

ScanForm + Malaria

Background

ScanForm is a paper-based innovation which digitizes handwritten data from a picture taken with a smartphone camera. Malaria indicators from the antenatal care (ANC) register were first monitored with ScanForm in 2018, allowing for a sustainable means of approximating malaria prevalence in the general community, using routine data.

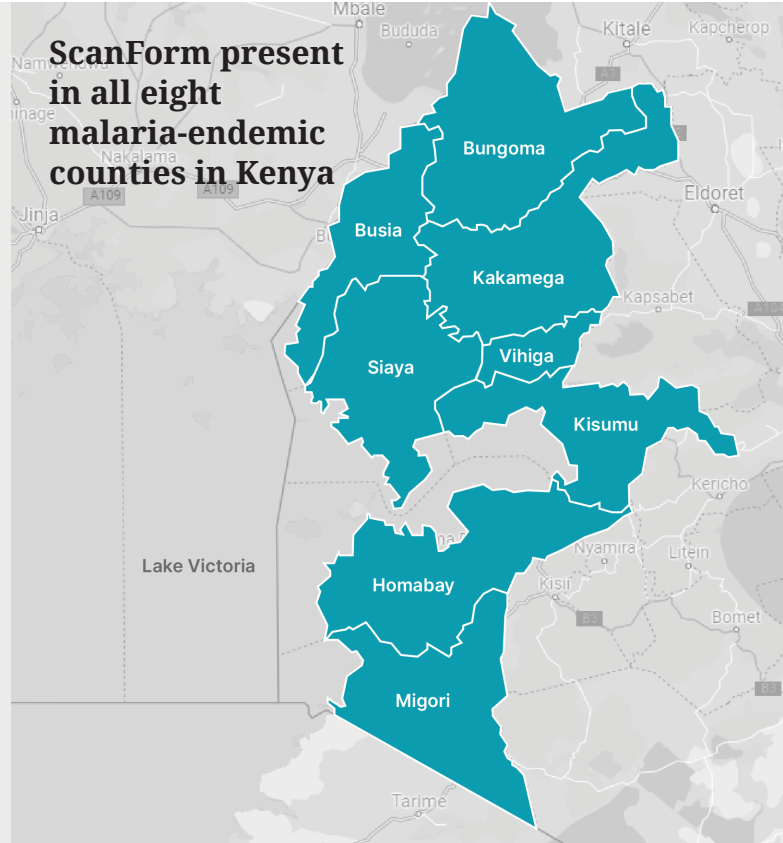
Two key advantages of ScanForm are: (1) time saved by auto-calculating Ministry of Health (MOH)-compliant summary reports, and (2) significant improvements in the data quality of these summaries. For two years, a study was conducted in eight facilities in Kenya to compare ScanForm's summaries with those from routine ANC register reporting. The results found:

1. **Summaries produced by ScanForm are 2x more accurate compared to manually-computed methods.**
2. **Malaria prevalence amongst pregnant mothers can predict prevalence in the general population**, making ScanForm registers effective for near real-time, passive malaria surveillance.

Data collection with ScanForm has since expanded to multiple regions and countries, with many MOH registers upgraded to ScanForm, including:

- ANC
- Outpatient Department (<5 and >5 yrs),
- Inpatient Department, Maternity
- Child Welfare Clinic
- Integrated Disease Surveillance and Response
- and many more.

The simple pen-and-paper interface enables easy adoption by community health volunteers (CHVs),



who use ScanForm to capture household demographics and health services delivered in rural communities.

A selection of malaria surveillance and research projects with ScanForm include:

- Performance monitoring of long lasting insecticide nets, spatial repellents, and attractive targeted sugar bait interventions at the village level.
- A variety of cutting-edge clinical trials: from anti-malarials for pregnant women to the effect of malaria infection and treatment on the clinical course of COVID-19.
- CHVs tracking malaria prevalence and interventions in the community, including the evaluation of RTS,S - the first malaria vaccine approved by the WHO.

