

# PANDA mHealth system for antenatal care

<b>Submission date</b> 18/09/2015	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered
<b>Registration date</b> 14/10/2015	<b>Overall study status</b> Completed	<input type="checkbox"/> Protocol
<b>Last Edited</b> 30/10/2020	<b>Condition category</b> Pregnancy and Childbirth	<input type="checkbox"/> Statistical analysis plan
		<input checked="" type="checkbox"/> Results
		<input type="checkbox"/> Individual participant data

## Plain English summary of protocol

### Background and study aims

Madagascar has a high rate of deaths among women giving birth. It has been shown that giving birth with the help of a skilled birth attendant, such as a doctor or midwife, can reduce the risk of complications, such as excessive bleeding (haemorrhage) that lead to death of mothers and their newborn babies. In Madagascar, only 44% of women give birth in the presence of a skilled birth attendant and so many women do not have access to life saving treatment. mHealth is a system which uses mobile technology, such as mobile phones or personal digital assistants (PDAs) to support healthcare. The pregnancy and newborn diagnostic assessment (PANDA) system is a mHealth system which has been specifically designed for community-Health Workers (CHWs) to reach pregnant women in remote areas. It allows them to carry out screening, collect information and provide education about healthcare. The aim of this study is to evaluate how effective the PANDA system is for providing antenatal care to women in remote areas.

### Who can participate?

Pregnant women living in Madagascar.

### What does the study involve?

Women attend an antenatal care visit and their medical history is taken by a healthcare worker. This information is then linked to a random ID number for each woman. At this visit, the women also are tested for HIV, syphilis and malaria, as well as having standard measurements taken to assess their general health. If any women have abnormal results to these tests, their results are sent to them immediately by smartphone and they receive a follow up appointment at the local hospital. For the rest of the study, test results and information are sent to the medical centre everyday via smartphone so that they are away of any potential risks during the pregnancy and can intervene if necessary.

### What are the possible benefits and risks of participating?

The main benefits of taking part in the study are that the women involved will have access to high quality antenatal care, including screening for diseases. There are no risks of taking part in the study.

### Where is the study run from?

Centre Médico Chirurgical Saint Damien (Madagascar)

When is the study starting and how long is it expected to run for?  
January 2015 to October 2015

Who is funding the study?

1. Commission of Humanitarian Affairs, Geneva (Switzerland)
2. Romand Group of the Swiss Society of Gynecology (Switzerland)
3. Valdese Church (Italy)

Who is the main contact?

Mrs Anne Caroline Benski  
Anne-Caroline.Benski@hcuge.ch

## Contact information

### Type(s)

Public

### Contact name

Mrs Anne Caroline Benski

### ORCID ID

<https://orcid.org/0000-0002-1184-882X>

### Contact details

Boulevard Saint Georges 66  
Geneva  
Switzerland  
1205  
+41 787 397 261  
Anne-Caroline.Benski@hcuge.ch

## Additional identifiers

## Study information

### Scientific Title

Usability and feasibility of a mobile health system to provide comprehensive antenatal care in low-income countries: PANDA mHealth pilot study in Madagascar

### Acronym

PANDA

### Study objectives

To assess the usability and feasibility of a mobile health system (mHealth) to provide high quality antenatal care according to World Health Organization (WHO) recommendations.

### Ethics approval required

Old ethics approval format

### Ethics approval(s)

1. Ethical Cantonal Board of Geneva (Commission cantonale d'éthique et de la recherche), 12/01/2015, ref: CER 14-217
2. Ethical Committee of Madagascar (Comite national d'éthique de Madagascar), 12/01/2015

## **Primary study design**

Observational

## **Study design**

Cross-sectional pilot feasibility study

## **Study type(s)**

Prevention

## **Health condition(s) or problem(s) studied**

Most maternal and newborn deaths are related to direct complications during pregnancy and childbirth and could be reduced by providing comprehensive antenatal care

## **Interventions**

The women enrolled will attend a number of ANC visits along the pregnancy according with WHO recommendations and the stage of pregnancy at the time of the enrollment. A random ID number will be assigned to each women, to which their clinical data and test results will be linked. ANC visits will start with the collection of social/personal data and medical history and then screening tests (HIV, HPV syphilis, malaria, haemoglobin, glucose) as well as other measurements (temperature, weight, height, blood pressure, uterine height) will be conducted. All results will be available at the end of the visits except for the HPV where the self-sampling of the women will be collected and sent to the virology laboratory in Geneva and destroyed after one year. Abnormal results will be signalled immediately by the smartphone and the woman will be referred to the hospital. Once the screening is completed, the PANDA team will proceed to health education, focusing on maternal and newborn care and birth preparedness as well as family planning. On a daily basis, data and test results will be sent via the mobile phone to the medical unit, for data verification and personalised intervention plans in order to optimise the management of pregnancies and childbirths, and to ensure appropriate care for high risk pregnancies.

## **Intervention Type**

Other

## **Primary outcome(s)**

PANDA system feasibility using the Redmine tool an open source flexible project management web application with a ticket tracking system collecting all the items in real time during the ANC visits.

## **Key secondary outcome(s)**

1. The capacity of PANDA system to provide standardised and high quality ANC, measured using the percentage of missing data and deviations from the WHO guidelines of the ANC visits. Data verification done at the end of each day of antenatal visits
2. The capacity of the system to map the pregnancies in order to help health personnel for a better management of the resources, measured using the number of women referred to the hospital for treatment and follow-up. Data is verified daily by the hospital obstetric team

## **Completion date**

30/10/2015

## Eligibility

### Key inclusion criteria

1. Pregnant women

### Participant type(s)

Patient

### Healthy volunteers allowed

No

### Age group

All

### Sex

Female

### Total final enrolment

1015

### Key exclusion criteria

Patients who are not able to comply with the protocol

### Date of first enrolment

13/01/2015

### Date of final enrolment

01/08/2018

## Locations

### Countries of recruitment

Madagascar

### Study participating centre

Centre Médico Chirurgical Saint Damien

Ambanja

Madagascar

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## Sponsor information

### Organisation

Hôpitaux Universitaires de Genève

ROR

<https://ror.org/01m1pv723>

## Funder(s)

**Funder type**

Government

**Funder Name**

Commission of Humanitarian Affairs, Geneva

**Funder Name**

Romand Group of the Swiss Society of Gynecology

**Funder Name**

Valdese Church

## Results and Publications

Individual participant data (IPD) sharing plan

**IPD sharing plan summary**

Available on request

**Study outputs**

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Results article</a>	results	12/10/2020	30/10/2020	Yes	No