Improving global health - A perspective from the Center of Strategic Health Operations Research at the Clinton Health Access Initiative

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What does the Clinton Health Access Initiative (CHAI) do?

CHAI is not a research organization, donor or implementer by nature, but instead focuses on improving management and markets

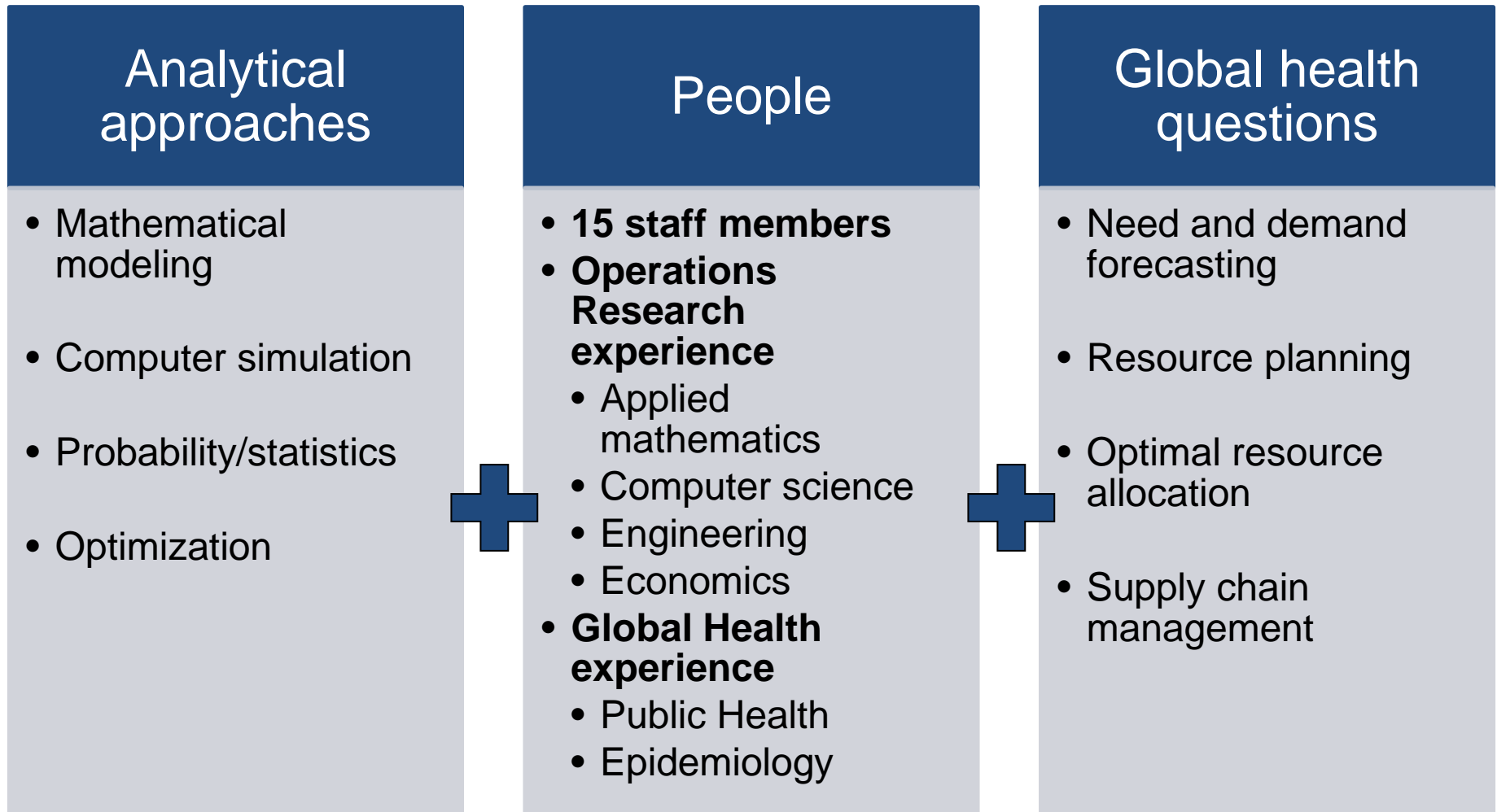| R&D – New evidence, models and technologies | → | Financing for technologies and national programs | → | HR, infrastructure and management of implementation | → | Lower mortality |

CHAI mobilizes and optimizes the use of resources

Improved organization of commodity markets

More efficient delivery of health services and more effective management of health systems

More lives saved

CSHOR applies advanced analytical approaches to improve decision making in global health

Analytical approaches

- Mathematical modeling

- Computer simulation

- Probability/statistics

- Optimization

People

- **15 staff members**
- **Operations Research experience**
  - Applied mathematics
  - Computer science
  - Engineering
  - Economics
- **Global Health experience**
  - Public Health
  - Epidemiology

Global health questions

- Need and demand forecasting

- Resource planning

- Optimal resource allocation

- Supply chain management

- Actionable evidence-based recommendations
- Transferable software tools

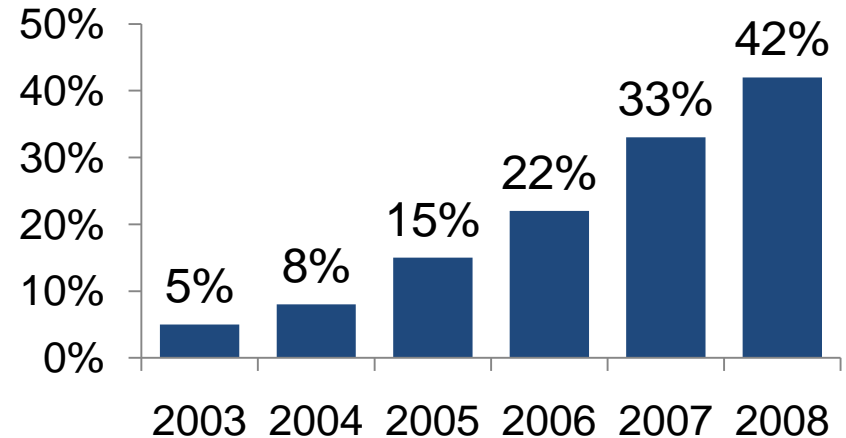# Why Operations Research (and other disciplines) for global health?

CLINTON
HEALTH ACCESS INITIATIVE

Historic amount of resources poured into global health

Amount approved by Global Fund by round (Billion USD)
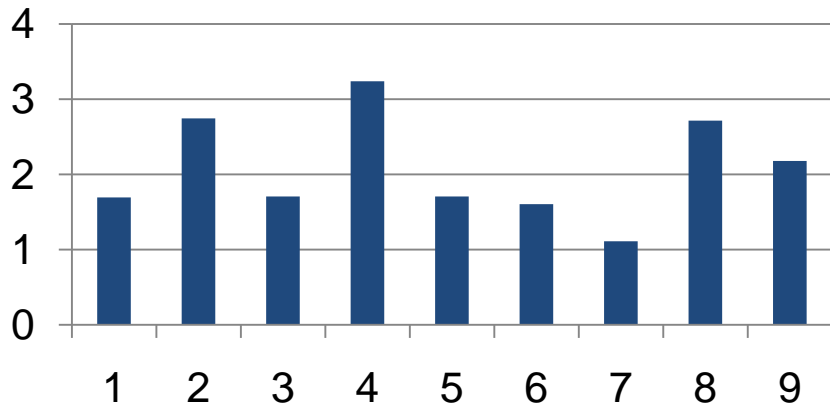
Yet large remaining gap to access health

ART coverage in LMIC*

Need of Operations Research and other expertise to
- bridge the health access gap and the resource gap
- address increasingly complex systems and operations in global health

*Antiretroviral Treatment coverage in low- and middle-income countries at end of year
Source: Global Fund website, WHO

Key areas of engagement for CHAI/CSHOR

Area of engagement	Trends in global health	Example of responses
Decentralization of health services	• Expansion of the dispensing network for health services • Decentralization of some "advanced" services to local facilities	• Inform trade-off between health outcome and equity vs cost of decentralization • Effective decentralized data collection and management
Human resources for health (HRH)	• Insufficient supply of qualified health care workers in poor countries	• Reduce gap between supply and demand of HRH • Optimize use and deployment of HRH
Sustainable financing	• Large and widening gap between funding need and availability • Uncertain future for health programs financing and impact	• Maximize value from limited financial resources • Make sound long-term investments
Operations and supply chain management	• Strained systems and operations supply chain under dramatic demand scale up	• To be detailed in next page

Logistics and supply chain management for global health

Area of engagement	Selected questions	Examples of CHAI work
Introduction of new products	• Demand and uptake forecasting (e.g., for supplier negotiations) • Pricing of new products	• Point of care CD4 counting, 2nd line TB drugs • Subsidies for ACTs* to foster adoption
Supply chain management and optimization	• Reliable demand forecasting • Inventory management to minimize stock outs and expiries with unreliable data/systems and heterogeneous needs • Effective lab and people referral network • Supply chain design/re-optimization	• ARV**, ACT, lab re-agents • India, Dominican Republic, etc • Early Infant Diagnostic • Re-integration of vertical supply chains (e.g., HIV, TB)
Continuous improvement of processes	• Optimize use of limited resources to yield high-quality outcomes	• Space optimization at clinic • HRH task shifting

*   ACT = Artemisinin Combination Therapy (for malaria)
**   ARV= Antiretroviral (for HIV)

The challenge of access to information in global health

A challenging information landscape

- Data is often collected, especially for donor reporting, but it is often

  - Hard and expensive to access

  - Unreliable

  - Outdated

What we need to do

- Making better decision with unreliable data

- Making the case for investing in improving information infrastructures

- Building information processes adapted to global health systems