

A Risky Business:

Saving Money and Improving Global Health through Better Demand Forecasts



Ruth Levine
Global Health Forecasting Working Group
34th Annual International Conference on Global Health
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CGD Global Health Forecasting Working Group

- **Generate critical thinking about:**
 - Magnitude and nature of forecasting challenges
 - Differences across disease & product categories
 - Ways to improve demand forecasting
 - Specific actions and investments by international actors to improve the global demand forecasting framework

- **Resulting in analytically-based policy recommendations for:**
 - Multi- and bilateral funders
 - Technical agencies
 - Policymakers in developing countries

Working Group Members

- **Ruth Levine**, CGD
- **Deborah Atherly**, PATH
- **Jorge Carrion**, PAHO
- **Robert Chisholm**, independent consultant
- **Renia Coghlan**, Medicines for Malaria Venture
- **Peter Evans**, independent consultant
- **Gian Gandhi**, International AIDS Vaccine Initiative
- **John Hurvitz**, Covington & Burling
- **Steve Jarrett**, UNICEF Supply Division
- **Andrew Jones**, GAVI Alliance
- **Steve Kinzett**, PATH
- **Andrea Longhi**, UK National Health Service
- **Elisabetta Molari**, The Global Fund
- **Morgan Musongole**, Zambia Malaria Control Program
- **Angeline Nanni**, PneumoADIP
- **Donné Newbury**, Bristol-Myers Squibb
- **Hans Rietveld**, Novartis
- **Mark Rilling**, USAID
- **Nina Schwalbe**, TB Alliance
- **Neelam Sekhri**, The Healthcare Redesign Group
- **Anil Soni**, Clinton Foundation
- **Jeffrey Sturchio**, Merck
- **Krista Thompson**, BD
- **Christine Tonkin**, IAPSO
- **Saul Walker**, International Partnership for Microbicides
- **Edward Wilson**, John Snow, Inc.

Staff & Consultants

- **Jessica Pickett**, CGD
- **Daniella Ballou-Aares**, Dalberg Global Development Advisors
- **Kirsten Curtis**, MIT-Zaragoza International Logistics Program
- **Michelle Lee**, George Washington University
- **Marie-Yvette Madrid**, independent consultant
- **Priya Mehta**, Dalberg Global Development Advisors
- **Prashant Yadav**, MIT-Zaragoza International Logistics Program



The Big Picture Problem

Despite the influx of substantial new monies

The right products aren't getting to all the people who need them when they need them

