

Sustainable Drug Seller Initiatives Partners



Development and Use of Database and Mobile Technology to Improve Pharmacy Council Operations

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ITIDO/SDSI - Tanzania

Stakeholder Dissemination Meeting

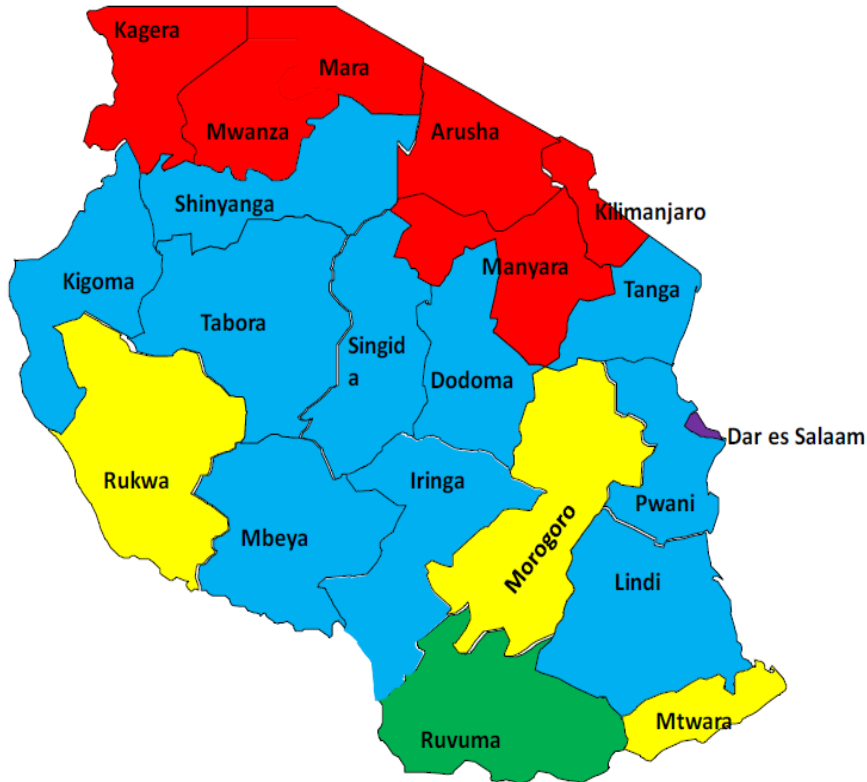
Africana Hotel - Kampala

August 20, 2014



ADDO Program from Pilot to National Scale

ADDO Program Implementation in Tanzania: 2003-2013



Program status as of June 2014

Population (m)	47.7
Districts with ADDO	159
Total districts	159
% of districts with ADDO	100
Mapped total medicine shops	9,226
Total accredited	6,086
% of shops accredited	64
No. dispensers trained	19,140
Trained inspectors	3,262
Years since start of program	10

Pilot region

Centralized
scale up

Decentralized
scale up-phase 1

Decentralized
scale up-phase 2



SDSI Tanzania Objectives

1. Enhance accredited drug seller initiatives' long-term sustainability, contributions to community-based access to medicines and care, and ability to adapt to changing health needs and health system context

2. Define and characterize information related to consumer access to and use of medicines and facilitate its use in developing public health policy, regulatory standards, and treatment guidelines



SDSI -TZ Focus Areas on Maintenance and Sustainability



Challenges/Rationale – Technology Integration to PC

- Large number of personnel and premises for PC to oversee
- Adequate facilities for PC to register and maintain records of premises and personnel
- Many of the premises particularly ADDOs are located in rural areas posing communication, reporting and oversight challenges
- Inefficient mechanisms to collect fees from drug outlets and professionals



Objectives

- To explore the feasibility of utilizing mobile technology in strengthening ADDO and Pharmacy services:
 - Facilitate communication with Pharmacy Council
 - Facilitate reporting of services provided to PC
 - Facilitate payment of fees to PC through mobile platform
 - Improve premise inspection and monitoring
- Develop, test and implement use of database and mobile phone platform to manage personnel, premise and strengthen communication with PC



