Optima DECISION SCIENCE

Helping achieve maximum health & development impact with available funding

TYPES OF QUESTIONS

1. How close will the country get to their National Health or Development Strategic Plan targets with the current volume of funding:
   - allocated by current expenditure?
   - reallocated optimally?

2. How much funding is required to meet certain health or development targets and how is it best invested across systems and infrastructure?

3. What has past investments in health and development bought in reductions in morbidity and mortality or promotion of shared prosperity?

4. What is the expected future population impact of policy or program implementation scenarios?

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

D. Wilson, Global Lead, Decision & Delivery Science

"Optima 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."
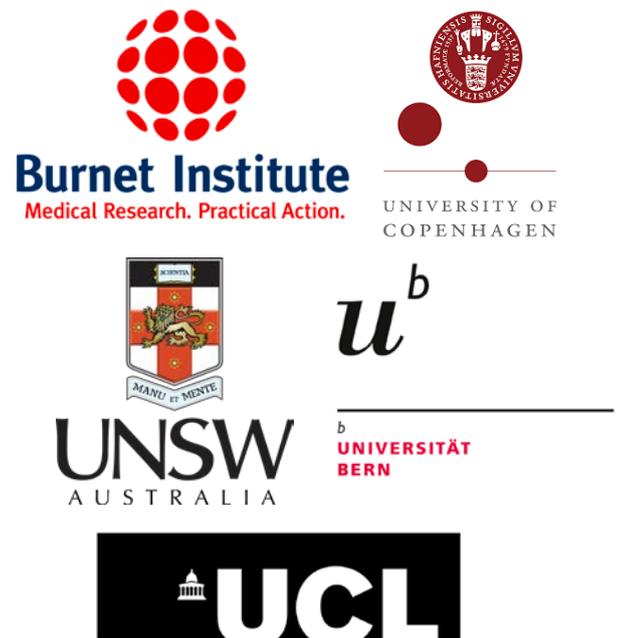
Jim Kim
World Bank President

WORLD BANK GROUP

EXPERIENCE

- Providing decision science support since 2004

- Optima has been applied to over 45 countries, in both high-income and lower-income settings

- Optima's findings 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 has been used extensively to address investment choices related to numerous areas including HIV/AIDS, tuberculosis, malaria, viral hepatitis, maternal and child health, and is now informing development of publicly funded benefits packages for entire health systems, for agriculture development, and optimizing implementation options across diverse sectors.

PRIMARY TECHNICAL PARTNERS

Burnet Institute
Medical Research. Practical Action.

UNIVERSITY OF COPENHAGEN

UNSW AUSTRALIA

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UNIVERSITÄT BERN

UCL

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%
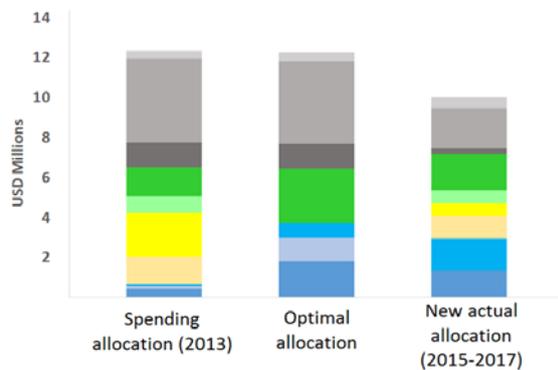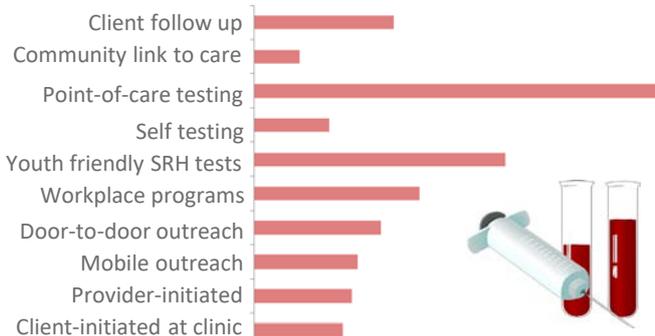

