User Manual: Metadata Template Guide

Overview

The Metadata Collection Templates are designed to support the structured, harmonized collection of metadata for five key pathogens across Africa. These templates help ensure that sample-level and subject-level information is captured in a consistent, high-quality format, enabling better comparability, faster analysis, and more efficient public health response.

This guide provides instructions on how to correctly use the spreadsheet-based template. It is intended for use by:

- National and regional public health laboratories
- Research teams generating cholera, klebsiella, mpox, covid and malaria sequence data.
- Institutions preparing data for submission to the AGARI platform

This guide will help users ensure that data is valid, complete, and ready for upload to the AGARI platform to support pathogen monitoring and regional collaboration.

Template structure

The spreadsheet template contains several sheets, each with a specific function. Users should not alter the structure of the workbook beyond entering metadata in the appropriate cells of the Metadata sheet.

Sheet Name	Purpose
Instructions	Provides an overview of how to complete the template, including structured format, required and multiselect fields.
Entry Sheet	The primary data entry sheet. Each row should represent one isolate because one biological sample, such as blood for malaria, can include different isolates. This is the only sheet users should modify.
Picklist	Contains reference lists for dropdown fields. This sheet is locked to maintain standardization.
Country/Province picklist	Contains reference lists for country related fields. This sheet is locked to maintain standardization.

Each field in the Metadata sheet is based on harmonized metadata standards developed in collaboration with Africa CDC, research partners, and domain experts.

Accessing the template

The metadata collection template supports different software environments.

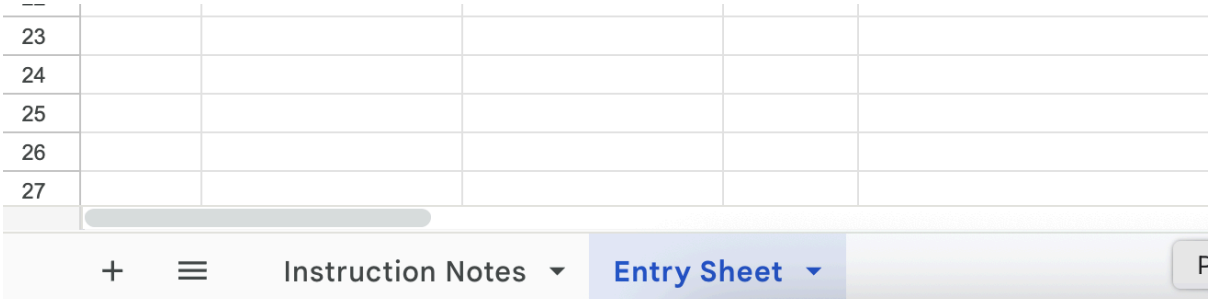
Format	Recommended for
Excel (.xlsx)	This template works across Microsoft Excel, Google Sheets, and Numbers. For optimal performance, we recommend using Google Sheets.

Entry Sheet – Main Data entry Area

This is where you will enter all your sample-level metadata.

How to navigate the template

When you open the template, you will see several sheets(tabs) at the bottom of your spreadsheet window.

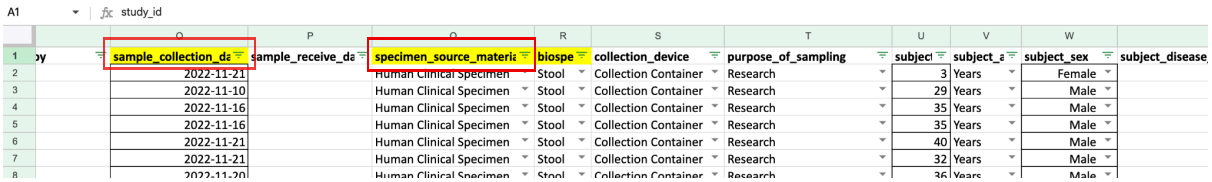


- **Sheet 1 – Instruction Notes:** A brief overview of how to use the template.
- **Sheet 2 – Entry Sheet:** Where you will enter all your sample/isolate information.
- **Sheet 3 – Reference data (Picklist):** Controlled vocabulary and ontology list for dropdown fields.
- **Sheet 4 – Reference data (country / geo_loc_name_countries / geo_loc_name_state_province_territories):** controlled vocabulary list for countries and their associated states/provinces/territories.

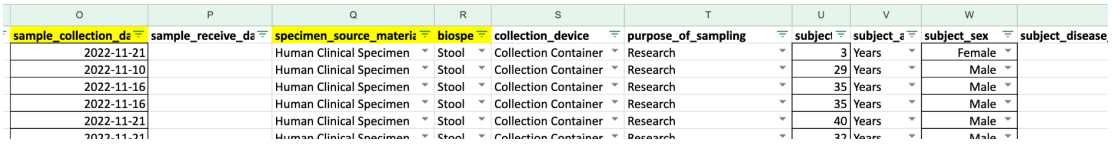
⚠ Do **not** attempt to modify these sheets, as they contain reference data and formulas essential for the template to function correctly.

Understanding the Entry sheet layout

1. **Row 1 – Metadata/fields terms**
   - Column headers indicate the specific field, e.g., sample collection date, subject age, and serotype
   - Mandatory fields are highlighted in yellow – these must be filled in for every entry. All white fields are optional. These fields are not required for submission, but they are important for adding valuable information.