Process

Need Assessment & Strategy

Conduct Situation Analysis/Need Assessment
Prepare option strategy

Prioritization & Development

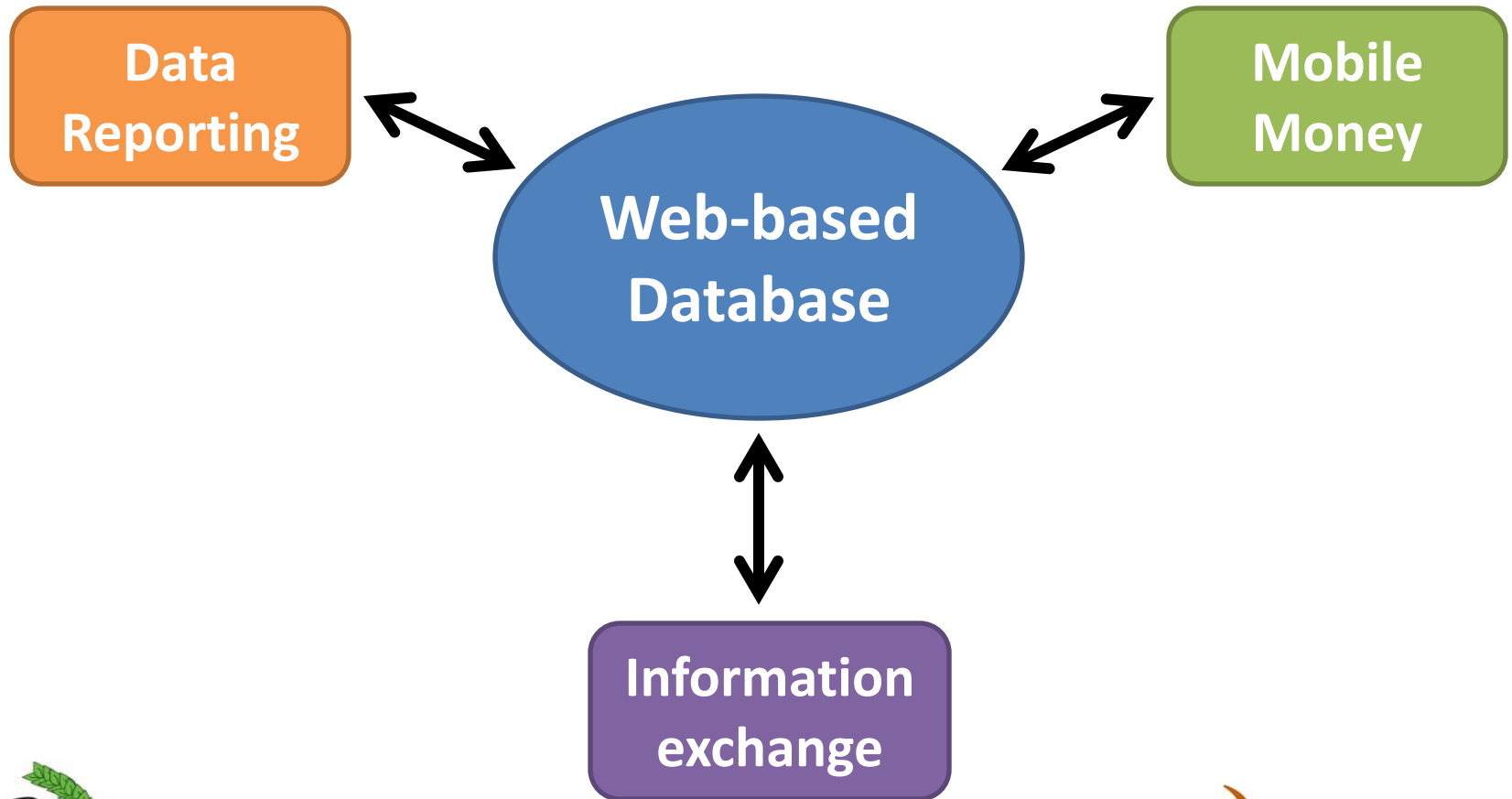
Mobile package and database development and linkage with website to enhance regulatory functions

