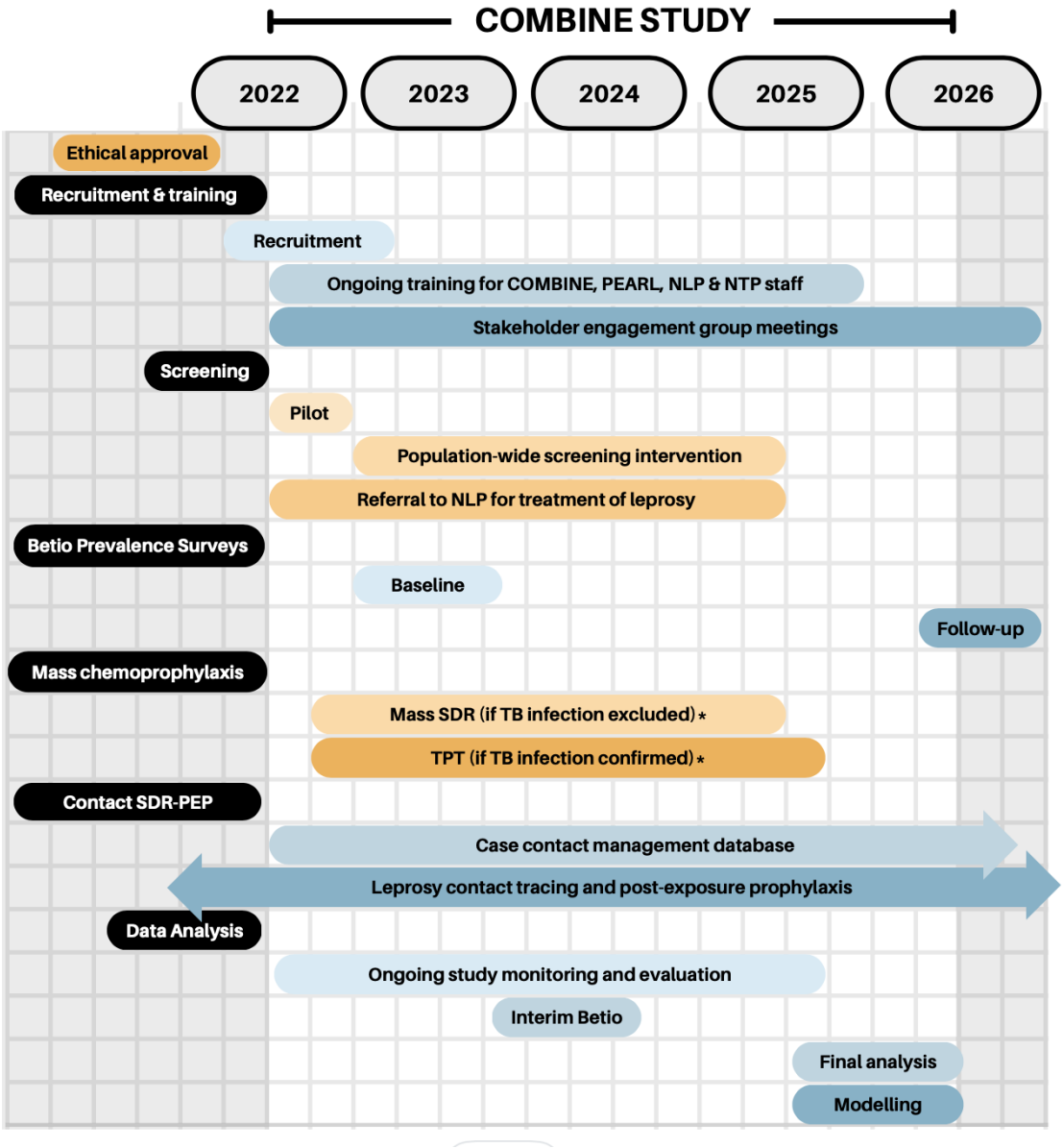
Supplementary Materials

The effectiveness of population-wide screening and mass drug administration for leprosy control in Kiribati: The COMBINE protocol

SUPPLEMENTARY FIGURE 1:



Supplementary Figure 1. Timeline of COMBINE study activities

Formal COMBINE activities commenced in July 2022 and should conclude in June 2026, with data analysis and dissemination of outcomes included in this period. Left-facing arrow indicates activity which began prior to the COMBINE study. Right-facing arrows indicate activities which will continue beyond the end of the COMBINE study through NLP and PLF activities, provided adequate funding is procured. NLP – National leprosy program; NTP – National tuberculosis program; PEP – post-exposure prophylaxis; SDR – single-dose rifampicin; TPT – tuberculosis preventive treatment. ***TB and leprosy disease also excluded*

