

HEAL-SL, Sierra Leone's SRS

Applications for Malaria, Maternal Mortality, and RTAs

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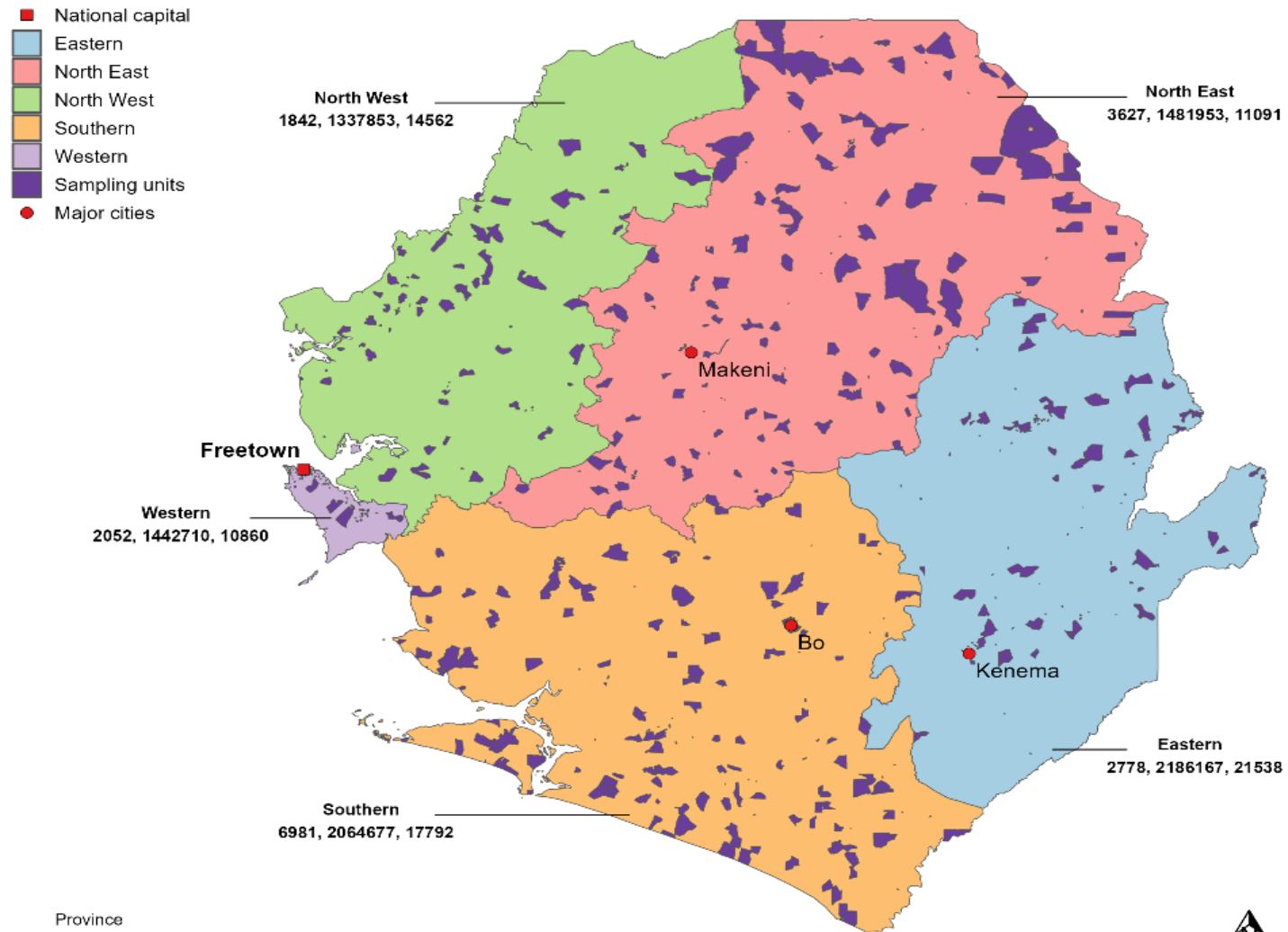
Background