Implementation & Evaluation

Pilot implementation, supportive supervision
database security testing, evaluation
Post pilot planning



Overview: Database and Mobile Applications



Web-based Database

Features

- Profiles of ADDO and pharmacy personnel and facilities
- Web-based to allow PC field officers and districts to access and enter data
- Electronic platform for regular PC processes (e.g. registration, funds disbursement, inspection reports)
- Linked to mobile applications (i.e. mobile money, reporting, and information exchange via sms)
- Programmed to generate summary reports at regular intervals; non-confidential reports to be made public on PC website
- GIS enabled and connected to Google Earth

Benefits

- Improves organization and record maintenance
- Enhances PC ability to prioritize and manage field activities
- Increases efficiency and transparency of PC processes
- Enhances access to data for decision making



Pharmacy Council Database

Database registry to manage personnel and premises

PCT DATABASE

Artemether 06.14

- Registration
- Education
- Inspection
- Payments
- ADDO
- Administration
- Legal
- Mobile Services
- Extras
- Settings



Registration



Education



Inspection



Reports



ADDO



Legal



Administration



Mobile Services



Payments



Settings



Extras

Pharmacy Council Database

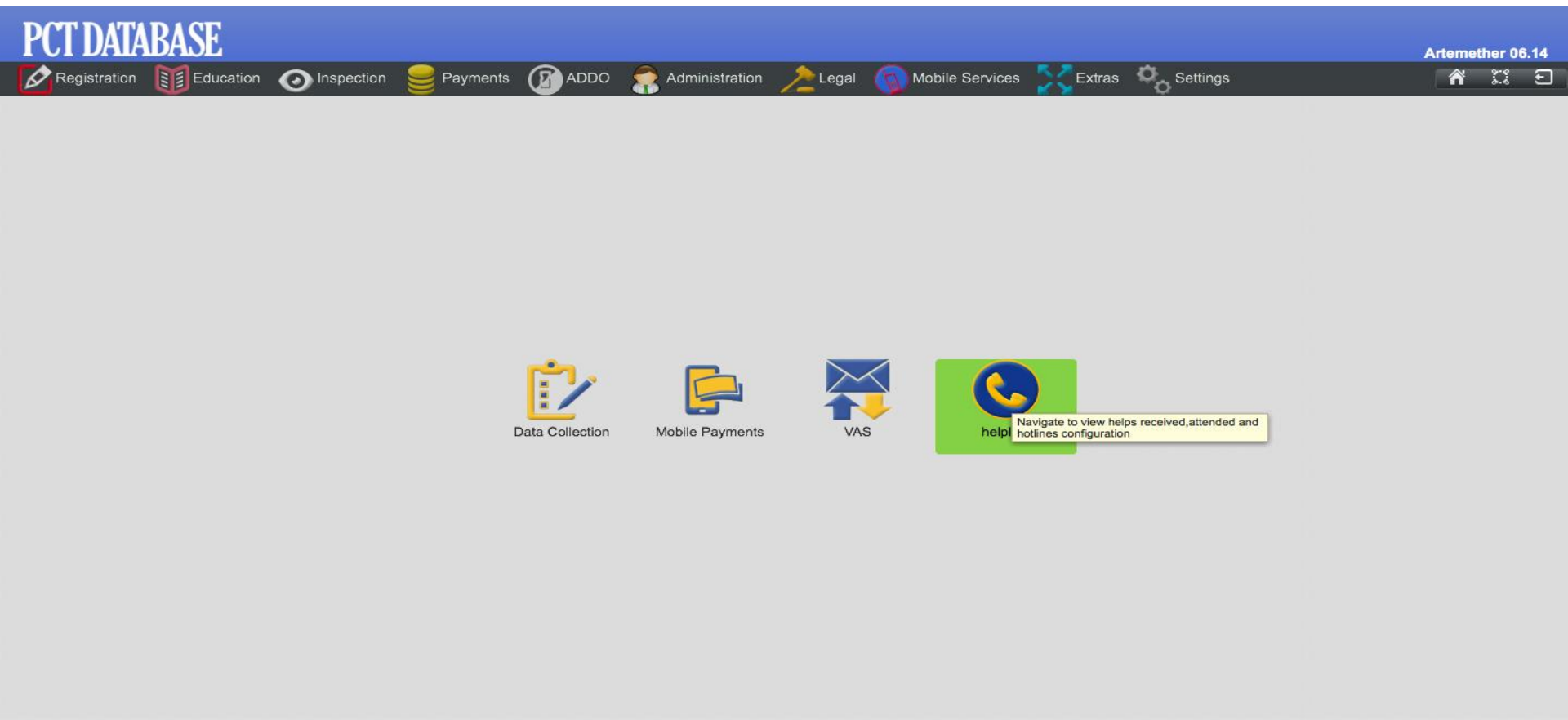
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Mobile Applications as Part of the Database



