Fast Data? Using mobile phone technology to collect survey data in Malawi, Ethiopia, and Rwanda

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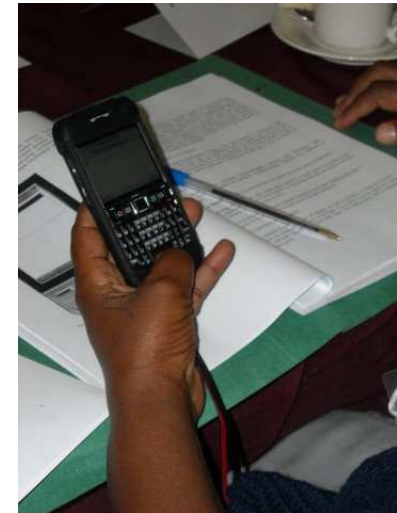
Project Goal

SC4CCM will identify, demonstrate, and institutionalize supply chain management practices that improve the availability and use of selected essential health products in community-based programs

In partnership with MOH, CCM and supply chain stakeholders in Malawi, Ethiopia and Rwanda

Baseline Surveys

Baseline objective:

Assess the supply chain for CCM and other tracer medicines to understand existing challenges and opportunities in reaching the community level

Quantitative data collection tool:

LIAT (Logistics Indicator Assessment Tool)
23 pages long on paper

Data Collection Approach

- Data collected using **EpiSurveyor Mobile** by DataDyne (http://www.datadyne.org/episurveyor)

- Nokia e71 and Nokia e63 smart phones

- Before each survey:
  - 7 day data collector training on EpiSurveyor AND supply chain logistics competencies
  - 1.5 day field test at district, HC and CHW sites

- Questionnaires included interview, observation, record review and stock counting

EpiSurveyor phone screen shots
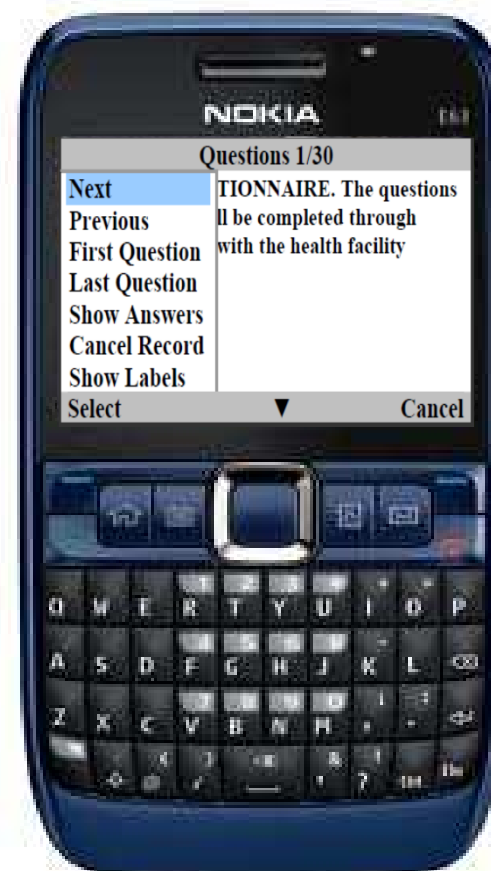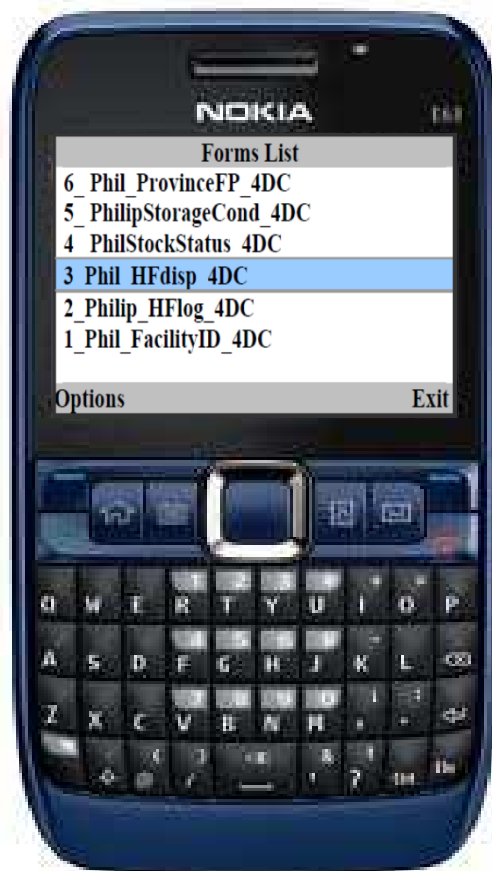
Malawi

System Level Visited in 10 Districts	Sites	EpiS Forms per Level	Forms Total
Regional medical stores (RMS)	3	3	9
District health office and pharmacy	10	2	20
Health Centres	81	7	567
HSAs (Community level health workers)	248	5	1,240

Dates of field work: May 6 – June 11, 2010

Total forms collected (with 30-100 Qs each): 1,836
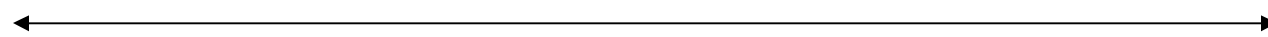
Data collectors: 10

Smart phones: 10

Days in the field: ~27

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Ethiopia

System Level Visited in 4 Regions	Sites	EpiS Forms per Level	Forms Total
Regional Health Bureaus (RHB)	4	3	12
Zonal Health Office (ZHO)	10	3	30
Woreda Health Office (WHO)	28	6	168
Health Centres	84	8	672
HEWs (Community level health workers)	252	5	1,260