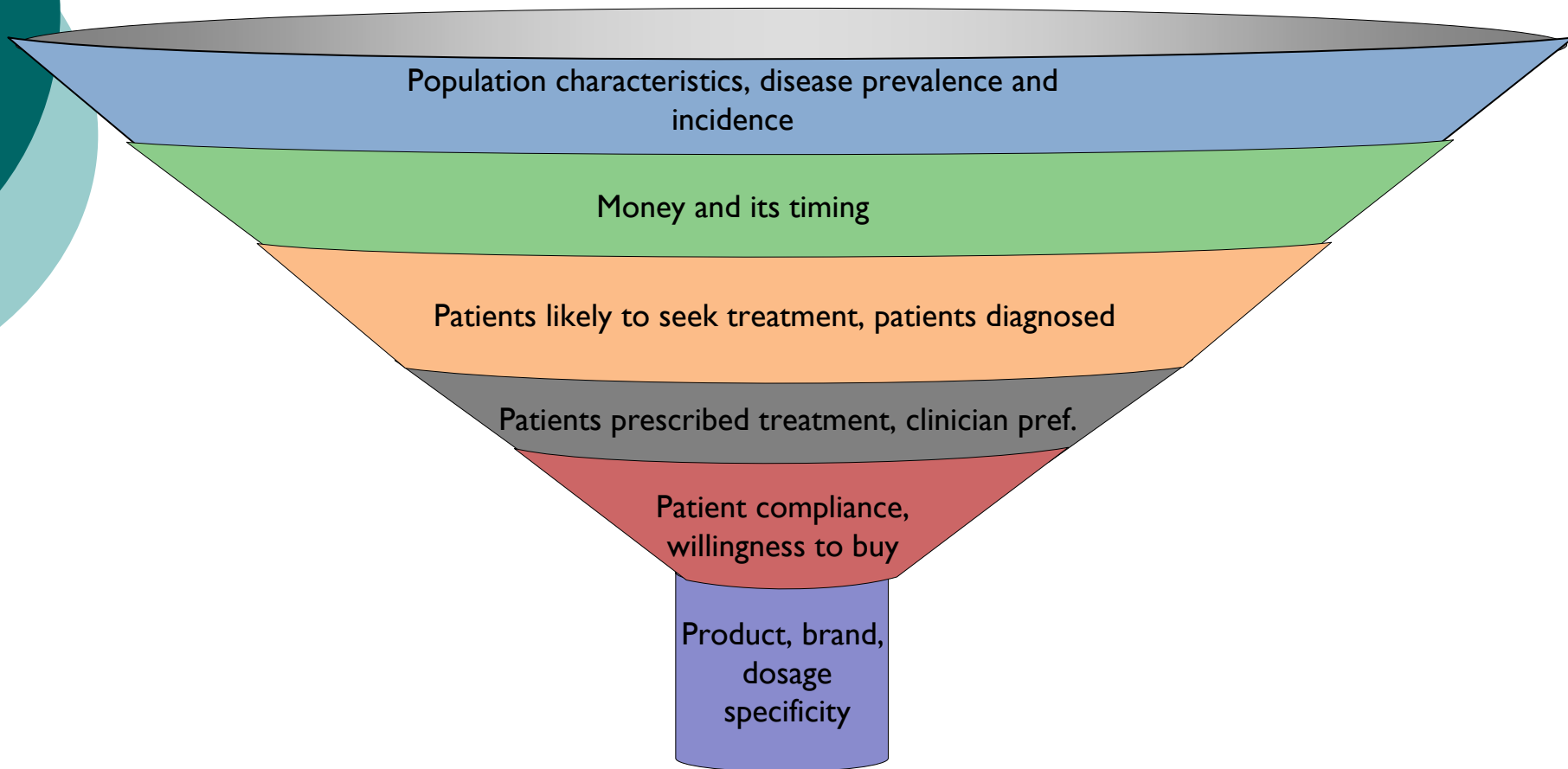
What Is Demand Forecasting?

- Demand forecasting \neq Needs estimates
- Demand forecasting \neq Demand creation/advocacy
- Demand forecasting \neq Target setting

Estimates “effective” market demand

Product needs which have or will have purchasing power behind them and will result in actual orders

From Need to Demand



Effective demand = Actual access on the ground

5 Critical Functions of Demand Forecasts

1. Essential products are available because supply matches demand
 - Manufacturers can plan & invest in capacity while taking advantage of production efficiencies
2. New products are developed because there is a realistic picture of future markets
 - Manufacturers have information about new market potential and so can efficiently allocate more R&D resources
3. Supply chain capacity is increased so products can get to people who need them
 - Developing country health systems can be expanded
4. Funders plan purchases & make the most of available money
 - Donors & national governments can efficiently allocate resources
5. The public health community sees bottlenecks & understands opportunities to expand use
 - Highlights key constraints; guides related policy & advocacy efforts

Panel Overview

- Prashant Yadav, MIT-Zaragoza International Logistics Program
 - **The risky business of global health**
- Neelam Sekhri, The Healthcare Redesign Group
 - **Sharing information, sharing risks**
- Mark Rilling, US Agency for International Development
 - **The donor perspective on taking forecasting seriously**
- Jeff Sturchio, Merck
 - **The industry stake in better demand forecasts**
- Ruth Levine, Center for Global Development
 - **Long-term agenda and conclusions**



