

ACHIEVING MAXIMUM HEALTH AND DEVELOPMENT IMPACT WITH AVAILABLE FUNDING

“ The increasing complexity of health policy choices demands more sophisticated and rigorous decision support tools grounded in practical realities. **The Optima approach provides a powerful optimization tool to maximize the value of every dollar we invest in health.** ”

DAVID WILSON | GLOBAL LEAD, DECISION & DELIVERY SCIENCE, WORLD BANK

“ The Optima approach is helping countries to identify the optimal mix of interventions to maximize the impact of investments... ensuring we deploy the right interventions in the right mixes for the right people in the right places can transform the impact of health investments and bring the goal of a science of delivery closer. ”

JIM KIM | PRESIDENT, WORLD BANK

## IMPORTANT HEALTH FUNDING QUESTIONS

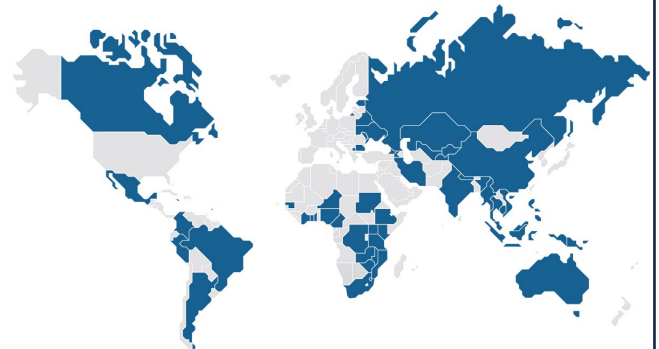
- ▶ HOW CLOSE WILL THE COUNTRY GET TO THEIR NATIONAL HEALTH OR DEVELOPMENT STRATEGIC PLAN TARGETS:
  - if latest-reported allocations continue?
  - if the budget is reallocated optimally?
- ▶ HOW MUCH FUNDING IS REQUIRED TO MEET CERTAIN HEALTH OR DEVELOPMENT TARGETS AND HOW IS IT BEST INVESTED ACROSS SYSTEMS AND INFRASTRUCTURE?
- ▶ WHAT HAVE PAST INVESTMENTS IN HEALTH AND DEVELOPMENT BOUGHT IN REDUCTIONS IN MORBIDITY AND MORTALITY OR PROMOTION OF SHARED PROSPERITY?
- ▶ WHAT IS THE EXPECTED FUTURE POPULATION IMPACT OF POLICY OR PROGRAM IMPLEMENTATION SCENARIOS?

## OPTIMA MODEL IMPACT

The Optima Consortium has been providing decision science support since 2004.

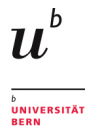
The Optima modeling approach has been applied in over 45 countries

Findings from Optima models have guided regional and global discussions; e.g., United Nations General Assembly 2014 (World AIDS Day Report: Fast-track), & ASEAN Health Ministers Summit, Hanoi 2015.



Optima models have been used extensively to address investment choices related to numerous areas including HIV/AIDS, tuberculosis, malaria, viral hepatitis, nutrition and, maternal and child health. Modeling groups affiliated with the Optima Consortium are continuing to extend the Optima approach, by developing new applications to inform investment of publicly-funded benefits packages for entire health systems, and for optimizing implementation options across diverse sectors.