How does ScanForm work?



1. Write on paper

Fill out the paper form with handwritten data.



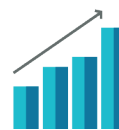
2. Take a picture

Scan the filled out form with the mobile app.



3. Data is digitized

Let AI transcribe that for you!



4. Export and analyze data

Explore data and summary statistics.

What data is collected with ScanForm?

- All malaria indicators required by: governments, donors, partners and researchers.
- ScanForm pipelines are designed with you to auto-generate customized summary statistics, data quality reports and dashboards.



Key MOH Indicators

Participant Demographics and Symptoms:

- Total visits
- Village reporting
- Visit number
- Age distribution
- Gravidae
- HIV status
- Fever 48h
- Malaria symptoms
- Symptomatic vs asymptomatic

Testing and Diagnosis

- Malaria testing (for 1st ANC visit)
- Malaria tested
- Malaria tests
- Testing among symptomatic patients
- Testing among asymptomatic patients
- Testing rate at health facilities

Treatment

- Malaria severity (total visits, total tested, total symptomatic)
- Treatment positive
- Treatment negative
- Testing and treatment of suspected malaria

Indicators

- Positivity rate (general, RDT and by microscopy)
- Proportion of malaria cases in all outpatient cases
- Outpatient confirmed malaria cases per 1,000 population
- Malaria annual blood examination rate