- ❑ Sierra Leone's life expectancy was among the lowest in the world at 54 years in 2019.
- ❑ the burden of premature death was high, with under-5 mortality at 122 per 1,000 livebirths and maternal mortality estimated at 1,120 per 100,000
- ❑ <25% of deaths reported through vital statistics system
- ❑ Most deaths happen at home, without any medical attention or documentation.
- ❑ This data gap made it difficult to do effective planning, monitoring, or evaluation of national health programs.

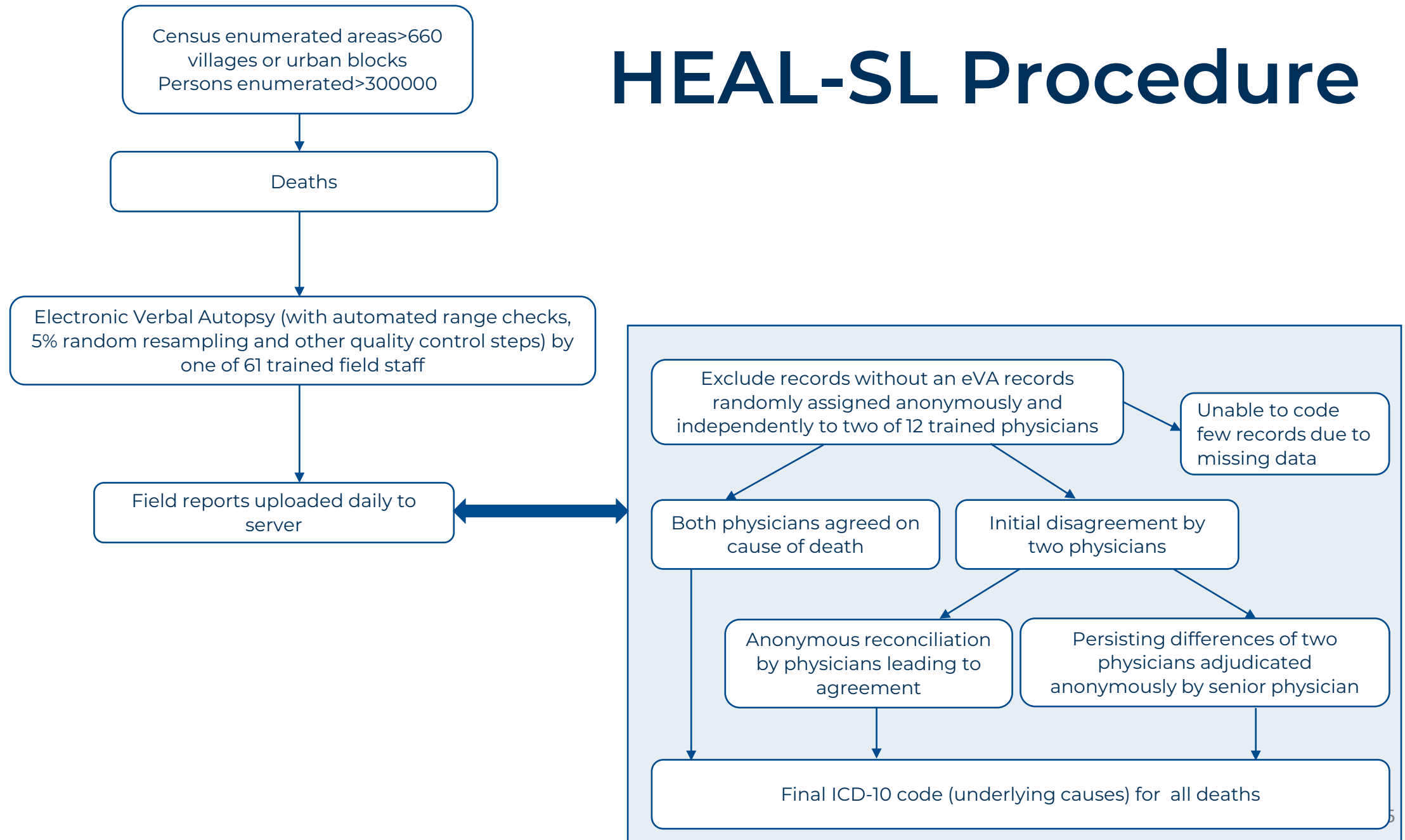
The Healthy Sierra Leone (HEAL-SL) SRS

- ❑ We set up HEAL-SL to cover about 5% of the total population, around 297,000 people.
- ❑ It's nationally representative, covering all 16 districts, 678 enumeration areas, and over 65,000 households.
- ❑ Built on three simple modules:
 - Enumeration to collect basic demographic and vital data.
 - e-VA to investigate the signs, symptoms, and events that led to a death.
 - Re-sampling as a random check for quality assurance.
- ❑ To date, our teams have surveyed over 30,000 cumulative deaths across five rounds of data collection.

HEAL-SL Coverage



HEAL-SL Procedure



Innovation and Quality

- ❑ 100% electronic, can get field data to our physician coders in less than a week
- ❑ Quality is built-in from the start. We use:
 - Thorough and transparent recruitment.
 - Regular checks of GPS, narrative reviews, and audio recordings.
 - Random, unannounced field visits by supervisors.
 - Weekly team meetings to review performance.
 - Personalized monitoring dashboards for every surveyor.
- ❑ Coding has incorporated AI (ChatGPT4, InterVA, InsilicoVA) to assist our physicians

Dashboard

Home > Dashboard

Sampling Units

 661

