Estimating Workload of Primary Health Care Workers in Ethiopia

IDM Symposium
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Lead Analyst
May 2023

Applying theory and models in the country context

Human Resources for Health: Health Extension Worker Modeling in Ethiopia

Project Goal

Improve the equitable distribution and value-based prioritization of workload for Ethiopian PHC workers

Project Outputs

- Tested, predictive model for HRH workload, based on ground-truth data collected
- Recommendations on prospective use of the model by MoH and supporting documentation for socialization

Project Outcomes

- Increased government knowledge and capacity to use predictive data models
- Documented approaches for increasing efficiency in the use of available human resources for health

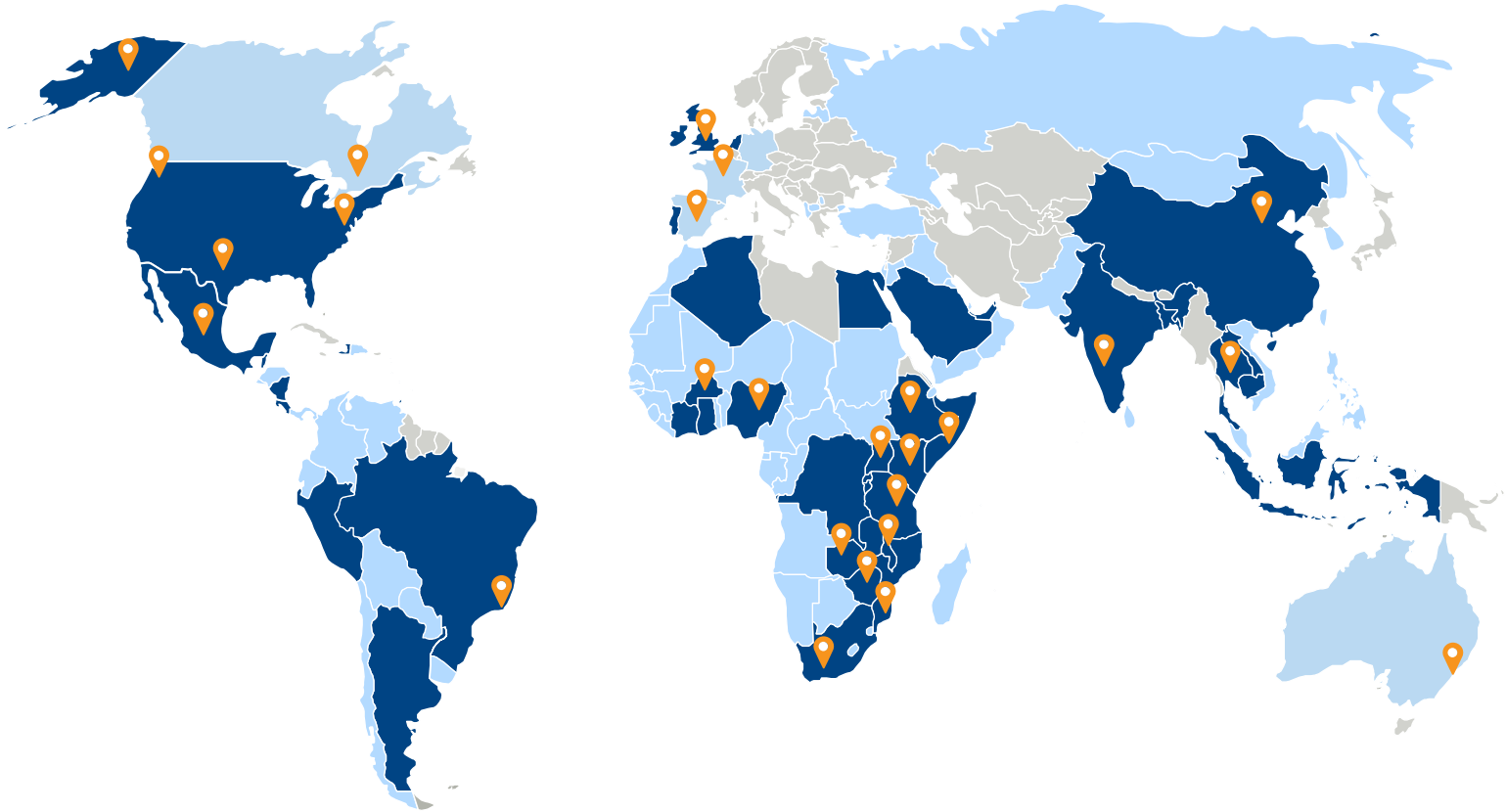
MERQ Consultancy PLC Vital Wave℠

Vital Wave is a Mission-driven Professional Services Firm

Focused on digital solutions for LMICs, with expertise in global health and data science

Diversity Metrics

- **62%** Gender (female)
- **40%** Race/Ethnicity (non-white)
- **50%** Nationality (non-US origin)



Vital Wave Global Team Members (24 countries)

In-Country Field Work and Implementation

Market Intelligence and Analytics

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Consortium

MERQ Consultancy PLC

In-Country Lead

Provides fiscal management of the grant, administration-related client communications and reporting. Leads design of pilot testing with respect to geography and rollout, and country-level data collection. Draws from previous and extensive country studies. Contributes to the analysis and synthesis of data. Delivers advocacy materials to stakeholders and leads engagement relationship management at the national and regional levels.

Vital Wave℠

Technical Lead

Leads overall project strategy and design, day-to-day project management, and content-related client communications. Draws from, and integrates, global lessons learned on HRH into project design and execution. Leads modeling, analysis, and recommendation creation, as well as advocacy-materials development, and intellectual and content-related engagement across the government.

IDM INSTITUTE FOR DISEASE MODELING

Technical Assistance

Provides orientation to the model and informs and advises on the model's use. Works with Vital Wave to review initial model outputs and validate the model is functioning as expected. Supports Vital Wave in troubleshooting, addressing other issues, and making minor improvements to increase model's ease of use, as appropriate.

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MINISTRY OF HEALTH - ETHIOPIA

Government Partner

Provides guidance and inputs at every phase of the project, ensuring maximum relevance of the model and its outputs to their needs. Works with consortium to define the most effective approach to capacity building and effective transition and sustainability of the model. Supports connection to RHBs and other local staff across the health system to expedite the field research.

Model for Estimating HRH Capacity

Testing and contextualizing a predictive model with highly localized, ground-truth data