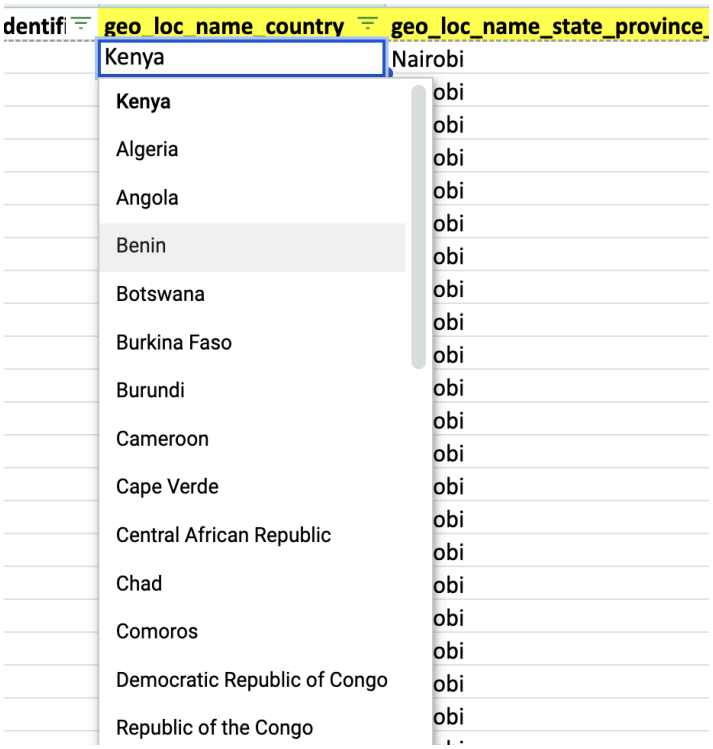


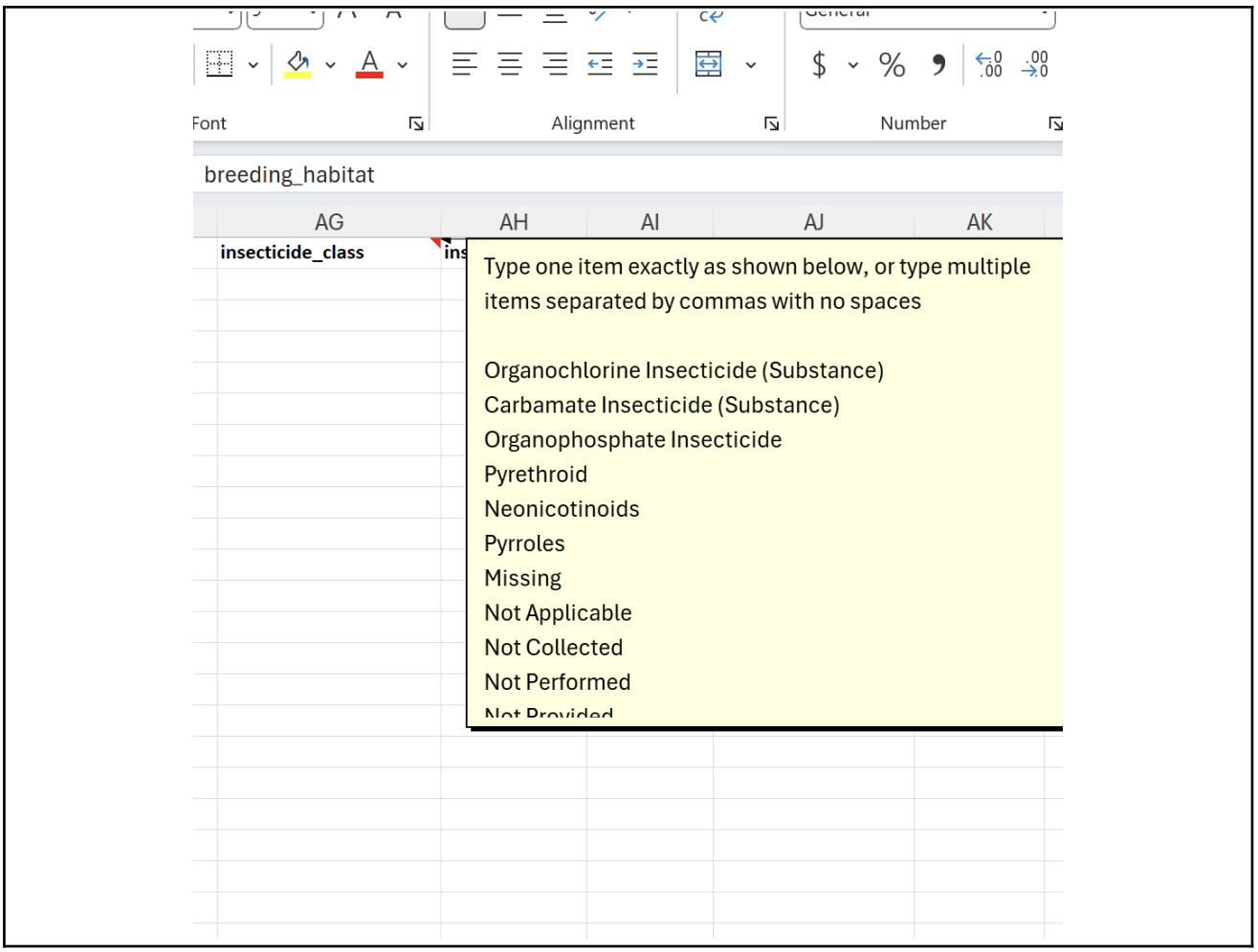
2. **Row 2 and onwards – your data**
   - Each row represents one sample or isolate. Enter one record per row.



Types of Variables in the Entry sheet

Field type	How to enter data	Validation rule
Free-text field	Type manually or paste values.	Values must be text
Number fields	Type manually or paste values.	Values must be Integers
Date fields	Enter dates as YYYY-MM-DD (full date)	All date fields must have a valid entry in the format: YYYY-MM-DD (for example, 2022-10-15). Letters not accepted; year only is invalid

Dropdown (single- select)	Choose from the provided picklist.	Controlled picklist
 *Figure : Example of a single-select dropdown field - click the arrow to choose from the list.*		
Multi-select fields	Type in one or more than one option if applicable. Refer to the column header cell note for guidance on where to find the list of values. The field cells have a green background color.	Use comma as separator. Ensure the values typed match exactly as listed.



Data Entry Tips

- Always start by filling in the mandatory (yellow background cells) fields
- Use the dropdown (picklist) whenever possible to maintain consistency.
- Avoid using extra spaces or special characters unless explicitly required.
- For multi-select fields, follow the exact separation method given in the instructions tab (e.g., comma)
- For picklist values, ensure that there are no whitespace in between the value selected
- If you paste data from another sheet, double-check that the formatting is preserved.

Instructions Tab – Quick Reference (to go into the first tab of the template)

1. Purpose of template

This template standardizes the collection of metadata for submission to the Agari database.

2. How to use this template

- Work only in the ‘Entry’ sheet.
- Read the ‘Instruction Notes’ for detailed guidance on how to fill in the template.
- Do not edit the other sheets – these contain reference lists and formulas.
- Fill in all required and mandatory fields.
- Use the specific date format: YYYY-MM-DD.
- Use the dropdown list where provided. If the desired value is not available, enter it in the adjacent column next to the dropdown list with the prefix ‘Other’ if provided.
- For multi-select fields, always refer to the user guide for the complete list of allowed values. Multiselect fields have the green background colour with a cell note on correct data expected. Ensure the values typed in match exactly as shown in the list — including capitalization, punctuation, and slashes.

3. Variable types and formatting rules

Field type	How to enter data	Example
Free-text	Type in plain text, follow format guidelines	VC-UG-20240716-080
Numeric	Only numbers, no text or symbols	12
Date	YYYY-MM-DD	2021-02-25
Dropdown	Select from the dropdown list	South Africa
Multi-select	Type one or more items exactly as shown in the guides with each item separated by commas and no spaces.	IncA,pSDH-1,pVC

4. Required fields

- All mandatory fields must have a value entered. The column headers are highlighted in yellow.
- All Date fields must have a value with the format valid entry format - YYYY-MM-DD.
- All picklist fields must have a value selected from the available list. Entries cannot be left blank or typed manually.

- Missing required fields will cause errors during upload.

5. Common Validation rules

- No future dates allowed
- Certain fields cannot precede others, e.g., ‘sample collection date’ cannot be after ‘sample receive date’.

6. Mandatory, Multi Select fields and Associated Schemas

Pathogens	Mandatory fields	Multi select fields
Cholera	study_id isolate_id geo_loc_name_country geo_loc_name_state_province_territory specimen_collector_sample_id sample_collection_date specimen source material category biospecimen	plasmid_identified resistance_genes virulence_factor_genes
Klebsiella	study_id specimen_collector_sample_id isolate_id geo_loc_name_country geo_loc_name_state_province_territory sample_collection_date specimen source material category biospecimen	antimicrobial_resistant_plasmid_type resistance_genes virulence_factor_genes
Mpox	specimen_collector_sample_id sample_collected_by purpose_of_sampling geo_loc_name_country geo_loc_name_state_province_territory sample_collection_date organism isolate_id host_scientific_name host_disease sequenced_by purpose_of_sequencing sequencing_instrument	signs and symptoms pre-existing conditions and risk factors complications prior Mpox treatment agent
Covid	specimen_collector_sample_id sample_collected_by geo_loc_name_country geo_loc_name_state_province_territory sample_collection_date organism isolate_id host_scientific_name host_disease	

	sequenced_by purpose_of_sequencing sequencing_instrument	
Malaria Human	specimen_collector_sample_id sample_collected_by geo_loc_name_country geo_loc_name_state_province_territory sample_collection_date organism isolate_id host_scientific_name host_disease sequenced_by purpose_of_sequencing sequencing_instrument	diagnostic_procedure_of_malaria phenotype diagnostic_resistance_type antimalarials prior_antimalarial_treatment_agent resistance_gene_symbol resistance_variant
Malaria Vector	specimen_collector_sample_id specimen_collector_sample_id sample_collected_by geo_loc_name_country geo_loc_name_state_province_territory sample_collection_date organism isolate_id second_host_scientific_name sequenced_by purpose_of_sequencing sequencing_instrument	insecticide_class insecticide breeding_habitat detection_of_parasite_procedure specimen_processing attribute_of_vector resistance_gene_symbol resistance_variant