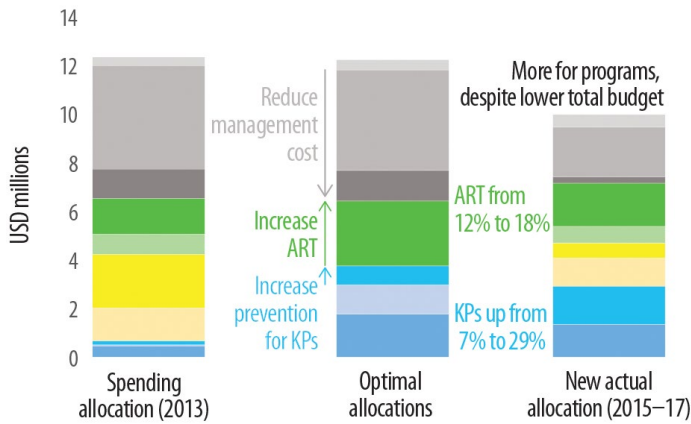
PRIMARY TECHNICAL PARTNERS



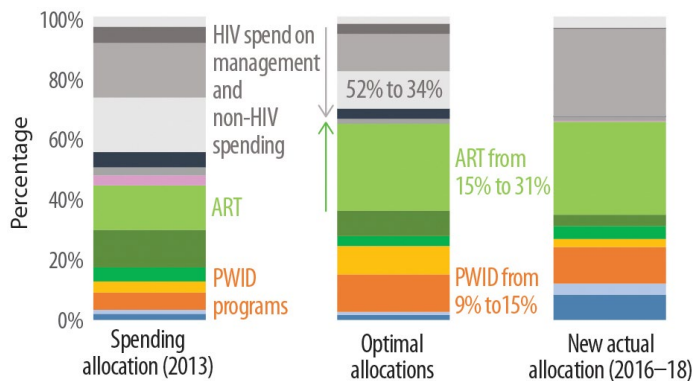
How can available funding be optimally allocated across the combination of interventions, targeted to the **RIGHT PEOPLE** in the **RIGHT PLACES** at the **RIGHT TIME** in the **RIGHT WAYS**, to yield the **greatest impact**?

### TARGETING THE RIGHT PEOPLE

Better targeting of available resources to key populations at higher risk in Sudan is on track to **reduce new HIV infections by 37%**



Better targeting for key populations and treatment in **Belarus** expected to **reduce HIV infections and deaths by 30%**



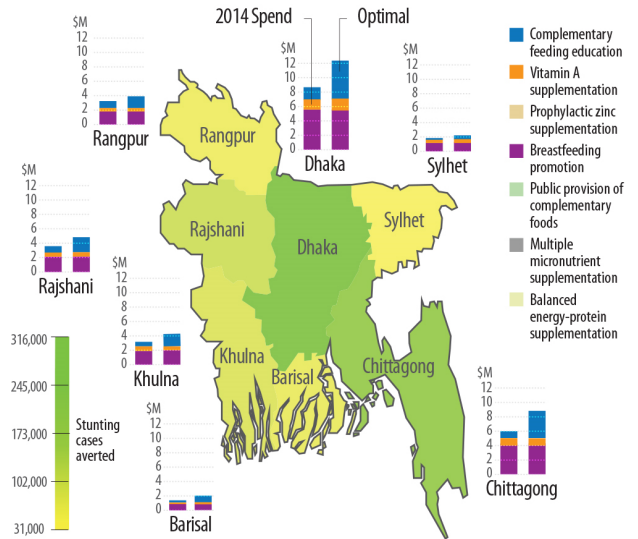
### TARGETING THE RIGHT WAYS

Choosing the right combination of service modalities for reaching people in South Africa can **improve diagnosis and access to care by up to 20%**

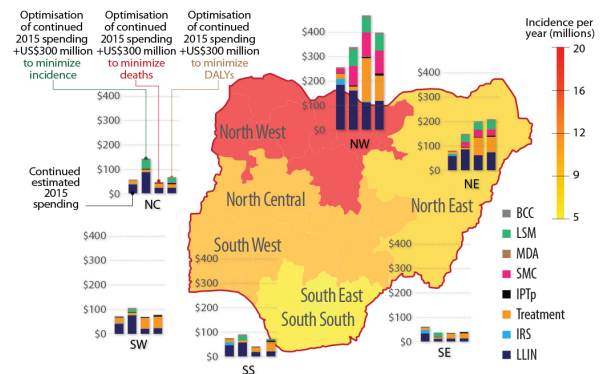


### TARGETING THE RIGHT PLACES

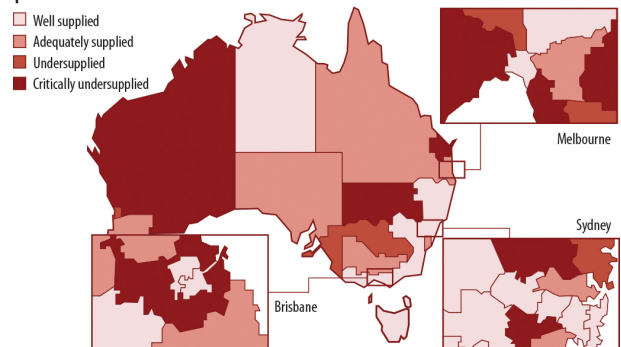
Better geographical targeting of existing nutrition-related interventions to the **right people** in Bangladesh is projected to decrease the number of stunted cases by almost 1 million and decrease over 25,000 child deaths.



