

UNICEF

VACCINE PROCUREMENT AND DISTRIBUTION

Jean-Pierre Amorij, PhD/PharmD
Vaccine Technical Specialist

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Manufacturing and Distribution
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unicef  for every child



UNICEF mission and vision

A world where the rights of every child are realized



Every child
survives and
thrives

1



Every child
learns

2



Every child is
protected from
violence and
exploitation

3



Every child lives
in a safe and
clean
environment

4



Every child has
an equitable
chance in life

5

The UNICEF Supply Function helps realize child rights through ensuring access, availability and affordability of supplies and services

Vaccine products

High product sensitivity

- Biological products **requiring constant temperature control** (cold chain from manufacturer to child)
- Significant risks of **production failures**
- **Quality** is the overriding criterion
- Limited **shelf life**



Long lead-times for vaccine production

- Production of a dose: **6 -24 months**
- Capacity increase: **2-3 years**
- New plant: **5-7 years**
- New regulatory requirements can cause interruptions

A highly regulated environment

- **Highly regulated** production environment
- Dependency on **well-functioning NRA**

Limited supply

- One to five suppliers per product
- **High entry costs** to manufacturers

→ **Need: Specific approach for vaccine procurement & delivery**



Achieving vaccine security to immunize every child

VACCINE SECURITY

The sustained, uninterrupted supply of affordable vaccines of assured quality through available funding, accurate forecasting & appropriate contracting.

UNICEF implements a Vaccine Security approach:

- To achieve **value for money** & **access to vaccines** for children in need
 - To secure **healthy markets**
 - To ensure **quality** of vaccines

AVAILABLE
FUNDING



ACCURATE
FORECASTING



APPROPRIATE
CONTRACTING



UNICEF vaccine procurement principles

A **healthy industry** is vital to ensure uninterrupted and sustainable supply of vaccines.

Procurement from multiple suppliers for each vaccine presentation.

Procurement from manufacturers in developing countries and industrialized countries.



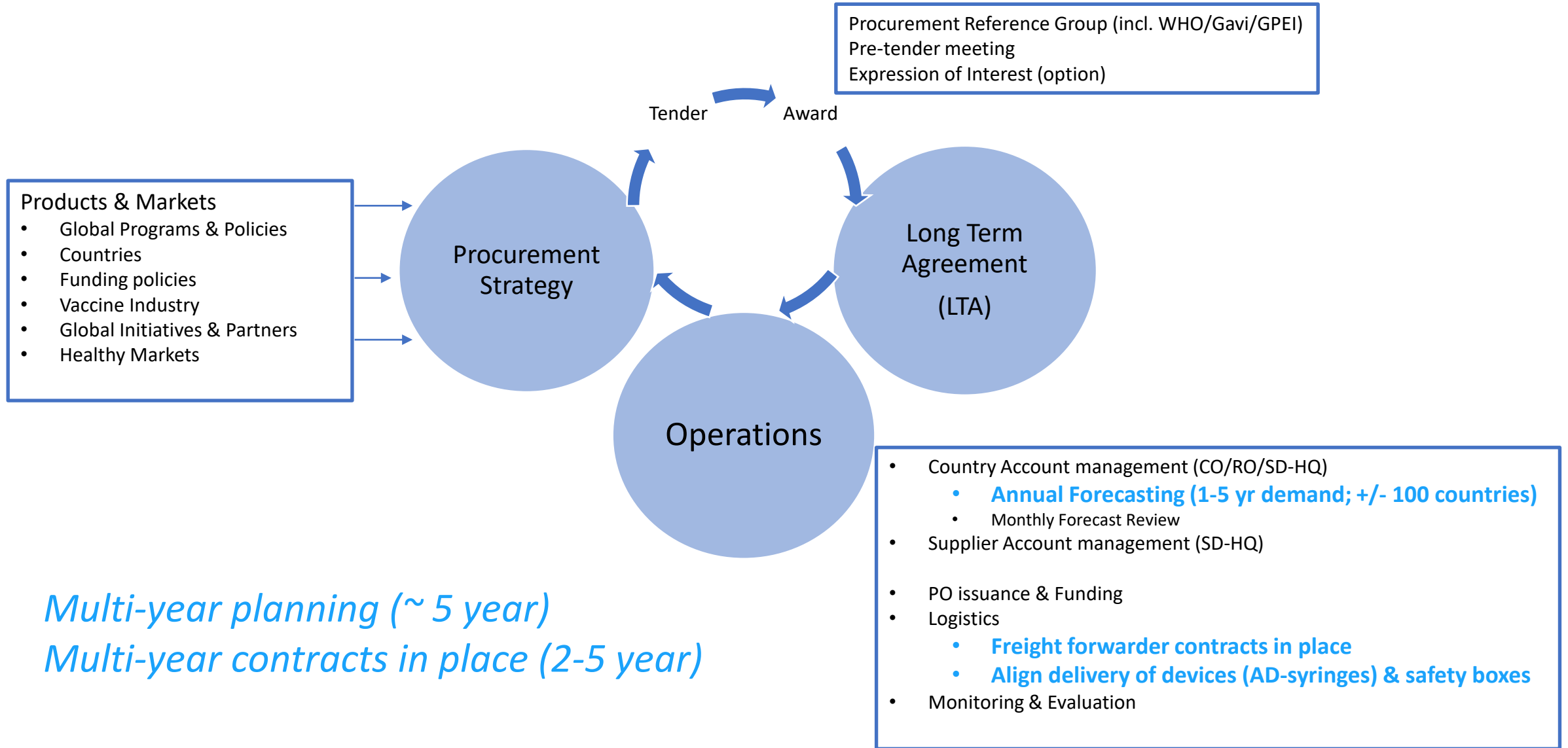
Paying a price that is **affordable** to Governments and Donors and a price that reasonably covers manufacturers minimum requirements.