Information Exchange

Features

- ADDO and pharmacy personnel can request information from PC (e.g. registration procedures, premises requirements)
- PC can issue alerts via SMS (e.g. updates on fees, safety information, and treatment guidelines)
- Providers can SMS or email questions, comments, or complaints to PC; queries filed in database and assigned to PC staff for resolution

Benefits

- Increases communication and improves information-sharing between PC and ADDOs/pharmacies and general public
- Improves ADDO and pharmacies' ability to get guidance from PC
- Facilitates PC's ability to send critical medicines safety information to ADDOs and pharmacies in hard-to-reach areas



Data Reporting

Data
Reporting

Features

- ADDO and pharmacy personnel to submit reports on select product availability, pharmacy practice, patient care, and supervision indicators
- PC central and field staff to submit inspection summary reports via mobile application
- Information feeds into PC database

Benefits

- Enhances PC's access to data from districts, ADDOs, and pharmacies for decision making and supervision
- Expedites PC receipt of inspection reports



Dashboard for Data Reporting in Database

PCT DATABASE

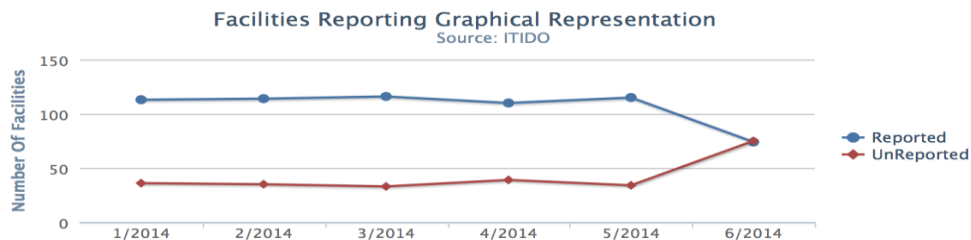
- Registration
- Education
- Inspection
- Payments
- ADDO
- Administration
- Legal
- Mobile Services
- Extras
- Settings

GENERAL REPORT SPECIFIC REPORT

Facilities Reporting Tabular Representation

PERIOD	REPORTED	REPORTED(%)	UNREPORTED	UNREPORTED(%)
1/2014	113	75.8	36	24.1
2/2014	114	76.5	35	23.4
3/2014	116	77.8	33	22.1
4/2014	110	73.8	39	26.1
5/2014	115	77.1	34	22.8
6/2014	74	49.6	75	50.3

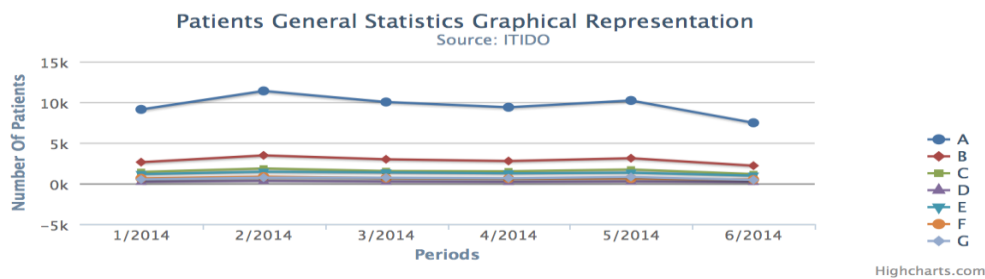
[full screen](#)



