### ALTERNATIVE MODELS OF ART DELIVERY: OPTIMIZING THE BENEFITS



# A SYSTEM-WIDE LOOK AT ALTERNATIVE MODELS FOR DELIVERING HIV TREATMENT

### **BACKGROUND**

Most high HIV-prevalence countries are experimenting with and scaling up alternative service delivery approaches, or differentiated models of care, for providing antiretroviral treatment (ART) for HIV. Hopes for such approaches include better access to and outcomes of treatment for patients; increased clinic capacity; and lower costs for providers and

Although many evaluations are underway, we have little evidence on the big picture: the proportion of clinics offering alternative models, eligibility criteria and numbers of patients eligible, number of patients actually participating, program-wide outcomes, resource utilization and costs compared to traditional care, fidelity to guidelines, financial sustainability, and other system-wide indicators.

### **PROJECT**

AMBIT is a 2.5-year research and evaluation project in sub-Saharan Africa supported by the Bill & Melinda Gates Foundation and implemented by the Boston University School of Public Health in the U.S., the Health Economics and Epidemiology Research Office (HE<sup>2</sup>RO) in South Africa, and other local partners. The project, launched in September 2018, will include data synthesis, data collection, data analysis, and modeling activities aimed at generating information for near- and long-term decision making and creating an approach and platform for ongoing evaluation.

Activities will include literature reviews, analysis of retrospective data and implementation reports, cost estimates, surveys, modeling, and modest primary data collection and analysis, with an anticipated emphasis on Malawi, Zambia, and South Africa.

# **COMPONENTS OF AMBIT**



### Coverage: Current extent of alternative model implementation

(% of patient-years served) Allocation:



### Development of a mathematical model to optimize distribution of alternative models at national level

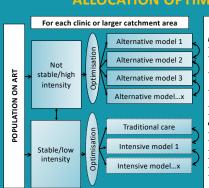
Benefits and costs: Empirical estimates of the overall potential costs and benefits of large-scale adoption of alternative models in the focus countries



Evidence gaps: Limited primary research in the focus countries to fill key gaps in the existing evidence base



# **ALLOCATION OPTIMIZATION MODEL**



## Optimisation

- Setting (rural/urban) and facility level
- Age/gender/employment status/clinical condition, etc. of catchment population
- Types of models available or required under national
- guidelines
- Current and future number of people on ART, geographic distribution, and density
- Available infrastructure and human resources Patient preferences for specific models
- Optimises, within specified budget constraint: Number of patients retained on ART and/or suppressed
- % of patients maintaining "stable" definition
- Allocation of resources for HIV and non-HIV care Patient cost and satisfaction, if data allow
- Healthcare worker productivity and satisfaction, if data allow Number of life years saved across all clinic services

**COVERAGE** 

Using routine electronic medical records, cohorts under observation, existing M&E reports from government and partners, implementation science studies, and primary quality assessment, AMBIT aims to estimate:

- Percentage of current ART patients meeting national definition of stable; distribution of reasons for not meeting definition
- Geographic distribution and description of alternative models
- Number (proportion) of patients in each model at time of data collection; patient-months enrolled in each model. (Anecdotal evidence indicates discrepancies between aggregate reports and
- Location, duration, and frequency of dispensing
- Number of facility visits per patient per year, by model of care
- Number of viral load tests per patient per year, by model of care

# BENEFITS AND COSTS

AMBIT will attempt to identify the universe of potential costs and benefits, as shown in the table to the right, and generate some empirical information for each domain, depending on data availability.

# The AMBIT team (so far):

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### . Clinical outcomes For ART patients Improve outcomes for all or some ART Retention and suppression for all ART patients in site's catchment area, patients: maintain outcomes for all. not just those eligible for or served by alternative models. For non-ART Better uptake of ART among HIV+ and of Outcomes should improve or number of patients managed should patients screening and treatment for TB and increase due to more provider time/patient and other resources. 2. Non-clinical outcomes Costs to patients Lower financial and opportunity costs to Costs to patients should fall but may not in all cases, depending on model patients enrolled in alternative models. and patient. Patient satisfaction Satisfaction with services and quality of Details TBD; could include HIV and non-HIV patients. life should improve for all patients. 3. Clinic resource utilization and performance Costs to provider Lower overall costs to providers. Cost of ART program at site divided by total number of patients in all models, including traditional care. Reallocation of costs without reduction is possible. Program costs could increase if outcomes improve Increased or equal clinic capacity (patient If alternative models reduce # or duration of visits, clinic may have Service delivery capacity to take on more clients for ART or non-ART care. Only relevant if capacity volumes). there is unmet demand and if clinic's resources are unchanged. More efficient use of available staff Staff numbers, cadres, and roles could change, but only if managers Staff utilization (professional and lay). respond. Alternative is longer tea breaks, shorter hours, etc. Role of un- or minimally trained and/or un- or minimally-paid staff raises concerns for quality and sustainability. Facility performance Improvements in overall clinic Metric for this measure does not exist. May need to create an index, performance. scale, or graph to incorporate multiple aspects of performance. 4. Healthcare worker experience Satisfaction Higher HCW satisfaction due to lower Improvement depends heavily on how clinic management adapts to use burden, more time with patients of alternative models Guideline Better compliance with national Compliance could improve or diminish, depending on supervision of compliance guidelines for HIV and non-HIV care alternative models, reallocation of HCWs' time, etc. Productivity Patient load/HCW decreases Ideally, alternative models will allow HCWs to produce a larger amount of health by making service delivery for each patient more efficient