

2025

Implementation of tools for predicting
future risks of poor HIV care outcomes
in primary healthcare facilities in
Sub-Saharan Africa: A narrative review
and discussion of lessons learned -
supporting files for submission to Gates
Open Research

<https://hdl.handle.net/2144/50399>

"Downloaded from OpenBU. Boston University's institutional repository."

S1 Table. Search strategy

Parameter	Inclusion criteria	Exclusion criteria
Population	Ages 18+ years; accessing primary health care in a public-sector setting	Paediatric and adolescent populations aged <18 years; accessing care in the private sector
Geographic region	Sub-Saharan Africa	None
Intervention	Implementation of risk triaging in primary healthcare settings	None
Study design	Reports primary, patient-level data from retrospective or prospective cohorts collected under any study design (trial, observational) with or without a comparison group; systematic reviews, meta-analyses	Case series or reports, purely qualitative studies, treatment guidelines, mathematical models, editorials, commentaries, study or trial protocols
Required descriptive data	Describes all of patients, location, timing of risk triaging intervention in relation to provision of primary health care, facility type, service delivery models and services provided to the public sector through government-managed public health infrastructure or through NGO/private programs or facilities that serve the uninsured sector	Insufficient description of all the characteristics needed to describe the study population and outcome
Comparator	None required – descriptive review	None
Outcomes (primary)	1.Patient outcomes as a result of the implementation of a risk triaging tool 2.Risk triaging tool performance metrics	Insufficient detail provided to estimate outcome
Timing	A majority of data collected after January 1, 2017; censored at search date of July 25, 2022	A majority of data accrued before January 1, 2017; published after censoring date of July 25, 2022

S2 Table. Search terms – PubMed

Population	(adult[MeSH] OR " adult population"[MeSH]) AND ("Primary health care" OR "PHC" OR "Community Health" OR "Outpatient care" OR "Outpatient" OR "Public health" OR "Public-sector primary care" OR "primary care facility" OR "Care, Primary Health" OR "Health Care, Primary" OR "Primary Healthcare" OR "Healthcare, Primary" OR "Primary Care" OR "Care, Primary" OR "Community Health Service" OR "Health Service, Community" OR "Service*, Community Health" OR "Health Services, Community" OR "Community Health Care" OR "Care, Community Health" OR "Health Care, Community" OR "Community Healthcare*" OR "Healthcare*, Community" OR "Care, Ambulatory" OR "Care, Outpatient" OR "Health Service*, Outpatient" OR "Outpatient Health Service*" OR "Service, Outpatient Health" OR "Outpatient Service*" OR "Services, Outpatient Health" OR "Urgent Care" OR "Care*, Urgent" OR "Clinic Visit*" OR "Visit*, Clinic")
Intervention	("Risk triaging" OR "Risk triag*" OR "Risk scor*" OR "Algorithm" OR "Predictive algorithm" OR "Predictive score" OR "Predictive model" OR "Risk model" OR "Patient screen" OR "Risk screening" OR "Score, Risk" OR "Risk Factor Score*" OR "Score, Risk Factor*") AND "Factor, Time" OR "Time Factor*" OR "Time Series" OR Longitudinal OR "Longitudinal Stud*" OR "Stud*, Longitudinal" OR "Follow Up Stud*" OR Follow-Up Stud*" OR "Stud*, Follow-Up" OR "Followup Stud*" OR "Stud*, Followup")
Outcomes	("Clinical outcome" OR "Treatment success" OR "Retention in care" OR "Re-engagement in care" OR Mortality OR "Clinic performance" OR "Clinic waiting times" OR "waiting times" OR "Resource utilization" OR "cost" OR "Resource utilisation" OR "Health Resource" OR "Resource, Health" OR "Resources, Health" OR Resources OR Resource OR "Program outcome" OR "Task shifting") OR ("Performance metrics" OR "Test metrics" OR Sensitivity OR Specificity OR "Positive predictive value" OR "Negative predictive value" OR "Area under the curve" OR "Random operator curve" OR "Accuracy" OR "Precision")
Context	(Africa[MeSH:noExp] OR Sub-Saharan-Africa* OR Subsaharan-Africa* OR Africa South of the Sahara[MeSH] OR Central-africa* OR Eastern-africa* OR East-africa* OR Southern-africa* OR South-africa* OR Western-africa* OR West-africa* OR Cameroon* OR Central-african-republic* OR Chad* OR Congo* OR DRC OR Equatorial-guinea* OR Gabon* OR Sao-Tome-and-Principe* OR Burundi* OR Djibouti* OR Eritrea* OR Ethiopia* OR Kenya* OR Rwanda* OR Somalia* OR South-sudan* OR Sudan* OR Tanzania* OR Uganda* OR Angola* OR Botswana* OR Eswatini* OR Swaziland* OR Lesotho* OR Malawi* OR Mozambique* OR Namibia* OR Zambia* OR Zimbabwe* OR Benin OR Burkina-Faso* OR Cabo-Verde* OR Cote-d'Ivoire* OR Ivory-Coast* OR Gambia* OR Ghana* OR Guinea* OR Guinea-Bissau* OR Liberia* OR Mali* OR Mauritania* OR Niger* OR Nigeria* OR Senegal* OR Sierra-Leone* OR Togo*)

S3 Table. Prisma checklist

Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	Title page
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	Page 2
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	Page 3
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	Page 3-4
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	Pages 4-5, S1 Table
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	Page 5-6
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	S2 Table
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	Page 6, Figure 2
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	Page 6
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	Page 4, Figure 1, S1 Table
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	Page 4, S1 Table

Section and Topic	Item #	Checklist item	Location where item is reported
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	N/A
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	Pages 4, Panel 1
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	N/A
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	N/A
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	N/A
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	N/A
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	N/A
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	N/A
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	N/A
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	N/A
RESULTS			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	Page 6, Figure 2
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	Page 6, Figure 2
Study characteristics	17	Cite each included study and present its characteristics.	Table 1
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	N/A
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	Table 2, Figure 3

Section and Topic	Item #	Checklist item	Location where item is reported
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	N/A
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	N/A
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	N/A
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	N/A
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	N/A
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	N/A
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	Pages 15-18
	23b	Discuss any limitations of the evidence included in the review.	Page 17-18
	23c	Discuss any limitations of the review processes used.	Page 17-18
	23d	Discuss implications of the results for practice, policy, and future research.	Page 16-17
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	Page 6
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	Page 6
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	N/A
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	Page 18
Competing interests	26	Declare any competing interests of review authors.	Page 18

Section and Topic	Item #	Checklist item	Location where item is reported
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	N/A