Better targeting for key populations and treatment in Belarus expected to reduce HIV infections and deaths by 30%
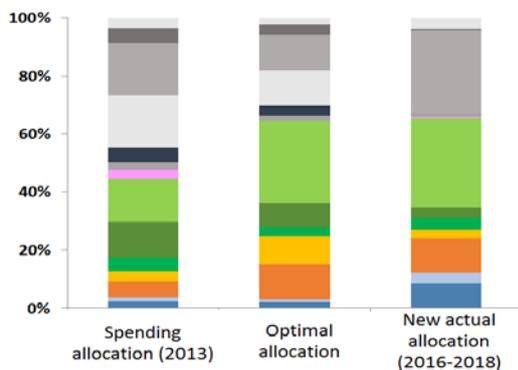
## TARGETING THE *RIGHT WAYS*

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

Modalities for improving testing

- Client follow up
- Community link to care
- Point-of-care testing
- Self testing
- Youth friendly SRH tests
- Workplace programs
- Door-to-door outreach
- Mobile outreach
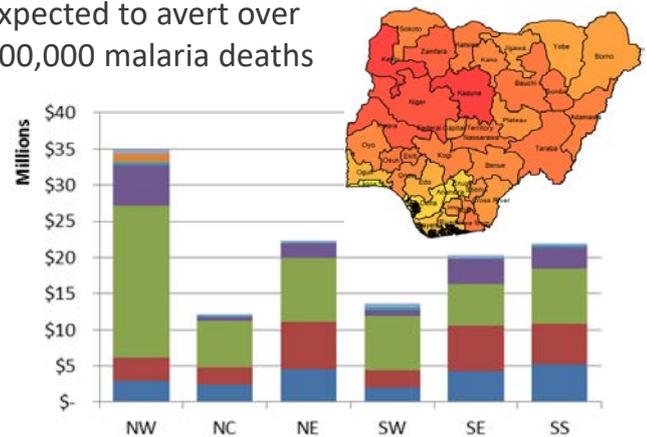- Provider-initiated
- Client-initiated at clinic
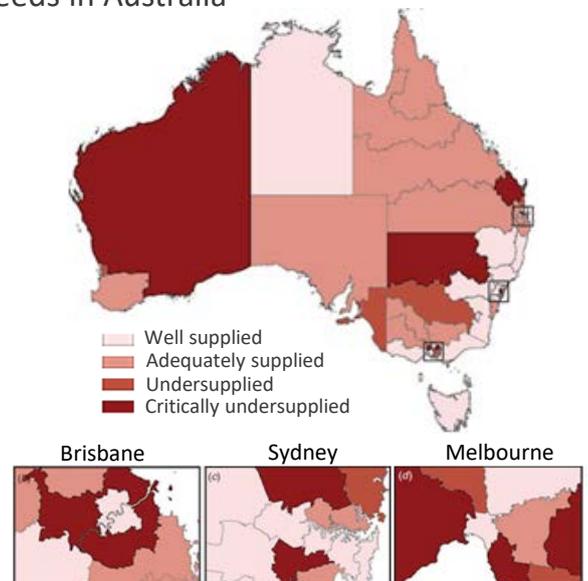
TARGETING THE *RIGHT PLACES*

Better geographical targeting of existing nutrition-related interventions to the right people in Bangladesh is on track to decrease the number of stunted cases by almost 1 million and decrease over 25,000 child deaths
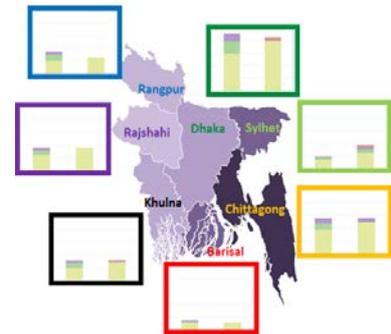
Refocused prioritization in Nigeria is expected to avert over 100,000 malaria deaths

