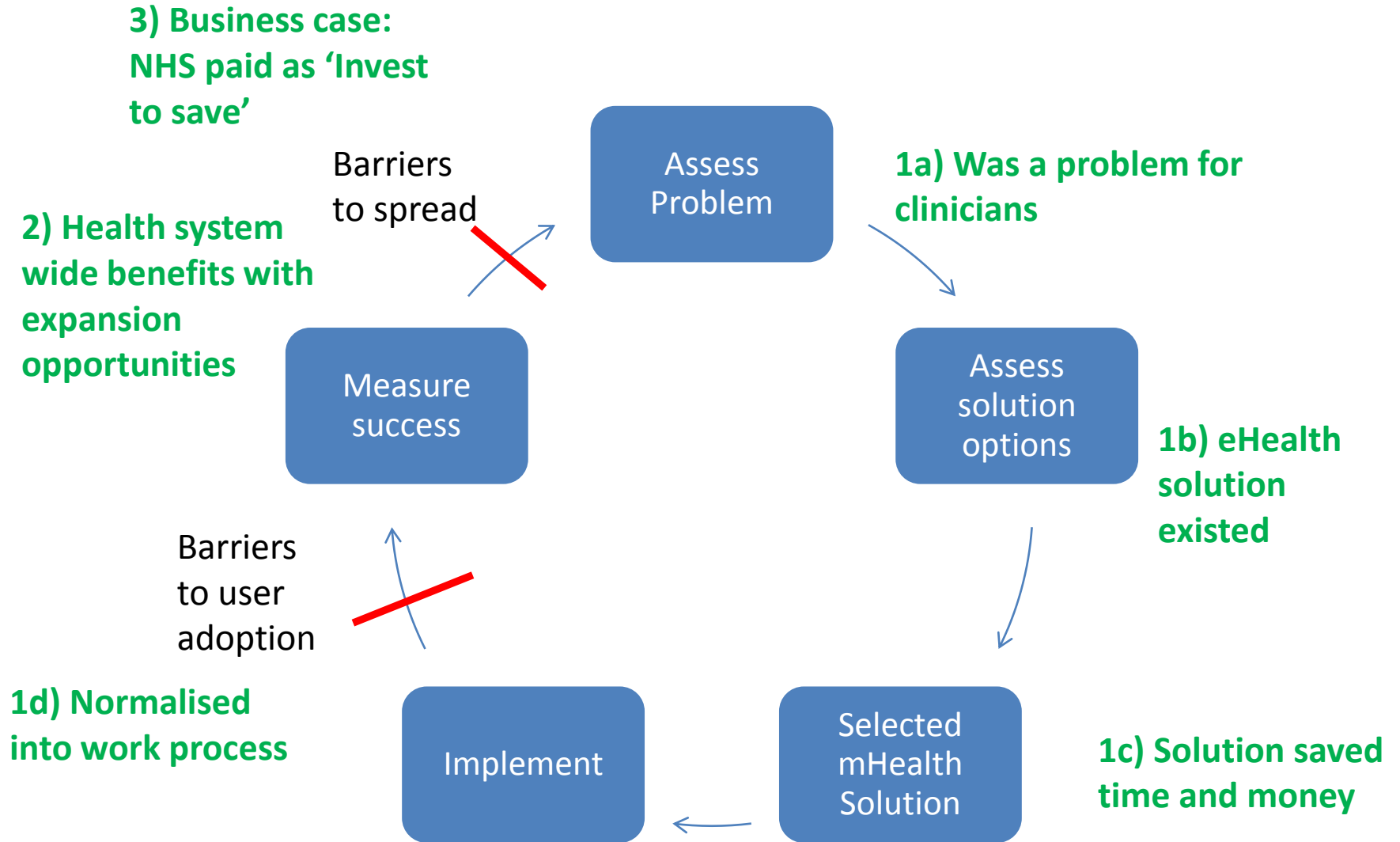


Similar pattern for registrars with high rates of access (>100 uses per month) compared to GPs.