Risks, Incentives and Forecasting in the Value Chain for ACT Treatments

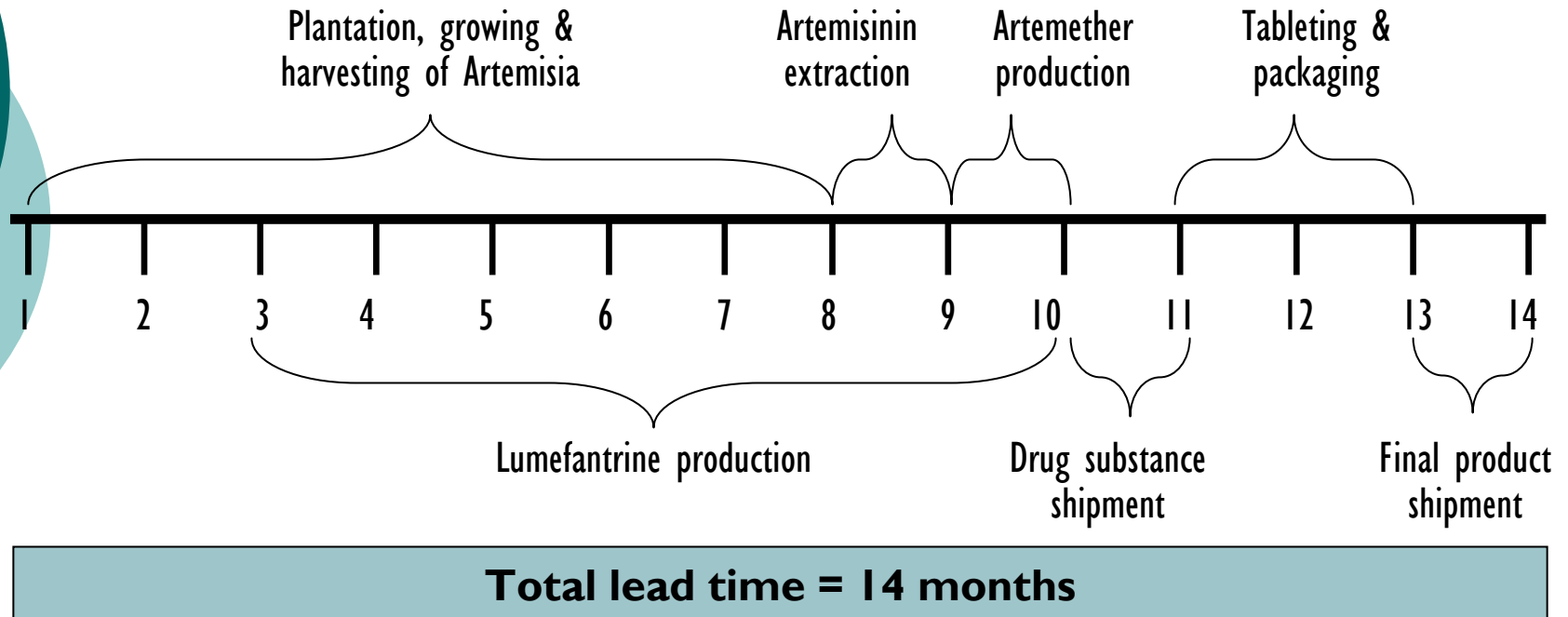
Prashant Yadav

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ACT Production Process (Based on Coartem®)



- The production lead-time for ACTs is long and capacity planning has to be done based on long-term demand forecasts.
- Donor funded initiatives are underway to reduce the production lead-time by manufacturing synthetic forms of artemisinin.
- The long clinical-trial and approval process for new drugs implies that in the short to medium term, the long lead-time is a hard constraint.

Tracking Coartem® Forecast Performance

<i>All figures in million treatments</i>	2005	2006	2007	2008
Forecasts provided in:				
Dec. 2004	55	106	109	
Dec. 2005		64	72	80
Sept. 2006		62 ^a	64	80
Actual sales	14 ^b	55 ^c		
Installed capacity ^d	33	120	120	

^a 61.5m = 44m treatments actual sales to Aug. 2006 + 17.5m forecasted for Q4 2006

^b 9m sold to Dec. 2005 + 5m early Jan. 2006 counted as 2005 sales

^c 44m sold to Aug. 2006 + 11m expected orders. Manufacturer will carry an additional stock of 5m, bringing total 2006 production to 59m

