

# Using Mobile Phones to Measure Diarrhoea

<b>Submission date</b> 06/03/2019	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered
		<input type="checkbox"/> Protocol
<b>Registration date</b> 20/03/2019	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan
		<input checked="" type="checkbox"/> Results
<b>Last Edited</b> 02/07/2020	<b>Condition category</b> Infections and Infestations	<input type="checkbox"/> Individual participant data

## Plain English Summary

### 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 assess 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

**Contact name**  
Mr Ryan Rego

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## Additional identifiers

**EudraCT/CTIS number**  
Nil known

**IRAS number**

**ClinicalTrials.gov number**  
Nil known

**Secondary identifying numbers**  
REGO2018-2148

## Study information

**Scientific Title**  
Pilot testing of a parent record of child health

**Acronym**  
SMSdiarrhoea

**Study hypothesis**

This study aims to evaluate several hypotheses 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

## **Secondary study design**

Individual level crossover factorial RCT

## **Study setting(s)**

Community

## **Study type(s)**

Screening

## **Participant information sheet**

Not available in web format, please use contact details to request a participant information sheet.

## **Condition**

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 take place in slums around Mwanza, Tanzania.

**Intervention Type**

Other

**Primary outcome measure**

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.

**Secondary outcome measures**

Trends in diarrhoea prevalence over time

**Overall study start date**

01/04/2018

**Overall study end date**

01/11/2019

**Eligibility****Participant 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

**Age group**

Mixed

**Sex**

Both

**Target number of participants**

150

**Total final enrolment**

141

**Participant 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)

**Recruitment start date**

15/03/2019

**Recruitment end date**

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

## Sponsor details

RIS, University House

Coventry

England

United Kingdom

CV4 7AL

+44 (0)24 76 524760

wmsgrantssupport@warwick.ac.uk

## Sponsor type

University/education

## Website

warwick.ac.uk

## 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

**Publication and dissemination plan**

Conference presentation (Water and Health 2019, USA) and planned publication in a high-impact peer-reviewed journal

**Intention to publish date**

01/12/2019

**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?
<a href="#">Results article</a>	results	30/06/2020	30/06/2020	Yes	No