Refocused prioritization in Nigeria is expected to avert over **100,000 malaria deaths**

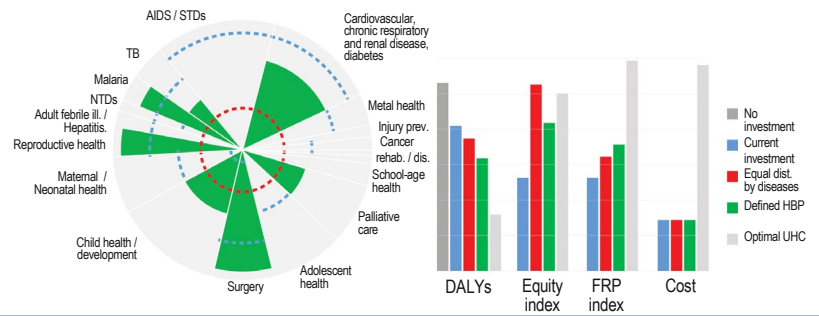


Identifying **service capacity** in Australia helps target clinical placements



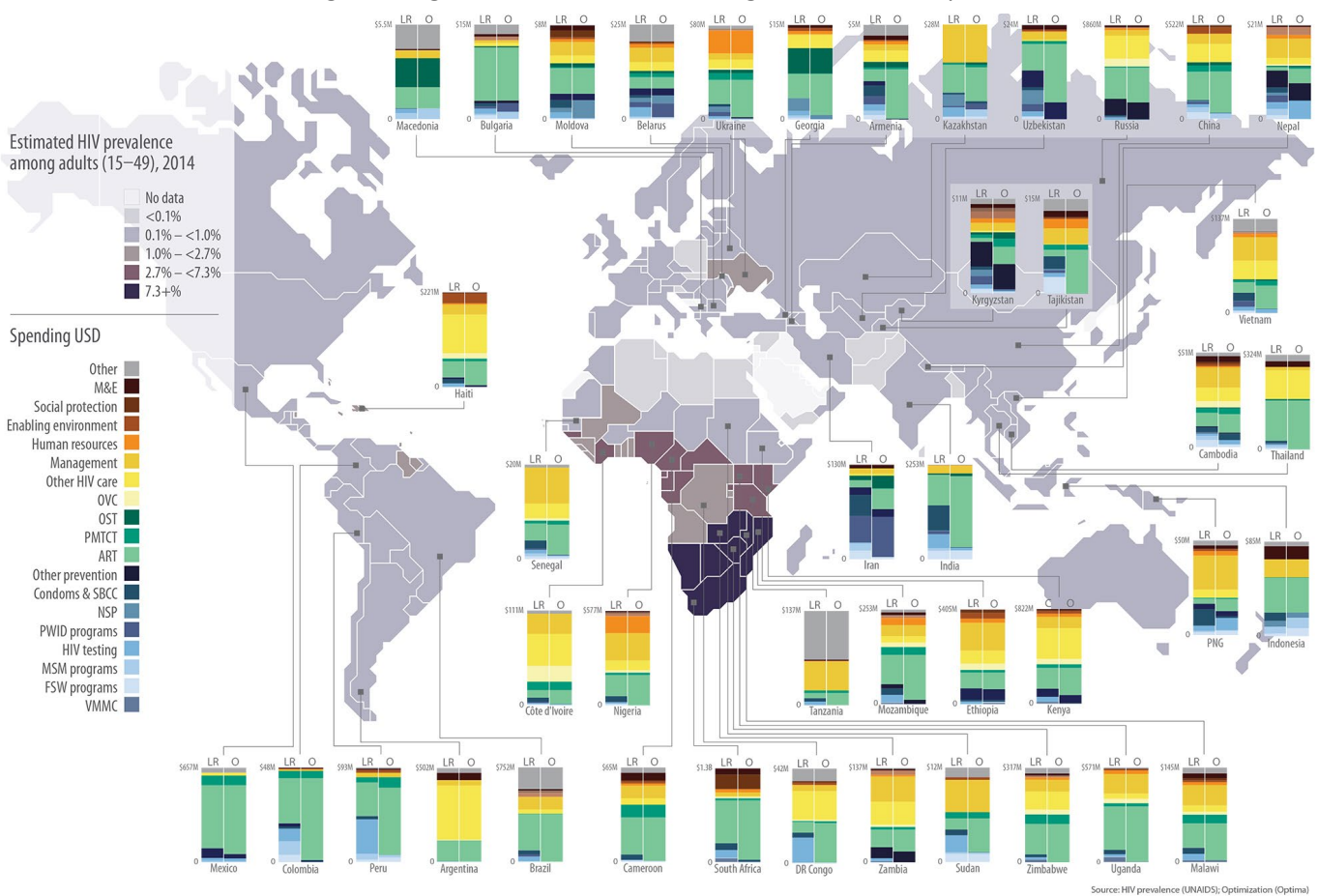
## INFORMING NATIONAL HEALTH SYSTEMS' BENEFIT PACKAGE

