# Standard Operating Procedure	SOP No: HALI-SCR **-001** Version: **2** Effective Date: 01-02-10

Title: BASELINE HEALTH SURVEY IN CONTROL AND INTERVENTION SCHOOLS AND TREATMENT OF CHILDREN IN CLASSES 1 AND 5.

1.0 **Study Title:** Impact of malaria prevention on health and education in Kenyan school children

2.0 **SSC No.**: 1543

3.0 **Study PI**: Dr Simon Brooker, KEMRI-Wellcome Trust Research Programme

4.0 **PURPOSE / INTRODUCTION:** To describe the procedure for measuring haemoglobin concentration and for the screening of malaria parasitaemia using rapid diagnostic tests (RDTs) and treatment using artemether-lumefantrine (AL) of children.

5.0 **SCOPE / RESPONSIBILITY:** This SOP is for all nurses and technicians in each health team in the HALI project.

6.0 **EQUIPMENT CHECKLIST:**

2x Thermometers
1x height pole
1x digital weighing scales
1x Scissors
2x Pencils
1x Sharpener
1x Masking tape
2x Pens
2x Glove boxes
Methylated spirit
Cotton wool
Medical gauze
1x Slide box
1x Slide folder
1x Sharps container
1x Cooler box
1x Garbage bag
1x Dustbins
Paracheck RDTs
Lancets
Blood slides
HemoCue machine
Cuvettes
Paracetamol
Artemether-lumefantrine (Coartem)
Milk
Biscuits
Water

7.0 METHODOLOGY:

In the office

1) Check you have the list for the school you are going to on that day. Make sure that you have:
   a) 4xTechnician lists–class 1 priority and non priority. Class 5 priority and non priority
   b) 4xNurse lists – class 1 priority and non priority. Class 5 priority and non priority

2) Count the number of children to test that day and check that you have enough:
   a) RDTs plus a few extras
   b) Cuvettes and blood slides
   c) AL for all the ages
   d) Water, milk and biscuits to give each tested child 2 biscuits and for treatment.
   e) Treatment forms (form TX1), transfer forms (form TW1) and AE forms (form AE1)
   f) Rest of supplies

3) Find your vehicle and load all supplies.

In the school

4) Meeting the Head/Deputy:
   a) Unload the supplies
   b) Go straight to the office to speak to the head teacher or deputy.
   c) Introduce yourself and say that you are here for the baseline health assessments in the children whose parents have given informed consent in classes 1 and 5. The headmaster should have got a letter and then a phone call from the office telling them we are coming, and the deputy should have got a text.

      (1) **INTERVENTION SCHOOLS**: You will be testing the consented children in classes 1 and 5 using an RDT and treating those children with a RDT positive result. The headmaster should have got a phone call from the office telling them you are coming, and the deputy should have got a text. You will also be assessing the haemoglobin concentration using a Haemocue, and taking a blood slide for the children who have been randomly selected for the study in these two classes. You will also be measuring height, weight and taking the children's temperature
      (2) **CONTROL SCHOOLS**: You will be assessing the haemoglobin concentration using a Haemocue in the children who have been randomly selected for the study in the two classes. You will also be measuring height, weight for the children.

   d) Ask if the parents have been informed and if any are here. If not, suggest that maybe the school chairman would like to come and observe and he can relay the activities to any parents in the village.
   e) Request a space to work. If the school has a spare unused classroom, use this. If not the set up should be done on a flat surface under shade outside, with the height pole laid up against a wall so as to cause minimum disturbance to the rest of the children who are not being assessed for the study.

5) Entering the classroom:
   a) Apologise to the teacher for the interruption and request the use of some of the children.
   b) Greet the children, talk to them, sing a song with them or ask them to sing a song.

      (1) **INTERVENTION SCHOOLS**: explain that you are measuring haemoglobin levels using a Hemocue device and testing them for malaria using a rapid diagnostic test, just like they use in the hospitals. Ask them to put up their hand if they have been tested for malaria before in a hospital. Maybe do a demonstration on the teacher to make them feel comfortable. Also you will be measuring temperature, height, weight, anaemia
      (2) **CONTROL SCHOOLS**: explain that you are measuring haemoglobin levels using a Hemocue device. Maybe do a demonstration on the teacher to make them feel comfortable. Also you will be measuring their height and weight.

