

# Study on the effect of the 'talking textile' baby-wrap cloth as communication strategy for childhood vaccination coverage in Niger, West Africa

<b>Submission date</b> 11/07/2020	<b>Recruitment status</b> No longer recruiting	<input checked="" type="checkbox"/> Prospectively registered <input checked="" type="checkbox"/> Protocol
<b>Registration date</b> 30/07/2020	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
<b>Last Edited</b> 19/10/2022	<b>Condition category</b> Infections and Infestations	<input type="checkbox"/> Individual participant data <input type="checkbox"/> Record updated in last year

## Plain English summary of protocol

### Background and study aims

The wax print is a centuries-old style of printed cotton fabric that is used throughout Africa for clothing and other practical items like the baby-carrying cloth or baby-wrap. It is a cultural norm in West Africa and is sometimes used to promote health campaigns. With members from Japan, Niger, and the United States, the baby-wrap team has developed a health literacy project that deploys a factory printed baby-wrap as a 'talking textile' for childhood vaccination information to new mothers. The design of this cloth print was created in collaboration with artists and artisans in Niger. The final prototype of the symbolic calendar was determined through a series of focus groups with mothers organized by the team and local partners. The study aims to evaluate the effect of this baby-wrap as a culturally-relevant communication strategy to increase childhood vaccination uptake and coverage.

### Who can participate?

Mothers who have brought a newborn baby to the health center for the baby's first vaccination visit (BCG vaccination).

### What does the study involve?

Mothers who use a health center allocated to the intervention group will receive a free vaccination calendar baby-wrap with a verbal explanation of the design delivered by a trained healthcare agent at the time of routine vaccination services.

Mothers who use a health center allocated to the control group will receive a free, plain length of cloth as a "placebo" baby-wrap that includes neither a visual design nor additional verbal explanation of the vaccination calendar at the time of routine services.

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

Benefits for the intervention group mothers would be that through the baby wrap the mother would understand the complex vaccination calendar or at least the time between the appointments and the number of times she must bring her child for vaccination. Risks for the

control group mothers would be that they would not acquire knowledge about the vaccination calendar and their babies might not be vaccinated for certain vaccines.

Where is the study run from?

Ministry of Public Health Niamey (Niger)

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

September 2019 to September 2021

Who is funding the study?

1. Bill & Melinda Gates Foundation (USA)

2. ZTwist Design LLC (USA)

Who is the main contact?

Ms. Mika Kondo Kunieda

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### **Study website**

<https://www.ztwist.design/niger-baby-wrap>

## **Contact information**

### **Type(s)**

Scientific

### **Contact name**

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## **Additional identifiers**

### **EudraCT/CTIS number**

Nil known

### **IRAS number**

### **ClinicalTrials.gov number**

Nil known

### **Secondary identifying numbers**

## Study information

### Scientific Title

Promoting awareness and timely completion of childhood immunization with the Vaccination Calendar Baby-Wrap for caregivers in Niger

### Study objectives

The free provision of the baby-wrap with a culturally-relevant design will increase vaccination coverage rates among children and promote maternal knowledge of the recommended vaccination calendar.

### Ethics approval required

Old ethics approval format

### Ethics approval(s)

1. Approved 18/11/2019, Niger Ethics Review (Comité National d'Éthique pour la Recherche en Santé CNERS, s/c République du Niger Ministère de la Santé Publique Direction des Etudes et de la Programmation BP 623 Niamey, Niger; no telephone number provided; no email provided), ref: 44/2019/CNERS
2. Approved 02/12/2019, Keio University SFC Ethics Committee for Experimentation and Examination (c/o Keio University Shonan Fujisawa Campus, 5322 Endo Fujisawa, Kanagawa, Japan; no telephone number provided; somu@sfc.keio.ac.jp), ref: approval 263

### Study design

Interventional stratified randomized control trial

### Primary study design

Interventional

### Secondary study design

Randomised controlled trial

### Study setting(s)

GP practice

### Study type(s)

Prevention

### Participant information sheet

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

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

Vaccination coverage (for BCG, Pentavalent 1, Pentavalent 3 and measles vaccines)

### Interventions

This intervention study will be conducted in two phases:  
Phase One

Collect and analyze updated administrative data from the EPI and vaccination coverage data in order to pair health centers in Niamey and allocate them to the intervention and control groups for the randomized control trial (RCT). Health center selection methodology is described in Annex 1. Healthcare personnel at both the intervention and control health centers will receive training on interpersonal communication by local partners in the public health sector. Healthcare personnel at the intervention clinics will be trained to deliver an explanation of the vaccination calendar baby-wrap design to mothers.