SUPPLEMENT 1. Leprosy screening Standard Operating Procedure

Population leprosy screening – general steps

1. Ask about leprosy (this may be done at a history taking station)
2. Conduct a physical check for leprosy
3. Record findings in CRF
    a. Take a photo of any examination findings
4. Refer for further evaluation if there are any findings (this may be within the screening clinic, or to the leprosy clinic, depending on staffing)

Population leprosy screening – details

Ask (this may be done at a history taking station)

- Have you had or do you have leprosy? Have you ever been treated for leprosy?
- Are you a household contact* of someone who has had leprosy?
- Are you worried you might have leprosy? If so, why?
- Do you have any skin lesions or other abnormalities that you think could be leprosy?

Exposure

- Remove footwear and any outer layers of clothing

Areas of body to inspect

- Face including eyelashes, eyebrows, nose and mouth
- Ears
- Neck
- Arms and hands
- Legs and feet
- Lift the shirt and lower the waistband for back and upper buttocks

Looking for

- Skin lesions (pale, red, thick, raised, shiny)
    - Check if itchy, if so, don't refer to NLP (consider alternative referral if concerning)
- Skin nodules
- Altered shape of nose or ears
- Loss of eyelashes or eyebrows
- Altered shape of hand or foot
    - Check if present from birth, if so, don't refer
- Ulcers on hand or foot

Who to refer?

- People with physical examination findings consistent with leprosy
- People who are worried they might have leprosy (any reason)

How to record

- Fill the CRF
- Take a photo (good lighting, ruler or TST syringe for scale)
- Refer for further evaluation (this may be within the screening clinic, or to the leprosy clinic, depending on staffing)
- Give referral letter if needed

* Household contact is defined according to WHO. *"Household contacts: contacts living in the same dwelling or sharing the same kitchen as the index case. These include family members but also domestic staff or aids or co-workers or others sharing the same accommodation. A family member living elsewhere should not be considered as a contact."*

SUPPLEMENT 2.

Table S1. Single dose rifampicin (SDR) chemoprophylaxis dosing.

Age/body weight	Rifampicin single dose
15 years and above	600 mg
10-14 years	450 mg
Children 6-9 years (weight ≥ 20 kg)	300 mg
Children 6-9 years (weight < 20 kg)	150 mg
Children <5 years	10-15 mg/kg

Table S2. Tuberculosis preventive treatment dosing.

S2A. 12 doses of weekly isoniazid (H) and rifapentine (P) for adults and children ≥25 kg

Weight band	HP (300mg/300mg) tablets
25-30kg (or <15ys)	2
≥30kg and ≥15ys	3

S2B. 3 months of daily dosing of child-friendly water-dispersible rifampicin (R) and isoniazid (H) tablets for children <25kg

Weight band	RH (75mg/50mg) tablets
4-7kg	1
8-11kg	2
12-15kg	3
16-25kg	4

SUPPLEMENT 3. Participant Information

PARTICIPANT INFORMATION

Finding and preventing TB and leprosy cases in Tarawa

Dear participant,

We would like to invite you (and your child if relevant) to be treated for latent or sleeping TB. This document provides information about the study, but we will also explain the study to you in person. You will have the opportunity to ask questions if there is anything that you do not understand or if you want more information. You may refuse participation and this will not be held against you or affect any future access to healthcare.

What is this study about?

TB is a disease caused by germs that are coughed into the air by someone who is ill with TB. Most people who are infected with the TB germ do not become ill and do not even know that they are infected, this is referred to as latent or 'sleeping' TB. **Sometimes sleeping TB can wake up and make you ill, which may spread the germ to others**. This research aims to treat all people with TB, those who are ill and those with sleeping TB, so that we can try to eliminate TB from Tarawa. At the same time we are also trying to eliminate leprosy from Tarawa.

This Participant Information Form tells you about the study so that you can know what it involves. Please read this sheet carefully and ask questions about anything that you don't understand or want to know more about.

Who is conducting the study?

The study is carried out by researchers at the University of Sydney, Australia, in close collaboration with the Kiribati National TB and Leprosy Programme (NTP). The study is funded by the Australian Medical Research Future Fund and fully supported by the Kiribati Ministry of Health.

What will happen?

This study involves screening for TB (both 'sleeping TB' and illness caused by TB) and leprosy. People who are ill with TB or leprosy will be referred to the TB and Leprosy Programme for appropriate treatment. People with 'sleeping TB' will be offered TB preventive treatment (TPT) and those without any illness or TB infection will be offered leprosy preventive prophylaxis.