6) Taking attendance:

a) ***Nurse***: Ask them to stand on one side of the classroom and then when they hear their names they are to call "present" and walk to the other side of the room.
b) Read out the names on the lists and note whether they are present or absent using the attendance codes at the bottom of the page. Make sure to ask if anyone knows why a child is absent.
c) Leave the classroom as soon as you have finished and let them continue with lessons.

Control schools:

7) Technician Testing.

a) Organise the room so that the process is efficient.
b) Transfer the absentee codes from the nurses form to your form so you know who to expect
c) Set up the Hemocue.
d) Talk to the child as you test him/her and reassure him/her.
e) Take an HB reading for every child
f) After pricking, wipe the **first two drops of blood away** and then fill the cuvette and place in the HemoCue (see Haemoglobin concentration SOP)
g) CHANGE GLOVES AFTER EACH CHILD.

8) Nurse Testing.

a) Organise the children in the order they are on the list
b) Take the height of the child and record it on the list.
c) Take the weight and record it on the list
d) Ask the child's age and record it

Intervention schools:

9) Technician Testing.

a) Organise the room so that the process is efficient.
b) Transfer the absentee codes from the nurses form to your form so you know who to expect
c) Set up the Hemocue.
d) Talk to the child as you test him/her and reassure him/her.
e) Priority list (study) children**:** *blood slide, HB reading and RDT*
f) Non priority list (additional consented) children: *RDT*
g) After pricking, wipe the **first two drops of blood away** and then fill the cuvette and place in the HemoCue, (see Haemoglobin concentration SOP)
h) Only open 3 RDTs at one time.
i) Label the RDT according to the child's ID when he/she comes to the table.
j) Follow the instructions on the RDT.
k) CHANGE GLOVES AFTER EACH CHILD.
l) Time using a timer/mobile phone and record result on the sheet 1 or 0.
m) Label all blood slides with HALI, child ID and date (priority list children only).
n) Take a thin and thick smear on the slide, and put in covered slide tray..

10) Nurse Testing.

a) Organise the children in the order they are on the list
b) Take the height of the child and record it on the list.
c) Take the weight and record it on the list
d) Take temperature. Make sure the thermometers are not giving low readings.
e) Ask the child's age and record it

11) Nurse Treatment preparation on day of screening:

a) Once the list of positives and negatives are ready on the technicians list:
   i) Release the negative children with 2 biscuits each
   ii) Copy the names and IDs of the positives on to the treatment sheet
   iii) Copy the weights on to the treatment forms
b) Give each child a packet of biscuits and open a carton of milk for them.
c) Ask if the class 1s have a parent that can be called and if not, an older brother or sister in the school. If they do these siblings should be called to listen to the directions for taking the AL treatment.

d) Call each child up individually (with sibling) and ask:
   i) If he/she is taking any other medicines (particularly antimalarials)
   ii) If he/she has had the milk and biscuits

12) Treatment on day of screening

a) If the child is febrile, give paracetamol.
b) When treating, give the child the number of tablets for his/her weight band and a cup of water.
   i) 2 tablets = 15-24kg
   ii) 3 tablets = 25-34kg
   iii) 4 tablets = 35+kg
c) Give the 2nd dose to the child (or parent/older sibling) to take home and tell him/her to take it 8hrs after they were give the 1st dose, after dinner and before going to bed.
d) Fill in the treatment sheet document time dose is taken
e) Put the AL in a safe place like a pocket, or give it to the older child.
f) Ensure all children sit for 15 minutes after taking the AL
g) After 15 minutes call each child up individually and ask if they feel OK.
   i) If they report no problem, release them,
   ii) If they report a problem, fill in Adverse event form (see separate SOP).
h) Tell the children to come in the next day for their next doses and milk and biscuits.

13) Class 5:

a) Follow steps 5 to 9 for class 5.
b) Make sure you call them before 12pm if not earlier, so there is no chance they will go to lunch before you have collected them.