PACE-HRH Model Demo

23 May
Afternoon
Portage Bay
Room

https://github.com/InstituteforDiseaseModeling/PACE-HRH

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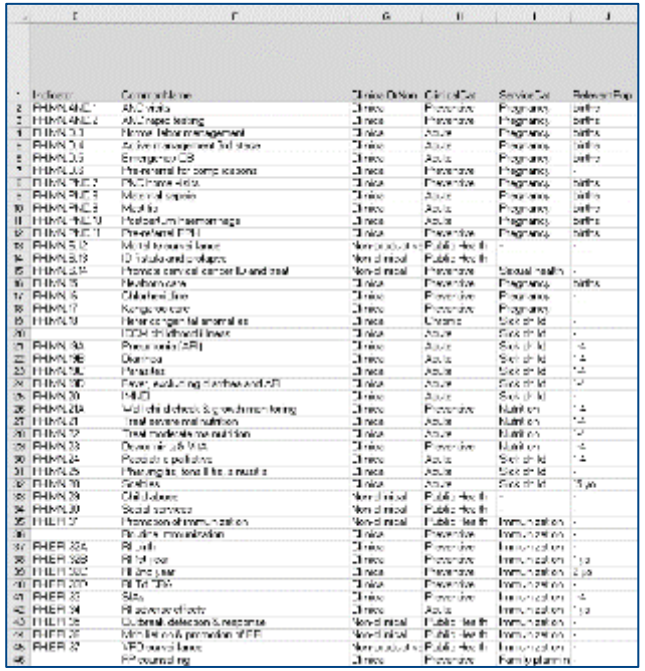
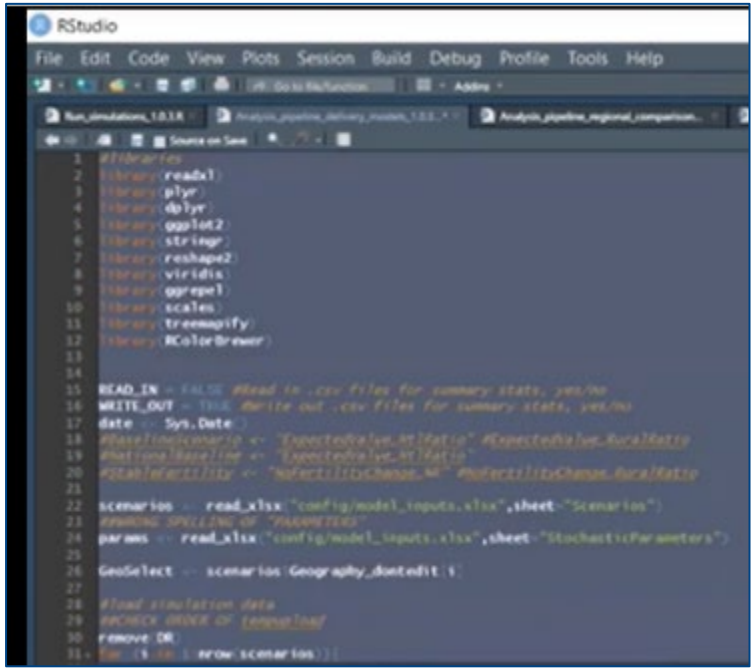
PACE-HRH Model Outputs Support MoH Decisions

Running different scenarios in the model to answer MoH questions on health workforce planning

Input data in Excel → **Run model in R** → **Use model outputs for decision making**





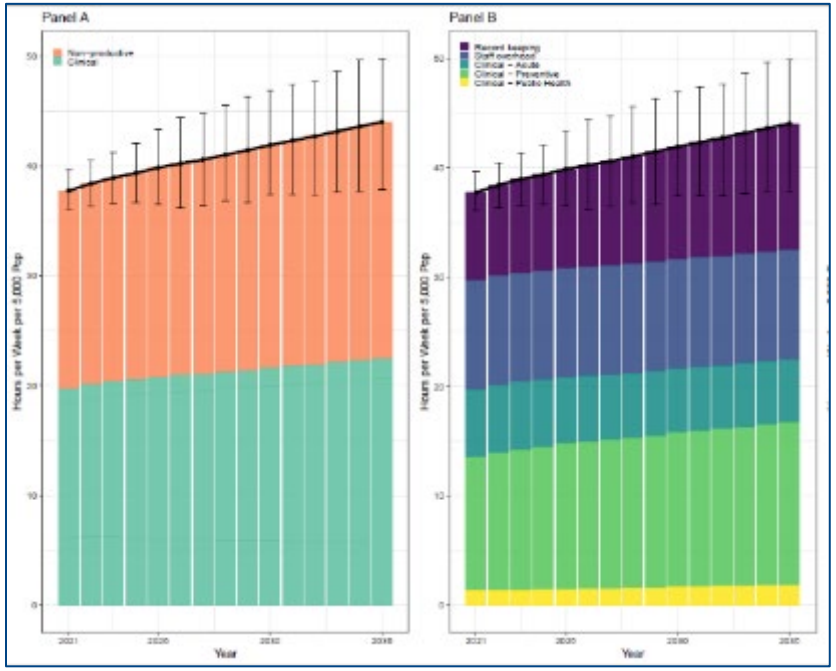


Image source: Eliot C, Hagedorn B (2023). pacehrh: Population-Aware Capacity Estimator for Human Resources for Health. R package version 1.0.5.