Exporting Your Data as a TSV File

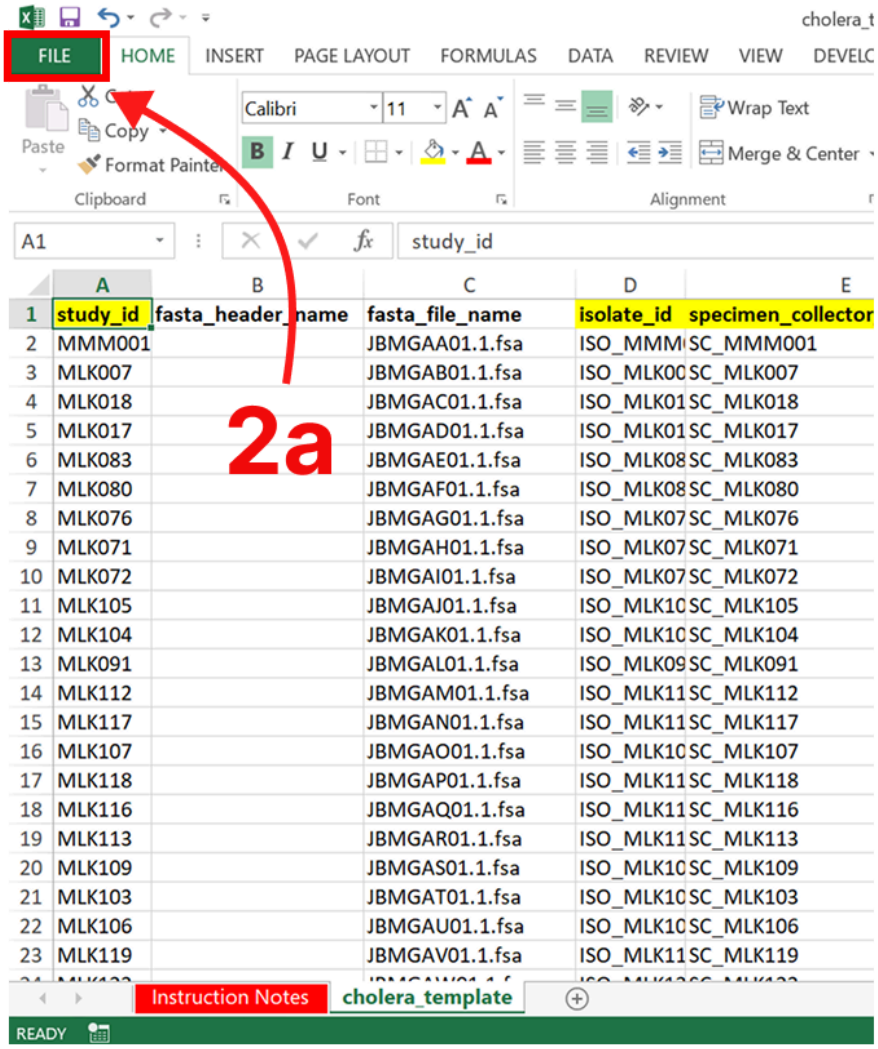
Once you have completed filling in the Metadata sheet, you will need to export your data as a Tab-Separated Values (TSV) file for upload to the AGARI system. TSV format ensures data integrity and compatibility with the system's import requirements.

What is a TSV file?

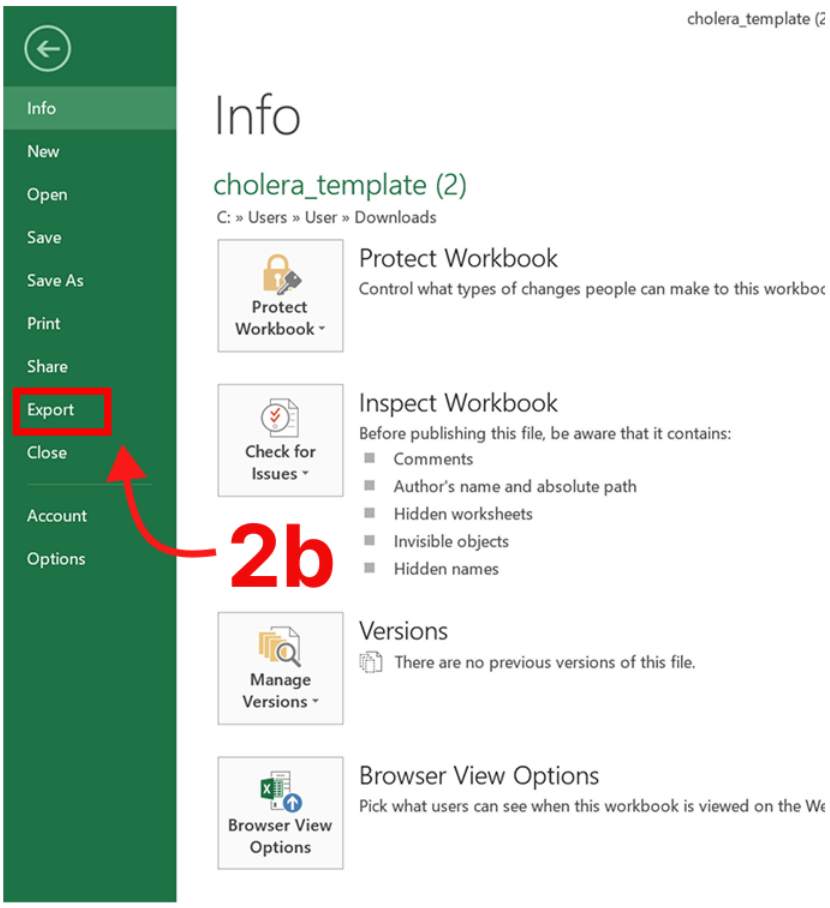
A TSV (Tab-Separated Values) file is a plain text format where each field is separated by a tab character. Unlike CSV files that use commas, TSV files use tabs as delimiters, which prevents issues when your data contains commas within field values.

Step-by-Step Export Instructions for Excel

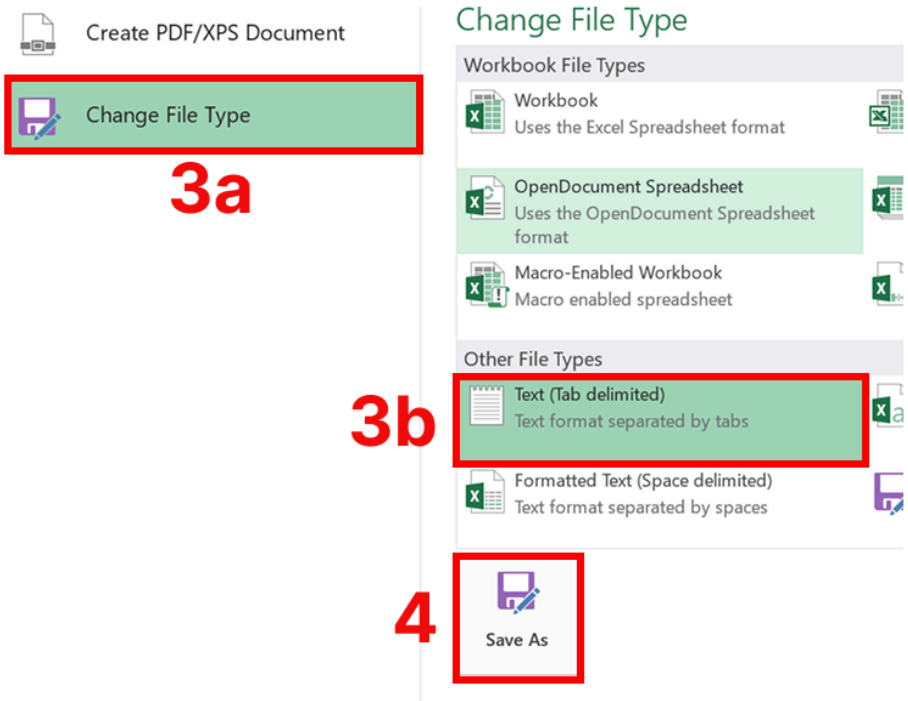
1. Click on the **Entry sheet** tab to ensure you are on the correct sheet.
2. Click on **File** in the top menu, then select **Export**.