EAs Covered

 116

Households

 12,362


Population


 55,725

VAs Done

 1,646

Progress

 17.5%
completed



AI-Powered Insights

Actionable intelligence from narrative analysis, GPS tracking, and quality monitoring

 **Low Quality by Reviewers 4**

6.5% of narratives scored below 75 by internal reviewers (showing 20 most recent)



 **Flagged by Physicians 15**

15 narratives flagged by physician coders for quality issues (showing 20 most recent)



HEAL-SL Provides the Map for M&E

- ❑ We created Sierra Leone's first reliable map of mortality, counting every birth and death, and understanding why people die.
- ❑ Due to funding constraints, our focus is on generating these annual mortality and causes of death reports for the MOH and other stakeholders.
- ❑ This is a vital "map" for the MOH and its partners, showing them where programs are working and where the gaps remain.
- ❑ We also take this "map" back to the communities themselves through dissemination meetings, so everyone can see and discuss the findings together.
- ❑ **Evidence → Accountability → Action**

Maternal Mortality

- ❑ In 2018-19, our data showed a Maternal Mortality Ratio (MMR) of 510 per 100,000 livebirths.
- ❑ This was a huge finding; it was half the official WHO estimate of 1,120 but still represented about 1,300 deaths.
- ❑ Our data was the key evidence that allowed the WHO to revise its own estimate for Sierra Leone downward.
- ❑ Our continuous monitoring shows a further reduction to an MMR of ~318 by 2023.
- ❑ Our report tells stakeholders why mothers are dying: Hemorrhage (26%) remains the number one cause, a clear target for intervention.
- ❑ **so-what-: Used by MoH and WHO to re-align Safe Motherhood priorities.**

