

# Mobiles in Malawi

a rural healthcare initiative





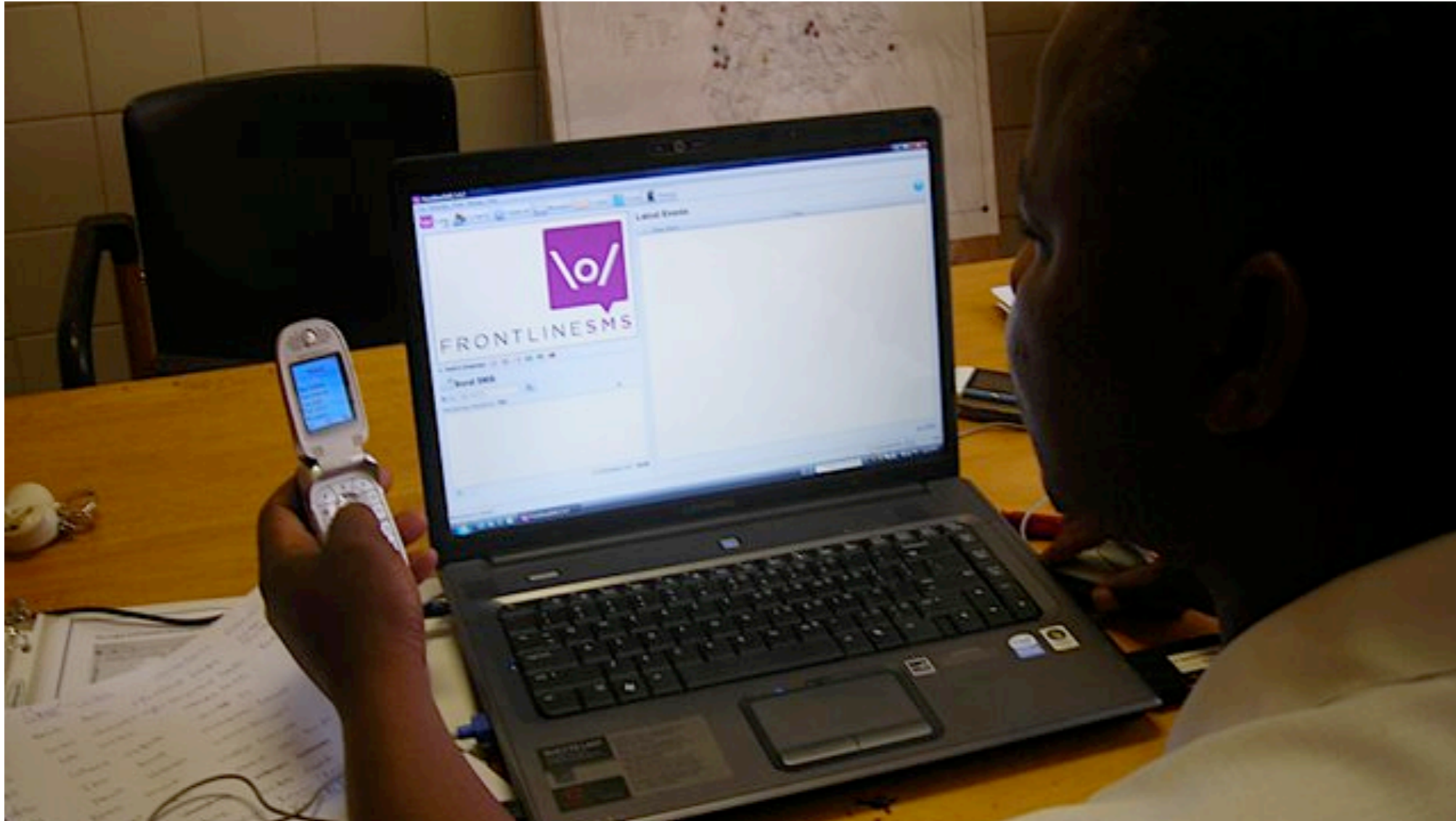
# Namitete, Malawi



# St. Gabriel's