To check if someone is able to be given medication for sleeping TB, a study nurse will ask some personal questions. This may include questions about previous and current illnesses, medications used, drinking of alcohol or kava, and questions about pregnancy if you are a woman. Every person older than 20 years will be given a rapid test to see if they have hepatitis B infection, which is important for us to know before considering treatment for 'sleeping TB'. This test involves a finger prick to get a small drop of blood. People with risk factors will need to have a small amount of blood drawn to make sure their liver function stays healthy during the time that they are treated for sleeping TB.

How much of my time will the study take?

We will try to waste as little of you time as possible. To complete the TB and leprosy screening will require you (and your whole household) to be seen on two separate days. This is to complete all the necessary documentation and tests. It is expected that this will take about 2-3 hours of your time on each of these days. These diagnosed with sleeping TB will need to take tablets once a week for 12 weeks. Tablets will be given out at the mobile health clinic on a monthly basis and can be collected between 9am and 4pm on weekdays**.**

Who can take part in the study?

Every person older than 3 years of age living in Tarawa and Betio islet is invited to take part.

Do I have to be in the study? Can I withdraw from the study once I've started?

Taking part in this study is strongly recommended by the Kiribati Ministry of Health and Medical Services (MHMS) to get rid of TB and leprosy across Tarawa. However, participation is completely voluntary and you do not have to take part. Your decision will not affect your current or future relationship with the researchers, the Kiribati National TB and leprosy Program or the Ministry of Health.

If you decide to take part in the study and then change your mind later, you are free to withdraw at any time. You can do this by visiting the study clinic and speaking with a study nurse who will give you exit information and advice on how to stay healthy from TB in the future.

If you decide to withdraw from the study, we will not collect any further information from you. Information that we have already collected will be kept in our study records and may be included in the study results.

Are there any costs or risks associated with being in the study?

There are no costs associated with study participation. Mobile study clinics will be conveniently situated to be easily accessible and all study tests or treatment will be funded by the study.

If treatment for 'sleeping TB' is provided it is normal to feel a bit tired and to have bright orange urine while you are taking the tablets. Rarely people may develop some of the symptoms below, in which case it is important to inform us immediately. Rare symptoms to look out for include:

- ongoing nausea, vomiting or loss of appetite
- new rash or itchy skin
- yellowing skin or eyes
- tingling or numbness in fingers or toes
- any other symptoms of concern to you

Study nurses and doctors are available Monday to Friday, 9am to 4pm to see anyone who is feeling sick and thinks this may be due to their treatment. You may also call the 24-hour treatment hotline using the number on the back of your treatment card (TPT passport).

Are there any benefits associated with being in the study?

Yes, there are major benefits to yourself and the wider community of Tarawa, including Betio islet

- You (and your child) will get treatment for TB or leprosy if required
- You (and your child) will get treatment for sleeping TB (TPT) or to keep leprosy away
- You will help to eliminate TB and leprosy from Tarawa
- Study results will help other Pacific Island nations to eliminate TB and leprosy in the future

What if I have a complaint or any concerns about the study?

This research has been reviewed by an independent group of people called a Human Research Ethics Committee (HREC) at the University of Sydney and the Kiribati Ministry of Health and Medical Services.

If you are concerned about the way this study is being conducted please inform the study team; we want to learn and hear how we can improve things. If you wish to make a complaint to someone independent then please contact any of the people listed below.

Terotia Tabwaka Kelese, Human Resource Officer, Republic of Kiribati

Email: ttabwaka@gmail.com

or

The Manager, Ethics Administration, University of Sydney:

Telephone: +61 2 8627 8176

Email: human.ethics@sydney.edu.au

Fax: +61 2 8627 8177 (Facsimile)

Ethical Approval

This research plan (protocol) was approved by the ethics committee of the faculty of medicine and health at the University of Sydney. This helps to ensure that we do everything possible to keep you safe and to respect your rights and privacy at all times.

We thank you for your time and cooperation.