	A	B	C	D	E
1	study_id	fasta_header_name	fasta_file_name	isolate_id	specimen_collector
2	MMM001		JBMGAA01.1.fsa	ISO_MMM	SC_MMM001
3	MLK007		JBMGAB01.1.fsa	ISO_MLK00	SC_MLK007
4	MLK018		JBMGAC01.1.fsa	ISO_MLK01	SC_MLK018
5	MLK017		JBMGAD01.1.fsa	ISO_MLK01	SC_MLK017
6	MLK083		JBMGAE01.1.fsa	ISO_MLK08	SC_MLK083
7	MLK080		JBMGAF01.1.fsa	ISO_MLK08	SC_MLK080
8	MLK076		JBMGAG01.1.fsa	ISO_MLK07	SC_MLK076
9	MLK071		JBMGAH01.1.fsa	ISO_MLK07	SC_MLK071
10	MLK072		JBMGAI01.1.fsa	ISO_MLK07	SC_MLK072
11	MLK105		JBMGAJ01.1.fsa	ISO_MLK10	SC_MLK105
12	MLK104		JBMGAK01.1.fsa	ISO_MLK10	SC_MLK104
13	MLK091		JBMGAL01.1.fsa	ISO_MLK09	SC_MLK091
14	MLK112		JBMGAM01.1.fsa	ISO_MLK11	SC_MLK112
15	MLK117		JBMGAN01.1.fsa	ISO_MLK11	SC_MLK117
16	MLK107		JBMGAO01.1.fsa	ISO_MLK10	SC_MLK107
17	MLK118		JBMGAP01.1.fsa	ISO_MLK11	SC_MLK118
18	MLK116		JBMGAQ01.1.fsa	ISO_MLK11	SC_MLK116
19	MLK113		JBMGAR01.1.fsa	ISO_MLK11	SC_MLK113
20	MLK109		JBMGAS01.1.fsa	ISO_MLK10	SC_MLK109
21	MLK103		JBMGAT01.1.fsa	ISO_MLK10	SC_MLK103
22	MLK106		JBMGAU01.1.fsa	ISO_MLK10	SC_MLK106
23	MLK119		JBMGAV01.1.fsa	ISO_MLK11	SC_MLK119



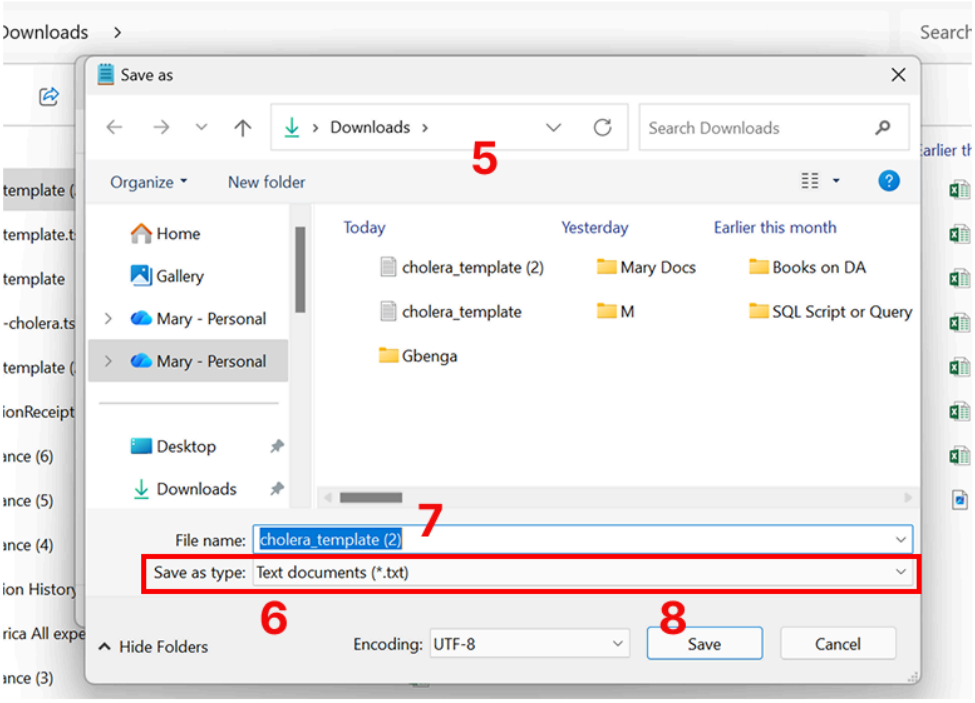
3. Click on **Change File Type**, then under **Other File Types**, Click on **Text (Tab delimited).**
4. Click on **Save As** button.



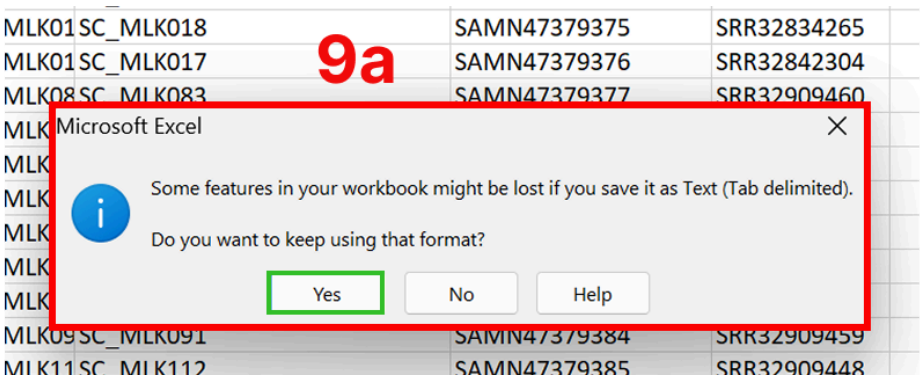
5. Choose the location where you want to save the file.
6. In the **Save as type** dropdown menu, scroll down and select **Text (Tab delimited) (*.txt)**.

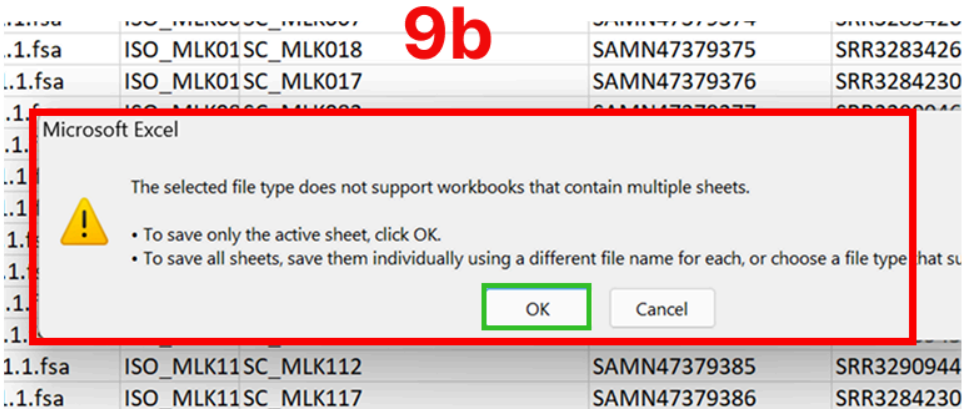
Note: *Excel may show this option as* ***"Text (Tab delimited)"*** *or* ***"Tab Delimited Text"*** *depending on your Excel version.*

7. Rename the file if needed. Give it a descriptive name that includes your institution code and date (e.g., `NICD_Cholera_Metadata_2024-11-10`).
8. Click **Save**.