Hospital

- 1/4 million people
- 100 miles in each direction
  - 2 doctors
  - 400+ CHWs





# FrontlineSMS + Healthcare



Recycled cell phones



\$10/handset



Labels

ID #s



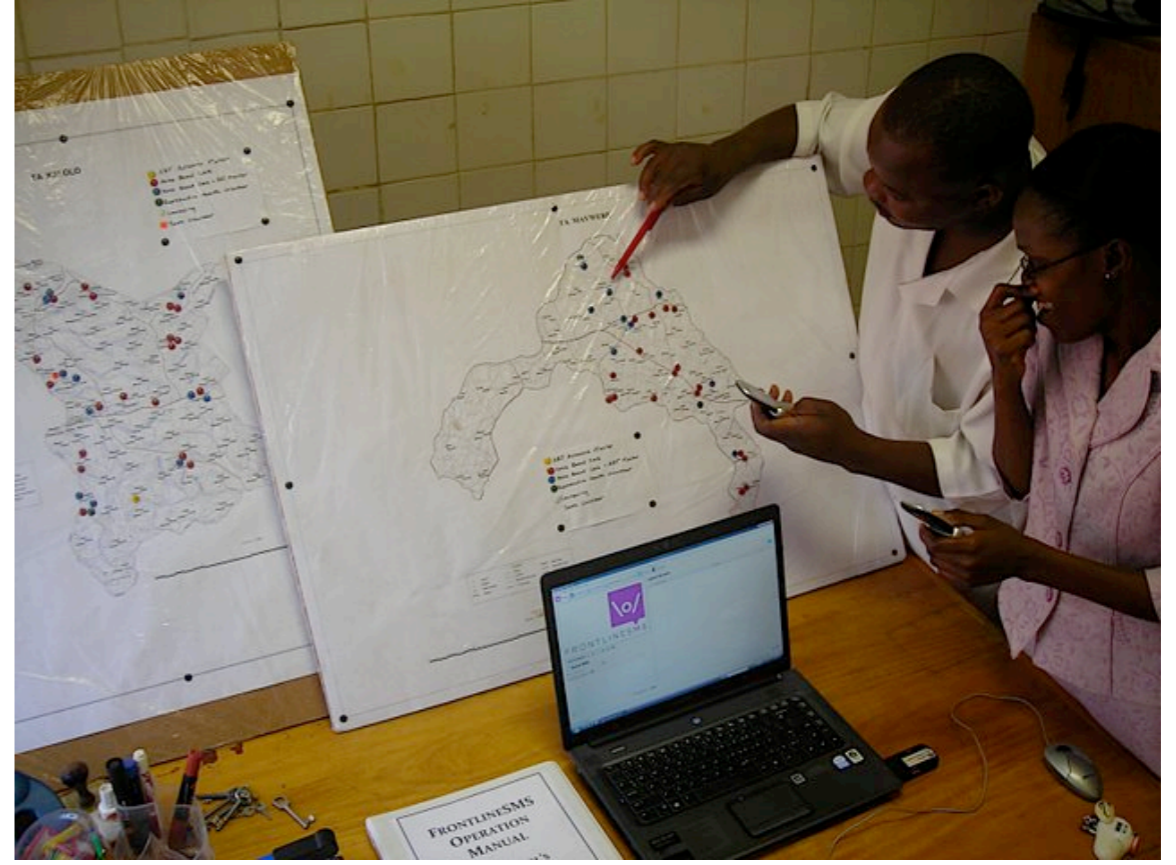
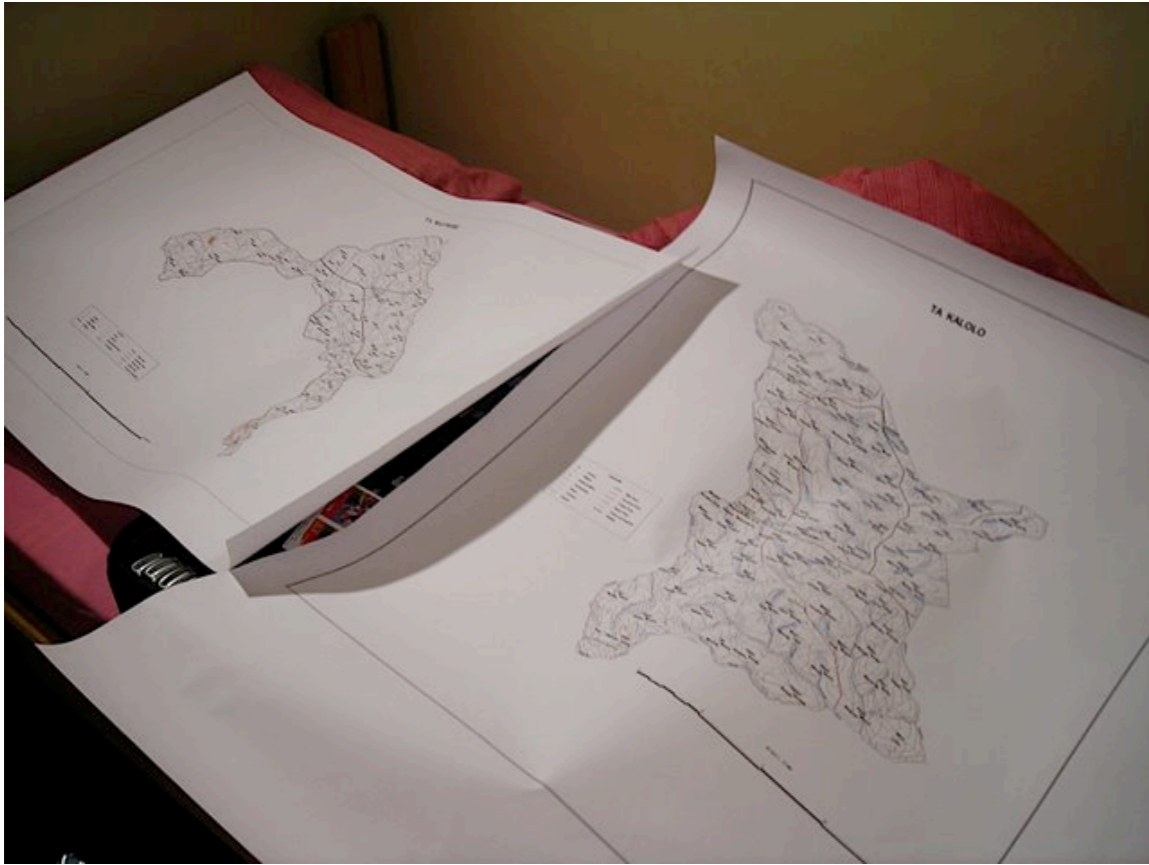