Patients General Statistics Tabular Representation

PERIOD	A	B	C	D	E	F	G
1/2014	9105	2616	1416	204	1149	632	500
2/2014	11378	3452	1840	316	1434	839	715
3/2014	10015	2972	1526	229	1359	656	707
4/2014	9371	2760	1497	190	1245	590	645
5/2014	10202	3102	1714	238	1320	600	790
6/2014	7458	2183	1147	181	962	477	429

[full screen](#)



INDICATOR DESCRIPTION

- A: Idadi ya wagonjwa
- B: Idadi ya watoto wenye umri chini ya miaka mitano
- C: Idadi ya watoto wenye umri chini ya miaka mitano wenye malaria
- D: Idadi ya watoto wenye umri chini ya miaka mitano waliopata rufaa kwenda kituo cha tiba
- E: Idadi ya wanawake waliopata vidonge vya uzazi wa mpango
- F: Idadi ya watoto wenye umri chini ya miaka mitano wenye ugonjwa wa kuharisha
- G: Idadi ya watoto wenye umri chini ya miaka mitano wenye pneumonia

GENERAL SUMMARY(IN AVERAGE)

Wastani ya wagonjwa:9588
 Wastani ya watoto wenye umri chini ya miaka mitano:2847 = 29.6%
 Wastani ya watoto wenye umri chini ya miaka mitano wenye malaria:1523 = 53.4%
 Wastani ya watoto wenye umri chini ya miaka mitano waliopata rufaa kwenda kituo cha tiba:226 = 7.9%
 Wastani ya wanawake waliopata vidonge vya uzazi wa mpango:1244 = 12.9%
 Wastani ya watoto wenye umri chini ya miaka mitano wenye ugonjwa wa kuharisha:632 = 22.2%
 Wastani ya watoto wenye umri chini ya miaka mitano wenye pneumonia:631 = 22.1%



Mobile Money

Mobile
Money

Features

- ADDO and pharmacy can pay premises and personnel fees via Vodacom mobile money
- Database automatically records payments and notify problems
- SMS sends payment confirmation, payment reminders, and late payment notifications
- Allows PC to disburse funds to district council offices

Benefits

- Expedites PC revenue from premises and personnel fees to support PC and district activities
- Improves PC's ability to manage fee collection and fund disbursement
- Simplifies payment process for ADDOs and pharmacies