Project Highlight: Tupime Kaunti

WHEN

Aug. 2020 - Aug. 2021

WHERE

93 facilities in Migori and Homa Bay counties, Kenya

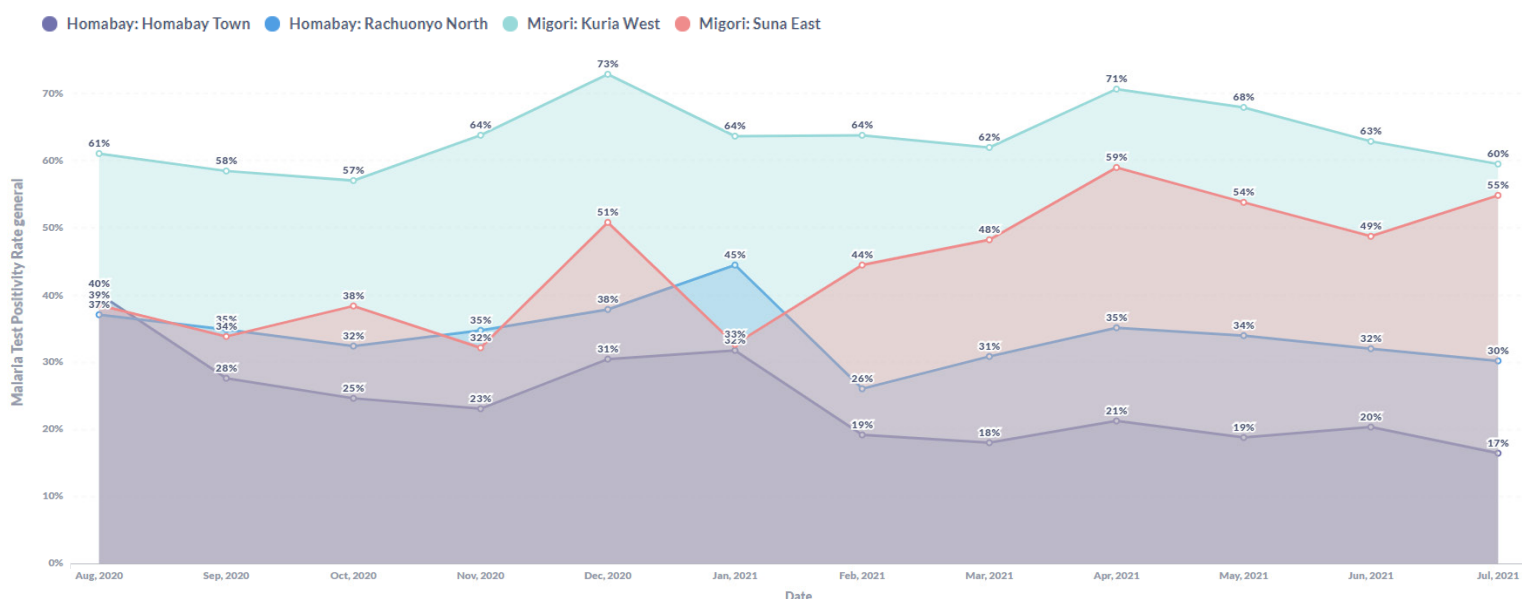
WHY

To improve malaria surveillance and programming by increasing the availability, analysis and quality of malaria data from routine health registers.

Impact

- Before ScanForm, 65% of health care workers indicated reports took more than 30 minutes to complete. During ScanForm, 96% said it took less than 30 minutes.
- For facility and management level respondents, 100% and 70% reported adequate access to ScanForm summary statistics, respectively.
- After one year, **84% of CHMT officers voted for ScanForm as a superior solution for routine data collection and timely malaria surveillance.**

Malaria positivity rate auto-calculated from ScanForm-based OPD<5 registers, by sub-county



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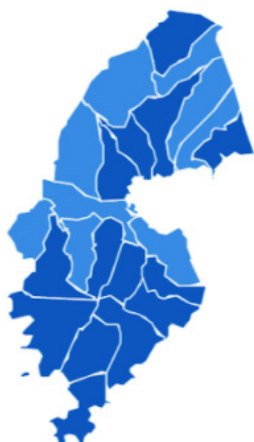
...we all felt [ScanForm] is the best way to go because of the benefits of using artificial intelligence to improve the quality, access and timeliness of data, which is what we seek to improve to enable informed decision making.

Focus group discussion feedback from Tupime Kaunti project

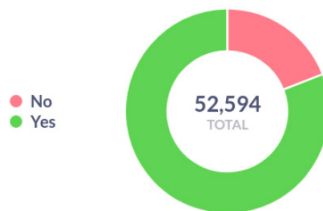
ScanForm auto-generates visualizations for custom dashboards to inform programmatic action.

Outpatient under 5: Malaria testing rate at Health Facility [%]

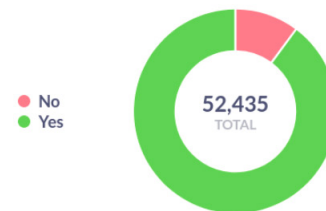
- 45.36 - 53.85
- 63.64 - 70.17
- 75 - 81.57
- 84.62 - 91.7
- 92.33 +



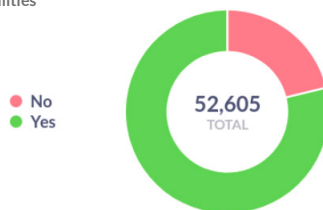
ScanForm ATSB - % of Households with Functional Latrine



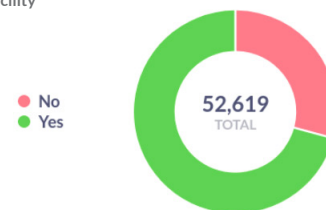
ScanForm ATSB - % of Households with Access to Safe Water



ScanForm ATSB - % of Households with Hand Washing Facilities



ScanForm ATSB - % of Households with Refuse Disposal Facility



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When we are conducting DQAs, we go to the facility and request for registers but some would be misplaced. With ScanForm, you can access digitized records and electronic summaries at any time...making this technology a good example for easy availability of data.

Focus group discussion feedback from Tupime Kaunti project



Are you ready to upgrade to ScanForm?

Contact us:
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 QED | <https://qed.ai>

ScanForm

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QUANTITATIVE ENGINEERING DESIGN



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