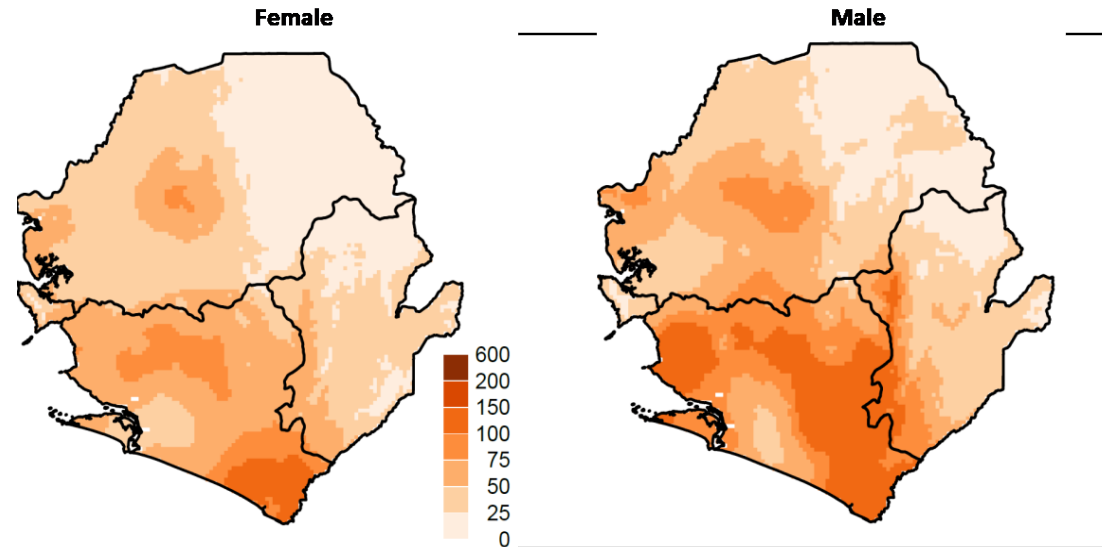
Malaria

- ❑ Our data completely changed the narrative on malaria.
- ❑ For children 1-59 months old, it is the single biggest killer, causing 47% of all deaths.
- ❑ For older children (5-14 years), it still remains the #1 killer, causing 39% of all deaths.
- ❑ The big surprise was that malaria is the top cause of death for young adults 15-29 (17%) and adults 30-69 (11%).
- ❑ This proved that malaria is not just a childhood disease; it's a lifelong threat in Sierra Leone and a critical target for M&E at all ages.
- ❑ **Enabled monitoring of LLIN/IPTp coverage impact across lifespan.**

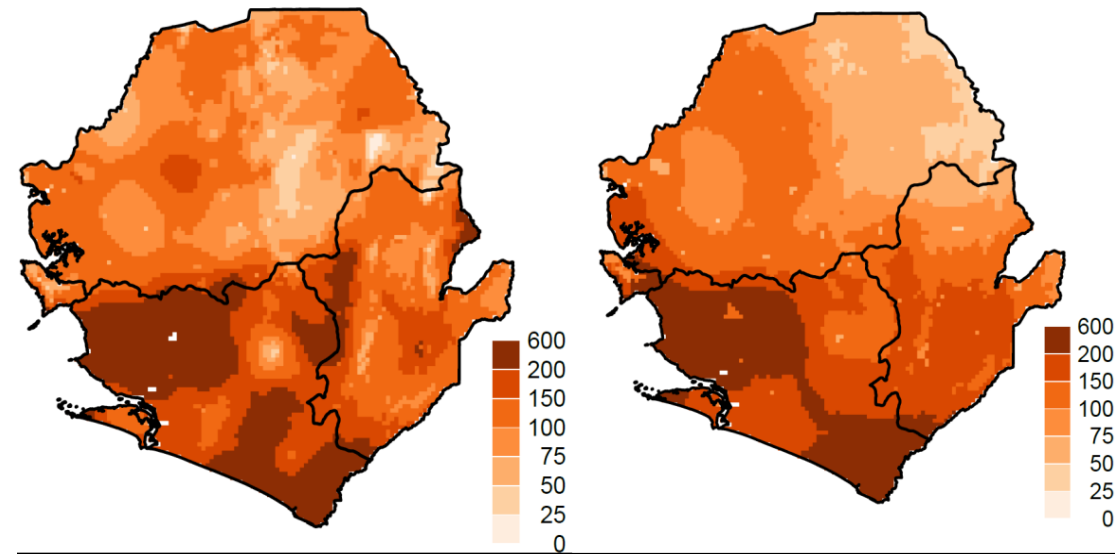
Malaria Deaths by age and sex

Malaria mortality per 100,000 population by age and sex *

≥15 yrs



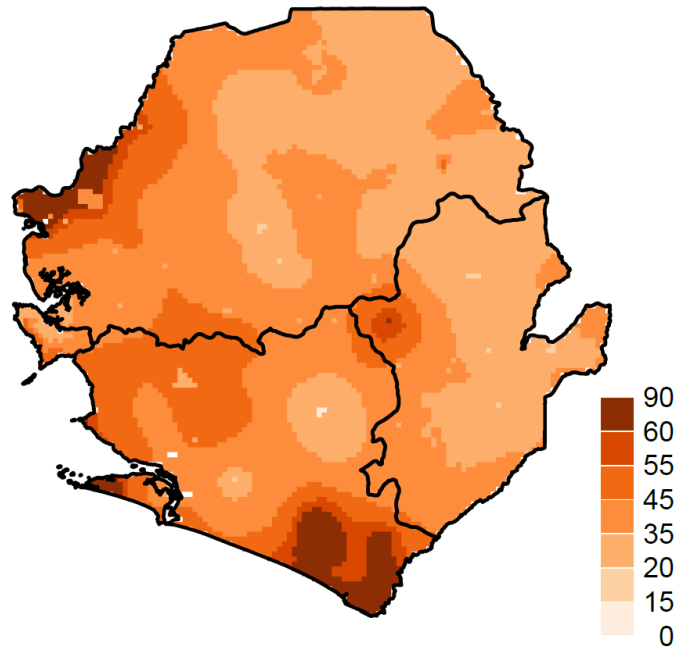
<15 yrs



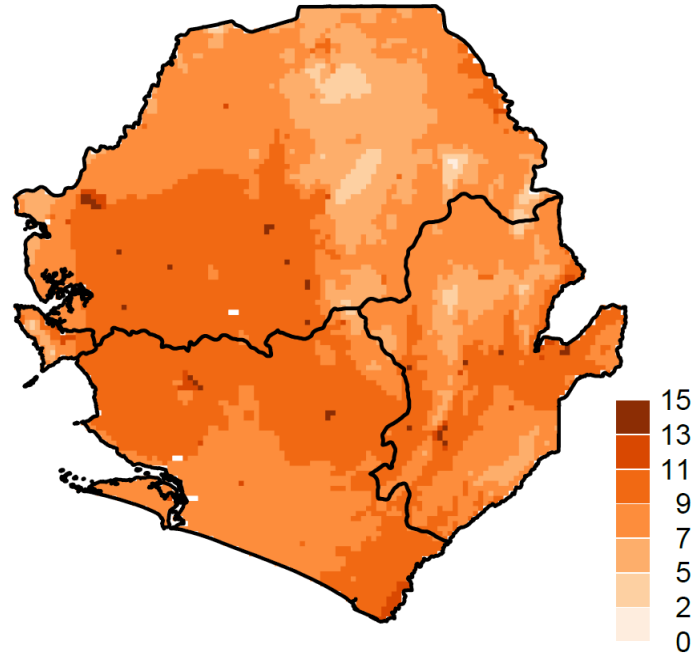
RTAs and Other Epidemics

- ❑ Our data brought a hidden epidemic into focus.
- ❑ We found RTAs among top killers of young adults (15-29 years), causing 7% of all deaths in this group.
- ❑ We also mapped the problem, showing hotspots for authorities
- ❑ Our verbal autopsy provided specific M&E data: 51% of fatal RTAs involved a motorcycle, giving a clear target for safety interventions.
- ❑ This same system allowed us to map other critical issues, like Stroke and Diarrhea
- ❑ **Data triggered coordination between health and transport sectors.**

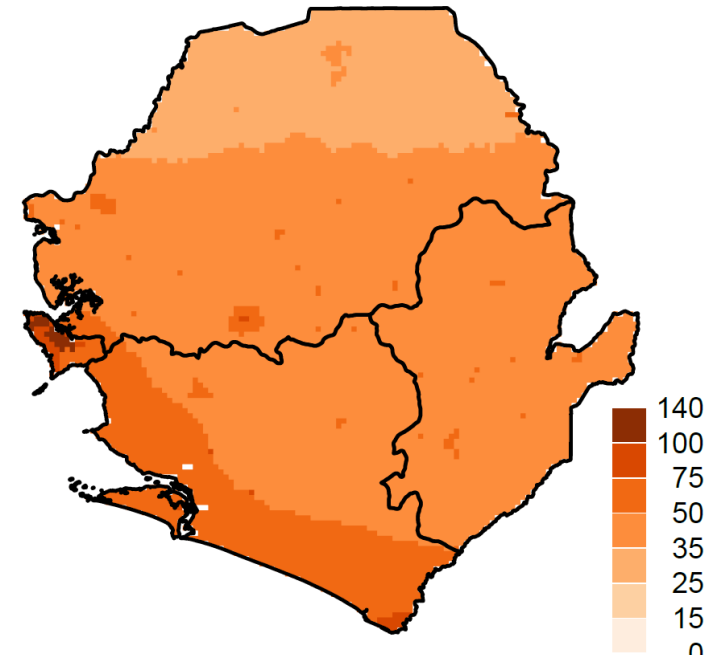
Diarrhea, RTA, and Stroke



Diarrhoea <15 years



Road traffic all ages



Stroke >30 years

Quality of Health Services

- ❑ The verbal autopsy tool asks families about availability and quality of health service
- ❑ For mothers who died, 24% were over 2 hours from a facility. For fatal stroke and RTA deaths, this was 13-15%.
- ❑ Care is often too expensive. The cost of treatment forced families to skip other essential payments for:
 - 25% of stroke deaths.
 - 21% of adult malaria deaths.
 - 19% of maternal deaths.
 - 14% of road traffic accident deaths.
- ❑ For those who made it to a hospital, 8% of RTA and 7% of adult malaria victims' families reported problems on getting the right service.
- ❑ This partly shows how and where health systems are failing.
- ❑ **These indicators inform national Service Delivery M&E under the UHC framework.**

Our Data Sparks Action

- ❑ When we found malaria was a top killer of adults, it went against all common belief.
 - Led to a new validation study at Bo Hospital
 - Is a key driver in launching the AMRI vaccine trial (R21/Pfs230) for 6,000 adults in Sierra Leone .
 - A new study is underway to assess the impact of cuts in PMI malaria funding in Bo and Pujehun districts.
- ❑ When our data revealed stroke as a major, hidden cause of death.
 - Researchers used our data to show that hospital-based registries severely underestimated the true problem, as they miss people who die quickly or don't seek care.
 - Our data provided a more accurate picture, proving that relying on facility data alone for M&E is flawed.
 - **SRS data doesn't end with reporting — it drives real-world interventions.**

Conclusion and Next Steps

- ❑ HEAL-SL's SRS forms Sierra Leone's foundation for evidence-based monitoring.
- ❑ It supports data-driven decisions at all levels: community, district, and national.
- ❑ Strengthen data-use culture and publish quarterly M&E bulletins.
- ❑ Our main next step is securing long-term, sustainable funding.
 - To fully stabilize the routine surveillance, it needs 10 years of stable funding (we're at year 6 now)
 - To support innovation & research as the platform can be used for new intervention studies (like AMRI) and outbreak investigations (like Mpox).
 - To strengthen data-use culture and move from data collection to data-driven action