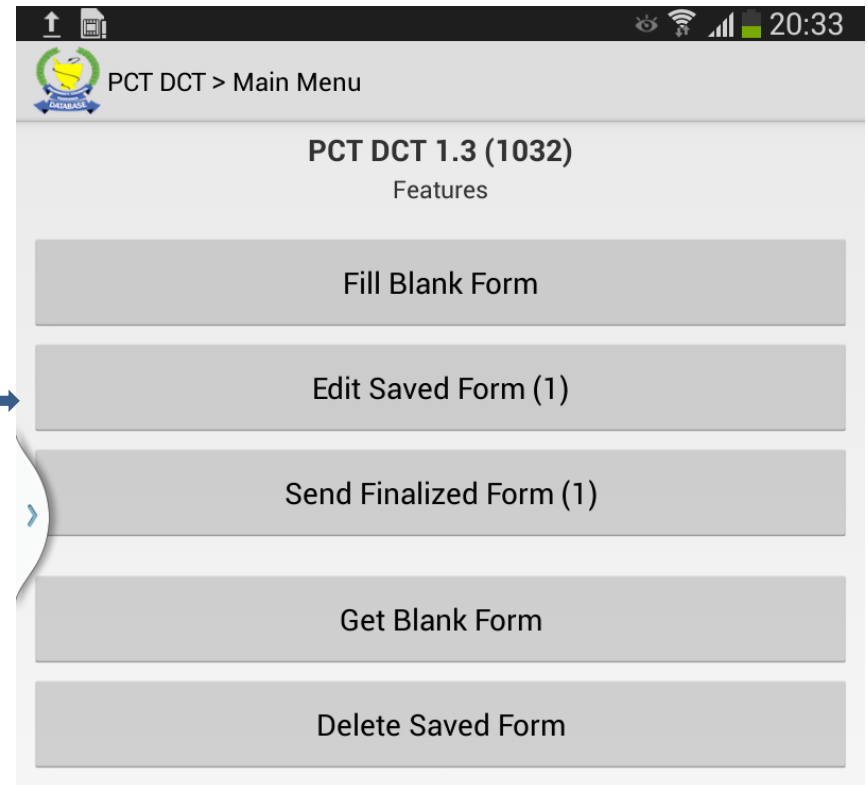


Electronic Inspection Forms

Created electronic inspection tools that runs on tablets and smartphones; inspection data (including drug shop GPS location) feeds into database