UNICEF should provide manufacturers with **accurate and long-term forecasts**; Manufacturers should provide UNICEF with accurate and long-term production plans.

As a public buyer, providing grants to manufacturers is not the most effective method of obtaining capacity increases.

The option to quote **tiered pricing** should be given to manufacturers.

Vaccine Contracting – From Procurement Strategy to Operations



UNICEF Vaccine Procurement in 2020



45%

of children under five reached, in over 100 countries
(through only 5% of the global market share)

25

vaccines with different product presentations

1.9

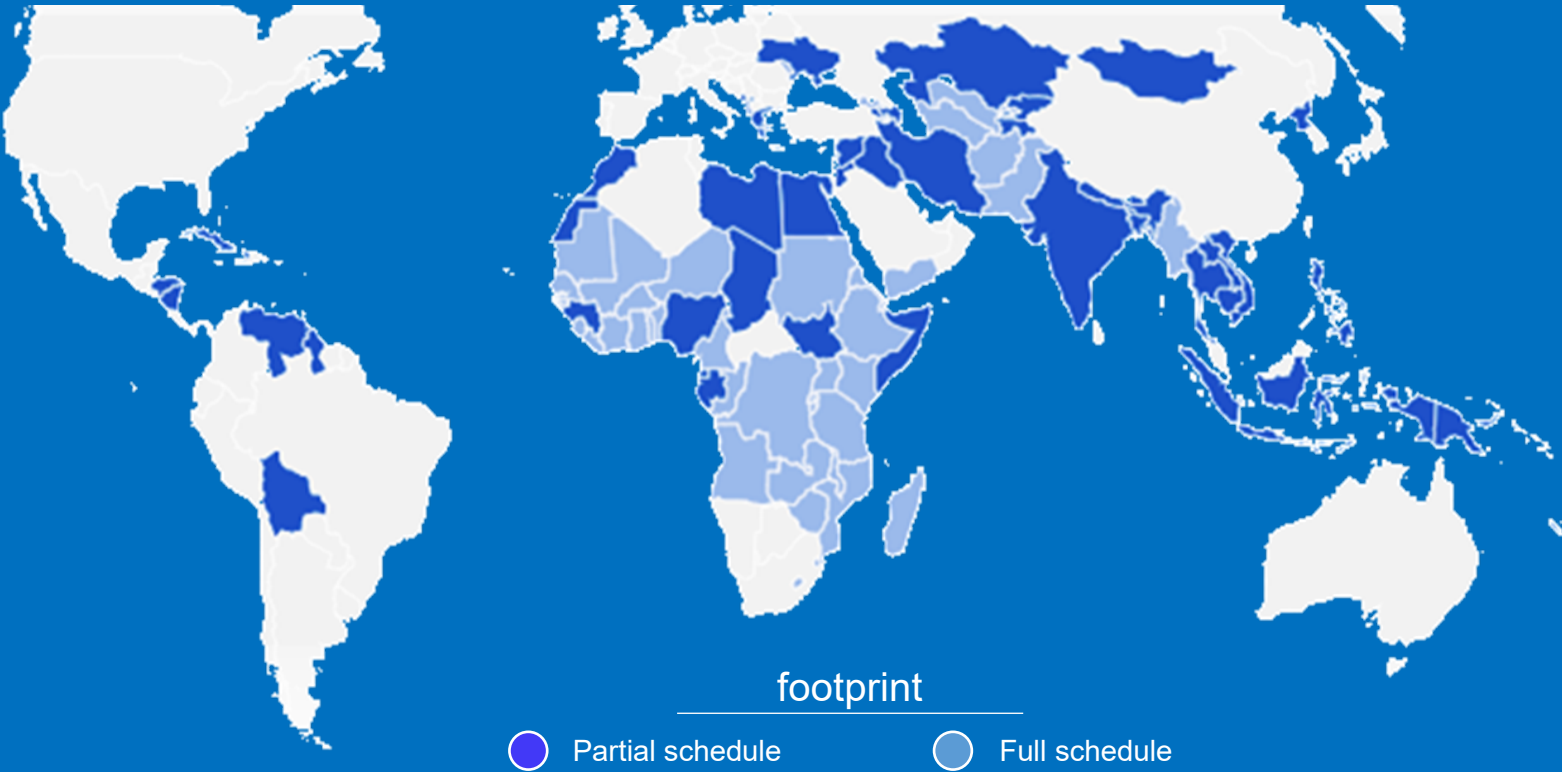
billion

doses procured in 2020

1.41

billion USD

throughput in 2020



Source: UNICEF Supply Division

This map does not reflect a position by UNICEF on the legal status of any country or territory or the delimitation of any frontiers.



Diversified Portfolio of Vaccine Manufacturers

>50%

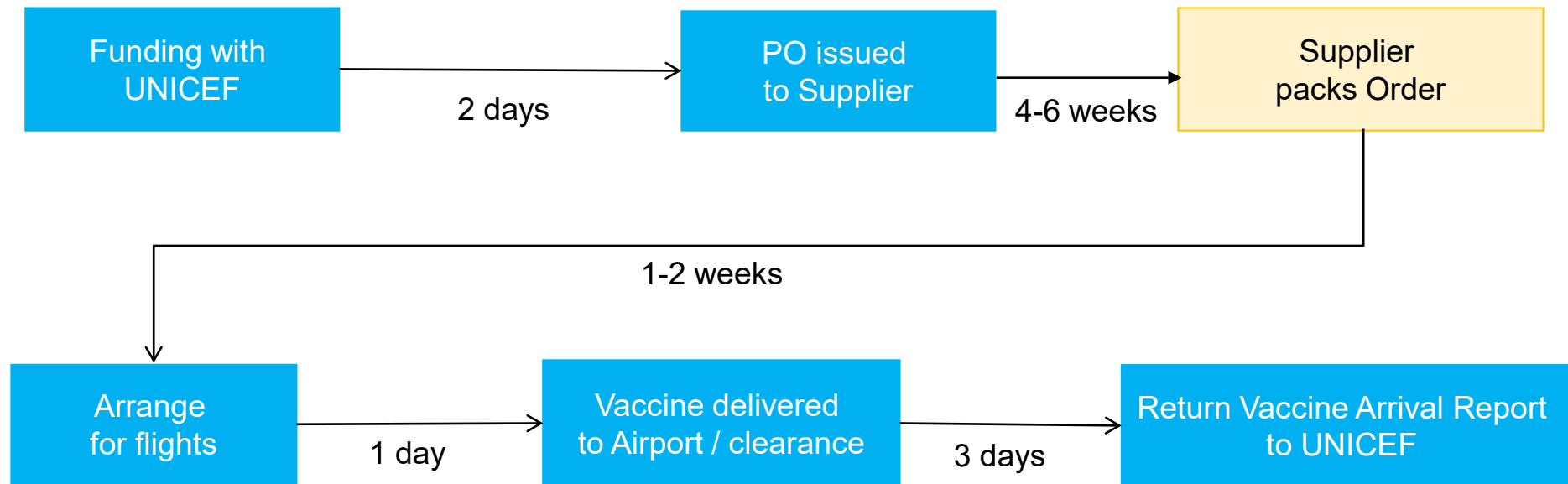
Of vaccines are procured
from developing countries



