

The background of the slide is a photograph of several large green umbrellas. The umbrellas are open and their ribs are visible, creating a pattern of dark lines against the green fabric. The lighting is bright, suggesting an outdoor setting. The text is overlaid on this image.

# Mobile Technology for Health

## Bridging the Health System Gap in Maternal Health Care in Poor Countries

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# Background

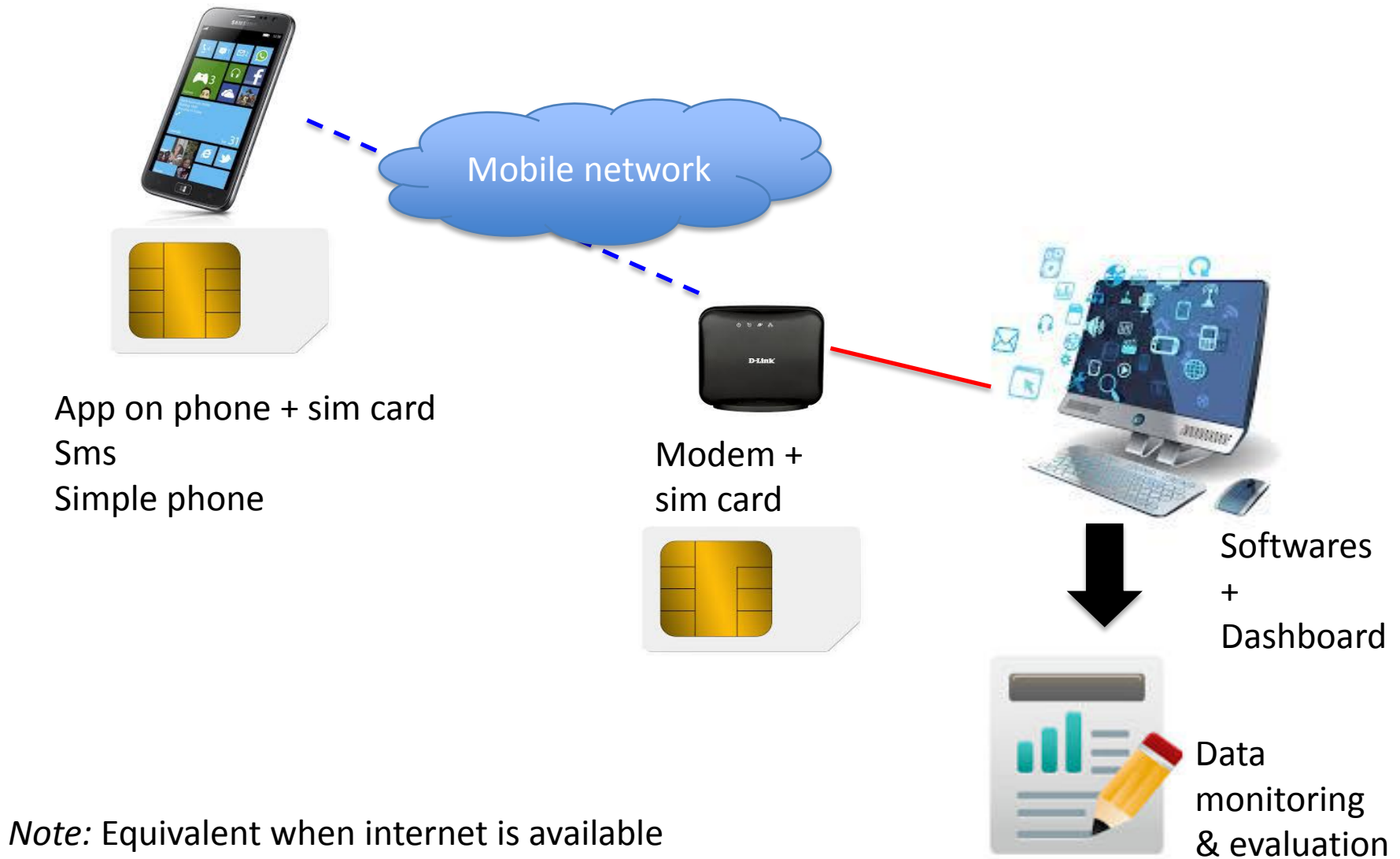
- The massive spread of mobile phones and the growing access to mobile networks in low- and middle-income countries (LMIC), has become a great opportunity for:

leveraging the ubiquity of Mobile Technology for Health (mHealth)

# Main objective

- mHealth (also called ehealth) offers a great promise for strengthening monitoring surveillance capacity and responses
- This talk reviews the current evidence on the specific impacts of mobile technologies on tangible health outcomes, notably maternal and perinatal health in (LMICs).

