

# The Science Behind Flow at Work



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# The Science Behind Flow at Work

**Introduction** [Thecasesolutions.com](http://Thecasesolutions.com)

**What is a Case?**  
A case is a real-world problem that has been solved. It is a story of how a problem was solved, and it is a great way to learn from the experiences of others.

**Why use cases?**  
Cases are a great way to learn from the experiences of others. They provide a real-world context for learning, and they are a great way to see how a problem was solved.

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**Health System Challenges to Scaling Up mHealth**

Based on an unaided/pollable case study in Bangladesh

- Interviewed key stakeholders in the Bangladesh both the public and private health sectors such as the Bangladesh General Family Planning, OHS-AMS, BRAC Health, Scaling Up Economic Program, Grameen USAID Bangladesh, MAMU Project, Save the Children, James P Grant School of Public Health, and more.
- Identified the following barriers to scaling up mHealth technologies in Bangladesh:
  - Infrastructure
  - Financial sustainability
  - Interoperability
  - Variation in capacity
  - Business change
  - Lack of evidence
  - Political landscape

**Develop a tech solution for the following...**

1. Road traffic safety intervention
2. Cardiovascular Disease in rural populations
3. HIV transmission in adolescents
4. Occupational injuries in migrant workers

[http://www.pallevywhere.com/multiple\\_choice\\_polls/94427g03429j](http://www.pallevywhere.com/multiple_choice_polls/94427g03429j)

**The Role of Technology in Disaster Relief and Emergency Response Efforts**

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**Mobile Financing**

**Background**

**Mobile Financing in Kenya**

**Mobile Financing in the Philippines**

**Information Systems & mHealth**

**mHealth Applications in MS**

**mHealth and eHealth Applications to Kenya**

**MS for Life - Tanzania**

**The Impact of mHealth on the Health Sector in Kenya**

## Introduction

### Global Health Context

- Innovations in health derive mainly from the technologies applied to other fields
  - m-health
  - e-health
- Health systems in LMICs still face significant challenges in providing high-quality, affordable and equitable care
- In response, donors, programmers, and policy-makers have increasingly turned towards e-health and m-health
- LMICs, however, sometimes do not have access to the new devices to improve the health of their population

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### Global Health Context

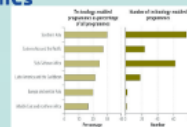
- Despite increased interest, in some LMICs the field is still relatively young
- Few programs have been scaled-up
- Implementation has largely been fragmented and uncoordinated
- Minimal literature on the actual landscape of e-health programs
- Literature primarily consists of articles describing single uses of technology in health care delivery and recommendations for use

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#### The Role of the WHO

- In 2011, WHO set a "Compendium of new and emerging technologies that address global health concerns"
- Intended to encourage dialogue between the producers and the users and foster the production of technologies which can be affordable in LMICs



### mHealth in the Media



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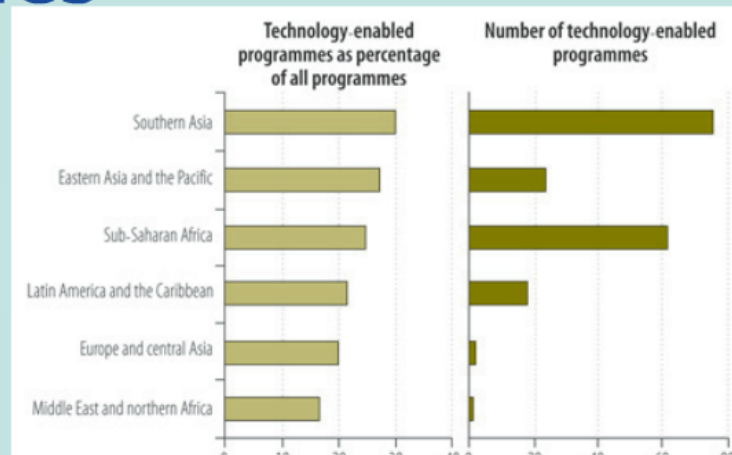
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# The Role of Technology in Disaster Relief and Emergency Response Efforts

## Crowd-Sourcing Crisis Information in Disaster-Affected Haiti: Ushahidi

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- First used in Kenya in 2008
- Provides a way for volunteers to collect information from text messages, blog posts, videos, phone calls, and pictures, which are then mapped in real time
- The end result is a crisis map that provides humanitarian actors on the ground an overview of the situation
- Even in Haiti, where technology is sketchy at best, it proved effective