Vaccine Delivery – Forecasted Immunization

- Vaccines are shipped by **air** (commercial flight dependency)
- From vaccine **suppliers' nearest airport**
- **Planning (country [forecast & readiness], supplier, freight forwarder, UNICEF)**

Plan routine immunization for at least **6-9 weeks** from PO receipt to delivery



Planned and forecasted campaigns (SIA) may require **5 – 9 months** to delivery

UNICEF Vaccine Shipping and Logistics – 2020

2394

Shipments

2104

POs

41

Charter
Flights

6,541

Tonnes

25

Suppliers

102

Destination
Countries

48.4m

(USD)
Freight \$

UNICEF Global Freight Forwarding Contracts

– Long Term Agreements with global freight forwarders:

- Aid and relief experts
- Experienced in vaccine outbreak and emergency - 24/7/365 operations
- Large scale & large volume management – routine, campaign, emergency, optimisation of shipment plans and vaccine dispatch process
- International knowledge of UNICEF suppliers (SOPs – standard operation procedures), field constraints, country specific demands, tax exemption, packaging and documents preferences.

UNICEF SD Logistics expertise:

- Charter planning experience: aircraft constraints, airport capabilities, country preferences
- Green light and shipment planning, local knowledge, relationship and trust with recipient countries
- VAR – Vaccine Arrival Reports are sent by recipient with 3 days of arrival (Quality)

UNICEF Vaccines – Special destination requirements

Most destinations allow shipping with commercial flights, some examples of special destinations:

- **Syria** - via Beirut by air, to Damascus by truck via Masna'a border crossing
- **North Syria** – vaccines shipped via Adana, Turkey and cross-border transport arranged locally by UNICEF MENA under local forwarding contracts
- **Yemen** – charter only via Nairobi for consolidation of vaccines. Charter coordination with Riyadh, Amman, Djibouti, Nairobi, Sana'a & Aden authorities (see next slide)
- **Somalia** – via Nairobi. Local handling agent receive, clear, inspect and on-forward to Somalia
- **Nigeria** – via Abuja, commercial flights. For larger deliveries (e.g. emergency campaigns / ICG), there may be capacity constraints because lack of regular cargo aircraft, requiring booking of charters

Supplying vaccines to Yemen 2015 - present

Logistics context

- No commercial flights since early 2015 due to crisis - chartered cargo flights only
- Ongoing military operation - [Yemen airspace & maritime space controlled by KSA Defence](#)
- UNICEF logistics platform established Djibouti 2015 however not suitable for vaccines
- Yemen vaccine supply from multiple origins: India, Europe, Indonesia, Korea
- [Vaccines consolidated for charter operation via Nairobi](#) since Nov 2017

Shipping Process

- Charter planning driven by the country office based on the needs: available aircraft, weight, volume, payload, refueling, time analysis
- Required PO listing is sent to UNICEF SD/VC Logistics
- The UNICEF Country Office processes all the import and landing permits.
- Vaccines are shipped commercially from various suppliers a week prior to the confirmed date for the charter out of Nairobi to Yemen
- Vaccines are consolidated in Nairobi pending the approval of the landing permit that is issued by Saudis, EHOC 24 hours before the charter flight is performed
- [Limited Air space window \(time constraint\)](#)
- WHO [temperature monitoring devices](#) max. 20 day recording period (recording starts at origin-supplier) – delays in approvals can create high risk to product