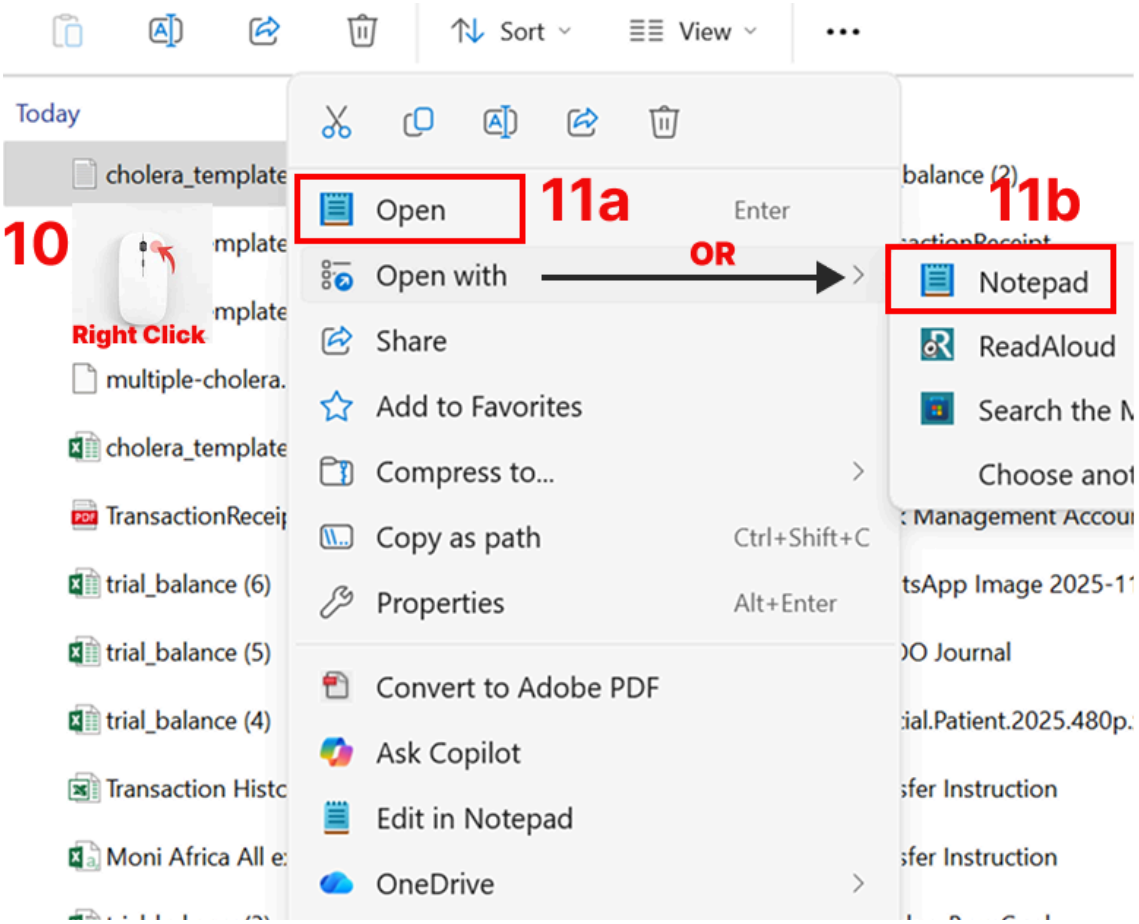


9. Excel may display a warning message that says the selected file type does not support workbooks with multiple sheets. Click **OK** or **Yes** to continue. Only the active sheet (Entry Sheet) will be saved.

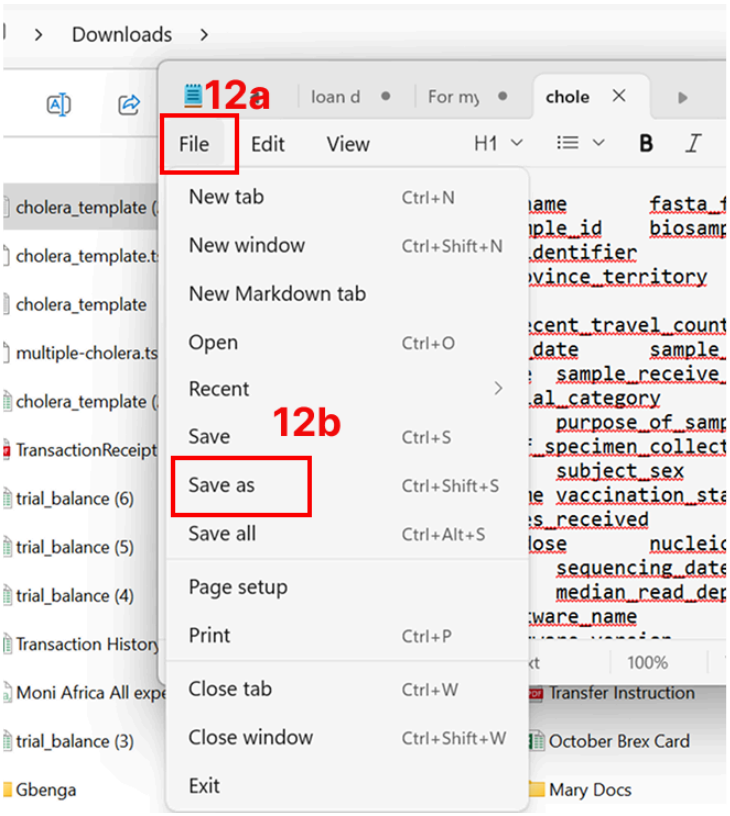




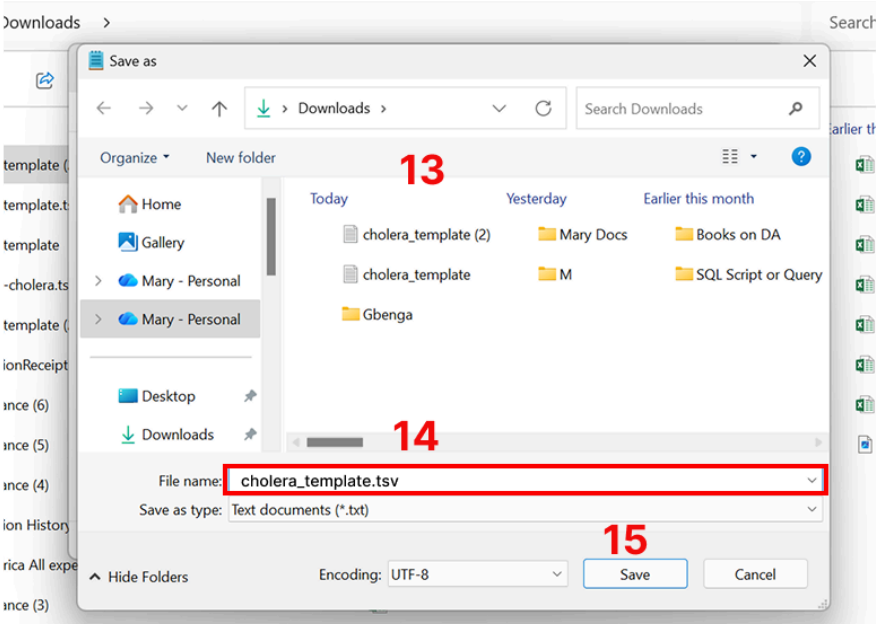
10. After saving, Navigate to the file location on the File Explorer.
11. Open the File with Notepad text editor (default text editor for windows).



12. Click on **File** in the top menu, then select **Save As.**



13. Choose the location where you want to save the file.
14. You can either change the filename but ensure you add the file extension **.tsv** to the filename.
15. Click **Save.**



16. Check the saved file extension to confirm the type property is tsv.

Step-by-Step Export Instructions for Google Sheet

1. Click on the **Entry sheet** tab to ensure you are on the correct sheet.
2. Click on **File** in the top menu, then click **Download**.
3. Click on Tab-separated values (.tsv) from the list of file types.
4. The file gets saved to your browser default download location.

Step-by-Step Export Instructions for Numbers

1. Click on the **Entry sheet** tab to ensure you are on the correct sheet.
2. Click on **File** in the top menu, then click **Export to**.
3. Click on **tsv** from the list of file types.
4. Click on **Save.**
5. Choose the location where you want to save the file.
6. Click on **Export**.

Important Notes

- **Save only the Entry sheet:** The TSV export will only save the currently active sheet. Make sure you are on the Metadata sheet before exporting.
- **Keep your original Excel file:** Always keep a copy of your original .xlsx template file with all sheets intact. The TSV file is only for uploading to AGARI.
- **Do not open TSV files in Excel for editing:** If you need to make changes after exporting, edit the original Excel file and export again. Opening TSV files in Excel can cause formatting issues.
- **File size:** TSV files are typically smaller than Excel files. If your file seems unusually large, verify that only the Metadata sheet was exported.