# Clinician feedback

- *“Has avoided unnecessary duplication of testing”*
- *“Where I see hospital test results are normal I can **cancel any further hospital outpatient appointments** thereby reducing costs and inconvenience for my patients”*
- *“I can **monitor what’s happening to my patients in hospital.**”*
- *“Just having the complete test results dataset **makes me feel so much safer** in my practice. I can feel confident that I am aware of the results of the vast majority of investigations the patient has had. **I think the patient probably feels safer too!**”*

# Conclusions



# Snapshots from Sudan

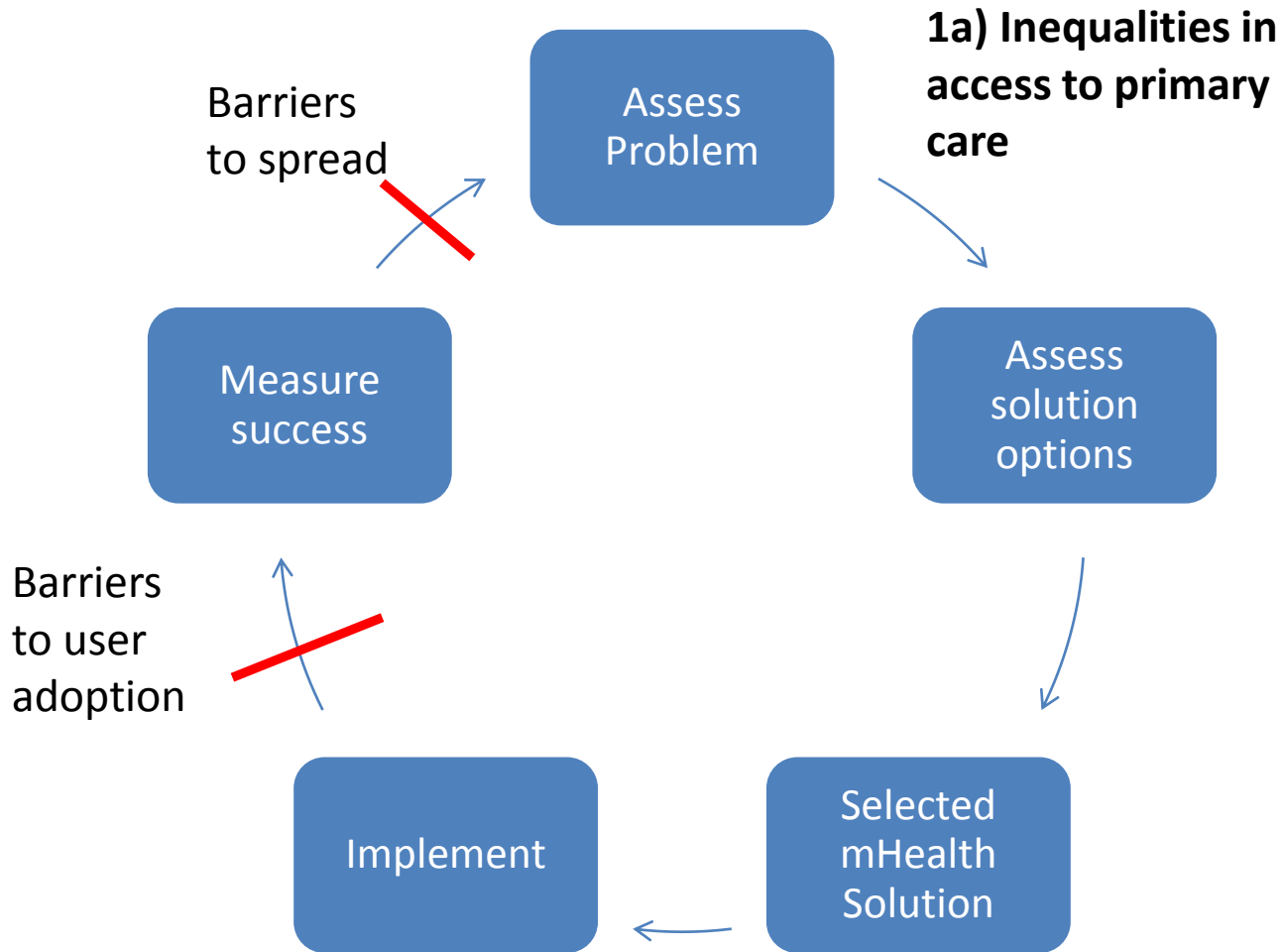


# Sudan e-context



- The Sudan acknowledges the importance of adopting eHealth solutions as an important tool.
- Ministry of Health officials, with the help of international experts, planned strategically to adopt eHealth solutions since 2005.
- Today there are several scattered “eHealth” projects.
- These include the Surveillance project at the Epidemic unit (FMOH), Human Resources Observatory database and the ‘eHealth’ project (a hospital management and information system) under the E-government project.
- All are web-based, in the initial pilot stage and each with their own established networks and regrettably working in isolation.