COVAX DELIVERIES

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COVAX Delivery Overview

1.3B doses ordered and 1.1B doses shipped to 144 Participants



657M

APA, Facilitated, Cost Sharing and Humanitarian Buffer - Procured Doses Delivered to 144 Participants

456M

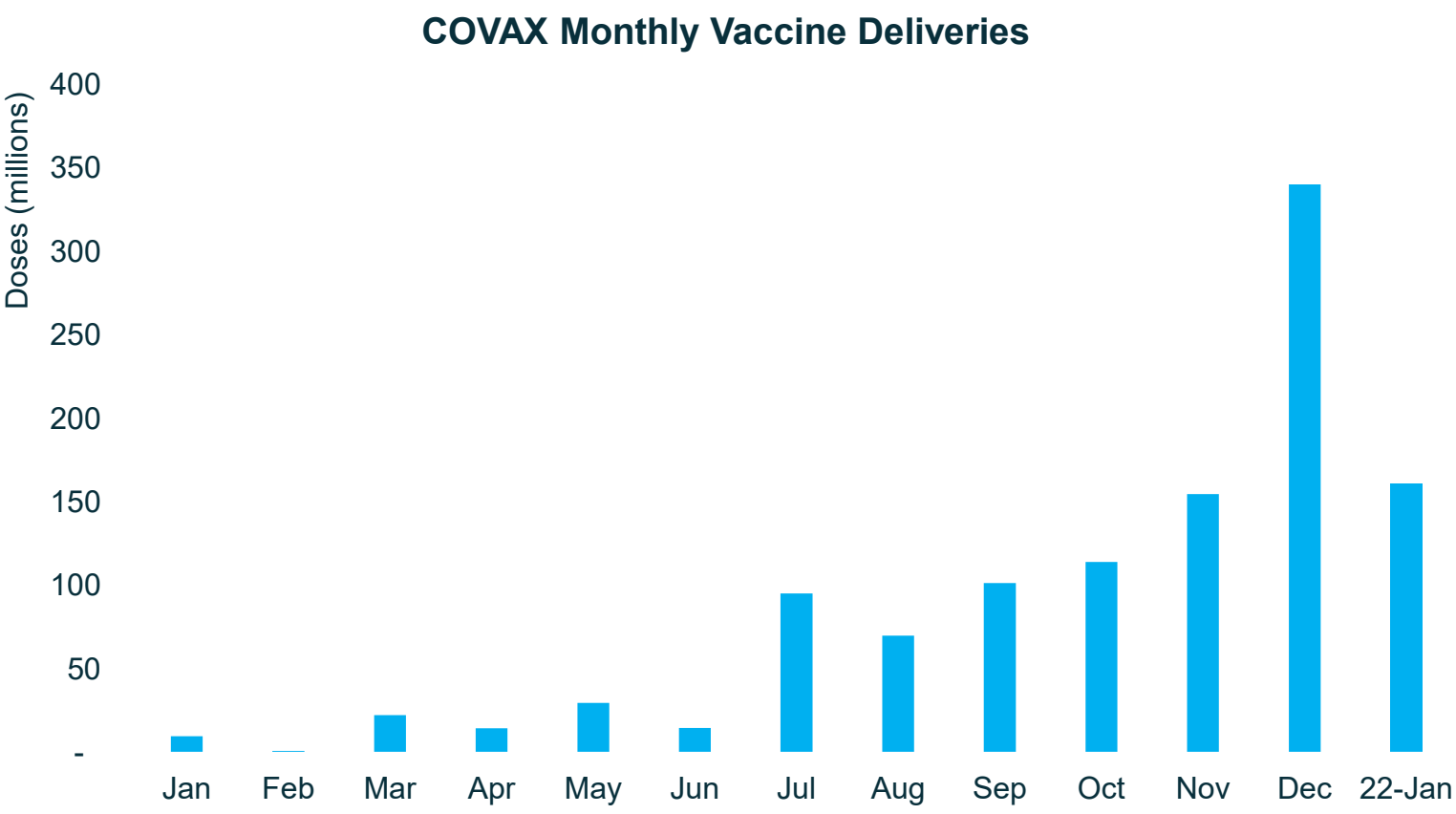
Donated doses delivered to 104 Participants

