



TUMIKIA

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Endline Laboratory Reporting Form

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LONDON
SCHOOL of
HYGIENE
& TROPICAL
MEDICINE



For each sample, two slides are prepared, with a QR code sticker attached to each slide with the sample ID plus “A” or “B”. Following preparation of the Kato-Katz slides, they are read using a light microscope and the results are recorded directly into the Laboratory Kato-Katz Reporting form.

This form is designed for technicians reading in pairs where one reads the A slides and the other reads the equivalent B slides (it can be modified to allow technicians to read slides A and B of the same samples). Batches of up to 15 slides can be recorded using one form. The slide QR code is scanned before placing it on the microscope. As soon as the number of eggs for each species is read (hookworm, *Ascaris lumbricoides* and *Trichuris trichiura*) this is entered directly into the form on the smartphone. This process is repeated for each slide in the batch. Other species observed can also be recorded in the form.

The form is programmed to randomly select 30% of slides per batch read to be given to the Quality Control Technician to be read as well. Additionally, 10% of batches are randomly selected by the form for a partner swap, where the technician reading the A slides swap with the technician reading the equivalent B slides, so these batches are double read.

The form was designed by members of the TUMIKIA Project team and programmed by Dr William Oswald and Stefan Witek-McManus.

Please contact Dr William Oswald (william.oswald@lshtm.ac.uk) if you have any questions about the Laboratory Forms.