# Rationale of mHealth



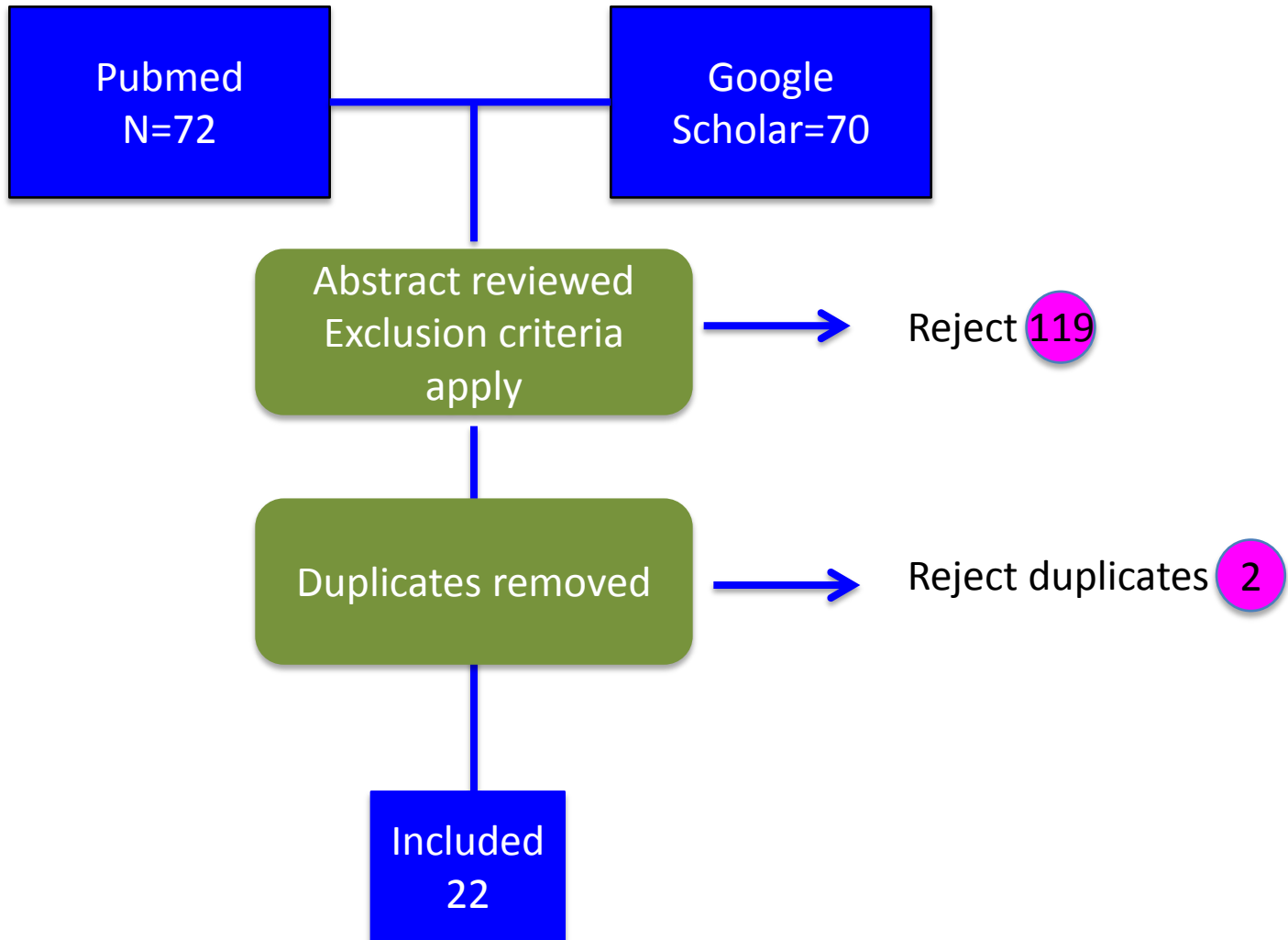
# Methods



A systematic search of peer-reviewed publications were conducted on a series of electronic databases PubMed and Google Scholar for evidence base seeking over the last 10 years. The selection criteria are low-income-countries , mobile or electronic health, maternal and perinatal health status and seeking behavior for skilled health care services.

# Results

In total, 24 peer-reviewed papers were included in the review process



\* peer-reviewed papers

# Results

	Pubmed	Google Search
In low-income- settings in general	1	4
Africa	6	6 (2 in common)
Asia	4	
Middle-East	1	
South America		2
Total (22)	12	12(-2)

The concept of mHealth remains somehow poorly explored in the literature

# Results

## mHealth as an opportunity in maternal health for: contact

- Contacting isolated communities (limited access to health care facilities)
- Improving education and prevention
- Increased appointment compliance in ante- and post-natal care services
- Increased treatment adherence





# Results

## mHealth as an opportunity in maternal health for: strengthening monitoring surveillance + response capacity

- Real time coverage and follow-up of pregnant women and newborns (essential for remote communities)
- Following various maternal and perinatal outcomes
- Preventing adverse pregnancy outcomes such as pregnancy-related complications & maternal/perinatal death rates (identifying women with high risk obstetric care, improving time management, reducing time response, and reducing all the 3 phases of delay when complicated delivery (EmOC)).

# Results

## mHealth as an opportunity in maternal health for: data gathering

- Increased frequency and quality of data (faster data entry and assembly avoidance of the errors, & analysis and storage costs associated with paper surveys, completeness & promptness)
- Availability of institutional and non institutional data on various maternal and perinatal outcomes (abortion, miscarriage, delivery births, still birth, and real time mortality monitoring)

# Results

mHealth as an opportunity in maternal health for:  
creation of a social and interactive environment

(verbal, vocal and sometimes visual)