# Encouraging adoption

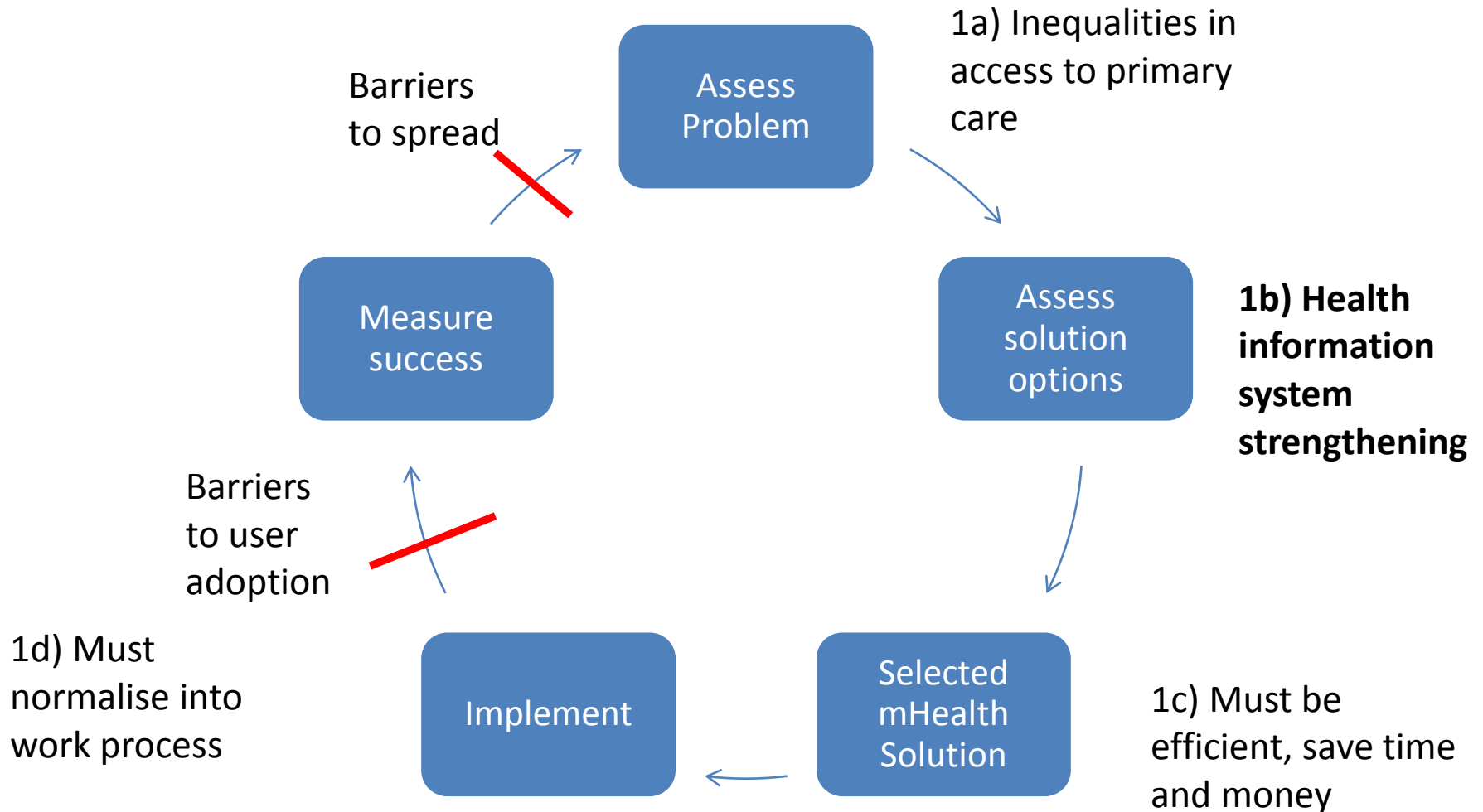


# 1a. The problem...

- 14% of the population do not have a health facility within 5 Km while Sudan's mobile phone penetration is increasing (68%). In one State, only a third of the population have access to a health facilities within 5km
- Only thirty one percent of the PHC facilities provide the full service package . Twelve percent of primary care facilities are not fully functional.
- **The Problem:** Fragmented services and weak referral systems.
- With fragmented or vertical services, even if a solution works in one setting, there are already barriers to transfer to other settings.
- **Solution options:** Outreach service model based on information access and referral mechanisms, build infrastructure, increase staffing