## Phase Two

A survey of mothers who bring their newborn infants to the first vaccination appointment at either an intervention or control health center will acquire basic socio-demographic information and assess baseline understanding of vaccination appointments and vaccine-seeking behaviors. The study includes an explanation of the survey and expectations from participants. Mothers interested in participating will give their informed consent through a signature or a thumbprint.

Mothers who use a health center allocated to the intervention group will receive a free vaccination calendar baby-wrap with a verbal explanation of the design delivered by a trained healthcare agent at the time of routine vaccination services. Mothers who use a health center allocated to the control group will receive a free, plain length of cloth as a 'placebo' baby-wrap that includes neither a visual design nor additional verbal explanation of the vaccination calendar at the time of routine services.

All mothers with infants receiving the first vaccination at both control and intervention health centers will receive the free baby-wraps during a time-limited distribution period to avoid perceptions of unfairness or adverse negative effects associated with perceptions of unfairness. The DRSP Niamey will be responsible for the distribution of both the placebo and vaccination calendar baby-wraps according to the terms set out in this protocol.

The surveyed mothers and their infants from both the intervention and control clinics will be monitored for ten months to determine if they have completed the first five visits of the vaccination series, specifically whether they have received BCG at their first visit, Penta 1 at their second visit, Penta 3 at their fourth visit, and measles vaccine at their fifth visit.

The Baseline Survey will be administered at the first visit of the mother and child. The Post-Intervention Survey on motivation, ability, and prompts to vaccinate will be administered at the fourth visit when the child is 3 months old. The Post-Intervention Survey will be administered a second time at the fifth visit when the mother comes in for measles vaccine for her 9-month-old child, in order to assess any changes in vaccination knowledge and behavior from the first and second surveys.

To address potential perceptions of unfairness or spillover effect between mothers who received the vaccination calendar baby-wrap and those mothers who received the placebo baby-wrap, the selected intervention clinics and the control clinics will be geographically distant so that information will travel slowly, if at all. Mothers will only qualify to receive a baby-wrap if their child is receiving BCG during the fixed distribution period and will not receive more than one baby-wrap.

The mothers in the control group will be administered the same surveys as mothers in the intervention group. If mothers in either the control or intervention group do not come back for subsequent vaccination appointments, they will be contacted a full month after the missed vaccination date for a phone interview using the same questionnaire used for women who received the survey in person. The goal of the phone interview will be to determine if women

who dropped out experienced increased barriers that prevented them from returning for vaccination. It is expected that the phone interview will prompt mothers to re-engage with the health system, therefore, data from any subsequent vaccinations will be tracked separately from participants who were interviewed in person at the health clinics.

Follow-up of participants will be for 10 months.

**Intervention Type**

Behavioural

**Primary outcome measure**

Vaccination coverage of children measured using patient records at 9 months

**Secondary outcome measures**

Maternal knowledge of the recommended vaccination calendar at baseline and follow up (9 months) using the Fogg behavioral model questionnaire on motivation

**Overall study start date**

01/09/2019

**Completion date**

30/09/2021

**Eligibility****Key inclusion criteria**

1. Mothers with newborn infants residing in Niamey, Niger
2. The mother has brought a newborn baby to the health center for the baby's first vaccination visit (BCG vaccination)
3. The parents/mother have/has given their/her consent by signature or thumbprint, to being interviewed three times during the study period, after being informed of the survey

**Participant type(s)**

Mixed

**Age group**

Adult

**Sex**

Female

**Target number of participants**

1,000

**Total final enrolment**

1697

**Key exclusion criteria**

1. Those persons who do not consent to be interviewed
2. Those mothers and newborns who do not intend to stay in Niamey during the study period (approximately ten months)

**Date of first enrolment**

01/10/2020

**Date of final enrolment**

31/10/2020

## Locations

**Countries of recruitment**

Niger

**Study participating centre**

Ministry of Public Health Niamey

Niamey

Niger

-

## Sponsor information

**Organisation**

ZTwist Design LLC

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**Sponsor type**

Other

**Website**

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## Funder(s)

**Funder type**

Charity

**Funder Name**

Bill and Melinda Gates Foundation

**Alternative Name(s)**

Bill & Melinda Gates Foundation, Gates Foundation, BMGF, B&MGF, GF

**Funding Body Type**

Government organisation

**Funding Body Subtype**

Trusts, charities, foundations (both public and private)

**Location**

United States of America

## Results and Publications

**Publication and dissemination plan**

Planned publication in a high-impact peer-reviewed journal.

**Intention to publish date**

31/12/2022

**Individual participant data (IPD) sharing plan**

The datasets generated during and/or analysed during the current study will be stored in a publically available repository.

**IPD sharing plan summary**

Stored in publicly available repository

**Study outputs**

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Protocol file</a>			19/10/2022	No	No