Multi Select Fields by Pathogen

Cholera

Fields	Multi Select Values
plasmid_identified	IncC1/C2 IncA IncF IncC IncA/C pVC pSDH-1 pSDH-2 p3iANG Not Collected Not performed Missing Not Provided Not Applicable Restricted Access
resistance_genes	blaCTX-M blaNDM-1 tetA tetB aacA strA strB qnrVC3 sul1 sul2 dfr18 dfrA1 parC gyrA floR catB9 varG nsfA nsfB dfrA1 arnA mph rpsL bla mdtH cat tetD aphD tetG

	aac-1b aphA1 arr2 merR tetR vigA blaDHA-1 carR folP armA rtmB rtmC rtmF mel mph2 Not Collected Not performed Missing Not Provided Not Applicable Restricted Access
virulence_factor_gene	ctxA hlyA tcpI tcpA ompU zot ace ctxB acfA acfB acfC acfD rpoS hapA tagA nanH chxA makA stn vasX rtxA toxR Not Collected Not performed Missing Not Provided Not Applicable Restricted Access

Klebsiella

Field	Pathogen
antimicrobial_resistant_plasmid_type	Col(BS512) Col(pHAD28) Col440I Col440II ColKP3 ColpVC ColRNAI IncA IncC IncFIA(HI1) IncFIA(pBK30683) IncFIB(K) IncFIB(K) (pCAV1099-114) IncFIB(pKPHS1) IncFIB(pNDM-Mar) IncFIB(pQil) IncFII(K) IncFII(pKPX1)/repB(R1701) IncHI1B(pNDM-MAR) IncHI2/IncHI2A IncL IncM2 IncN IncP1 IncR IncX3 IncX4 Incx6 repB(R1701) Missing Not Provided Not Applicable Restricted Access
resistance_genes	aac(3)-II aac(3)IIa aac(3)-IIa(aacC2)a AAC(3)-IId aac(3)-IVa aac(6') aac(6')-Ia aac(6')-Iaf aac(6')-Iai aac(6')-Ib-cr aac(6')-IIc aac(6')-Il aac(6')-Iq

	AAC(6')-Ib9 AAC(6')-Ib-cr aadA aadA2 aadB ampS ant(2\")-Ia aph(3')-I APH(3' ')-Ib aph(4)-Ia APH(6)-Id aph3-Ia armA ARR blaCARB blaCEPH-A blaCFE blaCMY blaCTX-M blaCTX-M-1 blaCTX-M-2 blaCTX-M-9 blaDHA blaIMP blaKPC blaMOX blaOXA blaOXA-1-like blaSHV blaTEM blaVEB cat cat1 cat11 CatA1 cml cmlA cphA CTX-M-15 CTX-M-3 CTX-M-65 dfrA dfrA1 dfrA14 dfrA27 dfrA5 dfrA7 ereA ermB floR FosA GES-5 gyrA imiS IMP KPC KPC-2

	LAP-2 mefB mel mgrB mphA NDM-1 OmpK35 OmpK36 OmpK37 oqxAB OXA-1 OXA-48 OXA-485 parC pmrB qnrA qnrB qnrB1 QnrB6 QnrS qnrS1 rmtB rmtF sat-2 SHV-11 SHV-134 SHV-28 strA strB sul1 sul2 sul3 TEM-1 TEM-2 tetA tetB tetC tetD tetG tetK tetM VIM tolC arcAB oqxAB ramA rarA Missing Not Provided Not Applicable Restricted Access
virulence_factor_genes	allS clbA clbQ entB fimD

	fimH fyuA ICEKp iroN irp-1 irp2 iucA iutA magA mrkC mrkD rmpA rmpA2 rmpC rmpD uge wabG ybtQ ybtS ycfM fimA fimB fimF fimH fimI fimJ arcA arcB mrkA mrkB iucB iucC iucD entA entC entD ybtA ybtE iroB iroC Yersiniabactin Colibactin Aerobactin Salmochelin Missing Not Provided Not Applicable Restricted Access

Malaria Human

Field	Picklist Values
diagnostic_procedure_of_malaria	Clinical Examination In Vivo Therapeutic Efficacy Studies Examination Of Blood Films Immunological Method Malarial Antigen Detection Hrp-2 Detection Method Pldh Detection Method Serological Method Enzyme-Linked Immunosorbent Assay Immuno-Precipitation Indirect Fluorescent Antibody Test Indirect Haemagglutination Test Microscopic Blood Examination Molecular Method Use Of Nucleic Acid Probe Molecular Marker Studies PCR Gene Sequencing, Next-Generation Deep Amplicon Sequencing Next-Generation Sequencing (NGS) Approaches Next-Generation Sequencing (NGS) Rapid Molecular Tests / Biosensors Preparation Of Blood Films Staining Field'S Staining Giemsa Staining Not Applicable Missing Not Collected Not Performed Not Provided Restricted Access
phenotype	Drug Resistance Diagnostic Resistance Not Applicable Missing Not Collected Not Performed Not Provided

	Restricted Access
diagnostic_resistance_type	Hrp2-Based Rapid Diagnostic Test (RDT) Resistance Hrp3-Based Rapid Diagnostic Test (RDT) Resistance Pldh-Based Rapid Diagnostic Test (RDT) Resistance Aldolase-Based Rapid Diagnostic Test (RDT) Resistance Not Applicable Missing Not Collected Not Performed Not Provided Restricted Access
antimalarials	12-Allyldeoxoartemisinin Albitiazolium Bromide Amodiaquine Amodiaquine Hydrochloride Amopyroquine Artefenome Arteflene Artemether Artemisinin Dimer Artemisone Artemotil Artenimol Arterolane Artesunate/Pyronaridine Bulaquine Cabamiquine Chloroquine Chloroquine Compound Chloroquine Hydrochloride Chloroquine Phosphate Chloroquine Sulfate Cinchonine Cinchonine Hydrochloride Cinchonine Sulfat Cipargamin Enpiroline Enpiroline Phosphate Ferroquine Floxacrine Ganaplacide Halofantrine Halofantrine Hydrochloride Hydroxychloroquine Hydroxychloroquine Sulfate Lumefantrine Mefloquine Mefloquine Hydrochloride Menoctone Moxipraquine Olaquindox Pafuramidine Pafuramidine Maleate Pamaquine Pamaquine Naphthoate

	Parvaquone Pentaquine Piperaquine Primaquine Primaquine Phosphate Proguanil Proguanil Hydrochloride Pyrimethamine Pyrimethamine-Sulfadoxine Pyronaridine Quinidine Quinidine Gluconate Quinidine Sulfate Quinine Quinine Arsenate Quinine Ascorbate Quinine Glycerophosphate Quinine Hydrochloride Quinine Hydrochloride Anhydrous Quinine Sulfate Quinocide Sulfadoxine Sutidiazine Tafenoquine Tafenoquine Succinate Tebuquine Not Applicable Missing Not Collected Not Provided Restricted Access
prior_antimalarial_treatment_agent	12-Allyldeoxoartemisinin Albitiazolium Bromide Amodiaquine Amodiaquine Hydrochloride Amopyroquine Artefenome Arteflene Artemether Artemisinin Dimer Artemisone Artemotil Artenimol Arterolane Artesunate/Pyronaridine Bulaquine Cabamiquine Chloroquine Chloroquine Compound Chloroquine Hydrochloride Chloroquine Phosphate Chloroquine Sulfate Cinchonine Cinchonine Hydrochloride Cinchonine Sulfat Cipargamin

	Enpiroline Enpiroline Phosphate Ferroquine Floxacrine Ganaplacide Halofantrine Halofantrine Hydrochloride Hydroxychloroquine Hydroxychloroquine Sulfate Lumefantrine Mefloquine Mefloquine Hydrochloride Menoctone Moxipraquine Olaquindox Pafuramidine Pafuramidine Maleate Pamaquine Pamaquine Naphthoate Parvaquone Pentaquine Piperaquine Primaquine Primaquine Phosphate Proguanil Proguanil Hydrochloride Pyrimethamine Pyrimethamine-Sulfadoxine Pyronaridine Quinidine Quinidine Gluconate Quinidine Sulfate Quinine Quinine Arsenate Quinine Ascorbate Quinine Glycerophosphate Quinine Hydrochloride Quinine Hydrochloride Anhydrous Quinine Sulfate Quinocide Sulfadoxine Sutidiazine Tafenoquine Tafenoquine Succinate Tebuquine Not Applicable Missing Not Collected Not Provided Restricted Access
resistance_gene_symbol	HRP2 (Diagnostic Resistance) HRP3 (Diagnostic Resistance) PLDH (Diagnostic Resistance) ALDOLASE (Diagnostic Resistance) ARPS10 (Drug Resistance) AAT1 (Drug Resistance)