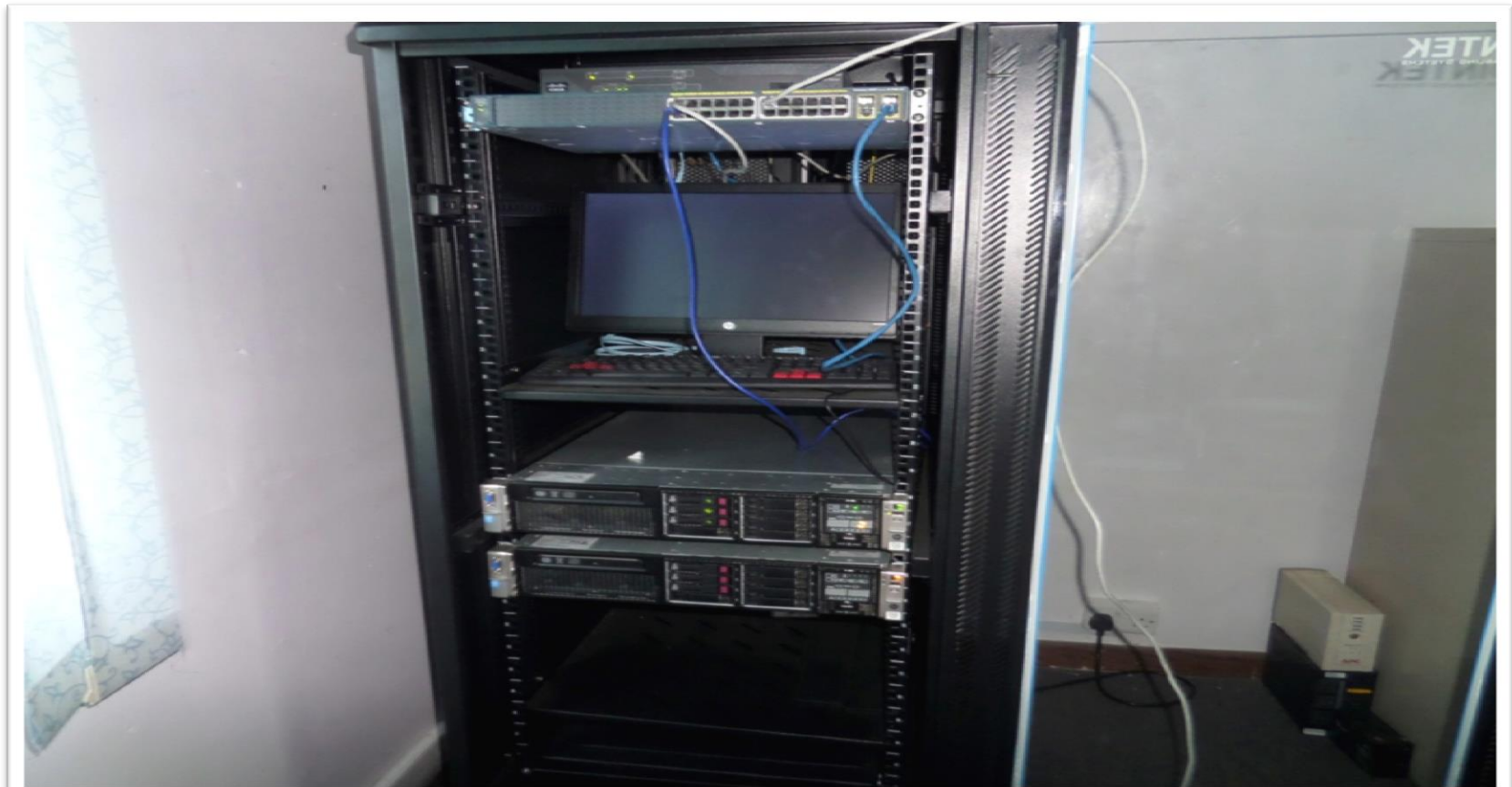
Electronic Inspection Forms Developed

- ADDO & Pharmacy premise inspection form
- ADDO & Pharmacy routine inspection
- ADDO Inventory form
- Confiscation form
- Inspection summary report



Infrastructure Set Up

ICT infrastructure (Servers, UPS, Internet, SMS Connection with Push Mobile, Integration with Vodacom)



Lessons Learned (1)

Worked with Pharmacy Council management to ensure ownership and understanding

Engaging PC staff



Engaging PC Council Member



Lessons Learned (2):

SMS helpline is an effective way for drug shops owners/ dispensers and professionals to communicate with Pharmacy Council

SMS sent out to owners, dispensers and professionals during training	1,167
SMS received as testing during training	114
SMS enquiries received at PC via help line to enquire on different issues (availability of dispenser training, allowed medicines in ADDO, renewal fees, how to make payments etc)	223



Lessons Learned (3):

Drug shops can report on service delivery through SMS

Reported indicators since May 2014 (n= 142)

A=# clients attended	57,528
B=# U5 attended	17,082
C=# U5 with Malaria	9,138
G=# U5 with Pneumonia	3,786
F=# U5 with diarrhoea	3,792
D=# U referred	1,356
E=# Clients received FP pills	7,464

Reporting status on a two week reporting interval (n=142)

# sms reports for period one	126
# sms reports for period two	118
# sms reports for period three	121
# sms reports for period four	110
# sms reports for period five	107
# sms reports for period six	74

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Only 9 ADDOs did not report for all reporting periods



Lessons Learned (4):