14) Packing up:

a) Ensure you have all 8 lists and that the nurses treatment and technicians results lists match one another in terms of children RDT-positive .
b) INDIVIDUALLY CHECK EACH SCREENING FORM AND TREATMENT FORM FOR COMPLETENESS. If there is information missing, ensure that this information is collected.
c) MAKE SURE ALL SLIDES HAVE CHILD IDs THAT MATCH THE PRIORITY CHILDREN TESTED.
d) Make sure as you leave that everything has been packed up and taken, including empty milk cartons.
e) Take all bags with you in the car.
f) If a few teachers/parents wish to be tested this is possible, but no more than 5.
g) Go back to the office and thank them for their cooperation
h) Tell them a nurse will be returning for the next two days to give the following doses.

Back in the office

15) Hand in the 8 sheets to Kate/Peris

a) Make sure than one of these people check the sheets in

Treatment days 2 and 3

In the office:

16) Check you have the treatment lists for all the schools you are visiting that day.

17) Count the number of children to treat and check that you have enough:
a) AL for all the ages
b) Water, milk and biscuits to give each treated and a few extras.
c) Treatment forms and AE forms
d) Rest of supplies – pen, scissors, paracetamol

18) Find your vehicle and load all supplies

In the school:

19) Meeting
a) Go to the office, introduce your presence and say you have come for the other rounds of treatment.

20) Collecting the children:
a) Go to the classroom for class 1 and then class 5, and apologise for the disturbance,
b) Call out the children on the treatment lists in the respective classrooms.
c) Take the children to a separate area.

21) Treatment preparation
a) Give each child a packet of biscuits and open a carton of milk for them.
b) Ask if the class 1s have an older brother or sister in the school, if they do these siblings should be called to listen to the directions for taking the AL.
c) Call each child up individually (with sibling) and ask:
   i) If he/she has had the milk and biscuits
   ii) If he/she took the tablets last evening
   iii) How many tablets did they take
   iv) That they are sure they did not take any antimalarial tablets this morning.

22) Treatment
a) If the child missed the dose the evening before, calculate and
   i) if it is less than 36 hrs since the last dose they took then continue as if they have taken the missed dose.
   ii) If it is over 36hrs since the last dose they took, give the dose again and continue from there.
b) If the child did take the AL in the morning before you arrive (rather than the evening before), give the AL to take 12 hrs after the dose that the child took in the morning.
c) If the child is febrile, give paracetamol.
d) When treating, give the child the number of tablets for his/her weight band and a cup of water.
   i) 2 tablets = 15-24kg
   ii) 3 tablets = 25-34kg
   iii) 4 tablets = 35+kg
e) Give the 4^{th}/6^{th} dose to the child to take home and tell him/her to take it in the evening, after eating dinner and before going to bed.
f) Fill in the treatment sheet document time dose is taken and time it was taken the previous evening
g) Put the AL in a safe place like a pocket, or give it to the older child.
h) Ensure all children sit for 15 minutes after taking the AL
i) After 15 minutes call each child up individually and ask if they feel OK.
   i) If they report no problem, release them,
   ii) If they report a problem, fill in Adverse event form (from AE1). See separate SOP.

iii) If the child had reported an adverse event on the previous day, follow this up and see if they feel OK now, and if so when the symptoms cleared.

j) Tell the children to come in the next day for their next doses and milk and biscuits (if 2nd day).

23) Following up children

a) If a child is not present, find out where he/she lives and if a sibling or neighbour lives nearby
b) Ask the headteacher if a child can direct you to the house with the driver.
c) Go to the house and treat the child there and speak to the parent.
d) Request the child comes in the next day for the third day of treatment
e) Take the guide back to school.
f) If following the child is not possible please contact Kate/Peris for further instruction of what to do.

24) Packing up

a) Pack up all the supplies and rubbish and take them
b) Thank the head/deputy for cooperation
c) Proceed to next school.
d) If you are running late and will not reach the next school until 12.30 or later please contact Carlos in the office and he will phone the school and ask them to hold the children you need.

Back in the office

25) Hand in the treatment sheets to Kate/Peris

a) Make sure they are all filled in
b) Check the sheets in