	CRT (Drug Resistance) DHFR (Drug Resistance) DHPS (Drug Resistance) EXO (Drug Resistance) FERREDOXIN (Drug Resistance) K13 (Drug Resistance) MDR1 (Drug Resistance) MDR2 (Drug Resistance) PLASMEPSIN 2/3 (Drug Resistance) VGSC (Insecticide Resistance) ACE-1 (Insecticide Resistance) RDL (GABA receptor) (Insecticide Resistance) CYP6P3 (Insecticide Resistance) CYP6M2 (Insecticide Resistance) CYP6AA1 (Insecticide Resistance) CYP9K1 (Insecticide Resistance) GST (Insecticide Resistance) COE (Insecticide Resistance) CSPS (Insecticide Resistance) Cuticular Protein Genes (Insecticide Resistance) Not Applicable Missing Not Provided Restricted Access
resistance_variant	HRP2 Deletion HRP2 Mutation HRP3 Deletion HRP3 Mutation PLDH Genes Variation Or Their Protein Expression ALDOLASE Genes Variation Or Their Protein Expression ARPS10 V127M AAT1 S258L CRT 76T CRT 72S CRT 74I CRT 75E CRT 220S CRT 271E CRT 326S/D CRT 371I CRT I356T CRT 97Y CRT 145I CRT 343L CRT 353V CRT 101F DHFR 108N DHFR 51I DHFR 59R DHFR 164L DHPS 431V DHPS 436S DHPS 437G DHPS 540E DHPS 581G DHPS 613S

	EXO E415G FERREDOXIN D193Y K13 441L K13446I K13 449A K13 458Y K13 469Y K13 469F K13 476I K13 481V K13 493H K13 515K K13 527H K13 537I/D K13 538V K13 539T K13 543T K13 553L K13 561H K13 568G K13 574L K13 580Y K13 622I K13 675V MDR1 N86 MDR1 86Y MDR1 Y184 MDR1 1034C MDR1 1042D MDR1 1246Y MDR1 Increased Copy Number MDR2 T484I PLASMEPSIN 2/3 Increased Copy Number VGSC L995F (Kdr-West) VGSC L995S(Kdr-East) VGSC N1570Y (Super-Kdr) VGSC V402L VGSC I1527T ACE-1 G280S Mutation RDL A296G Mutation RDL A296S Mutation CYP6P3 Overexpression Linked To Resistance CYP6M2 Overexpression Linked To Resistance CYP6AA1 Overexpression Linked To Resistance CYP9K1 Overexpression Linked To Resistance GSTs Overexpression Or Increased Activity COEs Overexpression Or Increased Activity CSPS Emerging Evidence Cuticular Protein Genes Linked To Structural Changes Not Applicable Missing Not Provided Restricted Access

Malaria Vector

Field	Picklist Values
insecticide_class	Organochlorine Insecticide (Substance) Carbamate Insecticide (Substance) Organophosphate Insecticide Pyrethroid Neonicotinoids Pyrroles Missing Not Applicable Not Collected Not Performed Not Provided Restricted Access
insecticide	(Organochlorine): DDT (Carbamate) Alanycarb (Carbamate) Bendiocarb (Carbamate) Carbaryl (Carbamate) Propoxur (Organophosphate) Fenitrothion (Organophosphate) Malathion (Organophosphate) Malathion: Malaoxon (Organophosphate) Pirimiphos-Methyl (Organophosphate) Temephos (Pyrethroid) Alpha-Cypermethrin (Pyrethroid) Bifenthrin (Pyrethroid) Cyfluthrin (Pyrethroid) Cypermethrin (Pyrethroid) Deltamethrin (Pyrethroid) Esfenvalerate

	(Pyrethroid) Lambda-Cyhalothrin (Pyrethroid) Permethrin (Pyrethroid) Prallethrin (Pyrethroid) Tetramethrin (Pyrethroid) Tetramethrin (Pyrethroid) Transfluthrin (Neonicotinoid) Clothianidin (Neonicotinoid) Imidacloprid (Neonicotinoid) Thiamethoxam (Pyrrole) Chlorfenapyr Missing Not Applicable Not Collected Not Performed Not Provided Restricted Access
breeding_habitat	Animal Drinking Point Aquatic Plant Berkat Birkas Borehole Bottle (Moveable) Broken Bucket Bucket Car Tyre Cement Basin Cement Block Cement Pond Cement Vase Cement Water Tank Cement Water Tank For Generator Cistern Construction Water Storage Reservoir Construction Water Tank Dam Discarded Tyre Discarded Vehicle Part Ditch Drain Drinking Trough Drum Dug-Out Well Dump Site Earthen Pot Elevated Cistern Elevated Tank Fish Pond Flower Pot Flowers Garbage Can Ground Level Barrel Ground Level Cistern Ground Level Tank Ground Pool Gutters Hole

	Hollow Tree House Hold (Hh) Container Iron Container Jerrycan Leaves Man-Made Metal And Plastic Barrel Metal Drum Mortar Natural Or Artificial Breeding Habitat Not Available Open Tube Over Head Tank Pit Plastic Container Plastic Tank Pond Pool Puddle Rain Catchment Refrigerator Cabinet Rice Field Sanitary Facilitie Stagnant Rain Water Steel Drum Stream Stump Of Metal Pole Tank Taps Temporary Storage Reservoir Temporary Water Reservoir Top Of Metal Tank Tyre Uncovered Ground Septic Tank Vase Waste Refuse Water Outlet Water Storage Reservoir Water Tank Waterstore Well Waterhole Stagnant Ditch Stagnant Canal Missing Not Applicable Not Collected Not Performed Not Provided Restricted Access
detection_of_parasite_procedure	Malarial Parasite Detection Test (Procedure) Malarial Parasite Screening Test (Procedure) Immunological Method Malarial Antigen Detection HRP-2 Detection Method pLDH Detection Method

	Serological Method Enzyme-Linked Immunosorbent Assay Immuno-Precipitation Indirect Fluorescent Antibody Test Indirect Haemagglutination Test Microscopic Blood Examination Molecular Method Use Of Nucleic Acid Probe Molecular Marker Studies PCR qPCR Gene Sequencing, Next-Generation Deep Amplicon Sequencing Next-Generation Sequencing (NGS) Approaches Next-Generation Sequencing (NGS) Rapid Molecular Tests / Biosensors Combines Loop-Mediated Ismal Amplification (LAMP) Preparation Of Blood Films Staining Field'S Staining Giemsa Staining Not Applicable Missing Not Collected Not Performed Not Provided Restricted Access
specimen_processing	Enhanced Excretion Planned Process Resistance Identification/Monitoring Antibody-Based Assay Immunodetection Of Carboxylesterases Immunodetection Of GST Immunodetection Of P450 Monooxygenases Bioassay Bioassay With Synergist Test Diagnostic Test With Synergist Bottle Bioassay DT With Synergist Cone Dt With Synergist Who Larvicide DT With Synergist Who Paper Kit DT With Synergist Dose Response Test With Synergist Bottle Bioassay DR Test With Synergist Cone Dr Test With Synergist Who Larvicide DR Test With Synergist Who Paper Kit DR Test With Synergist Time Response Test With Synergist Bottle Bioassay TR Test With Synergist Cone TR Test With Synergist Who Larvicide TR Test With Synergist Who Paper Kit TR Test With Synergist Direct Bioassay Diagnostic Test Bottle Bioassay DT Centre For Disease Control And Prevention Bottle Bioassay Cone DT