The Optima approach is being extended by other modeling groups to new areas, including disease control prioritization. By leveraging the best international evidence along with local disease burden and other data, these new approaches provide support for guiding decisions around the establishment or refinement of entire health benefits packages.



## ADDRESSING GLOBAL PRIORITIZATIONS

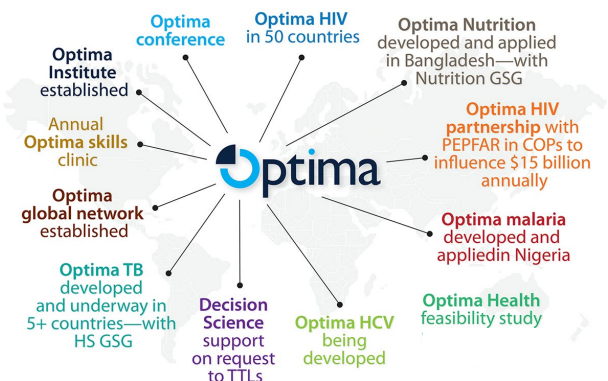
Synthesizing analyses across all Optima HIV applications and integrating these outputs into a single framework is informing global resource needs estimates for global targets and international funding bodies and their partners.



Source: HIV prevalence (UNAIDS); Optimization (Optima)

## INTEGRATION AND EXPANSION

Given the considerable success of applications of the Optima approach, the **Optima Consortium is expanding its analytical frameworks and application areas** to support a broad range of decision areas in global health and development as well as the overlap of precision public health targeting with optimizing programmatic implementation. **The Optima Consortium is increasingly also gaining experience in big data analytics for cross-sector synergistic insights and guiding real-time performance improvements.**





## OPTIMA METHODOLOGY

The Optima approach to improving allocative efficiency involves the following steps

### 1. Assess Burden of Disease

- Data syntheses
- Epidemic modelling



### 2. Programmatic Responses

- Identify interventions & service delivery models
- Specify costs required to deliver services to coverage levels and their efficacy / effectiveness



### 3. Objectives & Constraints

- Define strategic objectives and national priority targets
- Define ethical, logistic, political & economic constraints

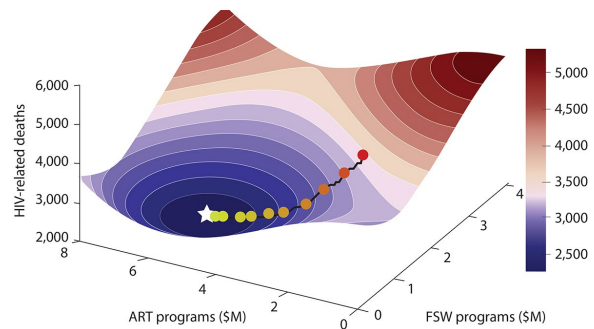


### 4. Optimization Algorithm

- Calculate the best combination response to address objectives, subject to constraints and cost-effectiveness of programs



Schematic of mathematical algorithm synthesizing data and information to identify the best program combination:



## SOFTWARE

The Optima Consortium has developed a suite of models that apply the Optima approach. Many of these models can be accessed through simple web-based graphical user interfaces.

*“We were fortunate to be able to use this analysis for making the key decision regarding funding distribution between programs targeting the different key affected populations and strengthening the interventions that will be more effective for prevention and control of the HIV epidemic in Georgia.”*

**K. Stvilia**  
Program manager, Georgia

*“The country investment framework using Optima has become the benchmark for all projects/programs in Niger. The priorities / policies / recommendations of the investment framework inform all projects/programs underway in the country.”*

**World Bank country client**  
Niger

*“[The Optima team] take their related model a step further, moving from addressing ‘what to do’ questions (i.e., which interventions) to starting to answer ‘how to do’ questions (i.e., implementation of a particular intervention). [...] I hope to see more of this kind of modelling in the future.”*

**B. Johns**  
Lancet HIV (2015) 2:e174