TUMIKIA Endline Laboratory Reporting Form

Field	Question	Answer																
note_intro	TUMIKIA Endline Kato-Katz Reporting Form																	
tech (required)	Select your name from the list.	<table border="1"> <thead> <tr> <th>tech_id</th> <th>tech_name</th> </tr> </thead> <tbody> <tr> <td>88</td> <td>Enumerator not listed</td> </tr> </tbody> </table>	tech_id	tech_name	88	Enumerator not listed												
tech_id	tech_name																	
88	Enumerator not listed																	
tech_oth (required)	Please enter your name. <i>Question relevant when: \${tech} = 88</i>																	
qc_reading (required)	Please select whether this is a first reading or a second reading. <i>Select first reading for regular slide readings. For a second reading you will be given a batch of slides to read by your partner.</i>	<table border="1"> <tbody> <tr> <td>1</td> <td>Regular reading</td> </tr> <tr> <td>2</td> <td>Second reading</td> </tr> </tbody> </table>	1	Regular reading	2	Second reading												
1	Regular reading																	
2	Second reading																	
reader (required)	Select if you are slide reader A or B	<table border="1"> <tbody> <tr> <td>A</td> <td>Reader A</td> </tr> <tr> <td>B</td> <td>Reader B</td> </tr> </tbody> </table>	A	Reader A	B	Reader B												
A	Reader A																	
B	Reader B																	
firstread	<i>Group relevant when: \${qc_reading} = 1</i>																	
num_slides (required)	Enter the number of slides to be read in this batch. Batches must be 15 slides or fewer. <i>Response constrained to: .>0 and .<=15</i>																	
program (required)	Select if you are reading this batch of slides for all species, hookworm only, or Ascaris and Trichuris only.	<table border="1"> <tbody> <tr> <td>1</td> <td>All species</td> </tr> <tr> <td>2</td> <td>Hookworm only</td> </tr> <tr> <td>3</td> <td>Ascaris and Trichuris only</td> </tr> </tbody> </table>	1	All species	2	Hookworm only	3	Ascaris and Trichuris only										
1	All species																	
2	Hookworm only																	
3	Ascaris and Trichuris only																	
firstread > Slides (1)		(Repeated group)																
barcode_scan	Scan the sticker on the slide. <i>Scan the slide sticker even if the slide was not prepared.</i> <i>Response constrained to: string-length (.)=7</i>																	
barcode_manual1 (required)	Manually enter the FIRST three numbers on the sticker if you are unable to scan the sticker. <i>Question relevant when: \${barcode_scan} = ""</i> <i>Response constrained to: (.>=101 and .<=114) or (.>=116 and .<=132) or (.>=201 and .<=230) or (.>=301 and .<=328) or (.>=401 and .<=441)</i>																	
barcode_manual2 (required)	Manually enter the LAST three numbers on the sticker if you are unable to scan the sticker. <i>Question relevant when: \${barcode_scan} = ""</i> <i>Response constrained to: .>0 and .<=600 and (string-length (.)=3)</i>																	
barcode_manual3 (required)	Manually enter the letter on the sticker if you are unable to scan the sticker. <i>Question relevant when: \${barcode_scan} = ""</i> <i>Response constrained to: .="A" or .="B"</i>																	
barcode_check (required)	The barcode you entered is [barcode_manual] <i>Question relevant when: \${barcode_manual1} != "" and \${barcode_manual2} != "" and \${barcode_manual3} != ""</i> <i>Response constrained to: .=1</i>	<table border="1"> <tbody> <tr> <td>1</td> <td>Yes</td> </tr> <tr> <td>0</td> <td>No</td> </tr> </tbody> </table>	1	Yes	0	No												
1	Yes																	
0	No																	
note_dupchk (required)	You have already entered slide [barcode] <i>Question relevant when: \${dupchk} = 0</i>																	
read (required)	Can you read the slide?	<table border="1"> <tbody> <tr> <td>1</td> <td>Yes</td> </tr> <tr> <td>0</td> <td>No</td> </tr> </tbody> </table>	1	Yes	0	No												
1	Yes																	
0	No																	
read_whynt (required)	Why can't you read the slide? <i>Question relevant when: \${read} = 0</i>	<table border="1"> <tbody> <tr> <td>3</td> <td>No stool to prepare slide</td> </tr> <tr> <td>1</td> <td>Insufficient stool to prepare slide</td> </tr> <tr> <td>2</td> <td>Too dark</td> </tr> <tr> <td>88</td> <td>Other</td> </tr> </tbody> </table>	3	No stool to prepare slide	1	Insufficient stool to prepare slide	2	Too dark	88	Other								
3	No stool to prepare slide																	
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2	Too dark																	
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read_whynt_ot (required)	Please specify why you cannot read the slide. <i>Question relevant when: \${read_whynt} = 88</i>																	
firstread > Slides (1) > STH counts	<i>Group relevant when: \${read} = 1</i>																	
hk_ct (required)	Enter hookworm count <i>Question relevant when: \${program} = 1 or \${program} = 2</i> <i>Response constrained to: (.>=0 and .<=9999) or .=-99</i>																	
as_ct (required)	Enter Ascaris count <i>Question relevant when: \${program} = 1 or \${program} = 3</i> <i>Response constrained to: (.>=0 and .<=9999) or .=-99</i>																	
tr_ct (required)	Enter Trichuris count <i>Question relevant when: \${program} = 1 or \${program} = 3</i> <i>Response constrained to: (.>=0 and .<=9999) or .=-99</i>																	
othspec (required)	Put a check next to the other species that you are counting. <i>Question relevant when: \${read} = 1 and (\${program} = 1 or \${program} = 3)</i> <i>Response constrained to: (selected(., '99') and not(selected(., '1')) and not(selected(., '2')) and not(selected(., '3')) and not(selected(., '4')) and not(selected(., '5')) and not(selected(., '6')) and not(selected(., '88')) or (not(selected(., '99')) and (selected(., '1') or selected(., '2') or selected(., '3') or selected(., '4') or selected(., '5') or selected(., '6') or selected(., '88')))</i>	<table border="1"> <tbody> <tr> <td>99</td> <td>No other species</td> </tr> <tr> <td>1</td> <td>E. vermicularis</td> </tr> <tr> <td>2</td> <td>Taenia spp</td> </tr> <tr> <td>3</td> <td>H. nana</td> </tr> <tr> <td>4</td> <td>H. diminuta</td> </tr> <tr> <td>5</td> <td>S. haematobium</td> </tr> <tr> <td>6</td> <td>S. mansoni</td> </tr> <tr> <td>88</td> <td>Other</td> </tr> </tbody> </table>	99	No other species	1	E. vermicularis	2	Taenia spp	3	H. nana	4	H. diminuta	5	S. haematobium	6	S. mansoni	88	Other
99	No other species																	
1	E. vermicularis																	
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5	S. haematobium																	
6	S. mansoni																	
88	Other																	
othspec_oth (required)	Please specify the other species <i>Question relevant when: selected(\${othspec}, '88')</i>																	
firstread > Slides (1) > Other species	<i>Group relevant when: \${read} = 1 and (\${program} = 1 or \${program} = 3)</i>																	