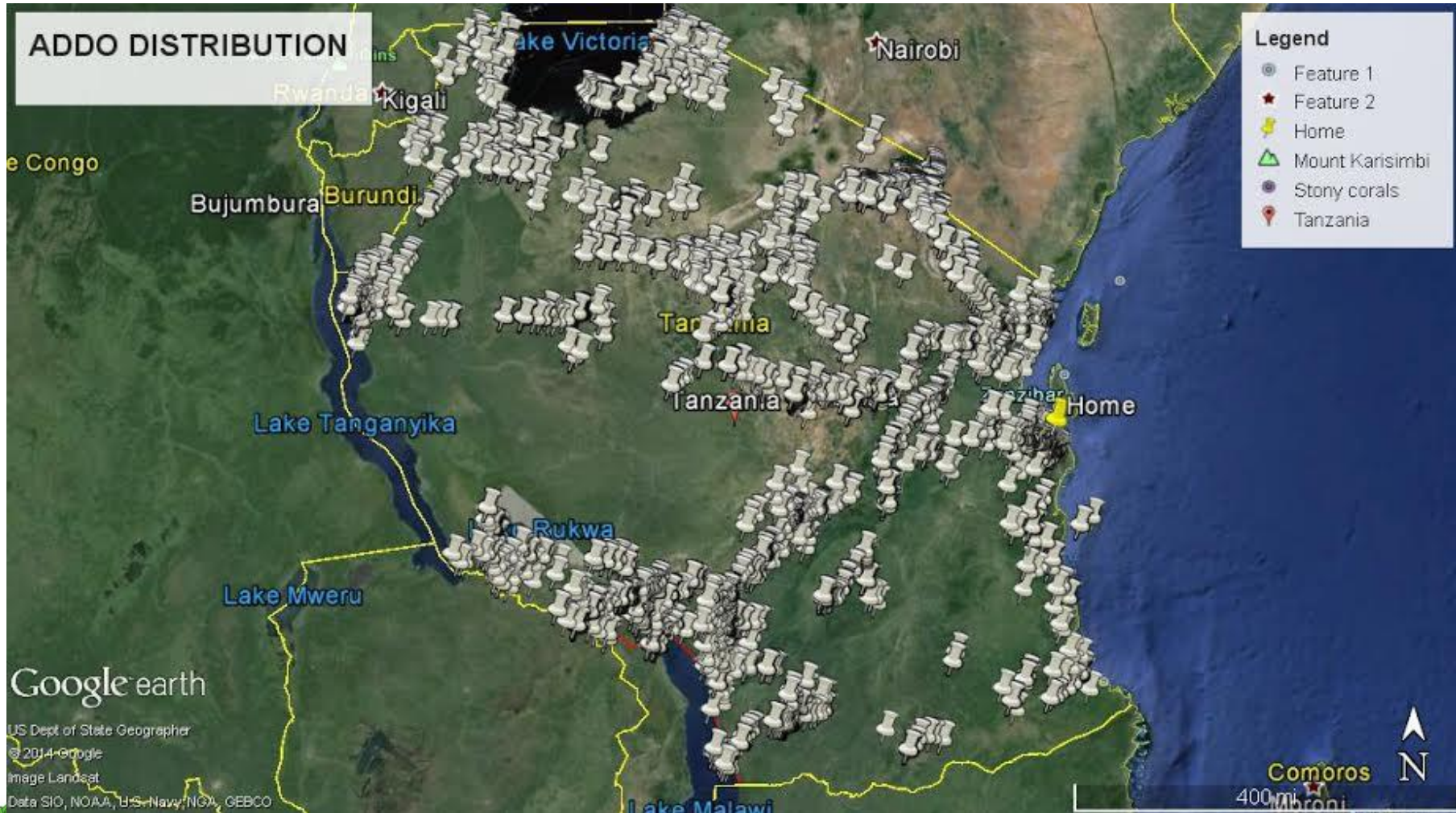
Electronic inspection forms on tablets are feasible and efficient

- Inspectors were able to use tablets to collect inspection information
- GPS location of shop could be recorded by tablet, without internet connection
- Once connected to wifi, inspector can send inspection data to PC database
- Data can be more efficiently organized and analyzed
- Reduces redundancy of entering information from paper forms into database



Lesson Learned(5)

Initial countrywide geomapping has been conducted



Lessons Learned (5):

PC has started collecting fees through mobile payment

Mobile Payment from July – August 2014	
ADDO premise paid	98 out of 142
Pharmacy premises paid	31 out of 120
Amount collected from ADDOs	TZS 3,021,500 (\$1,888)
Amount paid by pharmacy	TZS 9,202,000 (\$5,751)
Total collection	TZS 12,223,500 (\$7,639)



Gaps/Challenges Still to be Addressed

- Development of ICT management environment at PC
 - ICT Policy
 - User Access Level Policy
 - ICT Personnel
- Soliciting resources to support for national scale-up
- Defining modality for linkage with partners to share the M&E indicators collected
- Linkage/integration with common mobile operators for mobile payment
- Open the mobile package communication services to general public



Conclusion

- Mobile technology is a powerful tool which could strongly support to strengthen regulatory activities and extend service delivery
- The system is open source (low cost) and can be adopted and used with other regulatory authorities with modifications to suit country/ authority specific needs