	Who Larvicide DT Who Paper Kit DT Dose Response Test Bottle Bioassay DR Test Cone Dr Test Who Larvicide Dr Test Who Paper Kit Dr Test Insecticide Efficacy Test Cone ET Who Paper Kit ET Who Wire Ball ET Time Response Test Bottle Bioassay TR Test Cone TR Test Who Larvicide TR Test Who Paper Kit TR Test Topical Application Insecticide Resistance Bioassay Biochemical Assay Acetylcholinesterase Assay AChE Activity Assay Insensitive Ache Diagnostic Assay Carboxylesterase Activity Assay CoE Dot-Blot Assay CoE Isoenzyme Analysis Malathion Metabolism Assay Napthyl Acetate Assay A-Napthyl Acetate Assay B-Napthyl Acetate Assay Insecticide Resistance By Detecting Alpha Esterase Activity Assay Insecticide Resistance By Detecting Beta Esterase Activity Assay PNPA Assay Catalase Activity Assay GST Related Assay CDNB Rate Reaction Assay DCNB Rate Reaction Assay DDT Dehydrochlorination Measurement Organic Peroxide Rate Reaction Assay P450 Monooxygenase Assay Heme Content Measurement P450 Activity Assay Insecticide Resistance By Detecting Mixed-Function Oxidase Assay Peroxidase Assay Superoxidase Dismutase Assay Molecular Assay Dot-Blot For Gene Amplification Expression Analysis Northern Analysis RNA Profiling Microarray-Based Analysis Genome Wide Microarray Analysis Targeted/Selective Microarray Analysis RNA Dot-Blot RT-PCR Assay Real Time PCR Semi-Quantitative PCR Monitoring Known Mutations Fluorogenic PCR Assay

	Invasive Cleavage Invader SISAR Ligase Chain Reaction (LCR) Ligation Detection Reaction Insecticide Resistance By Ligase Detection Reaction Assay Insecticide Resistance By Ligase Detection Reaction-Fluorescent Microsphere Assay PCR Amplification Of Specific Alleles PCR-RFLP Sequence Specific Oligonucleotide Probe Single Base Extension Novel Mutation Identification Insecticide Resistance By Amplification Refractory Mutation System Assay Insecticide Resistance By Nested Polymerase Chain Reaction Assay Insecticide Resistance By Primer Introduced Restriction Analysis Pcr Assay Insecticide Resistance By Short Interspersed Elements Pcr Assay Sequencing Automated Sequencing Manual Sequencing Penetration/Excretion Assay Fluorescent Insecticide Assay Insecticide Immunostaining Assay Radiolabelled Insecticide Assay Reduced Cuticle Penetration Investigation Relating To The Insect Vector Estimation Of Biting Habits Estimation Of Longevity Mark-Release-Recapture Parity Dissection Estimation Of Mosquito Density Mark-Release-Recapture Estimation Of Natural Infection Not Applicable Missing Not Collected Not Performed Not Provided Restricted Access
attribute_of_vector	Anautogeny Anthropophily Autogeny Facultative Autogeny Obligatory Autogeny Deficiency Of Midgut Receptor Domestic Behaviour Endophagy Endophily Exophagy Exophily Flight Capacity Increased Sensitivity Of Olfactory Sensillum Intermediate Behaviour Male Fecundity Protandry Quality Of Optical Resolution

	Acuity Minimum Resolvable Angle Of An Eye Quality Of Optical Sensitivity Angular Sensitivity Ommatidial Acceptance Angle Rhabdom Acceptance Angle Responses Of The Visual Pigments And The Chromophores 11-Cis Configuration All-Trans Configuration Larval Spectral Sensitivity Sexual Responsiveness And Refractoriness Susceptibility Swarm Quality Ceiling Swarm Free Swarm Marker Swarm Space Swarm Top Swarm Vector Competence Wild Behaviour Zoophily Not Applicable Missing Not Collected Not Performed Not Provided Restricted Access
resistance_gene_symbol	HRP2 (Diagnostic Resistance) HRP3 (Diagnostic Resistance) PLDH (Diagnostic Resistance) ALDOLASE (Diagnostic Resistance) ARPS10 (Drug Resistance) AAT1 (Drug Resistance) CRT (Drug Resistance) DHFR (Drug Resistance) DHPS (Drug Resistance) EXO (Drug Resistance) FERREDOXIN (Drug Resistance) K13 (Drug Resistance) MDR1 (Drug Resistance) MDR2 (Drug Resistance) PLASMEPSIN 2/3 (Drug Resistance) VGSC (Insecticide Resistance) ACE-1 (Insecticide Resistance) RDL (GABA receptor) (Insecticide Resistance) CYP6P3 (Insecticide Resistance) CYP6M2 (Insecticide Resistance) CYP6AA1 (Insecticide Resistance) CYP9K1 (Insecticide Resistance) GST (Insecticide Resistance) COE (Insecticide Resistance) CSPS (Insecticide Resistance) Cuticular Protein Genes (Insecticide Resistance) Not Applicable Missing Not Provided

	Restricted Access
resistance_variant	HRP2 Deletion HRP2 Mutation HRP3 Deletion HRP3 Mutation PLDH Genes Variation Or Their Protein Expression ALDOLASE Genes Variation Or Their Protein Expression ARPS10 V127M AAT1 S258L CRT 76T CRT 72S CRT 74I CRT 75E CRT 220S CRT 271E CRT 326S/D CRT 371I CRT I356T CRT 97Y CRT 145I CRT 343L CRT 353V CRT 101F DHFR 108N DHFR 51I DHFR 59R DHFR 164L DHPS 431V DHPS 436S DHPS 437G DHPS 540E DHPS 581G DHPS 613S EXO E415G FERREDOXIN D193Y K13 441L K13 446I K13 449A K13 458Y K13 469Y K13 469F K13 476I K13 481V K13 493H K13 515K K13 527H K13 537I/D K13 538V K13 539T K13 543T K13 553L K13 561H K13 568G K13 574L K13 580Y K13 622I

	K13 675V MDR1 N86 MDR1 86Y MDR1 Y184 MDR1 1034C MDR1 1042D MDR1 1246Y MDR1 Increased Copy Number MDR2 T484I PLASMEPSIN 2/3 Increased Copy Number VGSC L995F (Kdr-West) VGSC L995S(Kdr-East) VGSC N1570Y (Super-Kdr) VGSC V402L VGSC I1527T ACE-1 G280S Mutation RDL A296G Mutation RDL A296S Mutation CYP6P3 Overexpression Linked To Resistance CYP6M2 Overexpression Linked To Resistance CYP6AA1 Overexpression Linked To Resistance CYP9K1 Overexpression Linked To Resistance GSTs Overexpression Or Increased Activity COEs Overexpression Or Increased Activity CSPs Emerging Evidence Cuticular Protein Genes Linked To Structural Changes Not Applicable Missing Not Collected Not performed Not Provided Restricted Access

Mpox

Field	Picklist Values
signs and symptoms	Chills (sudden cold sensation) Conjunctivitis (pink eye) Cough Fatigue (tiredness) Fever Headache Lesion Lesion (Macule) Lesion (Papule) Lesion (Pustule) Lesion (Scab) Lesion (Vesicle)

	Myalgia (muscle pain) Back pain Nausea Rash Sore throat Sweating Swollen Lymph Nodes Ulcer Vomiting (throwing up) Not Applicable Missing Not Collected Not Provided Restricted Access
pre-existing conditions and risk factors	Cancer Diabetes mellitus (diabetes) Type I diabetes mellitus (T1D) Type II diabetes mellitus (T2D) Immunocompromised Infectious disorder Chancroid (Haemophilus ducreyi) Chlamydia Gonorrhea Herpes Simplex Virus infection (HSV) Human immunodeficiency virus (HIV) Acquired immunodeficiency syndrome (AIDS) Human papilloma virus infection (HPV) Lymphogranuloma venereum Mycoplsma genitalium Syphilis Trichomoniasis Lupus Pregnancy Prior therapy Cancer treatment Chemotherapy HIV and Antiretroviral therapy (ART) Steroid Transplant Not Applicable Missing Not Collected Not Provided Restricted Access
complications	Bronchopneumonia Corneal infection Delayed wound healing (lesion healing) Encephalitis Myocarditis Secondary infection Sepsis Not Applicable Missing Not Collected Not Provided

	Restricted Access
prior Mpox treatment agent	