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County Priorities

Model outputs will help the MoH to ensure adequate numbers of health workers are available to meet current and future health service demands and improve equitable distribution of workload across health workers

Long-term Outcomes
(impact on population)

- Adequate health workers available to meet health service demand
- Increased efficiency in allocation of human resource for Health Extension Program (HEP)
- Improved equitable distribution of workload
- Provision of higher-quality care contributing to a healthier population

Designing Research Approach to Meet Country Context and Model Needs

Mixed-methods research at health posts, including time-and-motion studies, will generate data to fuel the model and support MoH decisions

Country Context

- Ensure HW tasks reflect latest MoH guidelines
- Select sites that represent key populations (e.g., agrarian, pastoral)
- Target different categories of health posts that represent the HEP
- Include all health worker cadres
- Engage continuously with MoH and RHBs

Model Needs

- Design time-and-motion studies to capture ground-truth data
- Conduct multiple rounds of data collection to account for seasonality
- Focus on variables required for model inputs
- Ensure HW tasks are discrete and granular

Conduct qualitative research to support interpretation of the model outputs (e.g., health worker motivation, completeness of care)

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Configuring the PACE-HRH Model

Initial and future iterations to support operationalization of the model more broadly in Ethiopia

Project Inception and Initial Phase

- Created a final HW task list that reflects latest policies and practices
- Included non-health tasks that HEWs are responsible for (e.g., attending funerals)
- Added new variables on the HEP packages and sub-packages to ensure future analysis will meet MoH needs
- Added new type of health post to reflect current state of primary health care
- Updated seasonality tab in model input sheet to align with task list refined by MoH

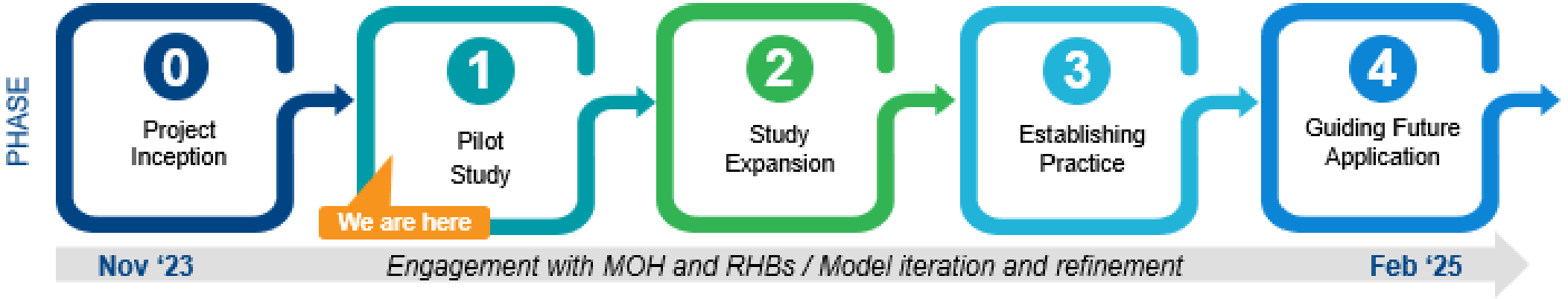
Study Expansion and Subsequent Phases

- Consortium will develop new model outputs to meet the needs of the MoH
- Multiple rounds of research will allow for further iteration and updates, as needed

*The PACE-HRH model is configured with Ethiopian data by default

Approach for Real World Application

The PACE-HRH model has a lot of potential for other use cases and contexts and we're happy to share our tools and learnings



Best practices for applying a model in the country context:

1. Collaborate with partners who know the country
2. Establish a strong relationship with the MoH to understand their needs
3. Run country-specific data through the model as early as possible
4. Know the model limitations and when to say no

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Thank You

PACE-HRH Model Demo
Tuesday afternoon

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