^d Installed capacity figures are for Novartis only

ACT Supply Chain Risk Map

	Supply-side facilitators	Suppliers	Quality regulators	Global technical agencies	Aggregate demand forecasters	Funding agencies	Procurement agents	Logistics providers	National buyers
Supply-side risks									
Batch yield risk	No risk	Low risk	No risk	No risk	No risk	No risk	No risk	No risk	No risk
<i>Excess inventory risk</i>									
Economic	No risk	High risk	No risk	No risk	No risk	Low risk	No risk	No risk	Moderate risk
Reputational	No risk	No risk	No risk	No risk	Low risk	No risk	No risk	No risk	No risk
<i>Long-term overcapacity risk</i>									
Economic	No risk	High risk	No risk	No risk	No risk	No risk	No risk	No risk	No risk
Reputational	Low risk	No risk	No risk	No risk	Low risk	No risk	No risk	No risk	No risk
<i>Shortage risk</i>									
Economic	No risk	Moderate risk	No risk	No risk	No risk	No risk	No risk	No risk	No risk
Reputational	No risk	High risk	No risk	Low risk	Moderate risk	Low risk	No risk	No risk	Moderate risk
Demand-side risks									
Price increase	No risk	No risk	No risk	No risk	No risk	Moderate risk	No risk	No risk	Moderate risk
Price decrease	No risk	Moderate risk	No risk	No risk	No risk	No risk	No risk	No risk	Low risk
<i>Budget and purchasing power risks</i>									
Grant approval and disbursement timing	No risk	High risk	No risk	No risk	No risk	Moderate risk	No risk	No risk	High risk
Sustainability of funding	Low risk	Moderate risk	No risk	No risk	No risk	High risk	No risk	No risk	High risk
Obsolescence risk	Low risk	Moderate risk	No risk	No risk	No risk	No risk	No risk	No risk	Moderate risk
Regulatory and quality risks									
Lack of approved drugs	No risk	No risk	Low risk	No risk	No risk	No risk	No risk	No risk	No risk
<i>Regulatory enforcement risks</i>									
Counterfeit product	No risk	Moderate risk	No risk	No risk	No risk	No risk	No risk	No risk	Moderate risk
Safety of approved drugs	No risk	High risk	High risk	No risk	No risk	Low risk	No risk	No risk	Moderate risk
Logistical risks									
Nontimely delivery	No risk	Moderate risk	No risk	No risk	No risk	No risk	Moderate risk	Moderate risk	Moderate risk
Losses in the distribution chain	No risk	No risk	No risk	No risk	No risk	Low risk	No risk	Moderate risk	Moderate risk

ACT Supply Chain Incentives Map

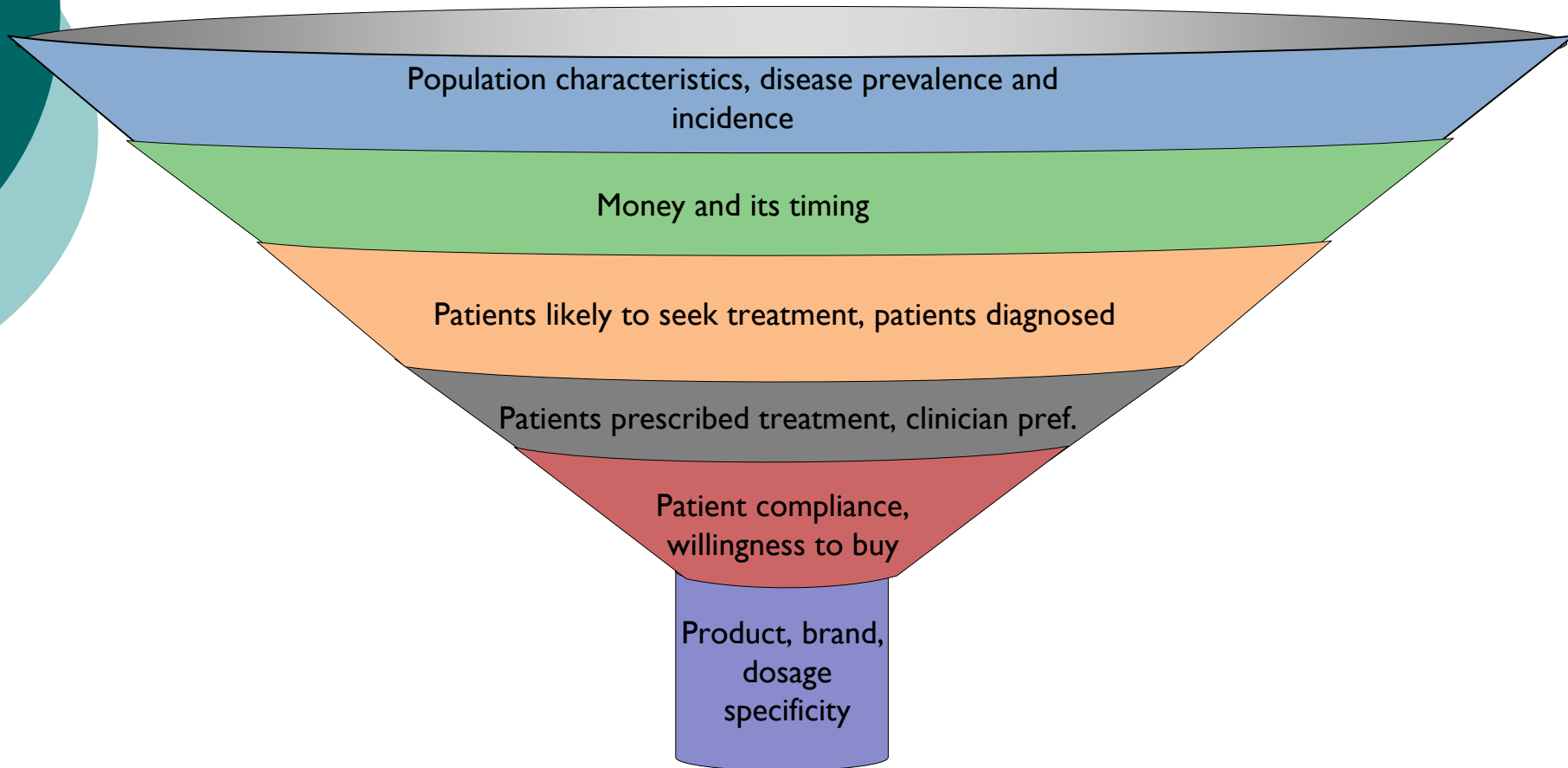
	Supply-side facilitators	Suppliers	Quality regulators	Global technical agencies	Aggregate demand forecasters	Funding agencies	Procurement agents	Logistics providers	National buyers
Supply side									
Develop innovative products	Incentive	Incentive	Indifferent	Indifferent	Indifferent	Indifferent	Indifferent	Indifferent	Indifferent
Increase size of the supply market	Incentive	Disincentive	Indifferent	Incentive	Indifferent	Incentive	Disincentive	Indifferent	Incentive
Decrease supply chain lead time	Incentive	Indifferent	Indifferent	Incentive	Indifferent	Indifferent	Incentive	Indifferent	Incentive
Overforecast in the short term	Indifferent	Disincentive	Indifferent	Indifferent	Incentive	Incentive	Incentive	Indifferent	Incentive
Underforecast in the short term	Indifferent	Indifferent	Indifferent	Indifferent	Disincentive	Disincentive	Disincentive	Indifferent	Disincentive
Overforecast in the long term (1-5 years)	Incentive	Disincentive	Indifferent	Incentive	Indifferent	Incentive	Indifferent	Indifferent	Incentive
Underforecast in the long term (1-5 years)	Disincentive	Disincentive	Indifferent	Disincentive	Indifferent	Disincentive	Indifferent	Indifferent	Disincentive
Sharing Information on demand, inventory...	Incentive	Disincentive	Indifferent	Indifferent	Incentive	Indifferent	Indifferent	Indifferent	Indifferent
Demand side									
Decrease wholesale price of artemisinin-based combination therapy drugs	Incentive	Disincentive	Indifferent	Incentive	Indifferent	Incentive	Indifferent	Indifferent	Incentive
Decrease retail or end-customer price of artemisinin-based combination therapy drugs	Incentive	Incentive	Indifferent	Incentive	Indifferent	Incentive	Indifferent	Indifferent	Indifferent
Expedite grant approval and disbursement	Indifferent	Incentive	Indifferent	Indifferent	Indifferent	Incentive	Indifferent	Indifferent	Incentive
Rapid adoption of artemisinin-based combination therapy drugs	Incentive	Incentive	Indifferent	Incentive	Indifferent	Incentive	Indifferent	Indifferent	Indifferent
Enhance the level and sustainability of funding	Incentive	Incentive	Indifferent	Incentive	Indifferent	Incentive	Indifferent	Indifferent	Incentive
Regulatory and quality									
Ensure regulatory compliance and safety	Incentive	Incentive	Incentive	Indifferent	Indifferent	Incentive	Indifferent	Indifferent	Incentive
Expedite regulatory approval of new drugs	Incentive	Incentive	Indifferent	Incentive	Indifferent	Incentive	Indifferent	Indifferent	Incentive
Logistical and miscellaneous									
Improve efficiencies in distribution chain	Indifferent	Indifferent	Indifferent	Incentive	Indifferent	Incentive	Indifferent	Incentive	Incentive
Ensure availability of complementary inputs	Indifferent	Disincentive	Indifferent	Incentive	Indifferent	Incentive	Indifferent	Indifferent	Incentive
Achieve long lasting success (eradication)	Incentive	Indifferent	Indifferent	Incentive	Indifferent	Incentive	Indifferent	Indifferent	Incentive
Have rigorous accountability in funds usage	Indifferent	Indifferent	Indifferent	Indifferent	Indifferent	Incentive	Indifferent	Indifferent	Incentive



Sharing Information, Sharing Risks

Neelam Sekhri, The Healthcare Redesign Group
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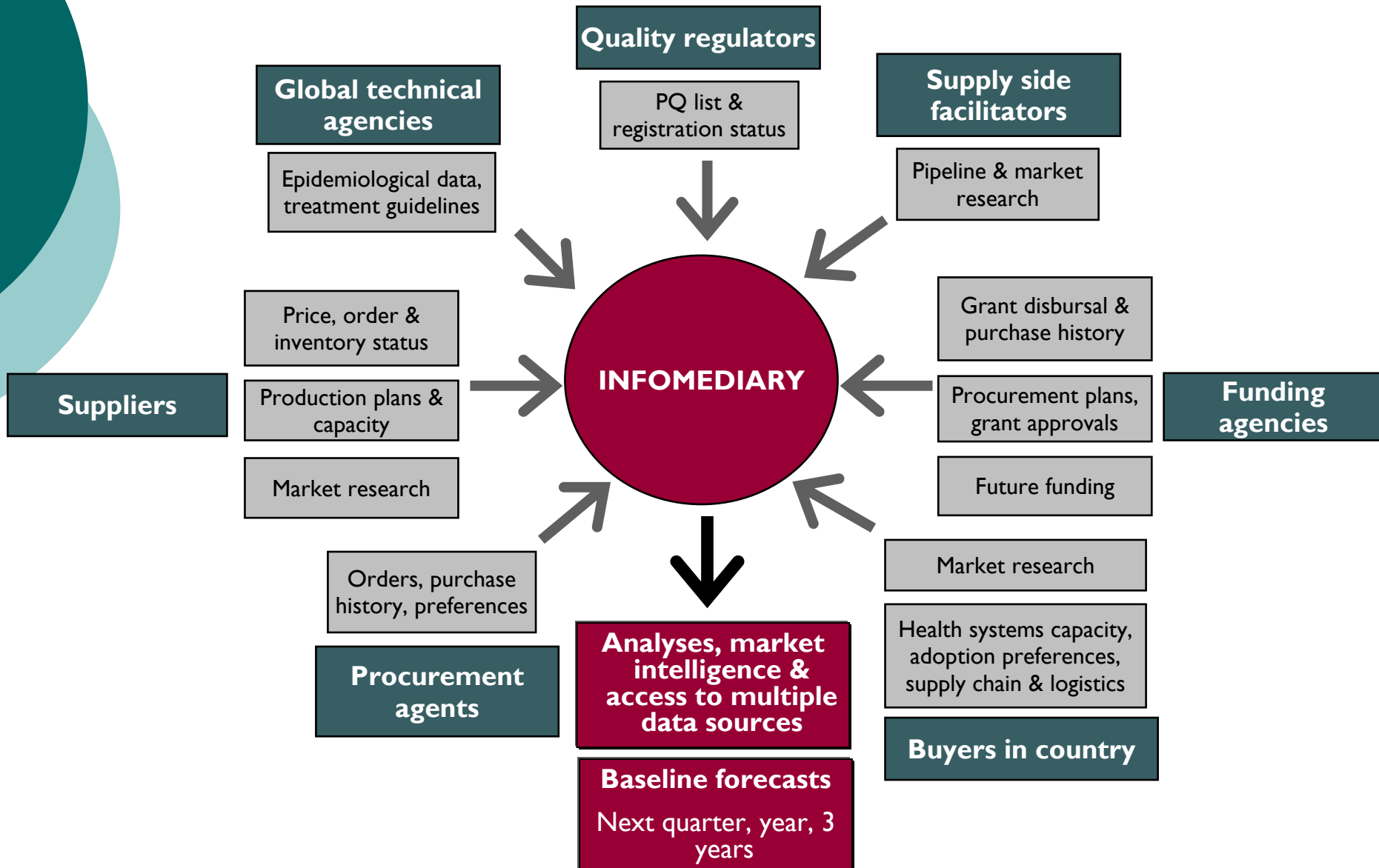
What Information Do We Need?



Effective demand = Actual access on the ground

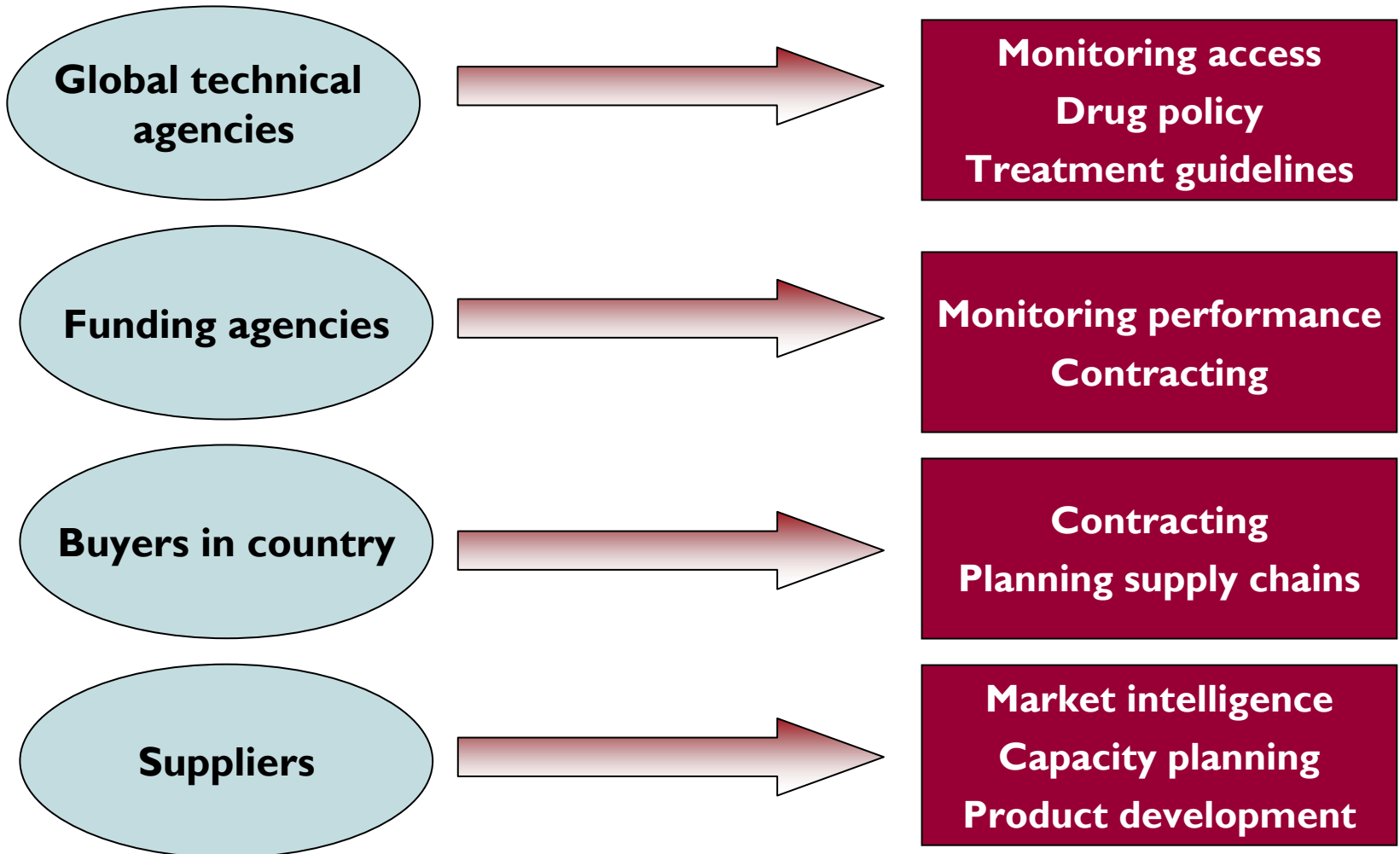
Who Has the Information?

Global Health Infomedairy

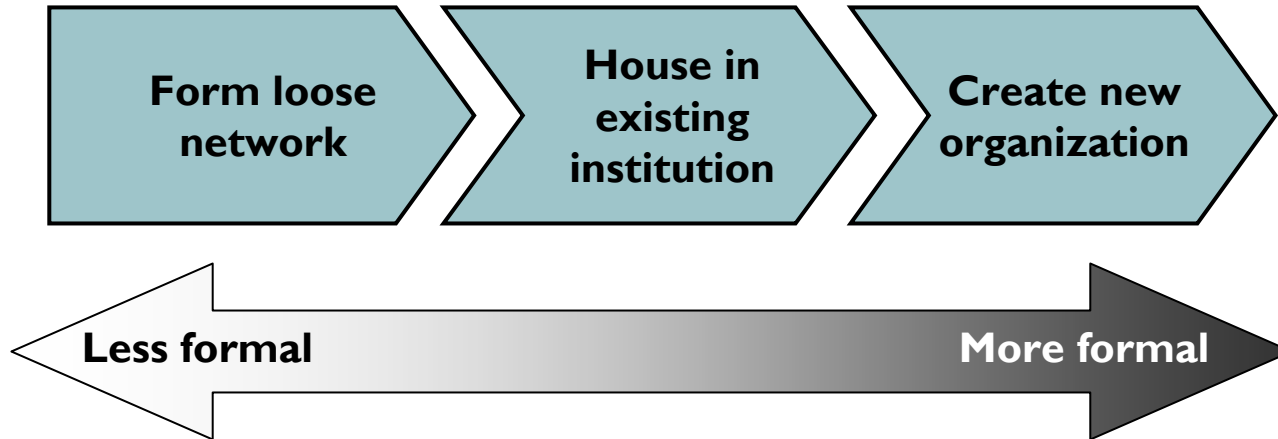


Why Should They Share It?

Getting the Incentives Aligned



Governance Options for Infomediary



Selection Criteria

- Technical and political independence
- Legal/financial “fit” with business model
- Technical expertise in supply chain & demand forecasting
- Efficiency and value for money
- Strong accountability mechanisms
- Implementation ability

Share Risks & Align Incentives Through Contracting

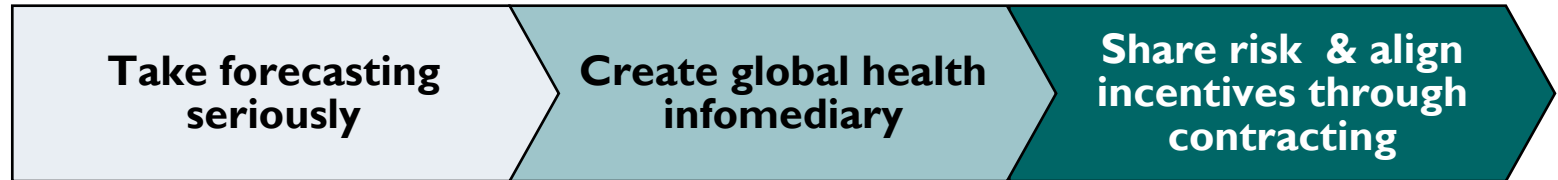
- Funders and buyers bear limited risk for poor forecasting
- Efficient risk sharing motivates all parties to perform better
- Contracts are important to share risks & align incentives
 - Minimum purchase commitments
 - Quantity flexibility contracts
 - Buyback contracts
 - Revenue sharing
 - Real options

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Recommendations Framework



Increases credibility and transparency of forecasting process through adoption of sound principles

Expands forecasting expertise for global health products

Consolidates disparate information sources
Enables more accurate forecasts

Establishes common baseline forecasts

Shares suppliers' risk

Motivates all players to take forecasting seriously and share information

Motivates funders to reduce risk

Building a foundation for long-term access

Building stronger supply chains & health systems

Linking research funding to market conditions

Improving the regulatory & post-regulatory regimes

Increasing aid predictability



A Risky Business - Saving money and improving global health through better demand forecasts

Center for Global Development

A Risky Business

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global health through
better demand forecasts

The report of the
Center for Global Development
Global Health Forecasting Working Group

Center for Global Development

www.cgdev.org/forecasting