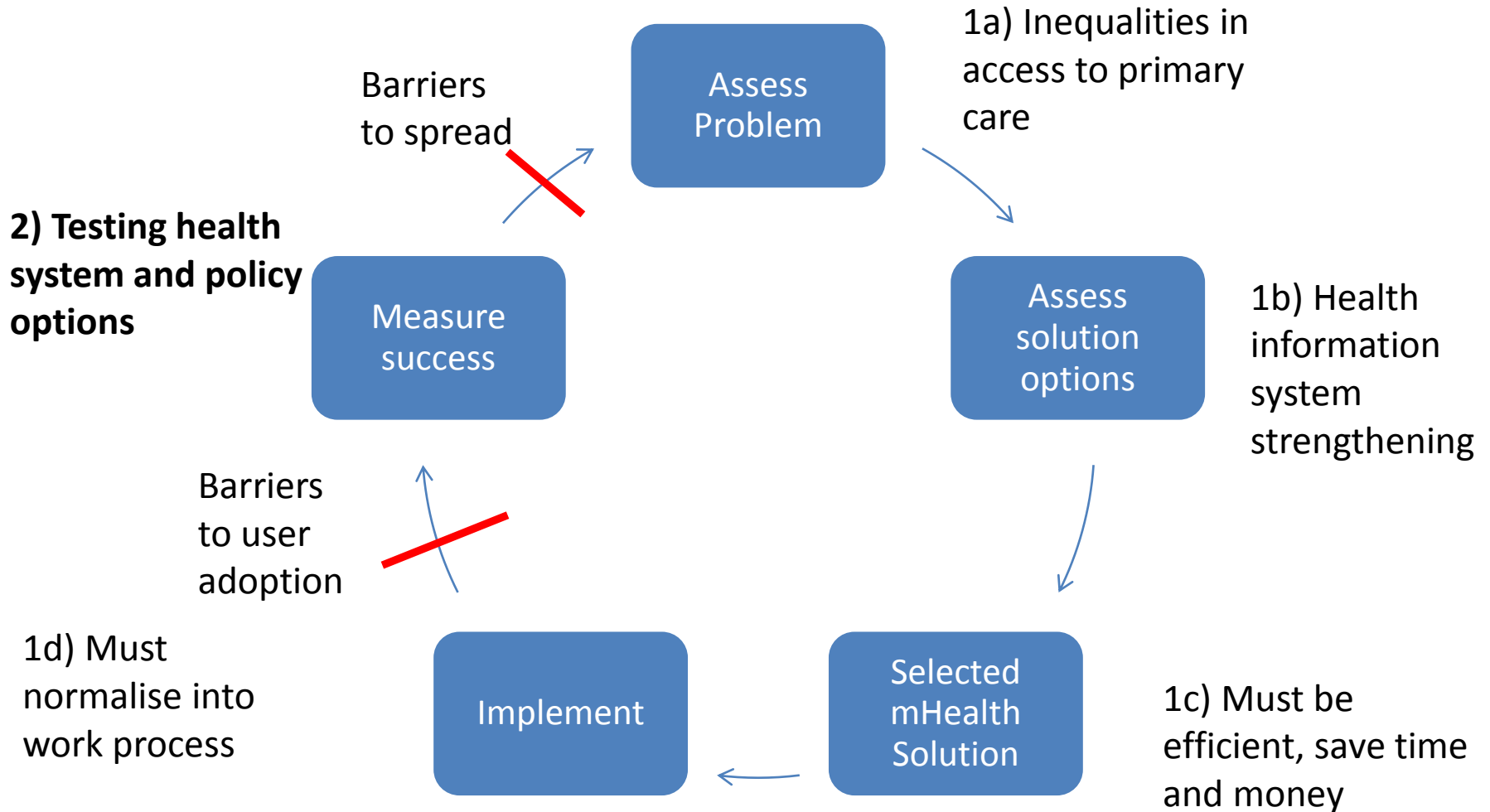
# Encouraging adoption



# 1b. A health system solution

- **The Problem:** Fragmented services, poor information system.
- Historic poor investment in the information system, which is paper based.
- The problem lies in data recording, data warehousing and aggregation.
  
- **The solution:** Efficient health information solutions do exist.
- But we need to justify investment as there is no 'new money'
- A Health information system business case is needed to invest in data warehousing and information transfer.
- We need to **find areas of disinvestment or future savings** in the health information system that can be invested back into the mobile health solution (hence becoming sustainable).

# Encouraging adoption



## 2. Policy options need to be tested...

- Policy makers are keen to try evidence based solutions.
- There is a current research project to attract and retain health workforce in rural areas.
- Policy options will be tested before rolling out (eg Discrete Choice Experiments and Delphi)
- There is an opportunity to mainstream DCE methods
  - web-based solutions exist that can be adopted into mobile solutions (internet or SIM based)
- This may need a '**proof of concept**' or business case to test potential applications/solutions

# Encouraging adoption

3) Extending coverage of health insurance

Barriers to spread

Assess Problem

1a) Inequalities in access to primary care

2) Testing health system and policy options

Measure success

Assess solution options

1b) Health information system strengthening

Barriers to user adoption

Implement

Selected mHealth Solution

1c) Must be efficient, save time and money

1d) Must normalise into work process

# 3. How can we 'invest to save'?

- Health insurance schemes reduce Out of Pocket payments and catastrophic health spending.
- The National Health Insurance Fund (**NHIF**) was established in 1994.
- Coverage through the NHIF at the end of 2011 was 37.3% (formal public sector beneficiaries).
- 15% are covered by other insurance schemes (eg private insurance or employer based health schemes).
- One of the main strategic priorities is for **comprehensive coverage**; to cover the informal sector and the poorest of the poor
- This needs **both mHealth and mMoney solutions**; even simplistically as a mechanism to pay health insurance premiums and/or to pay health workers in remote areas.

# Conclusion

Hypotheses to encourage adoption

1. Problem based, not solutions-led AND
2. Health system or policy focused solution, AND
3. A business case that is 'Invest to save'

There is no denying that mHealth solutions are efficient, but to encourage adoption we do need business cases to **PROVE IT...**



# Acknowledgements

- Public Health Institute & Sudan Federal Ministry of Health
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- GSMA
- Zain Sudan

**THANK YOU**