- Between health providers and women

Participative approach: empowering women to make informed choices in relation to their health

- ✓ Take actions, ask questions (reassurance of pregnant women)
- ✓ Patient decision making
- ✓ Participation in decision for treatment

- Between health workers

- ✓ Interaction for cases and referrals

# Results

## mHealth limitations for:

### ■ Access

Depending on which direction: women to health provider or inversely

- ✓ Still a communication challenge (low network and reception) for remote communities (mainly the marginalized women with some of the worst health outcomes).
- ✓ Difficulty for recruiting and gathering participants
- ✓ Time and dates issues among women
- ✓ Patient engagement/decision making is a new concept
- ✓ Challenge for non- and low-literate women
- ✓ Acceptation of the community (cultural norms)

# Results

## mHealth limitations for:

- Limited scale of intervention

Most mHealth interventions have been focusing on regional and/or national health objectives

- ✓ Lack of representativeness

- Willingness of health workers

- ✓ Irritability, non cooperative attitude, higher burden of work, unskilled staff. Once a complication is reported or anticipated over phone, Community Skilled Birth Attendants either made a prompt visit to mothers or advised for direct referral (it is not often the case)

# Discussion/conclusion

- There have been few mHealth implementation projects in LMIC and they have tended to be small-scale
- While the significance of mHealth is understood, evidence of its potential value and impact on maternal, newborn and child health in LMIC is less clear.
- Difficult to capture women at earlier stages of pregnancy
- Although improved antenatal attendance through the use of SMS /phone appointment reminders, evidence of impacts on maternal and child mortality and morbidity rates is less obvious.
- ◆ **Options to consider:**
  - Using a central toll free number,
  - Increase health provider's skills and knowledge + motivation over the phone
  - Encourage a local health worker at the local level to seek for new pregnant women
  - Forums of discussion with leaders of the community to increase the acceptance of the mHealth system.

Thank you