>929M

AD syringes for immunization: 686M 0.5 ml AD syringes & 243M 0.3 ml AD syringes

Vaccine deliveries reaching a new scale

Overview of delivered doses by month (January 2021 to date)



Supply and Delivery update

- Monthly deliveries reached a new level in Q4 2021, with 340 million doses delivered in December
- As a result, requests to delay or phase shipments have increased in Q1, to allow absorption of inventory on hand and free up cold chain capacity
- Deliveries in January reached 161 million doses

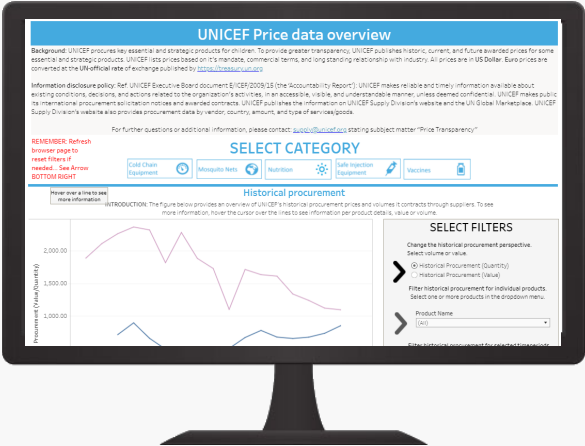


THANK YOU!

KNOWLEDGE EXCHANGE | USEFUL RESOURCES

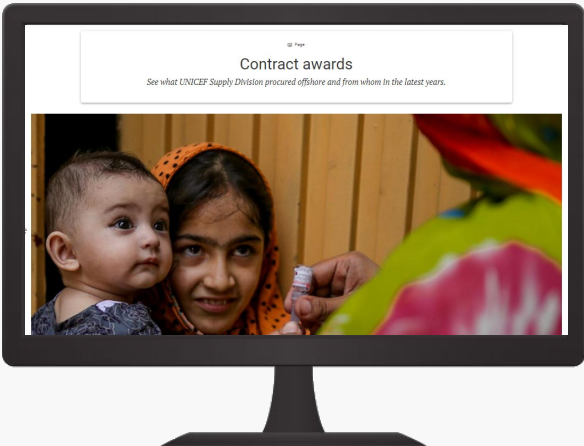


on unicef.org/supply



Vaccine Pricing data

[link](#)



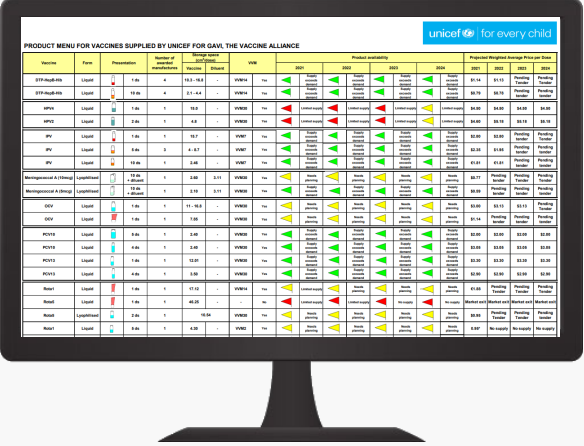
Monthly publication of contracts awards

[link](#)



Emergency stockpile availability
(OCV/ Meningococcal / YFV / Ebola)

[link](#)



Gavi product Menu

[link](#)

CHALLENGES FACED IN 2021 AND MITIGATION MEASURES

SITUATION

MITIGATION MEASURES



Vaccine
Manufacturers

Manufacturers overall on track to deliver as per forecast, although a range of issues remain:

- difficulties in obtaining upstream materials & components, leading to longer lead times and requirement for longer term forecasting
- tensions on the manufacturing process, lab capacities,
- prioritization of COVID-19 vaccines vs other Vx,
- cash flow impacts.

- Joint UNICEF/WHO statement to avoid vaccine wastage and potential future shortage, requesting countries to temporarily waive/flex requirements for shelf life at time of importation (March 2021)
- Continued collaboration with countries to accept products with reduced shelf life, including coping strategies
- Managing deliveries with a mixture of reduced and full shelf-life products to prevent wastage due to expiry
- Closely monitoring impact on upstream supplies



NRA

Capacity constraints due to COVID-19 vaccines.