Dates of field work: July 1 – August 27, 2010

Total forms collected (with 30-100 Qs each): 2,142

Data collectors: 12

Smart Phones: 16 (also provided to 4 team supervisors)

Days in the field: ~40

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Rwanda

System Level Visited in 10 Districts	Sites	EpiS Forms per Level	Forms Total
District stores	10	4	40
Health Centres	103	8	824
ASCBs (Community level health workers)	348	4	1,392

Dates of field work: September 8 – November 30, 2010

Total forms (with 30-100 Qs each): 2,256

Data collectors: 15

Smart Phones: 19 (also provided to 4 team supervisors)

Days in the field: ~32

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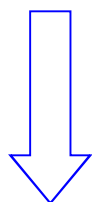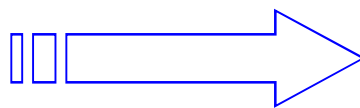
Data Flow from the Field

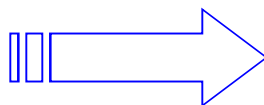Data sent from the field to the online database via mobile phone in Malawi & Rwanda and via computer in Ethiopia

**Malawi: Variable
Ethiopia: Poor
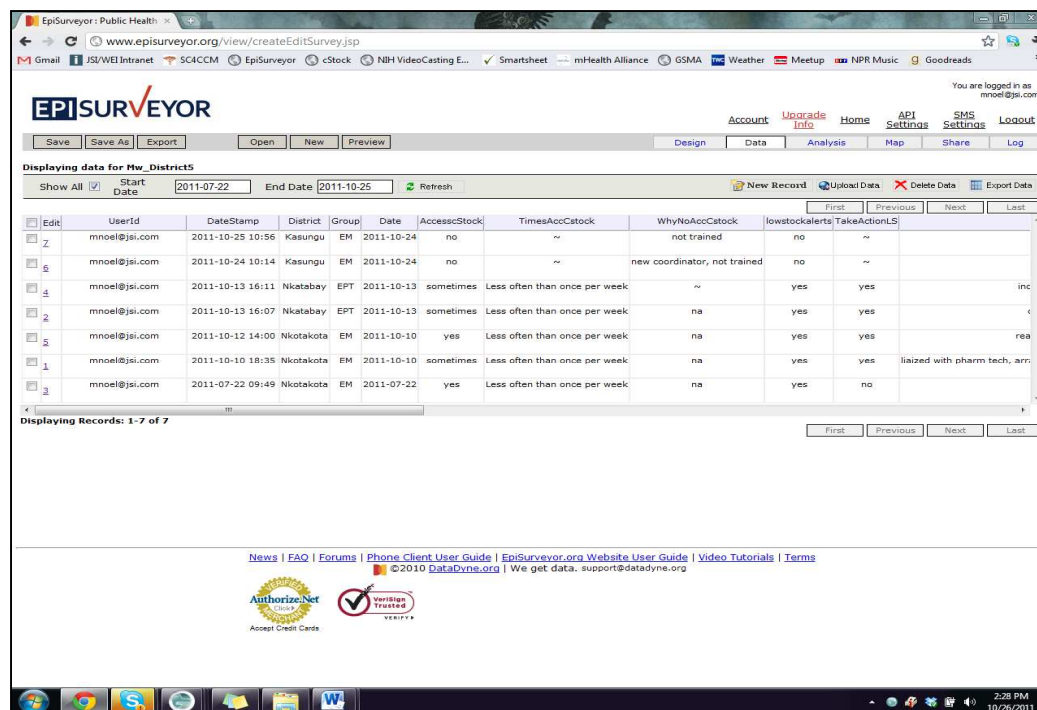Rwanda: Good**

Malawi, Rwanda

Ethiopia

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Data to Interventions

Taking M&E data from field to action:

- Inventory & Preparation

- Analysis

- Validation Workshops

- Brainstorm and Develop Interventions

Data Collection Tools: Advantages of Mobile vs. Paper

Paper	Mobile*
Data entry is a separate step, can take months to complete	Data are entered and available **immediately**
Quality or consistency issues in the field may go unnoticed	Data visibility during field work leads to improved management and quality
Difficult to manage papers at the interview/observation site	Phones are compact and most forms organized in one place
Risk of losing data from damaged papers	Electronic forms are safer; not as easy to lose or damage (if backed up)
Need storage space for forms	No physical space needed to store

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Lessons Learned

Mobile technology IS a viable means of data collection for large baseline assessments, but consider:

- ✧ **Consistent mobile phone network capability** is important to ensure:
    - ✧ Consistent and timely data transmission
    - ✧ Timely feedback to data collectors

- ✧ Capacity of mobile technology for large surveys **still improving**

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Lessons Learned

Mobile technology IS a viable means of data collection for large baseline assessments, but consider:

- ✧ Estimated time savings in data entry partially offset by time spent on:
  - ✧ preparations
  - ✧ additional training
  - ✧ inventorying electronic records/records management

- ✧ High time investment up front pays off if the survey and mobile technology are used in multiple countries

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Lessons Learned

Mobile technology IS a viable means of data collection for large baseline assessments, but consider:

✧ Not possible (yet) to build graphs or tables, so each data element must be captured with one question and can result in cumbersome, long questionnaires

✧ For large assessments, additional payment may be required for access to adequate number of fields on forms and essential data storage space

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Recommendations

- ✦ Assess network capability for functionality in the field
- ✦ Consider purchasing an EpiS ProUser account for access to programmer assistance at all times
- ✦ Keep forms as short as possible
- ✦ Seek data collectors with previous experience using cell or smart phones
- ✦ Define clear protocols for supervision and data review on an ongoing basis to ensure data quality
- ✦ Limit editing rights on EpiS to 1-2 designated individuals who will manage data throughout the survey

Thank You

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