Field	Question	Answer
Everm_ct (required)	Enter E. vermicularis count <i>Question relevant when: selected(\$othspec , 1)</i> <i>Response constrained to: (>=0 and <=9999) or .=-99</i>	
Taens_ct (required)	Enter Taenia spp count <i>Question relevant when: selected(\$othspec , 2)</i> <i>Response constrained to: (>=0 and <=9999) or .=-99</i>	
Hnana_ct (required)	Enter H. nana count <i>Question relevant when: selected(\$othspec , 3)</i> <i>Response constrained to: (>=0 and <=9999) or .=-99</i>	
Hdimi_ct (required)	Enter H. diminuta count <i>Question relevant when: selected(\$othspec , 4)</i> <i>Response constrained to: (>=0 and <=9999) or .=-99</i>	
Shaem_ct (required)	Enter S. haematobium count <i>Question relevant when: selected(\$othspec , 5)</i> <i>Response constrained to: (>=0 and <=9999) or .=-99</i>	
Smans_ct (required)	Enter S. mansoni count <i>Question relevant when: selected(\$othspec , 6)</i> <i>Response constrained to: (>=0 and <=9999) or .=-99</i>	
Other_ct (required)	Enter [othspec_oth] count <i>Question relevant when: selected(\$othspec , 88)</i> <i>Response constrained to: (>=0 and <=9999) or .=-99</i>	
notes	Any other notes on the slide?	
note_chk	0.12802576756656858, 0, 0.38246591595706925, 0 <i>Question relevant when: 0</i>	
note_list	[list_slides_super][list_slides_part] <i>Question relevant when: 0</i>	
note_super	Please give the following 0 slides to the quality control technician: [list_slides_super] <i>Question relevant when: \${sum_slides_super} > 0</i>	
super_chk (required)	Did you give your slides to the quality control technician? <i>Question relevant when: \${sum_slides_super} > 0</i>	1 Yes 0 No
super_chk_whynot (required)	Why were you not able to give your slides to the quality control technician? <i>Question relevant when: \${super_chk} = 0</i>	1 QC technician not available 88 Other
super_chk_whynot_oth (required)	Please explain why you were not able to give your slides to the quality control technician? <i>Question relevant when: \${super_chk_whynot} = 88</i>	
note_part	This batch of slides has been selected for a double reading. Please ask your partner for the slides in this batch that they were reading. You should finalise this form and then use a new form and select "Second reading" to enter the readings of your partner's slides. Please give this batch of 0 slides to your partner reader for a second reading: [list_slides_part] <i>Question relevant when: \${sum_slides_part} > 0</i>	
part_chk (required)	Did you give your slides to your partner for double reading? <i>Question relevant when: \${sum_slides_part} > 0</i>	1 Yes 0 No
part_chk_whynot (required)	Why were you not able to give your slides to your partner for double reading? <i>Question relevant when: \${part_chk} = 0</i>	1 Partner's slides were selected for QC technician reading 88 Other
part_chk_whynot_oth (required)	Please explain why you were not able to give your slides to your partner? <i>Question relevant when: \${part_chk_whynot} = 88</i>	
note_final	You have finished entering slides for this batch. Please make sure the box by "Mark form as finalized" is checked then save the form and exit.	
secondread	<i>Group relevant when: \${qc_reading} = 2</i>	
qc_num_slides (required)	Enter the number of slides you have been given to read by your partner. Batches must be 15 slides or fewer. <i>Response constrained to: >0 and <=15</i>	
secondread > Slides (1)		(Repeated group)
qc_barcode_scan	Scan the sticker on the slide. <i>Scan the slide sticker even if the slide was not prepared.</i> <i>Response constrained to: string-length (.)=7</i>	
qc_barcode_manual1 (required)	Manually enter the FIRST three numbers on the sticker if you are unable to scan the sticker. <i>Question relevant when: \${qc_barcode_scan} = ""</i> <i>Response constrained to: (>=101 and <=114) or (>=116 and <=132) or (>=201 and <=230) or (>=301 and <=328) or (>=401 and <=441)</i>	
qc_barcode_manual2 (required)	Manually enter the LAST three numbers on the sticker if you are unable to scan the sticker. <i>Question relevant when: \${qc_barcode_scan} = ""</i> <i>Response constrained to: >0 and <=600 and (string-length (.)=3)</i>	
qc_barcode_manual3 (required)	Manually enter the letter on the sticker if you are unable to scan the sticker. <i>Question relevant when: \${qc_barcode_scan} = ""</i> <i>Response constrained to: ="A" or ="B"</i>	

