ISLE-ReSt checklist [1] for *A maximal-coverage approach to prioritizing newborn sickle cell screening sites in Uganda using a sickle cell-malaria co-risk surface.*

No.	Section	Recommendation	Status	Where in manuscript	Page	Rationale
1	Title	Title states study design, primary exposure, and primary outcome	Done	Title page	pg. 1	Names the maximal-coverage design, the HbS and PfPR co-risk surface, and the newborn screening siting outcome.
2	Abstract	Design, setting, exposure sources, outcomes, key results with precision, conclusions	Done	Abstract	pg. 2	Summarizes methods and key numerical results including coverage curve and collocation counts.
3	Introduction	Background and conceptual framework linking environment and health	Done	Introduction	pg. 3 to 4	Connects SCD burden and malaria epidemiology to motivate a co-risk approach for siting.
4	Introduction	Specific objectives and any prespecified hypotheses	Done	Introduction, final paragraph	pg. 4	States the goal to prioritize screening sites using a maximal-coverage approach on an HbS and PfPR surface.
5	Methods	Study design and setting, locations, calendar period, spatial scale of	Done	Methods, Study area; PfPR decade mean	pg. 5 to 6	Defines national scope, decadal PfPR window, grid resolution, and projection.

		exposure measurement				
6	Methods	Participants, eligibility, selection, recruitment, retention	N/A	-	-	No human subjects were enrolled, the study analyzes secondary ecological surfaces.
7	Methods	Sample size rationale or calculation, attrition handling	N/A	-	-	No participant sample, sizing pertains to raster grid and candidate site counts.
8	Methods	Data linkage and geocoding method, reference data, CRS, software, percent geocoded	Done	Methods, Study area; Analysis and Software	pg. 5 to 6	Specifies CRS, raster alignment, masking to Uganda, and software workflow.
9	Methods	Variables defined and measured for outcomes, exposures, predictors, confounders, effect modifiers	Done	Methods, Variable definitions; Co-risk surface	pg. 6 to 7	Defines HbS and PfPR2-10 inputs, and how co-risk is computed for siting.
10	Methods	Bias considered and addressed, including selection,	Done	Discussion, Limitations	pg. 15 to 16	Discusses temporal mismatch, modeled access versus revealed travel, and interpretation of absolute coverage.

		information, spatial biases				
11	Methods	Quantitative variables, handling, transformations, groupings	Done	Methods, Variable definitions; PfPR mean; Endemicity classes	pg. 6 to 7	Explains transformations, endemicity class thresholds, and aggregation choices.
12	Methods	Spatial data sources, collection time, spatial and temporal resolution, preprocessing	Done	Methods, Data sources and preprocessi ng	pg. 5 to 7	Lists HbS surveys, PfPR composites, grid size, masking, and alignment steps.
13	Methods	Remote sensing sensor or product details	N/A	-	-	No satellite sensor variables were used as primary exposures.
14	Methods	GPS and accelerometry device info	N/A	-	-	No person-worn devices or tracking were used.
15	Methods	Smartphone apps or other sensors	N/A	-	-	No app or field sensor data sources were included.
16	Methods	Spatial exposure construction, buffers, network versus Euclidean distance, software	Done	Methods, Co-risk; Greedy selection; Service radius	pg. 7 to 9	Details the 25 km Euclidean service radius and the greedy zeroing algorithm for coverage.

17	Methods	Matching spatial and health data, time windows, exposure lags, activity space, aggregation	Done	Methods, Collocating proposed sites; District-level equity	pg. 9 to 10	Explains two-step floating catchment for collocation and district Lorenz analysis for equity.
18	Methods	Statistical methods, clustering, spatial autocorrelation, residuals, sensitivity, missing data	Done	Methods, EBK diagnostics; Sensitivity analyses	pg. 10 to 11	Reports EBK cross-validation and sensitivity to service radius with associated diagnostics.
19	Results	Participant flow and numbers at each stage, geocoding success	N/A	-	-	Not applicable to an ecological siting analysis without enrolled individuals.
20	Results	Descriptive data, exposure distributions, follow up time	Done	Results, HbS surface; PfPR decade mean; Co-risk surface	pg. 11 to 12	Provides HbS distribution, PfPR mean, and co-risk concentration across Uganda.
21	Results	Main results with estimates and precision, adjusted confounders,	Done	Results, Coverage curve; Equity; Sensitivity	pg. 12 to 14	Gives cumulative capture at 10 to 50 sites, Gini, and sensitivity milestones that guide planning.

		spatial diagnostics				
22	Discussion	Key results in relation to objectives and existing evidence	Done	Discussion, Principal findings; Interpretation in context	pg. 14 to 15	Interprets the coverage elbow, feasibility of collocation, and alignment with regional guidance.
23	Discussion	Limitations including temporal mismatch, misclassification, UGCoP, nonstationarity, mobility, migration	Done	Discussion, Strengths and limitations	pg. 15 to 16	Flags surrogate nature of co-risk, temporal averaging, and access-model limits affecting generalization.
24	Discussion	Generalizability across places and times	Done	Discussion, Generalizability	pg. 16 to 17	Argues transferability where similar inputs exist and health-system profiles match.
25	Other	Funding sources and roles	Done	Declarations, Funding	pg. 18	Discloses funding sources and roles in line with journal conventions. Research reported in this publication was supported by the Fogarty International Center of the National Institutes of Health under Award Number 1D43TWO12466-01.
26	Other	Data and code sharing, conflicts of interest, access	Done	Declarations, Availability; Competing interests	pg. 18	States data and code availability All analysis code, configuration files, and reproducible workflow scripts are publicly available in https://github.com/gpaasi/scd-screening-

		terms, code location				site-selection-uganda and archived with a citable snapshot on Zenodo (https://doi.org/10.5281/zenodo.17241991). and No competing interests.

1. Jia, P., et al., *Spatial Lifecourse Epidemiology Reporting Standards (ISLE-ReSt) statement.* Health & Place, 2020. **61**: p. 102243.