Identifying doctor clinical service capacity and needs in Australia

- Well supplied
- Adequately supplied
- Undersupplied
- Critically undersupplied

Brisbane   Sydney   Melbourne

INFORMING NATIONAL HEALTH SYSTEMS' BENEFITS PACKAGES

Optima is leveraging the best international evidence on disease control prioritization, supplemented with local disease burden and other data, to guide decisions around establishment or refining entire health benefits packages. Numerous countries are currently engaged with Optima to develop their publicly-funded health packages.
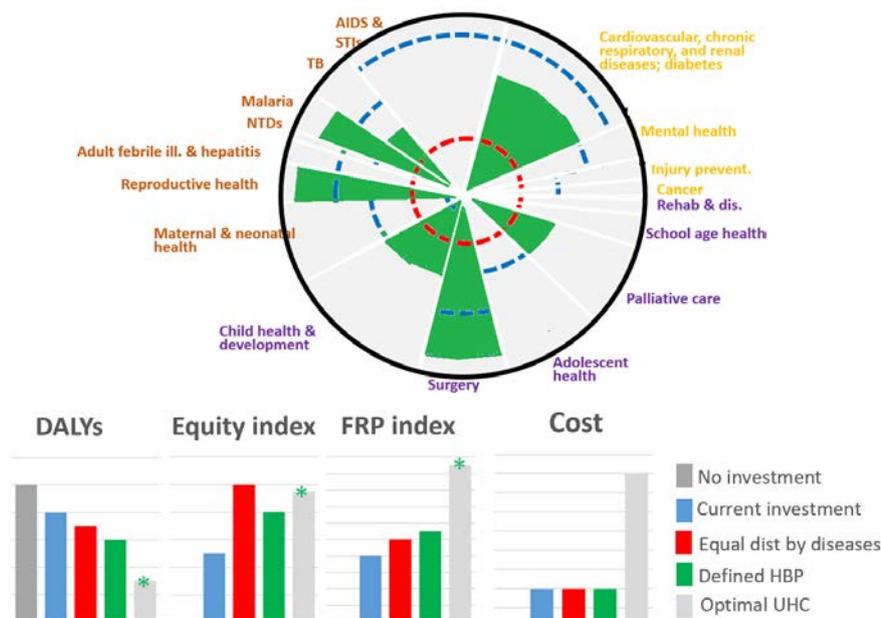
ADDRESSING GLOBAL PRIORITIZATION