The PEARL Research Team with the support of the Kiribati National TB and Leprosy Control Programmes. **Further information can be found at www.thepearlstudy.org**

On behalf of the Kiribati Health Secretary

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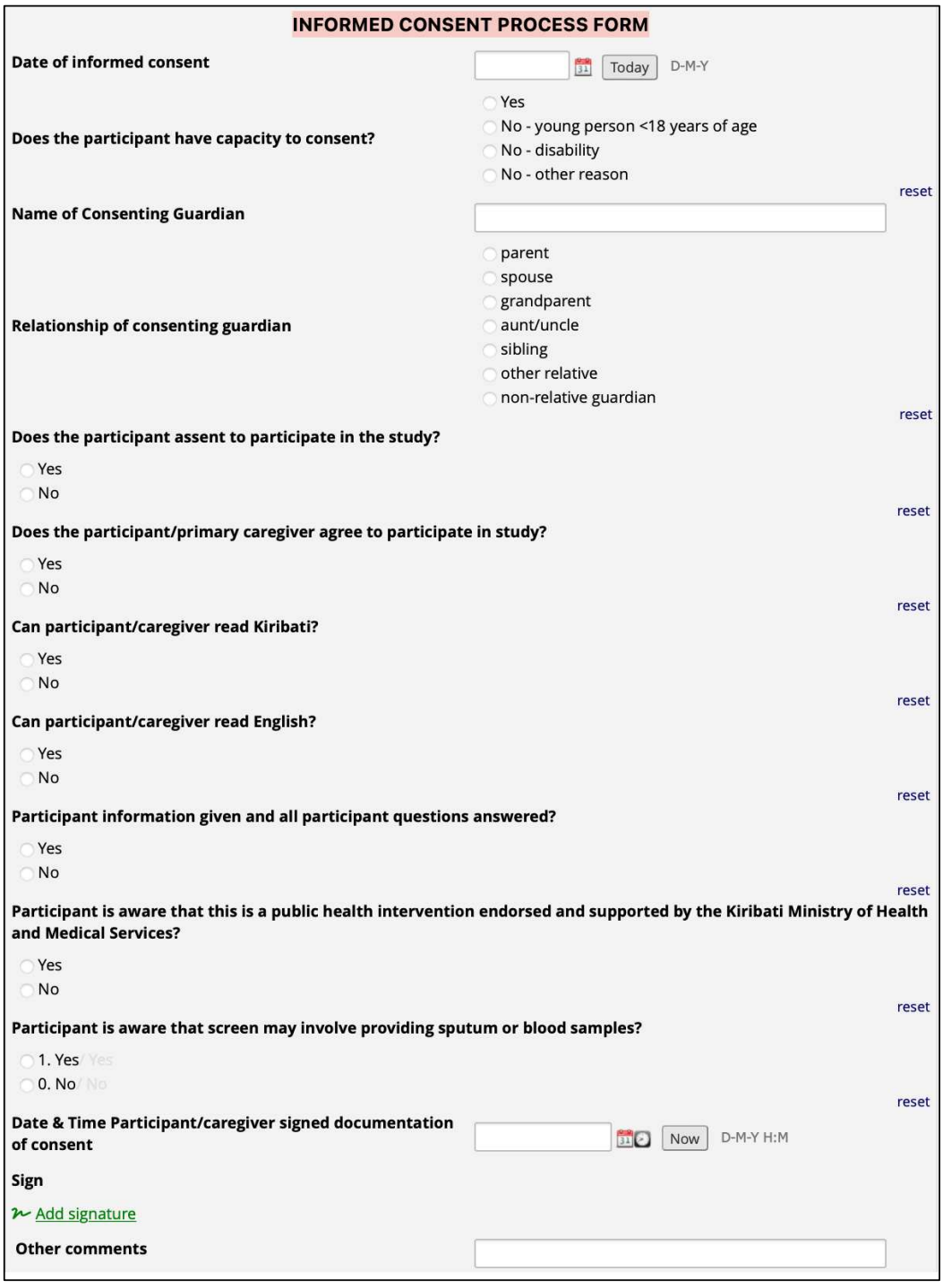
SUPPLEMENT 4. Informed Consent Form



INFORMED CONSENT PROCESS FORM

Date of informed consent Today D-M-Y

Does the participant have capacity to consent?
- Yes
- No - young person <18 years of age
- No - disability
- No - other reason

reset

Name of Consenting Guardian

Relationship of consenting guardian
- parent
- spouse
- grandparent
- aunt/uncle
- sibling
- other relative
- non-relative guardian

reset

Does the participant assent to participate in the study?
- Yes
- No

reset

Does the participant/primary caregiver agree to participate in study?
- Yes
- No

reset

Can participant/caregiver read Kiribati?
- Yes
- No

reset

Can participant/caregiver read English?
- Yes
- No

reset

Participant information given and all participant questions answered?
- Yes
- No

reset

Participant is aware that this is a public health intervention endorsed and supported by the Kiribati Ministry of Health and Medical Services?
- Yes
- No

reset

Participant is aware that screen may involve providing sputum or blood samples?
- 1. Yes
- 0. No

reset

Date & Time Participant/caregiver signed documentation of consent Now D-M-Y H:M

Sign

Add signature

Other comments