# CHW Training









# Now...

- Requests for remote patient care
- Tracking patients and doing follow-ups via SMS
- Auto-replies with correct drug dosage/usage info
- HIV + TB drug adherence records
- Patient status records
- Coordinate and mobilize



# Medical response



- 130 patients in 5 months
- 500 hrs saved
- 520 patient updates
- \$1,000 in fuel saved







**400 ART adherence updates**

**900 hours of travel time saved**



700 hours of follow-up time saved

\$2,000 in motorbike fuel saved

100 new patients enrolled in TB treatment program



CHW in village with cell phone

to

FrontlineSMS at hospital

to

Gmail

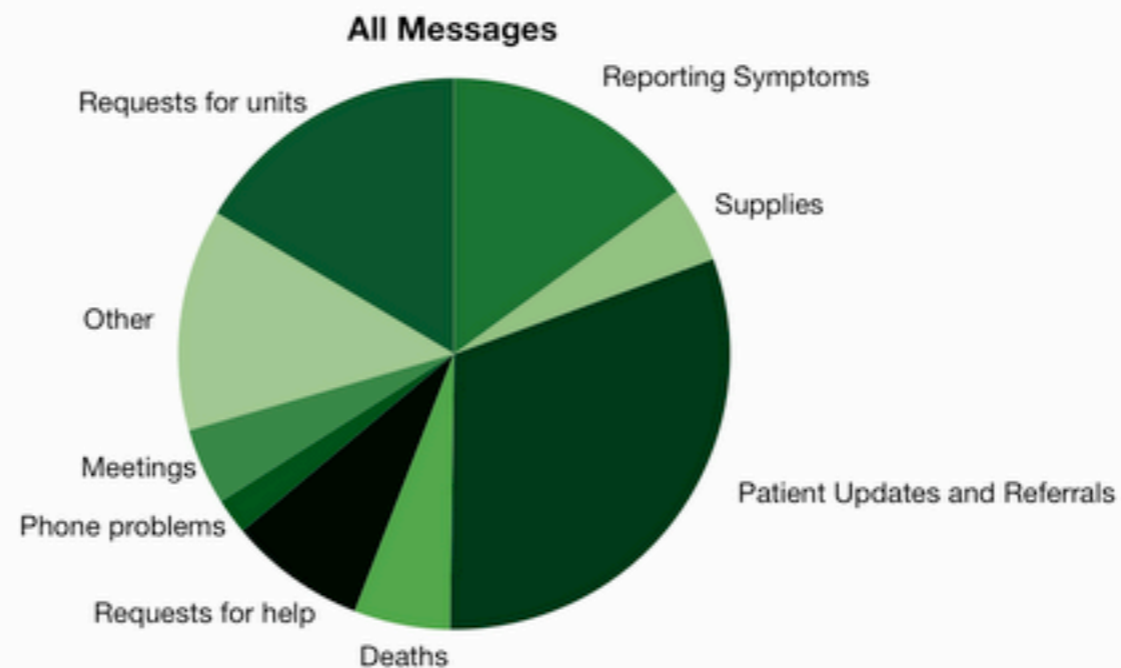
to

iPhone at Stanford



# Translate Chichewa to English, and code every SMS...

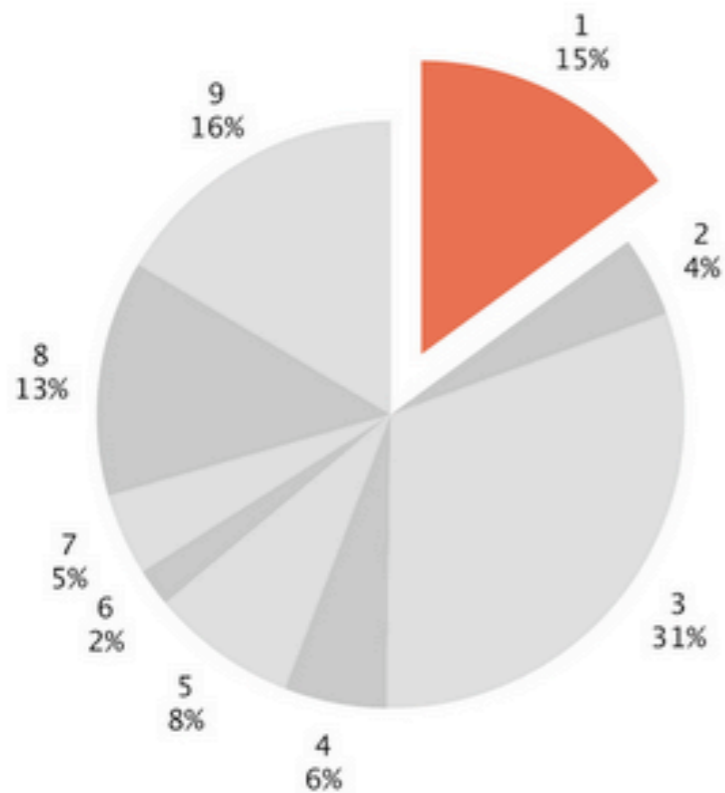
| Purpose of Message              | Number of Messages | Percent of Total |
|---------------------------------|--------------------|------------------|
| Report Symptoms                 | 199                | 14.96%           |
| Supplies                        | 59                 | 4.44%            |
| Patient Reporting and Referrals | 410                | 30.83%           |
| Deaths                          | 75                 | 5.64%            |
| Request for Help                | 107                | 8.05%            |
| Phone Problems                  | 28                 | 2.11%            |
| Meetings                        | 60                 | 4.51%            |
| Other                           | 173                | 13.00%           |
| Request for Units               | 219                | 16.47%           |
| Total                           | 1330               | 100%             |