Synthesizing analyses across all Optima 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
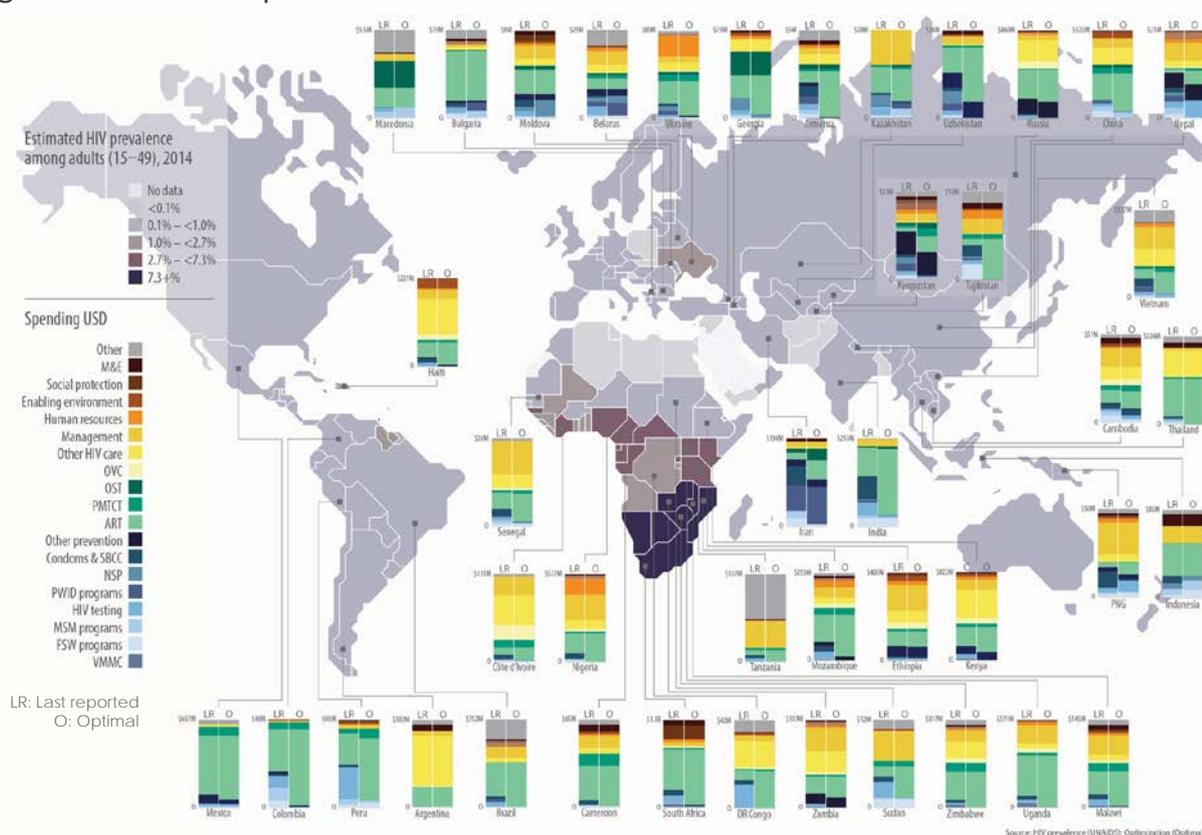
INTEGRATION AND EXPANSION

Given the considerable success of Optima applications, 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:
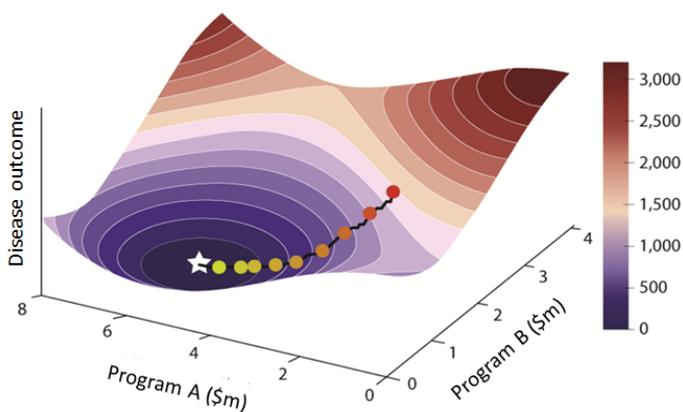
SOFTWARE

Optima can be used through a simple web-based graphical user interface. Frameworks and data requirements are flexible to accommodate systems and data availability in application settings.
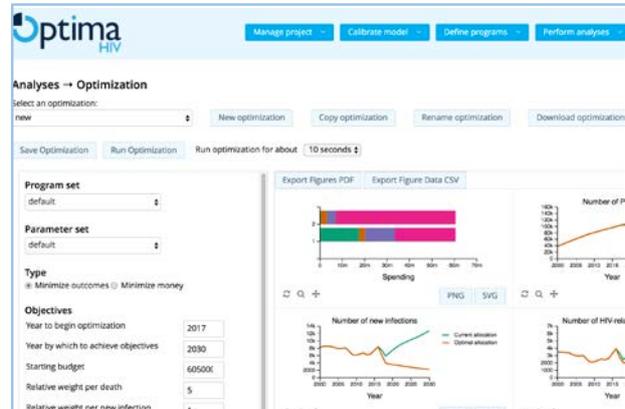
"We were fortunate to be able to use this analysis for making the key decision regarding funding distribution between programs targeting the different key affected populations and strengthening the interventions that will be more effective for prevention and control of the HIV epidemic in Georgia."

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