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Piloting cStock in Siaya County, Kenya

Submission date
02/01/2018

Recruitment status
No longer recruiting

Registration date
15/02/2018

Overall study status
Completed

Last Edited
13/02/2018

Condition category
Other

[ ] Prospectively registered
[ ] Protocol
[ ] Statistical analysis plan
[ ] Results
[ ] Individual participant data
[ ] Record updated in last year

Plain English summary of protocol

Background and study aims
Every day 21,000 children still die from preventable causes, and an additional 1,000 girls and women die in pregnancy and childbirth. Community health volunteers (CHV) can reach these children and mothers by providing essential health services in local communities if they are well trained and equipped with basic lifesaving medicines to provide the services. Frequent stock outs of medicines among CHVs is one of the most frequently reported bottlenecks to successful community-based treatment programs, preventing CHVs from consistently providing services and leading to unnecessary deaths of women and children. This study tests the effectiveness of mobile phone tools and team building in improving access to medicines in community-based health programs. The mobile tool will be used for reporting and resupply of medicines. The teams will be established between CHVs and their supervisors to use the information generated by the system to promote local problem solving and actions to address challenges that they face together.

Who can participate?
Community health volunteers in Bondo and Ugunja Sub-Counties, Siaya County, Kenya

What does the study involve?
Participants attend a two-day training where they learn how to use the mobile reporting and resupply application. The participants then return to their homes and continue to provide health services in their community. They are expected to report on their medicines every month using the cStock application. They report on the quantity of medicines they have remaining and how much they have dispensed over the month. On receiving medicines they report in the cStock application how much they receive. In addition if during the month they have a stock out or low stocks they report an emergency request for more medicines. Their supervisor is also part of the study and is required to respond to requests and communicate with community health volunteers when there are problems with resupplying them. The supervisor is supported in basic supply chain skills and knowledge to be able to respond and support community health volunteers.

What are the possible benefits and risks of participating?
The benefits of participating in this study are that community health volunteers will be able to communicate requests to their supervisors in a timely and more efficient manner. They will be able to easily request and report stock outs to the system. Managers at the sub-national and

national level will also be able to monitor stock levels at the community level and work with supervisors to address shortages. Risks for participants are minimal. Risks may include if community health volunteers cannot access the network to send their reports and supervisors do not follow up to determine why they are not reporting that they may not get resupplied for that month. Other risks are if the community health volunteers find the system too difficult to use and are not able to fully participate in the study.

Where is the study run from?
inSupply Project Siaya County (Kenya)

When is the study starting and how long is it expected to run for?
March 2017 to December 2018

Who is funding the study?
Saving Lives at Birth partners: the United States Agency for International Development (USAID), the Norwegian Agency for Development Cooperation (Norad), the Bill & Melinda Gates Foundation, Grand Challenges Canada, the UK Department for International Development (DFID), and the Korea International Cooperation Agency (KOICA)

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Protocol serial number
0046717

Study information

Scientific Title
Piloting cStock in Siaya County, Kenya

Study objectives

Implementing a mobile health supply chain tool with user friendly dashboards, and IMPACT teams will lead to better availability of critical iCCM commodities in community-based health programs in Bondo and Ugunja Sub-Counties, Siaya County, Kenya and more children will be treated for diarrhoea and malaria in the community.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Maseno University Ethics Review Committee, 21/09/2017, ref: MSU/DRPI/MUERC/00467/17

Study design
Non-randomised study

Primary study design
Interventional

Study type(s)
Other

Health condition(s) or problem(s) studied
Diarrhoea, malaria

Interventions
The cStock approach uses mobile technology, user friendly dashboards, and quality improvement teams to reduce stockouts of critical commodities in community-based health programs. The cStock approach includes three critical components that improve data visibility, create a culture of data use, and drive accountability for performance. The three components are:
1. A simple mHealth tool that uses a streamlined, demand-based reporting and resupply process. Stock data reported by the CHW triggers the re-order process, whereby cStock automatically calculates resupply quantities and transmits a request via app messaging or SMS to supervisors at health facilities. The health facilities then send feedback to the CHW when the order is ready or if they are out of stock. This process facilitates accuracy in order quantities, reduces transport time and costs, and improves communication.
2. A user-centred dashboard that converts the data into relevant, aggregated, and timely community logistics indicators. The web-based dashboard displays the data in easy-to-read graphs and charts to facilitate rapid decision making by subnational and national level program managers and partners.
3. IMPACT team which include CHWs, supervisors, managers, and pharmacy staff are action-oriented teams with a shared goal of improving product availability, and a collective responsibility to identify and implement solutions to supply chain problems. They use a quality improvement approach to interpret data, prioritize problems and find solutions, and take action to improve performance. (IMPACT stands for information mobilized, performance analysis, and continuous transformation).

This study proposes to introduce and test the cStock approach in two sub-counties of Siaya county to prove that by improving reporting and resupply through the use of mobile technology, and enhancing the use of data for resupply stockouts of critical commodities in iCCM programs can be reduced. The evidence from this study will be used to present a case for scale up in Siaya and to other iCCM counties in Kenya and for to advocate for the sustainability of this tool.

Community Health Volunteers and supervisors will be trained in the use of the mobile tools and given guidance on how to prevent stock outs. All volunteers will be included, there will not be a control group. This will only measure longitudinal changes. Monitoring the uptake of the intervention will be conducted by randomly selecting volunteers every quarter.

There will be a mixed-methods approach to evaluation, including baseline and endline quantitative surveys, longitudinal trend analysis from system outputs, and focus group discussions. Quantitative longitudinal evaluation of progress between baseline and endline will measure the impact of interventions on key supply chain indicators.

Intervention Type
Other

Primary outcome(s)
1. Number of participants (community health volunteers) submitting a report on their medicines every month, measured by analyzing data submitted to the cStock system each month
2. Number of participants (community health volunteers) with medicines in stock, measured by counting number of medicines in stock in their home at baseline and endline
3. Number of participants (community health volunteers) with medicines in stock every month according to submitted reports every month, measured by analyzing data submitted to the cStock system
4. Number of supervisors supplying adequate quantity of medicines to the community health volunteers, measured by analyzing receipts sent to the cStock system

Key secondary outcome(s))
Number of children treated for malaria and diarrhoea, measured by counting number of cases recorded on patient registers as treated at baseline and endline

Completion date
31/12/2018

Eligibility

Key inclusion criteria
Community Health Volunteer in study location

Participant type(s)
Health professional

Healthy volunteers allowed
No

Age group
Adult

Sex
All

Key exclusion criteria
Any community health volunteer not trained to manage medicines

Date of first enrolment
01/02/2018

Date of final enrolment
30/09/2018

Locations

Countries of recruitment
Kenya

Study participating centre
inSupply Project Siaya County Kenya
Siaya County
Siaya
Kenya
-

Sponsor information

Organisation
Grand Challenges Canada

ROR
https://ror.org/02snbhr24

Funder(s)

Funder type
Other

Funder Name
Saving Lives at Birth partners: the United States Agency for International Development (USAID), the Norwegian Agency for Development Cooperation (Norad), the Bill & Melinda Gates Foundation, Grand Challenges Canada, the U.K. Department for International Development (DFID), and the Korea International Cooperation Agency (KOICA)

Results and Publications

Individual participant data (IPD) sharing plan

The data sharing plans for the current study are unknown and will be made available at a later date.

IPD sharing plan summary

Data sharing statement to be made available at a later date

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes