



Supply Chains for Children



Global Operational Procurement Planning and Long-term Strategic Supply Security

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SAGE Meeting
April 13, 2016

Outline

- Global vaccine procurement through UNICEF
- Reducing demand side risks
- Reducing supply side risks
- Managing vaccines in global shortage

Procuring vaccines on behalf of around 100 countries annually, requires a strategic approach



2015 Vaccines Supplies: US\$ 1.7 billion

2.80
billion doses

2,491
shipments

Immunization Supplies

19 vaccines

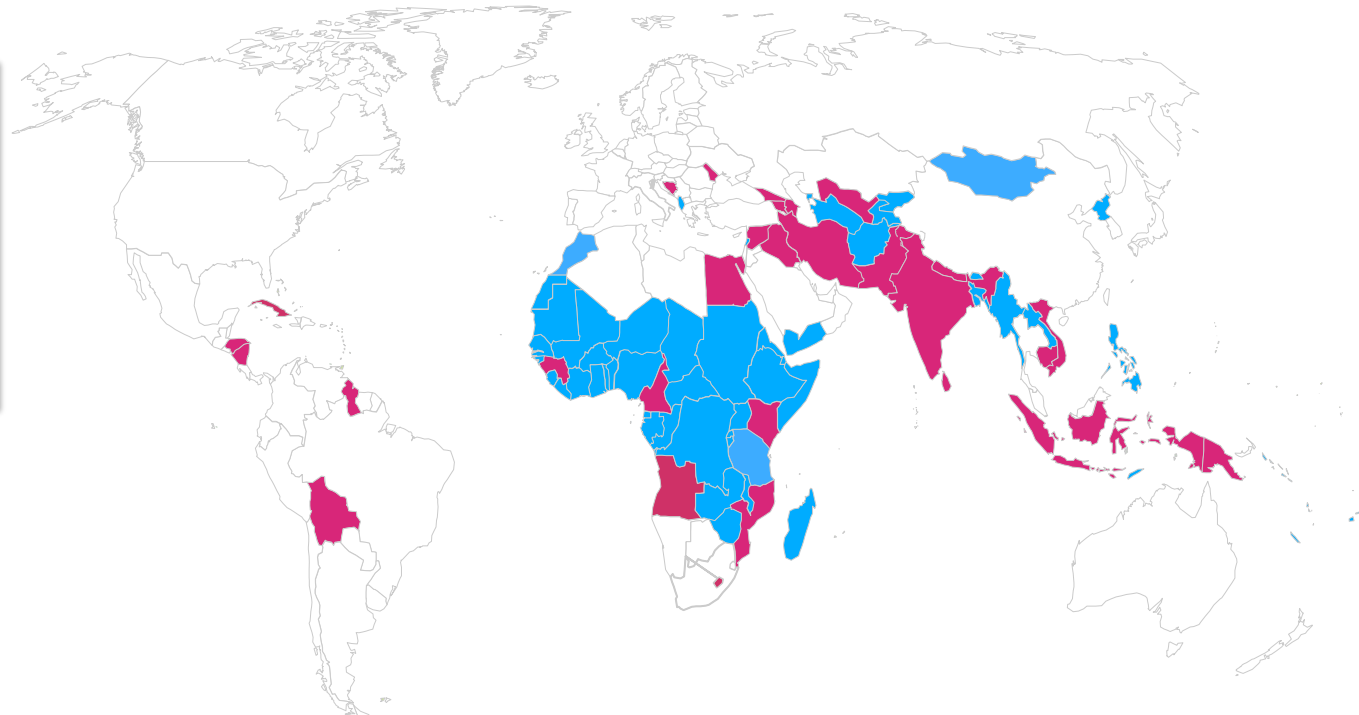
BCG, DTP, TT/Td/DT, Measles containing, OPV, HepB, YF, DTP-HepB, DTP-HepB/Hib, DTP/Hib, Hib, MR, Meningitis, MMR, PCV, RV IPV, HPV, etc.

Safe Injection equipment

Cold Chain Equipment

Countries UNICEF procures
on behalf of

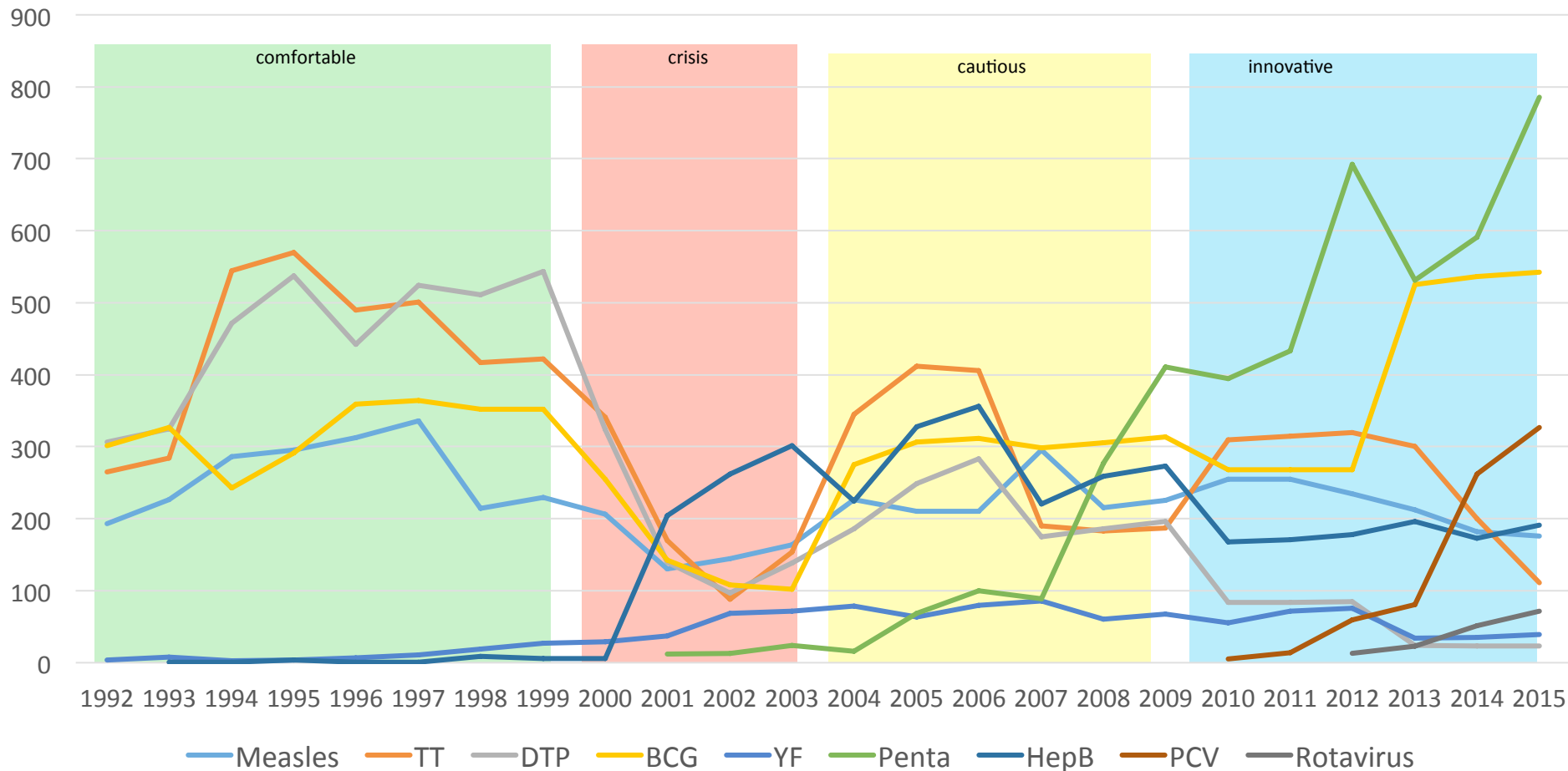
- Full schedule
- Partial schedule



Source: UNICEF Supply Division

Procurement strategies should reflect market situations and specific objectives

Vaccines Offered to UNICEF 1992-2015 (Millions)



- Crisis in supply market leading to development of a strategic procurement approach addressing specific conditions of each market

Reducing demand side risks

Vaccine Security: The sustained, uninterrupted supply of affordable vaccines of assured quality

Accurate Forecasting

- Multi-year forecasts from countries and programmes. Production planning forecasts and short/medium term forecasts to industry

Funding

- Understanding of funding profiles (country + aggregate); and longer term views of funding

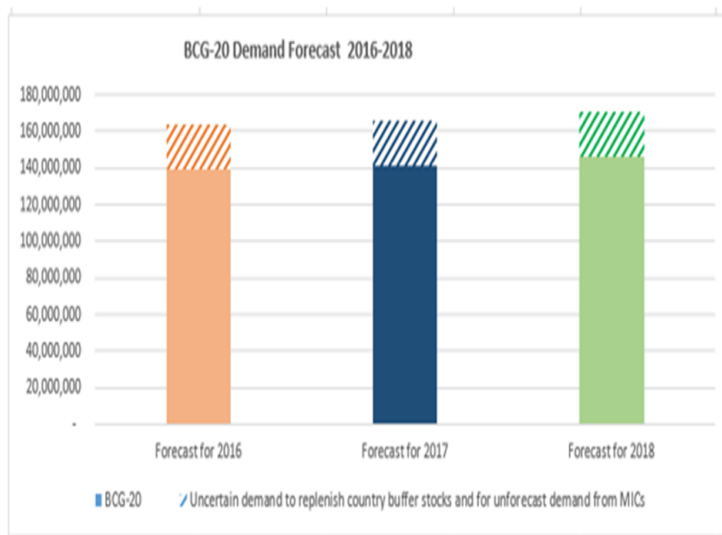
Appropriate Contracting

- Multi-year arrangements; Multiple sources; Firm contracting (& funding) as relevant

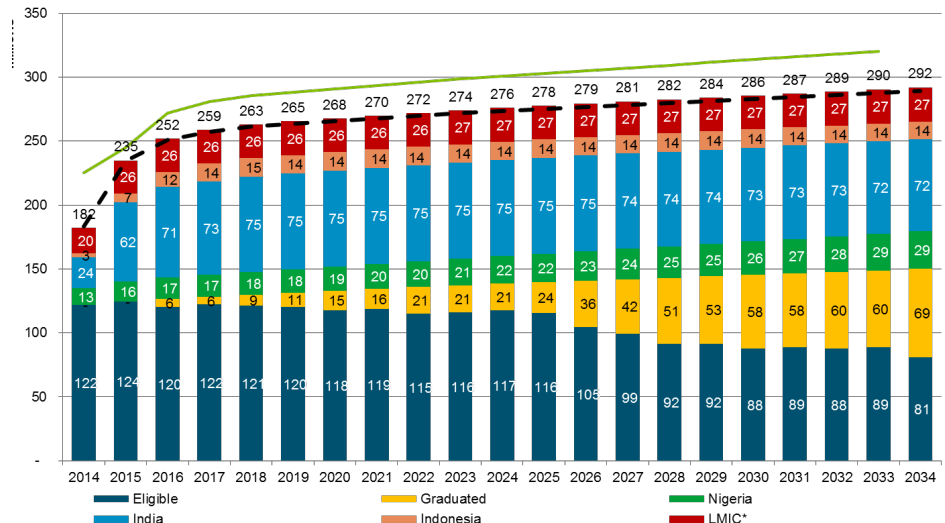
Mitigating demand side risks through improving forecasting visibility short-medium-long term

- Different types of forecasts for different purposes (strategic vs short/medium)
- Methodology varies, countries varies, horizon varies
- Self procuring MICs not included

UNICEF tender forecasts for up to 100 Countries, 19 vaccines, 3-5 years

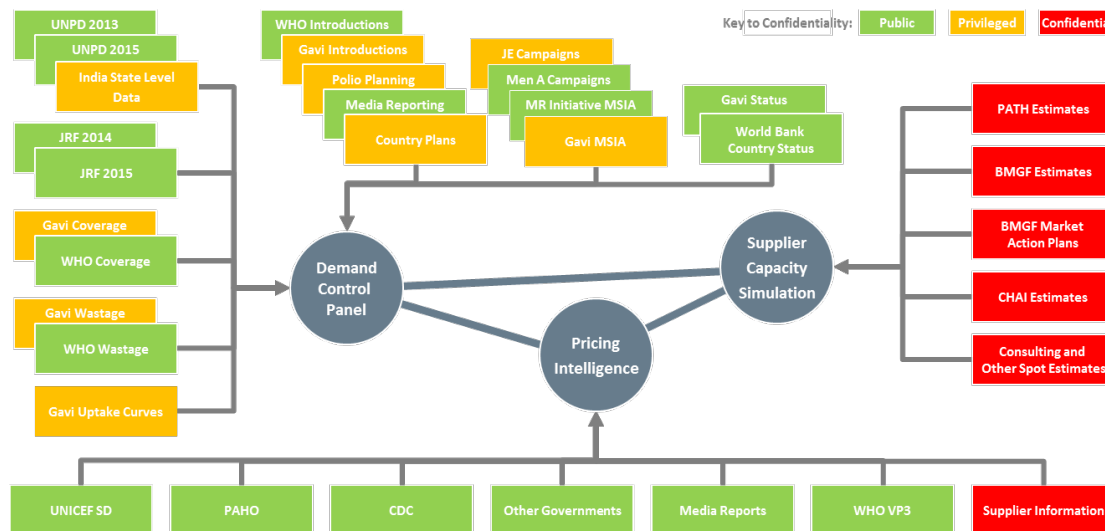


Gavi Strategic Demand forecasts for 94 countries, 11 vaccines, 20 years



The Global Vaccine Market Model is a new tool projecting demand for all EPI vaccines

- Best intelligence from major global health organizations on vaccine demand 2015-2035
- Supplier capacity information when publicly available (otherwise estimates)
- Pricing for all countries



GVMM - Demand

300K • By Emily Nickles

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Global Vaccine Market Model (GVMM) Data Architecture

GVMM Demand Forecast Data Architecture

Home » Global Vaccine Market Model » GVMM - Demand » Master View

GVMM Data Architecture

GVMM - Demand Forecast Overview

Master View

Demand by Gavi Status

All Vaccine

Country / State Name	WB Status	GAVI Eligibility	Vaccine	Routine / Campaign	Sum of # of Doses	2014	2015	2016	2017	2018	2019
Afghanistan	LIC	Eligible	BCG	Routine	1	#####	#####	#####	#####	#####	#####
			bOPV	Routine	5	0	0	#####	#####	#####	
				Campaign	1.999999	0	#####	#####	#####		
			Hep B	Routine	1	0	#####	#####	#####	#####	
			HPV	Routine	2	0	0	0	0	0	
			IPV	Routine	1	0	408,814	#####	#####	#####	
			Measles	Routine	2	#####	#####	#####	#####	790,234	
				Campaign	0.999999	0	#####	0	0	0	
			MR	Routine	2	0	0	0	0	#####	
				Campaign	0.999999	0	#####	#####	#####	#####	
Albania	UMIC	Non-Gavi	BCG	Routine	1	84,376	84,336	84,023	83,386	82,586	81,881
			bOPV	Routine	5	0	0	196,930	200,580	258,081	255,678
			Penta	Routine	3	#####	#####	#####	#####	#####	
			Rota	Routine	2	0	0	0	0	#####	
			IPV	Routine	5	#####	#####	#####	#####	#####	
				Campaign	1.999999	0	#####	#####	#####	#####	
			DT	Routine	2	121,488	117,085	112,745	109,590	107,785	106,854
			DTwP	Routine	1	51,418	52,168	53,713	55,176	53,940	54,384

Available to all through private company – Linksbridge - to be migrated to a web-based Demand platform this year to allow easier access to the general public

Mitigating demand side risks through predictable financing



Collaborate with Alliance partners

- Quality control
- New market entrants



Provide market insight

- Predictable donor funding and country co-financing
- Long-term forecasts of aggregated country demand
- Market landscape

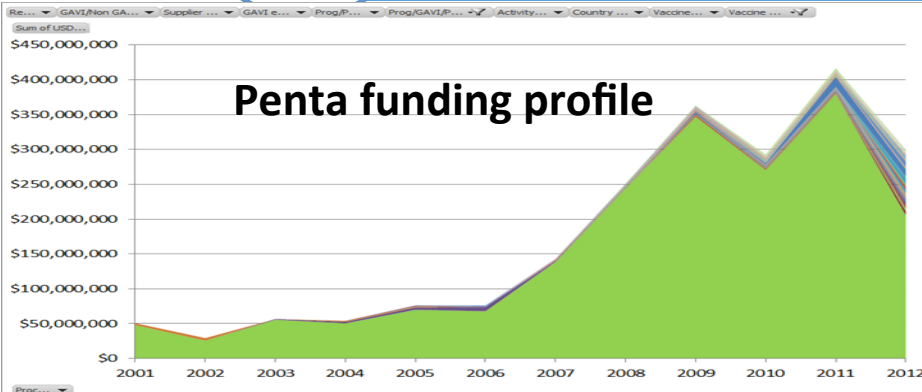


Gain best value and appropriate pricing

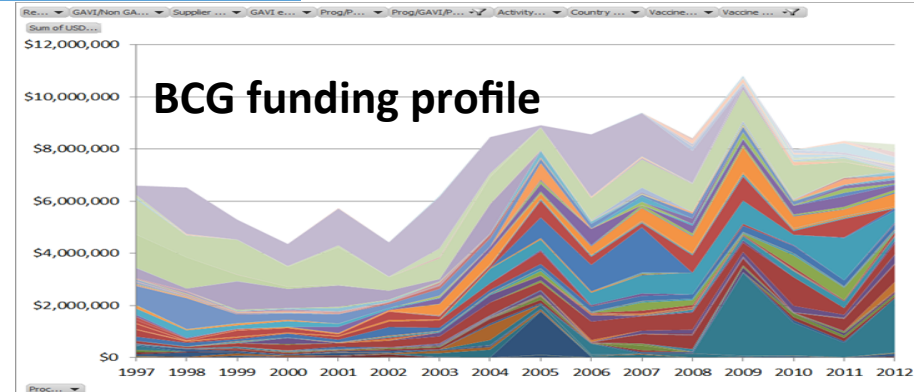
- Pooled demand and procurement
- Tiered pricing philosophy
- Innovative contracting



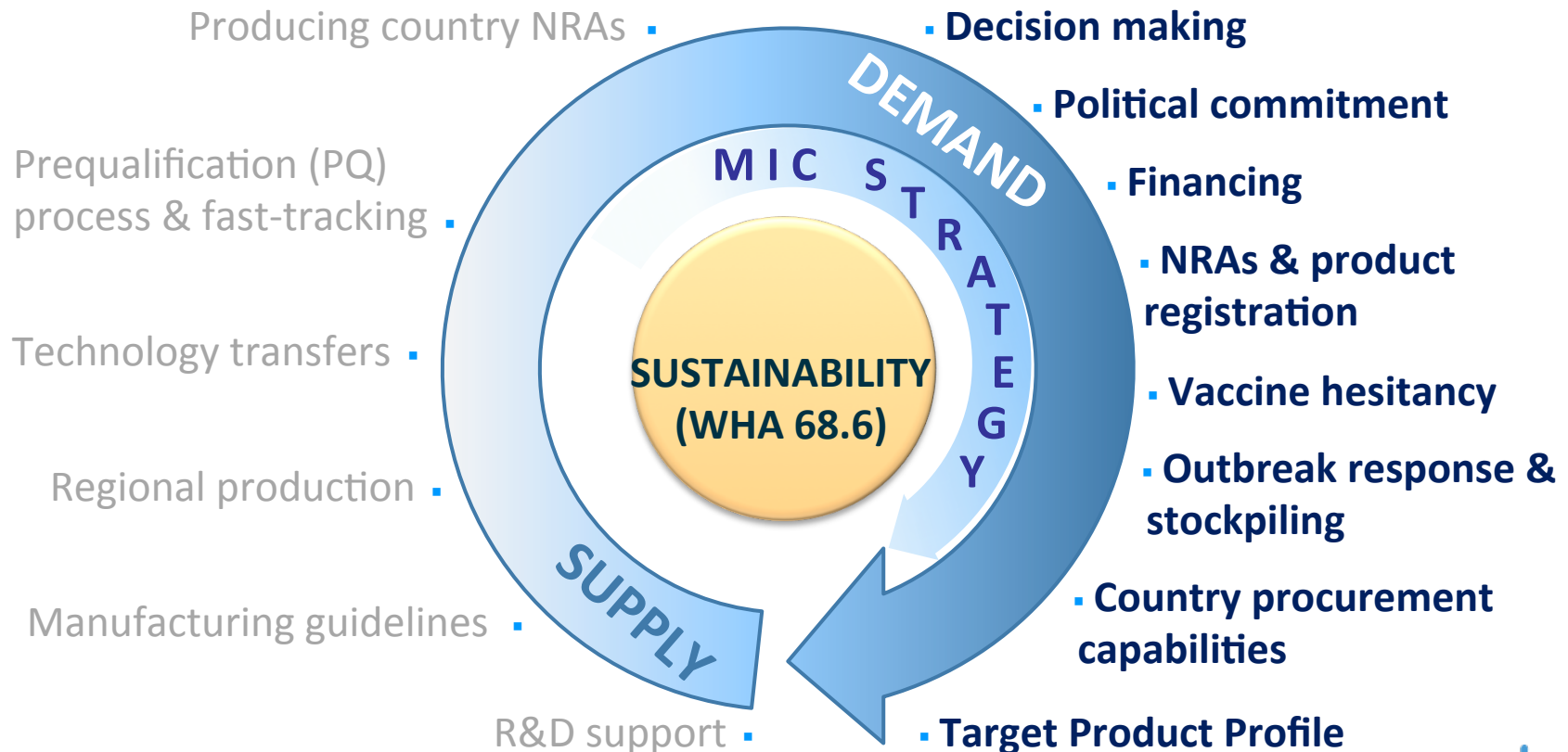
Penta funding profile



BCG funding profile



Mitigating demand side risks through supporting decision making processes and capacity



The Approach in the Americas: Ensuring Timely and Sufficient Vaccine Supply through pooled procurement

The PAHO Revolving Fund

- ✓ For **35 years**, has been one of the pillars of success on immunization in the Region
- ✓ Facilitates timely supply for **41** countries/territories:

“80% birth cohort in Latin America & Caribbean”

- ✓ Sharing lessons learned with other WHO Regions

www.paho.org/revolvingfund

The Approach

- **Building capacity** of countries on demand planning and financial sustainability
- **Inform** countries on global vaccine market dynamics
- **Pooled procurement** approach
- **Supply allocation** on behalf of countries/territories following regional technical guidance
- **Coordinate** loans of vaccines between countries where needed



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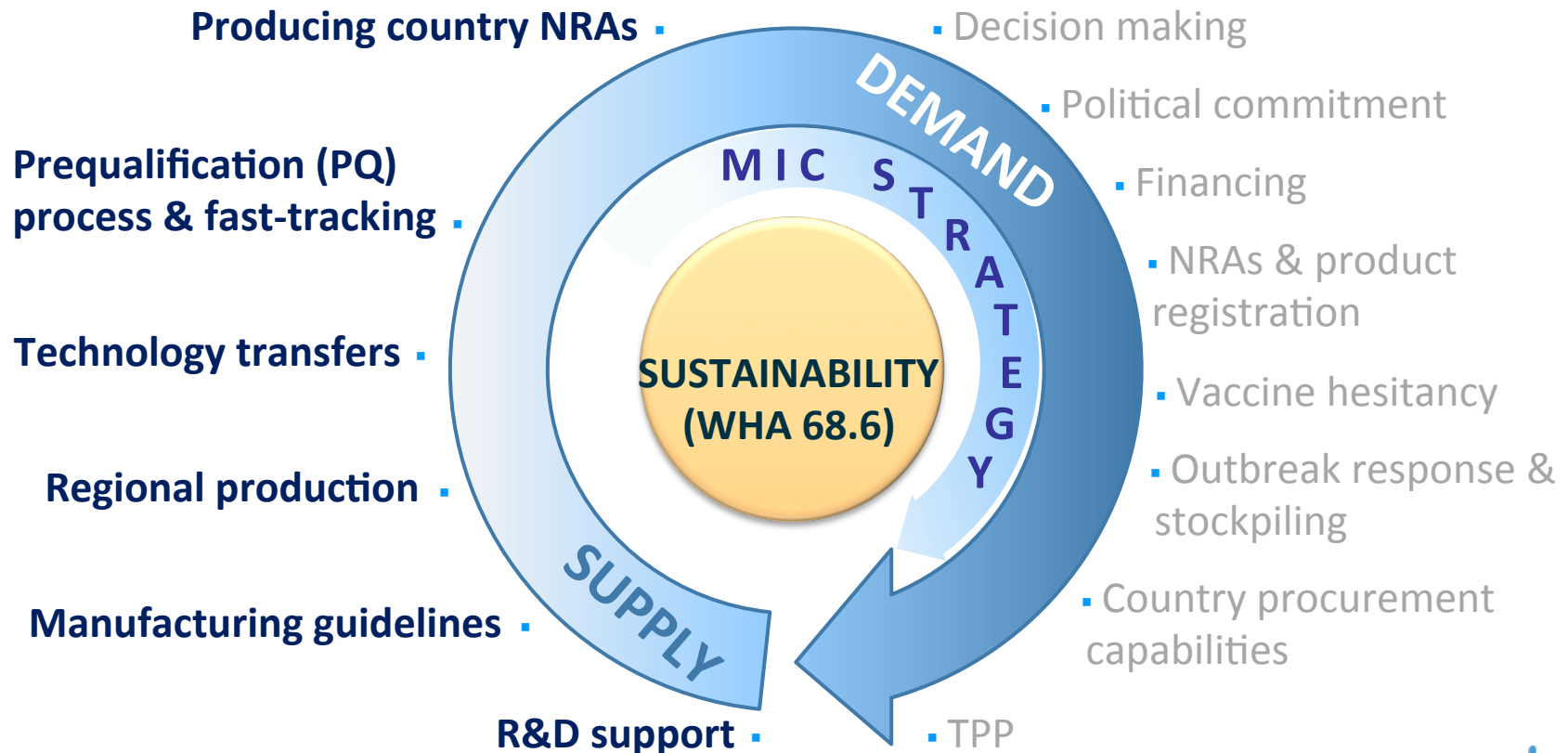
Reducing supply side risks

Mitigating supply side risks through UNICEF's strategic procurement, short-medium term

Vaccine Group	Number of Manufacturers awarded by UNICEF					
	2001-2003	2004-2006	2007-2009	2010-2012	2013-2015	Total pq'ed vaccines
BCG	5	4	4	4	4	4 (+1)
DTP	5	4	3	3	1	4
Measles	5	5	3	3	3	3
TT	7	4	3	3	5	6
OPV	4	5	6	6	6	6
DTP+Hib	0	0	1	1	0	3
DTP-HepB+Hib	1	1	4	4	7	11
DTP-HepB	1	1	3	3	0	2
HepB	4	5	6	6	3	9
YF	3	3	3	4	4	4
MMR	3	3	2	2	3	4
MR	1	1	2	2	1	1
DT/Td	3	2	2/2	2/2	2	9
PCV	0	0	0	2	2	2
Rota	0	0	0	0	2	2
Men A	1	1	1	1	1	1
IPV	0	0	0	1	2	4

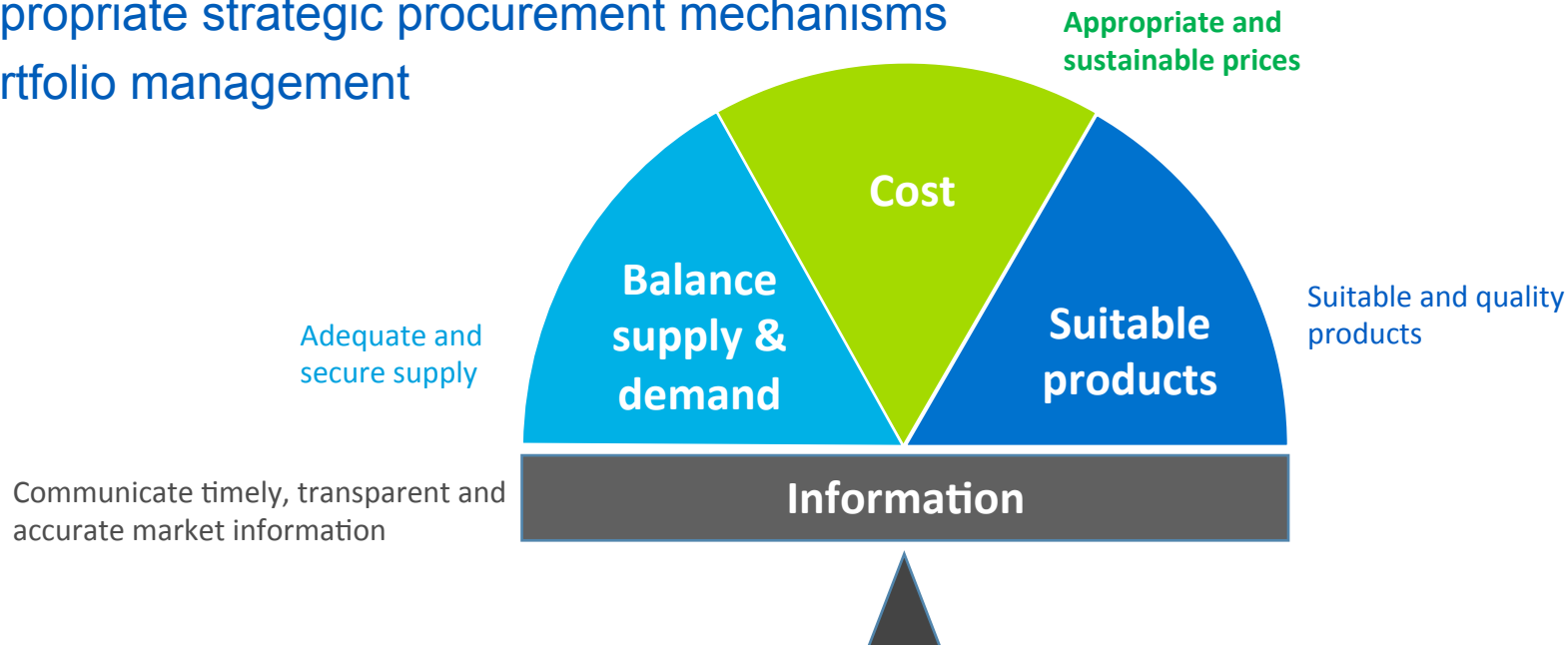
- Contract with multiple manufacturers to reduce risk
- Award based on past delivery performance
- Retain right number of suppliers
- Vaccine Security Risk Premium – accepting a price range to secure supplies
- Phase in new manufacturers gradually

Mitigating supply side risks through WHO activities, short-medium-long term



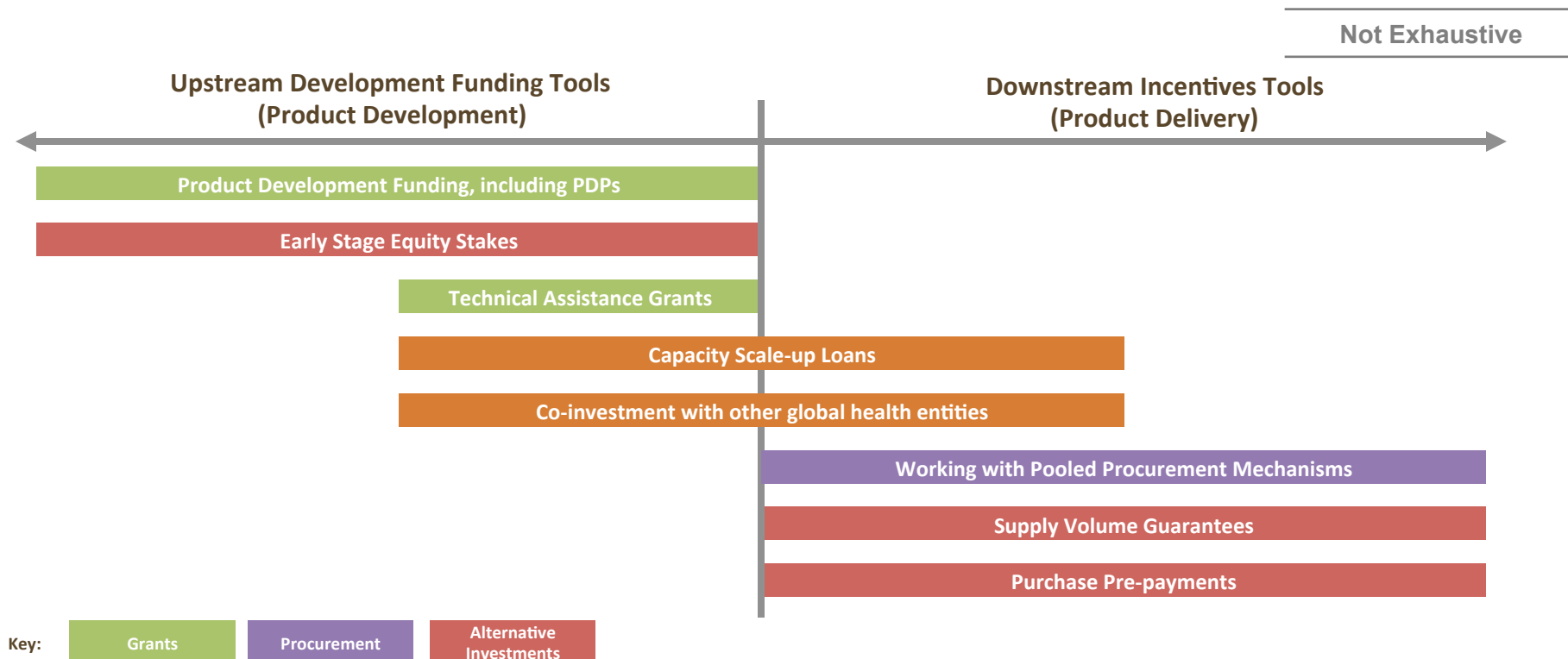
Mitigating supply side risks through Gavi activities, short-medium-long term

- **Gavi aims to ensure sufficient supply of suitable, quality vaccines at appropriate and sustainable prices**
- **Supply Strategy**
 - Market insights: Market intelligence and analysis, Strategic demand forecasts
 - Roadmaps: Coordination, Pull mechanisms, Innovation, Sustainability
- **Procurement Strategy**
 - Appropriate strategic procurement mechanisms
 - Portfolio management



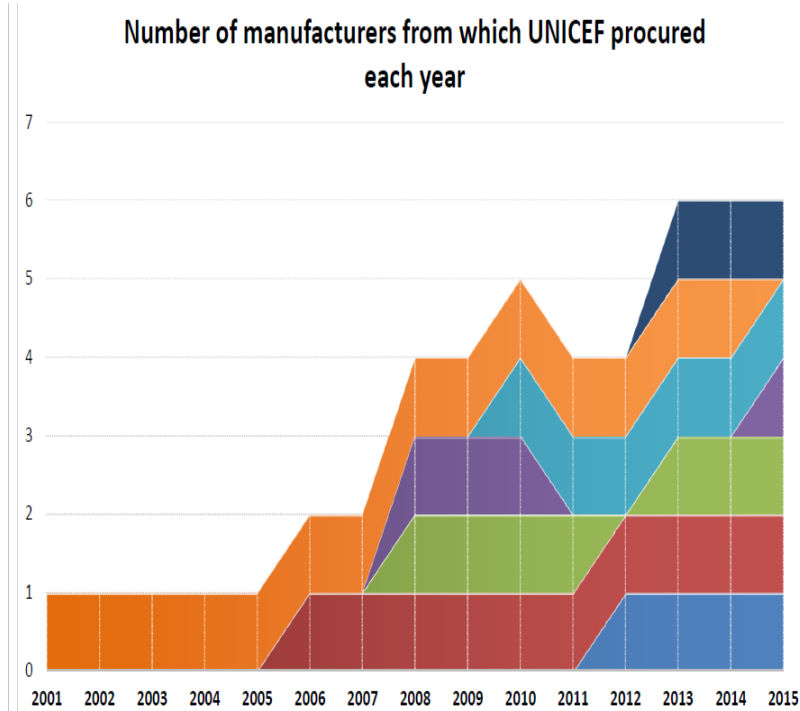
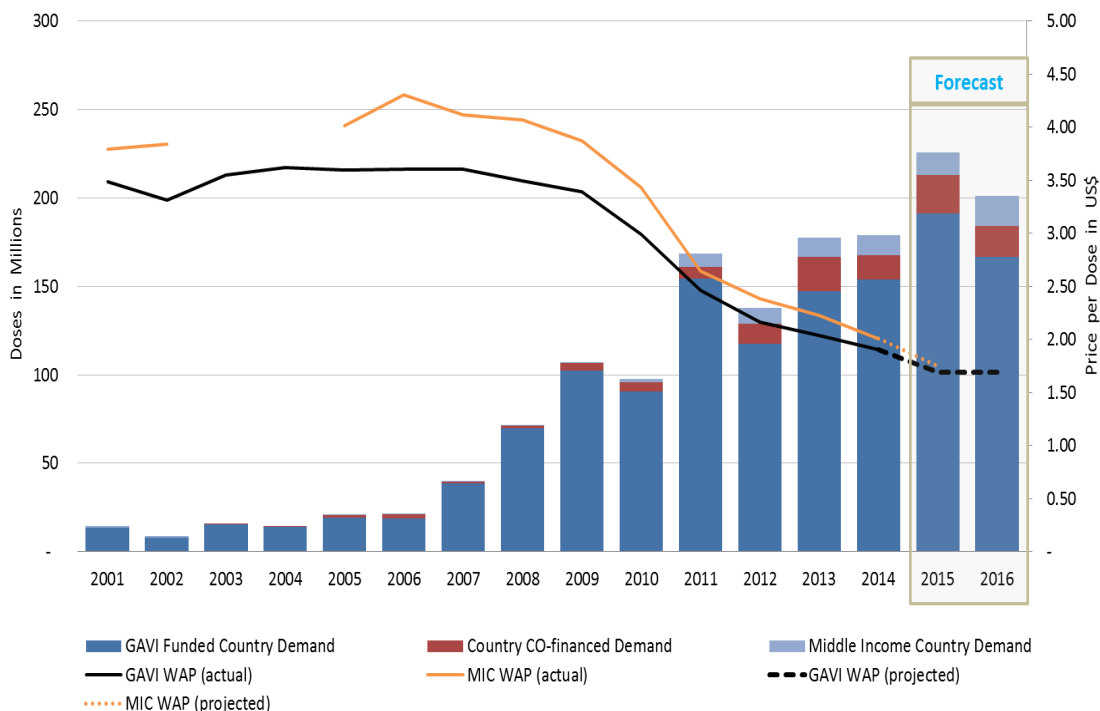
Mitigating supply side risks through long-term strategic investments

BMGF tools span upstream and incentives opportunities and include grants, contracts and program-related investments



Stimulating the creation of a healthy market – the success story of pentavalent vaccine

- Increasing number of suppliers with WHO prequalified vaccines
 - Increasing number of presentations (e.g. 1, 2, 5, 10 dose vials)
- ⇒ Now excess production capacity as compared to aggregate demand
- ⇒ Global aggregate production capacity at 400 to 450 million doses a year (UNICEF est.)
- Downward trend in pricing and closing of (tiered) price differentials



Managing vaccines in global shortage

Recent supply-constrained markets

Supply constraints or global shortages with a number of products

- Traditional vaccines: BCG, Yellow Fever
- Supply to support program introductions: IPV, PCV, Rota, aP/IPV combos
- Country product preference: MMR, DTaP
- Emergency/Outbreak response: Meningococcal C and W containing vaccines

Mitigation options including timelines vary by product, depending on:

- Health of existing market, options for alternative supply
- Causes for the supply shortage
- Tools available for mitigating

Lessons learned from managing vaccines in constrained supply

- **Early and transparent communication** from manufacturers on any potential supply constraints and causes critical to ensure mitigations can be implemented on time (by countries or global partners)
- Programmes providing **criteria for allocation** of vaccines in short supply
 - IPV for SIAs in endemic countries and countries at high risk of reintroduction of type 2 polio post switch
 - BCG based on highest risk for tuberculosis
 - Yellow Fever for i) outbreak response; ii) routine; iii) preventive campaigns
- Working closely with countries for **‘just-in-time’ deliveries** and partial shipments ensuring buffers at global level instead of with countries based on allocation tools
- Reaching out to **current and potential suppliers**, including local manufacturers to assess capacity and facilitate access for self procuring countries
- **Fast tracking:** WHO prequalification of vaccines; technical applications for IPV - assessment of multi-dose vial policy – fractional dose intradermal

Conclusions

- At global level, several partners actively supporting in the three areas – supply, demand and information
- Shortages likely to continue to happen - no global mechanism to capture information or provide guidance across all countries/products
- Options to prevent shortages in future:
 - Countries to provide better forecasts, including timing of new vaccine introductions
 - Program planning for considerable changes and new introductions which takes into consideration the length of time it takes to produce sufficient supply
 - Industry to be more realistic regarding quantities and timing of availability of vaccine
 - Mapping of local producers of vaccines to expand the list of alternative supply options in case of a supply constraint?
- Long term strategies important to ensure Vaccine Security through healthy markets

Information available at the global level



- **Vaccine price data:** product & price information on 19 vaccines purchased by UNICEF SD
- **Product profiles and market notes:** provide market & supply updates, product specifications, availability and guidance
- **Markets dashboard & product notes:** high-level analysis of key supply markets
- Other publications



- **The Right Shot report 2015:** product cards with product and price information on 11 vaccines



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- **PQ website:** list of all products prequalified by WHO
- **V3P platform:** product & price information
- **Vaccine pipeline tracker:** new tracker with information on vaccines in pipeline (currently with limited information)
- Other publications



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- **PAHO RF price list:** provides price list of all vaccines purchased through the Revolving Fund

Thanks to:

- Stephanie Mariat and Tania Cernuschi, WHO
- Tina Lorenson, Bill and Melinda Gates Foundation
- Lauren Franzel, Gavi, the Vaccine Alliance
- Monica Pereira and Daniel Rodriguez, PAHO RF
- Heather Deehan, UNICEF Supply Division

Global actors (non exhaustive)



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Thank you