## Ushahidi

- 1st time open-source platform technology used to respond to a disaster of this scale
- Set up two hours after the Jan. 2010 earthquake
- Short code created for messages and spread via local and national radio stations
- Individuals tested information based on firsthand accounts of:
  - Medical emergencies,
  - Trapped persons, and
  - Specific needs, such as food and water
- Volunteers mapped the GPS coordinates and provided the information to rescue teams on the ground
  - 4,636 volunteers translated 35,586 messages, resulting in 3,596 events mapped on Ushahidi



## Crisis Mapping in Post-Earthquake Haiti

- Still remains a number of unanswered questions about the potential of Ushahidi in disaster response
- However, it undoubtedly changed the public health practice and research in disaster and humanitarian emergencies
- Specifically, it has gained a tremendous momentum among women's rights organizations in Haiti and beyond
- Example: Ayiti SMS SOS
  - In the absence of a formal centralized system for recording cases, uses Ushahidi to document and map incidents of violence
  - Reports received via text message
  - Individual receives an immediate response and incident reports are forwarded to partner organization for follow-up if necessary
  - Operational in 50 camps managed, reaching ~150,000 people

## Attacks on Health Workers

- During recent uprising in Bahrain, Syria and Libya, security forces obstructed access to health facilities; harassed, arrested, and prosecuted medical personnel
- In Ciudad Juarez, Mexico, criminal organizations have killed and abducted health workers and interfered with patient-care for decades. Consequently, doctors and nurses have fled and 60% of the city's clinics have closed
- Assaults like this have long been part of the landscape of armed and civil conflict
- So, why hasn't much been done?
  - Dearth of regular reporting on the frequency and impacts of the assaults
  - Absence of accountability mechanisms for perpetrators
- This has allowed these attacks to continue without impunity

## Existing Evidence

- HR organizations occasionally write reports on attacks on health care, but there is no international mechanism for systematic monitoring
- Research on intermediate and longer-term impacts on access to and quality of care is limited, because relevant data is hard to obtain
  - Connection between attacks on facilities and health worker migration?
  - Impact of infrastructure distribution of health care worker flight on access to essential services?
- In 2011, ICRC published the first study to identify incidences of violence across multiple states (16 countries, two-year period)
  - 655 discrete incidences of violence or threats leading to the death or wounding of 1,800+ people, including:
    - 463 damaged health facilities
    - 200 attacks on medical vehicles or personnel on route to a facility
- Likely a significant underestimate - compiled from Humanitarian organizations and on media accounts

Source: Physicians for Human Rights and Médecins Sans Frontières, "Responsibility for Protection of Health Workers and Facilities in Armed Conflict," January 2012, <http://www.phr.org/press/20120109-armed-conflict-report>

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## 2012 and Beyond: How Technology Plays a Role

- Began with a U.S. State Department initiative
  - Embassies instructed to seek information about attacks on or obstruction of health care services for inclusion in its annual country reports
- Important step, but insufficient to fill documentation gap, which requires systematic reporting
- In Jan. 2012, WHO Director acknowledged the problem as a "challenge to the global health community" and tasked the WHO with the responsibility of collecting and reporting data on attacks during complex humanitarian emergencies

## 2012 and Beyond: How Technology Plays a Role

- Current online databases exist, but none that utilize mobile technology
- Marius: Humanitarian Rights Bulletin System
  - Enables grassroots NGOs to create a searchable and encrypted database on an off-site server
  - Easy to use as email, can run on an inexpensive computer
  - Does not require a constant connection to the internet
  - Secure - records are encrypted, stored securely at a remote site, backed up to multiple locations and protected by a unique password
- Challenges?
  - Cost
  - Installation
  - Languages
  - Ease of Uptake
  - SECURITY!

## 2012 and Beyond: The Role of JHSPH

The Center for Health and Human Rights is developing a mobile data collection platform to document these attacks

Team is in the process of finalizing a draft instrument

Utilizing a system like KoboToolbox or MagPI, field staff will be able to collect data on a mobile device and transfer it to a computer for rapid analysis

In partnership with Backpack Health Workers, the technology will be piloted in Burma in summer 2013



## A Recent Technological Innovation to Protect Aid Workers: Smart Bracelets

- Developed by the Civil Rights Defenders
- Named after Natalia Estemirova, a human rights defender who was murdered within 24 hours of being kidnapped in 2009
- Bracelet features both GPS and cellular technology and can be activated either manually or if forcibly removed
- It then sends out an alert signal to the CRD's headquarters in Stockholm as well as nearby aid workers and law enforcement
- Includes a time stamp and the location based on mobile phone triangulation
  - Utilizes social media (Twitter, Facebook, Email) to then send out predetermined messages and recommended courses of action to those who sign on to the project
- Hope is that it will enable a quick response and draw widespread public attention and pressure
- Small-scale project: Plans to distribute 55 by 2014



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