Field	Question	Answer
qc_barcode_check (required)	The barcode you entered is [qc_barcode_manual] <i>Question relevant when: \${qc_barcode_manual1} != "" and \${qc_barcode_manual2} != "" and \${qc_barcode_manual3} != ""</i> <i>Response constrained to: . = 1</i>	1 Yes 0 No
qc_note_dupchk (required)	You have already entered slide [qc_barcode] <i>Question relevant when: \${qc_dupchk} = 0</i>	
qc_read (required)	Can you read the slide?	1 Yes 0 No
qc_read_whynt (required)	Why can't you read the slide? <i>Question relevant when: \${qc_read} = 0</i>	3 No stool to prepare slide 1 Insufficient stool to prepare slide 2 Too dark 88 Other
qc_read_whynt_ot (required)	Please specify why you cannot read the slide. <i>Question relevant when: \${qc_read_whynt} = 88</i>	
secondread > Slides (1) > STH counts <i>Group relevant when: \${qc_read} = 1</i>		
qc_hk_ct (required)	Enter hookworm count <i>Response constrained to: (>=0 and <=9999) or . = -99</i>	
qc_as_ct (required)	Enter Ascaris count <i>Response constrained to: (>=0 and <=9999) or . = -99</i>	
qc_tr_ct (required)	Enter Trichuris count <i>Response constrained to: (>=0 and <=9999) or . = -99</i>	
qc_othspec (required)	Put a check next to the other species that you are counting. <i>Question relevant when: \${qc_read} = 1</i> <i>Response constrained to: (selected(., '99') and not(selected(., '1')) and not(selected(., '2')) and not(selected(., '3')) and not(selected(., '4')) and not(selected(., '5')) and not(selected(., '6')) and not(selected(., '88')) or (not(selected(., '99')) and (selected(., '1') or selected(., '2') or selected(., '3') or selected(., '4') or selected(., '5') or selected(., '6') or selected(., '88')))</i>	99 No other species 1 E. vermicularis 2 Taenia spp 3 H. nana 4 H. diminuta 5 S. haematobium 6 S. mansoni 88 Other
qc_othspec_oth (required)	Please specify the other species <i>Question relevant when: selected(\${qc_othspec}, '88')</i>	
secondread > Slides (1) > Other species <i>Group relevant when: \${qc_read} = 1</i>		
qc_Everm_ct (required)	Enter E. vermicularis count <i>Question relevant when: selected(\${qc_othspec}, 1)</i> <i>Response constrained to: (>=0 and <=9999) or . = -99</i>	
qc-Taens_ct (required)	Enter Taenia spp count <i>Question relevant when: selected(\${qc_othspec}, 2)</i> <i>Response constrained to: (>=0 and <=9999) or . = -99</i>	
qc_Hnana_ct (required)	Enter H. nana count <i>Question relevant when: selected(\${qc_othspec}, 3)</i> <i>Response constrained to: (>=0 and <=9999) or . = -99</i>	
qc_Hdimi_ct (required)	Enter H. diminuta count <i>Question relevant when: selected(\${qc_othspec}, 4)</i> <i>Response constrained to: (>=0 and <=9999) or . = -99</i>	
qc_Shaem_ct (required)	Enter S. haematobium count <i>Question relevant when: selected(\${qc_othspec}, 5)</i> <i>Response constrained to: (>=0 and <=9999) or . = -99</i>	
qc_Smans_ct (required)	Enter S. mansoni count <i>Question relevant when: selected(\${qc_othspec}, 6)</i> <i>Response constrained to: (>=0 and <=9999) or . = -99</i>	
qc_Other_ct (required)	Enter [qc_othspec_oth] count <i>Question relevant when: selected(\${qc_othspec}, 88)</i> <i>Response constrained to: (>=0 and <=9999) or . = -99</i>	
qc_notes	Any other notes on the slide?	
qc_note_final	You have finished entering slides for this batch of second readings. Please make sure the box by "Mark form as finalized" is checked then save the form and exit.	



This form was created by the London Applied & Spatial Epidemiology Research Group (LASER) based at the London School of Hygiene and Tropical Medicine as part of the TUMIKIA research project. TUMIKIA sought to determine whether combining school and community based deworming is more effective at controlling and eliminating soil transmitted helminths in Kenya than school based deworming alone, and what frequency of deworming is required to stop transmission. This research was a collaboration between LASER, Kenya Medical Research Institute and Kenya's Ministry of Health and Ministry of Education, Science & Technology.

For TUMIKIA research findings visit www.lshtm.ac.uk/LASER



LASER combines expertise in the fields of spatial statistics and GIS technology, quantitative epidemiology and operational research to build the evidence-base around diseases of poverty and the communities they affect.

London Applied & Spatial Epidemiology Research Group

London School of Hygiene and Tropical Medicine

Department of Disease Control

Faculty of Infectious and Tropical Diseases

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