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Using Mobile Phones to Measure Diarrhoea

Submission date
06/03/2019

Recruitment status
No longer recruiting

Registration date
20/03/2019

Overall study status
Completed

Last Edited
02/07/2020

Condition category
Infections and Infestations

[_] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[X] Results
[_] Individual participant data

Plain English summary of protocol

Background and study aims
With diarrhoea being one of the two most significant causes of death in children under five, collection of accurate data on diarrhoea prevalence is of paramount importance. However, collecting this data has been proven difficult. Standard questions used to asses diarrhoea, asking if a child has had diarrhoea two or more times in the past two weeks, has been seen to suffer from recall bias, social desirability, high cost of data collection, and Hawthorne effects. To address this, we will study the impact of shortening recall period to 24 hours, including a multi-level questionnaire, and altering incentive level. We will do this while collecting data using mobile phone text messaging.

Who can participate?
Households selected will have at least one child under the age of five, live in the study area, and have access to mobile phones.

What does the study involve?
Participants will be randomised into one of eight cohorts. Each cohort, at random order, will be subjected to every possible combination of incentive (no incentive or TZS1000 incentive), recall period (two week or 24 hour), and questionnaire type (standard question or three level). Over eight two-week rounds of data collection, participants will receive surveys on diarrhoea as per their randomisation, and will be remunerated and incentivised as necessary.

What are the possible benefits and risks of participating?
Possible harms of the study surround discomfort with questions being asked, however, participants are free to withdraw at any time. Further, there is small risk of a breach of confidentiality. To address this, data is kept separately from identifiers, and all data are encrypted. There are no direct benefits, however, if a participant reports a medically concerning symptom, they will be referred to a local clinic.

Where is the study run from?
UN-Habitat Regional Office for Africa and the Arab States, Nairobi (Kenya)

When is the study starting and how long is it expected to run for?
Data collection will begin in April 2019 and end in August 2019.

Who is funding the study?
University of Warwick, UK

Who is the main contact?
Ryan Rego (ryan.rego@warwick.ac.uk) and Samuel Watson (s.watson.1@warwick.ac.uk)

Contact information

Type(s)
Scientific

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Additional identifiers

Clinical Trials Information System (CTIS)
Nil known

ClinicalTrials.gov (NCT)
Nil known

Protocol serial number
REGO2018-2148

Study information

Scientific Title
Pilot testing of a parent record of child health

Acronym
SMSdiarrhoea

Study objectives
This study aims to evaluate several hypothesises aimed at improving traditional diarrhoea measurement methods, asking if a child has had two or more loose or watery stool in the past two weeks. These are:

- Reducing the recall threshold from two weeks to 24 hours will decrease prevalence
- The use of a three point scale asking further questions on number of schools, treatment, and blood will result in lower prevalence than the standard measure
- That response rates vary over time
- That incentive alters response rate and data quality

Ethics approval required
Old ethics approval format

Ethics approval(s)
Approved 12/01/2018, Warwick Biomedical & Scientific Research Ethics Committee (University House, University of Warwick, Coventry, CV4 7AL; E.C.Dight@warwick.ac.uk; 024 765 73961), ref: REGO-2018-2148

Study design
Individual level crossover factorial randomised controlled trial

Primary study design
Observational

Study type(s)
Screening

Health condition(s) or problem(s) studied
Diarrhoea/Enteric Infection

Interventions
Differing recall periods; questionnaire types; and incentive levels for diarrhoea surveys.

Initially, households will be randomised into one of eight cohorts using block randomisation. At every two week periods, cohorts will switch into new surveying strategies. These strategies are unique combinations of recall period (two week or 24 hour); questionnaire type (three level or one level); and incentive level (no incentive or some incentive). All surveys will take place by mobile phone text messaging, and all cohorts will experience all combinations of treatments at any time - through a random sequence. This study will ake place in slums around Mwanza, Tanzania.

Intervention Type
Other

Primary outcome(s)
Diarrhoea Prevalence through the use of a mobile phone survey. This will take place at pre-set time points either daily or every two weeks for a period of 16 weeks.

Key secondary outcome(s))
Trends in diarrhoea prevalence over time

Completion date
01/11/2019

Eligibility

Key inclusion criteria
1. Resides in the enumeration area
2. Has a child under five
3. Has access to mobile phone
4. Consents to study

Participant type(s)
Carer

Healthy volunteers allowed
No

Age group
Mixed

Sex
All

Total final enrolment
141

Key exclusion criteria
1. Child under five is exclusively breast fed
2. Does not have their own mobile phone (e.g. shares phone or no access to phone)

Date of first enrolment
15/03/2019

Date of final enrolment
01/04/2019

Locations

Countries of recruitment
Kenya

Tanzania

Study participating centre
UN-Habitat
UN-HABITAT Regional Office for Africa and the Arab States
P.O. Box 30030, GPO
Nairobi
Kenya
00100

Sponsor information

Organisation
University of Warwick

ROR
https://ror.org/01a77tt86

Funder(s)

Funder type
University/education

Funder Name
University of Warwick

Alternative Name(s)
The University of Warwick, Warwick

Funding Body Type
Private sector organisation

Funding Body Subtype
Universities (academic only)

Location
United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan
All data generated or analysed during this study will be included in the subsequent results publication.

IPD sharing plan summary
Other

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	30/06/2020	30/06/2020	Yes	No
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes