Handover Note

Contract Holder: Sisay WONDAYA Adall, PhD
Employer: Resolve to save Lives (RTSL)
Duration of Contract: March 14, 2022 to May 16, 2025
Job Title: Senior Data Analyst/Forecasting Expert

1. Background

Ethiopia continues to face various public health emergencies that demand timely and effective response mechanisms to mitigate their impact. Efficient forecasting, communication, preparedness, and response are essential to reduce the morbidity and mortality associated with such events.

The Public Health Emergency Management (PHEM) Center at the Ethiopian Public Health Institute (EPHI) is mandated to conduct comprehensive public health surveillance. Its core responsibilities include the early identification, detection, and prevention of public health emergencies through risk-based forecasting, preparedness, and timely dissemination of alerts. In addition, the center is responsible for coordinating swift and effective responses and ensuring rapid recovery of affected communities.

Resolve to Save Lives has been supporting EPHI to strengthen its capabilities to prevent, detect, and respond to public health threats. This includes enhancing the country's early warning systems and capacities related to risk identification and preparedness. In line with this, as a senior data analyst/forecasting expert, I was supporting EPHI's existing area of work on data management, analysis, forecasting of climate sensitive diseases and overall leading of Climate sensitive disease surveillance system (CSDSS). Furthermore, I was engaged in the implementation of the enhanced situational awareness (ESA) project, through the identification, and monitoring, and use of multisectoral risk data to mitigate or prevent the emergence of health events.

This handover note is prepared to ensure continuity, facilitate a smooth transition, and preserve institutional knowledge gained over the course of the assignment.

2. Roles and Responsibilities

Summary of core functions during the contract period, including but not limited to:

- Leading the Climate-Sensitive Disease Surveillance System (CSDSS) initiative
- Forecasting climate-sensitive diseases (CSDs) using EWARS tool: Malaria, Meningitis, Cholera
- Supporting Enhancing Situational Awareness (ESA) initiative
- Capacity building and mentorship
- Assessment analysis Report and bulletin writing
- Strategic and operational planning documents development
- Resource mobilization and coordination
- Supporting other miscellaneous tasks assigned by line supervisors: Digitization activity, plan alignment, PHEM Center of excellence, etc

3. Key areas of contribution

During the assignment period, I made significant contributions in the following key areas:

3.1 Climate-Sensitive Disease Surveillance System (CSDSS)

- **Operationalization of the EWARS Tool**: Initiated and led the deployment of the Early Warning, Alert, and Response System (EWARS) tool from the ground up.
- **National and Sub-national Implementation**: Successfully installed and deployed the EWARS tool at the national level and across 11 climate-sensitive disease sentinel sites. Tested and under implementation at most of the existing sentinel sites. Also planned to expand the sentinel sites and implementation scope.
- **System Design and Coordination**: Played a central role in the design, customization, and national-level rollout of the CSDSS, ensuring alignment with the surveillance needs of Ethiopia's public health emergency system which includes preparing reporting template across levels.

3.2 Forecasting of Climate-Sensitive Diseases

- **Routine Forecasting**: Generated regular disease forecasts using the EWARS platform by integrating multi-sectoral datasets including epidemiological, meteorological, population and WaSH data.
- **Forecast Dissemination and Early Warning Outputs**:
  - ✓ *Malaria*: Provided biannual national and sub-national forecasts to inform preparedness and response.
  - ✓ *Meningitis*: Piloted and delivered a seasonal forecast to support strategic planning.
  - ✓ *Cholera*: Conducted district-level pilot forecasting in selected hotspot areas.

3.3 Supporting Enhancing Situational Awareness (ESA) initiative

- Supported the ESA implementation planning and document preparation: Guideline, sprint design, activity planning , anticipatory action guide, etc
- STAR/EPRP tool customization for Ethiopia context
- Cholera brief template development
- Participate in cholera anticipatory action

3.4 Capacity Building

- **Training and Skill Development**: Delivered over 20 training sessions focused on EWARS implementation, data management, analysis, and visualization to national and regional surveillance officers.
- **Hands-on Orientation and Mentorship**: Facilitated knowledge transfer through practical, hands-on orientations and continuous mentoring to ensure sustainability of the forecasting system.

3.5 Assessment, annual bulletin and Report writing

- **DHIS2 Implementation Status Assessment:** Led the design, data collection, analysis, and reporting writing in the assessment of the nationwide implementation status of the DHIS2 platform.
- **PHEM Annual Bulletins:** Led the design, data analysis, and report writing for annual Public Health Emergency Management (PHEM) bulletins, ensuring comprehensive documentation of surveillance data and public health threats.
- **Technical Reports and Strategic Documents:** Contributed to the development of multiple high-impact technical reports and planning documents, including: national VRAM/EPRP development, Manuscript on malaria outbreak forecast, malaria epidemic response planning, Cholera IAR/AAR development, Influenza disease burden estimation, annual review meeting report, supportive supervision report, etc

3.6 Strategic, operational and planning document preparation

- Developed EWARS operation guide for Ethiopian context
- Developed assessment checklist for EWARS tool, CAT and others
- Lead /contribute for multiple national roadmaps, strategic plan development and work plans developments. This includes: -
  - ✓ Data quality assessment (DQA) guide
  - ✓ CSDS three-year strategic roadmap
  - ✓ Health national climate adaptation plan (HNAP)
  - ✓ Five-year surveillance road map
  - ✓ Collaborative surveillance roadmap
  - ✓ Contributed for different implementation documents/guidelines (EBS guideline, CEBS guideline, RCCE guideline, PHEOC guideline, Cholera anticipatory action plan,
  - ✓ Public health bulletin (PHB) SoP development
  - ✓ PHEM NDMC joint planning
  - ✓ Draft MoU among stakeholders

3.7 Resource Mobilization and activity planning

- Mobilize and handed over server and high spec computers (5 desktops plus 1 laptop) for EWARS implementation
- Pandemic fund proposal development, activity planning and implementation /progress follow up (active TWG member)
- NoFO proposal development with CHAI
- World bank HEPPR project planning

3.8 Ongoing operations

Some of the ongoing operations where I am technical supporting includes;

- Leading the CSDSS routine operation
- Routine forecast provision and early warning dissemination
- Contribute to the weekly and annual PHEM bulletin preparation
- Capacity building for national and subnational health professionals on data analysis, statistical software's like R, Stata, PowerBI and Excel
- Technical support on DHIS2 rollout campaign
- Contributing to ePHEM platform implementation
- Contributing to PHEM center of Excellence (PHEM-CoE) designing, advocacy and implementation
- Monitoring the implementation of pandemic fund and WB HEPPR activities assigned to RTSL and EPHI
- Resource mobilization for CSDS and other implementation initiatives
- Conduct PHEM research activities

3.9 Additional Responsibilities

- Cross-departmental support, ad hoc assignments, meetings, and presentations.
- Compiled resources in repository

4. Ongoing and Pending Activities

Some unfinished tasks include:

- Finalization and submission for publication of the 2024 Annual PHEM Bulletin
- Operationalizing ESA on selected districts (this is on progress but need further efforts)
- Training of collaborating sectors on EWARS+ tool implementation (planned but not yet delivered).
- Publication of Malaria outbreak forecast report (delayed due to IRB response)
- Integrating EWARS to DHIS2 (initiative planned but not started yet)

5. Challenges and Lessons Learned

Throughout the course of the assignment, several challenges were encountered during the implementation of various activities. Addressing these challenges has provided valuable lessons and insights for improving future efforts.

Key Challenges

Data Access Gaps: Difficulty in obtaining timely, accurate and complete datasets from key stakeholders limited the scope and efficiency of some analyses and reporting activities.

System Interoperability Issues: Limited integration between data systems (e.g., , epidemiological, meteorological, and WaSH data platforms) posed challenges in automating data workflows and generating timely analytics.

Lack of Coordination and commitment: Suboptimal coordination among multisectoral stakeholders occasionally delayed implementation of joint initiatives and data-sharing agreements.

Financial Constraints: Budget limitations (including interruption of my contract) affected the ability to scale certain pilot activities and implement wider capacity-building initiatives.

Mitigation Efforts and Lessons Learned

To address system interoperability challenges, I collaborated with the Resolve to Save Lives (RTSL) technical backstopping team to develop automated data extraction and integration scripts, which significantly reduced the burden of manual data compilation. These scripts now serve as a foundation for future data integration efforts.

There is a clear need to build upon and expand these existing automation tools to enhance interoperability and improve the timeliness and reliability of surveillance outputs. Strong institutional coordination and clearly defined roles across sectors are critical for sustaining system performance and achieving operational excellence.

Continuous capacity building, advocacy, and stakeholder engagement—especially at lower administrative levels—are essential to ensure ownership, system utilization, and sustainability.

6. **Important Files, Tools, and Resources**

In addition to the hands-on training and orientation provided to EPHI staff, and the formal submission of key documents to the respective directorate, I have also compiled and archived all relevant files, tools, and resources in a centralized digital repository. This repository includes:

- ✓ EWARS tool installation files and user guides
- ✓ Data integration and automation scripts
- ✓ Training materials and session presentations
- ✓ Forecasting outputs and bulletins
- ✓ Strategic and operational documents
- ✓ Assessment tools, checklists, and guidelines

The repository is intended to support continuity, institutional memory, and ease of access for future reference and use.

Repository Link: *https://github.com/sisayGitHUB/Forecasting-resources-/* . *Note that, some big size packages were not uploaded and can be accessed upon request from staff. All files will be archived at EPHI repository when dedicated repository is ready.*

Please ensure that access to the repository is maintained and shared appropriately with relevant teams and stakeholders.

7. Closing Remarks

I am sincerely grateful for the opportunity to work with **Resolve to Save Lives** (RTSL) and the **Ethiopian Public Health Institute** (EPHI). It has been a privilege to contribute to national public health surveillance and forecasting efforts, and I have gained invaluable experience throughout the course of this assignment.

I remain highly enthusiastic about advancing data-driven decision-making in public health. If opportunities arise, I would be honored to continue supporting the ongoing initiatives and help complete any remaining or planned activities.

Thank you once again for the collaboration, trust, and support extended to me during this journey.

Annex: Sample Selected Photographic Documentation of Activities

Below are some photo snapshots captured during the course of key activities, including field deployments, capacity-building sessions, system installations, and collaborative planning workshops.

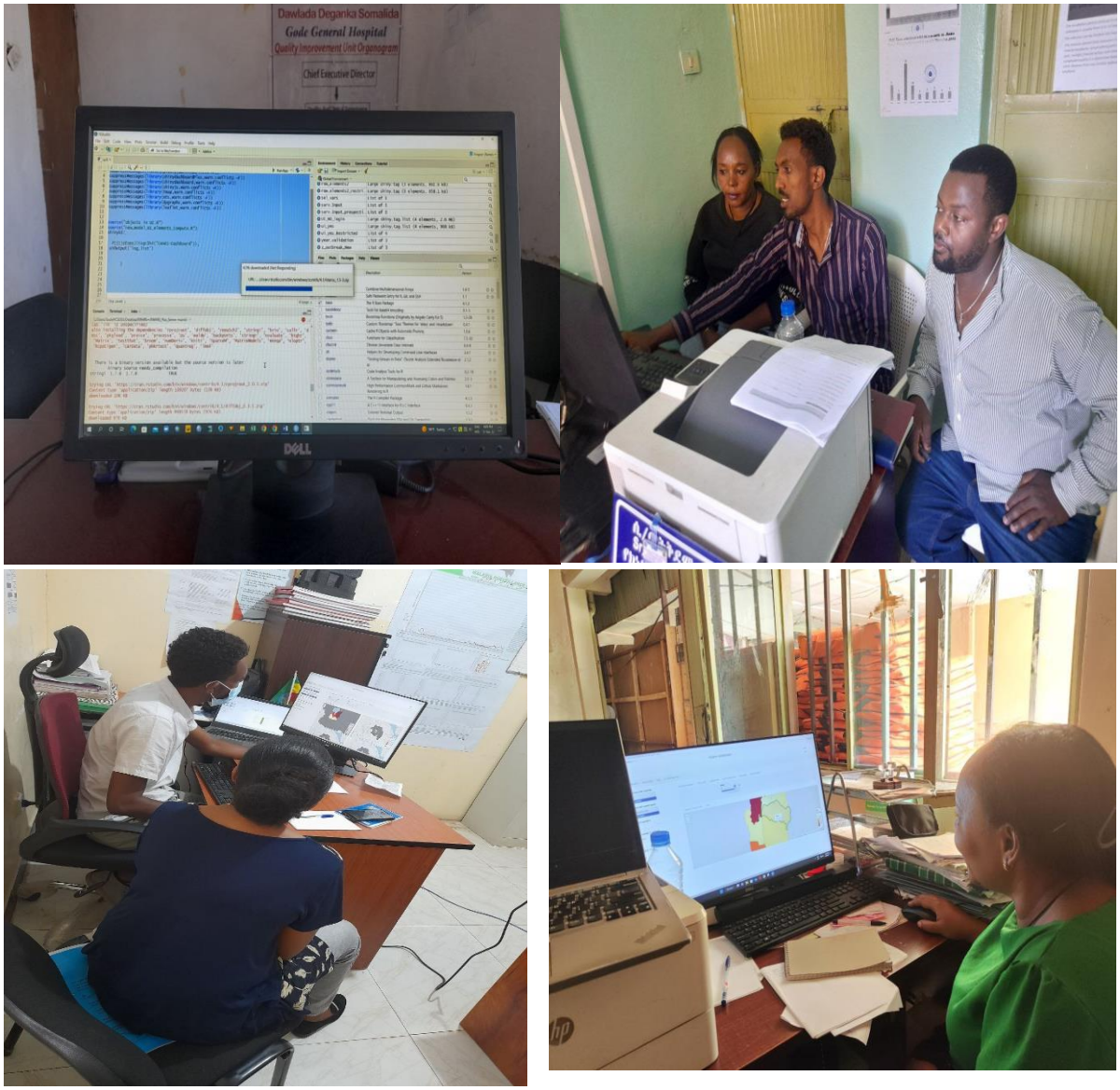

Fig: Collection of photos captured during EWARS+ installation and supportive supervision

Fig: Capacity building session at different time and topic

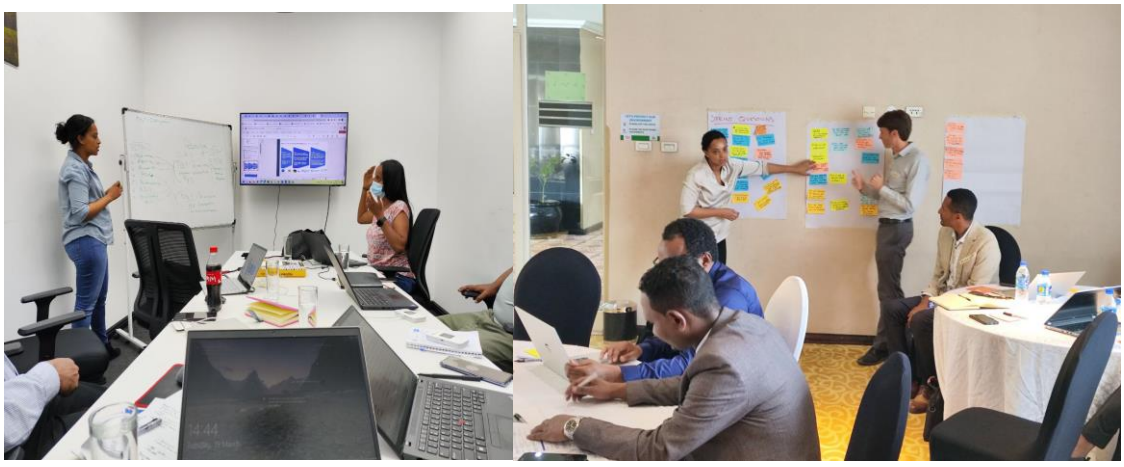

Fig: Planning and sprint design with RTSL/EPHI team

Fig: a) Resources handover from WHO to EPHI, b) PHEM-CoE launching preparation