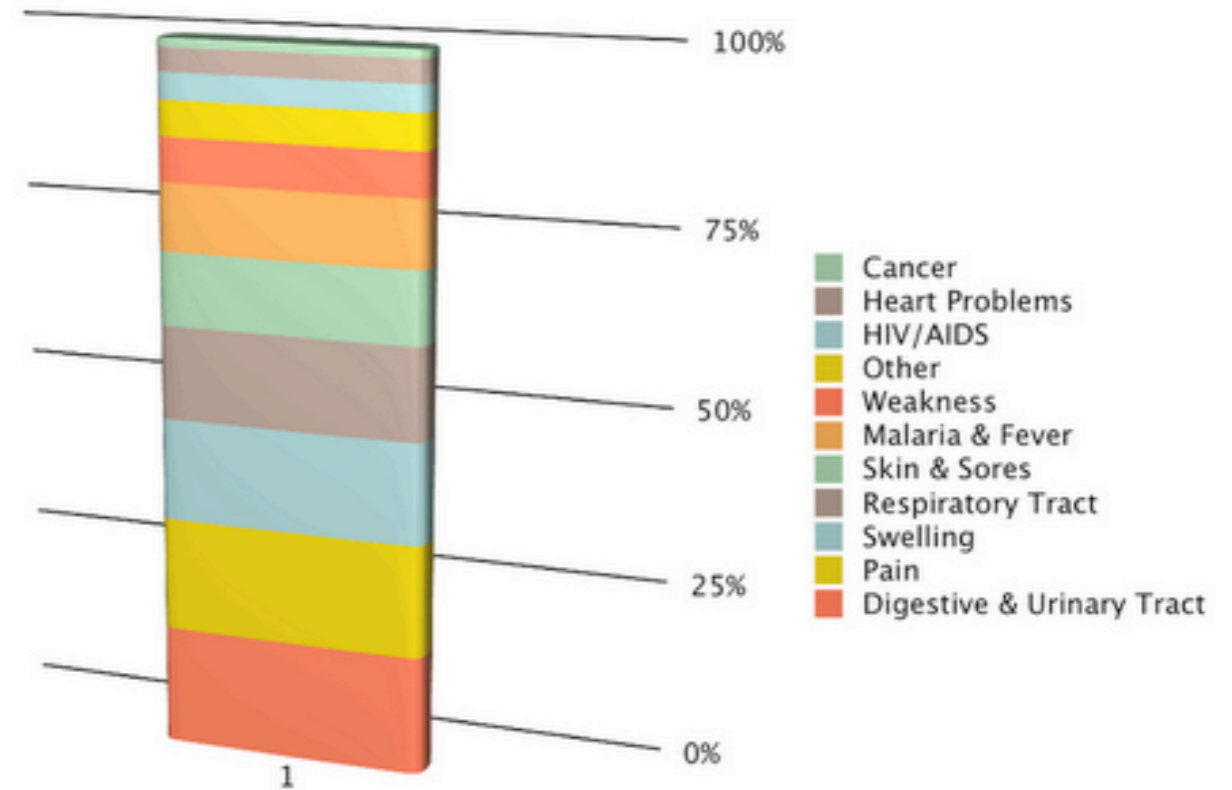


# Symptoms within incoming text messages

| Symptom/Illness Classification | Number of Messages |
|--------------------------------|--------------------|
| Digestive & Urinary Tract      | 41                 |
| Pain                           | 39                 |
| Swelling                       | 35                 |
| Respiratory Tract              | 32                 |
| Skin & Sores                   | 25                 |
| Malaria & Fever                | 23                 |
| Weakness                       | 15                 |
| Other                          | 12                 |
| HIV/AIDS                       | 9                  |
| Heart Problems                 | 8                  |
| Cancer                         | 3                  |



Symptom Analysis



# Things we had to figure out, on the ground:

1. Getting communication credit to the CHWs
2. Charging the phones





# “34\_Units”











FRONTLINES SMS MEDIC



# Why FrontlineSMS Works

1. It is free
2. Works with readily-available hardware
3. Doesn't require an internet connection
4. Intuitive and easy to use
5. The hospital found the tool, and not the other way around
6. Straightforward features enable local ownership and creativity
7. Only need 10 seconds to demonstrate the tech's purpose





# Thanks!



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