- Closely monitoring of NRA capacity to ensure timely interventions








Routine
immunization &
Campaigns

- A 3 point drop in DTP-3 coverage from 2019 to 2020 globally; 6 point drop in SE Asia
- Many healthcare workers are being pulled into COVID vaccination though that wave has yet to hit many LMICs
- Most countries serviced through UNICEF have implemented planned preventive Measles/MR/YFV campaigns without or only limited delays
- bOPV campaigns in a number of countries postponed due to COVID
- IPV catch up immunization has been postponed due to COVID

- UNICEF and GAVI are working together on funding for delivery, particularly for healthcare workers to reduce strain on the system

CHALLENGES FACED IN 2021 AND MITIGATION MEASURES

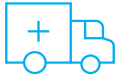
		SITUATION	MITIGATION MEASURES
	Freight	Freight rates remain high and volatile – the situation is expected to last for 1-2 years	<ul style="list-style-type: none">• Continued monitoring,• Increased use of charter flights to reach difficult destinations• Exploring alternative contracting modalities.
	Safety Injection Equipment	The global syringe market is increasingly constrained, meaning that countries may see low stocks of syringes for EPI vaccines in 2022	<ul style="list-style-type: none">• Exploring contracting terms to secure advance supplies• Exploring expansion of supplier base
	Cold Chain	Cold chain capacity is still being expanded and may not be sufficient to cope with substantial deliveries of COVID-19 vaccine shipments, which may impact EPI program	<ul style="list-style-type: none">• Expediting delivery of cold chain equipment in countries
	Health Systems	Healthcare workers will likely be called to support COVID-19 vaccinations. While delivery funding is designed to add surge capacity, if this does not come soon enough, it could strain existing healthcare workforce	<ul style="list-style-type: none">• Fundraising for additional delivery cost and support surge in hiring of additional health workers.
	Fiscal space	Fiscal space constrained with the economic impact of COVID-19	<ul style="list-style-type: none">• Multilateral development banks working closely with governments on solutions to address fiscal space constraints



- COVID has impacted not only routine and campaign immunization but also strained the healthcare system overall; many of these impacts will take time to show the results
- The fact that LMICs – and particularly across Africa have been last in line has impacted the way governments and global organizations are thinking about health and development
- The African CDC and AVAT are getting more engaged in procurement and delivery
- Master Card Foundation is also providing significant funding for procurement for AVAT
- Increasing emphasis not only on local procurement but on local production, particularly on the African continent
- The AU, Partnership for African Vaccine Manufacturing (PAVM) have proposed a roadmap for local procurement for key vaccines; timelines for implementation are still being developed

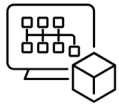
Strategic bottlenecks along the supply chain would enable a faster distribution

Availability (Suppliers' logistics capacity)



- Availability of vaccines and packaging materials
- Reduced volumes available allocated to COVAX led to a very high number of relatively small shipments

Logistics linking supply and demand of vaccines and ancillary products



- Alignment between
- Manufacturers supply chains
 - Transport capacity
 - countries' supply chains and readiness
 - Vaccines and syringes/devices and cold chain equipment flows

Air transport



- Lack of reliable supply forecast to reserve air cargo space and book the necessary capacity
- MoUs with global airlines and priority in the mid-term

Down stream



- Country campaigns planning
- Country readiness
- Cold chain storage capacity

UNICEF – how we work

- Works across **190** countries and territories
- Works with **governments** based on country specific agreements to address country specific needs and contexts
- Supports global efforts and works in **partnerships** with governments, other UN organizations
- Is entirely **funded by voluntary contributions** from the public and the private sector; it does not receive funding from the UN
- Has an annual budget of approximately **USD 5 billion** to achieve results for children
- Works in **Programmes**, **Advocacy**, **Innovation**, **Technical** Assistance
- **Supplies** are an important component of this budget and are a direct expression of children's rights



Vaccine tender & contracting approach

Strategy development

- Product-specific procurement strategies, based on analysis and experience
- Informed by industry and partner consultations and alignment of objectives

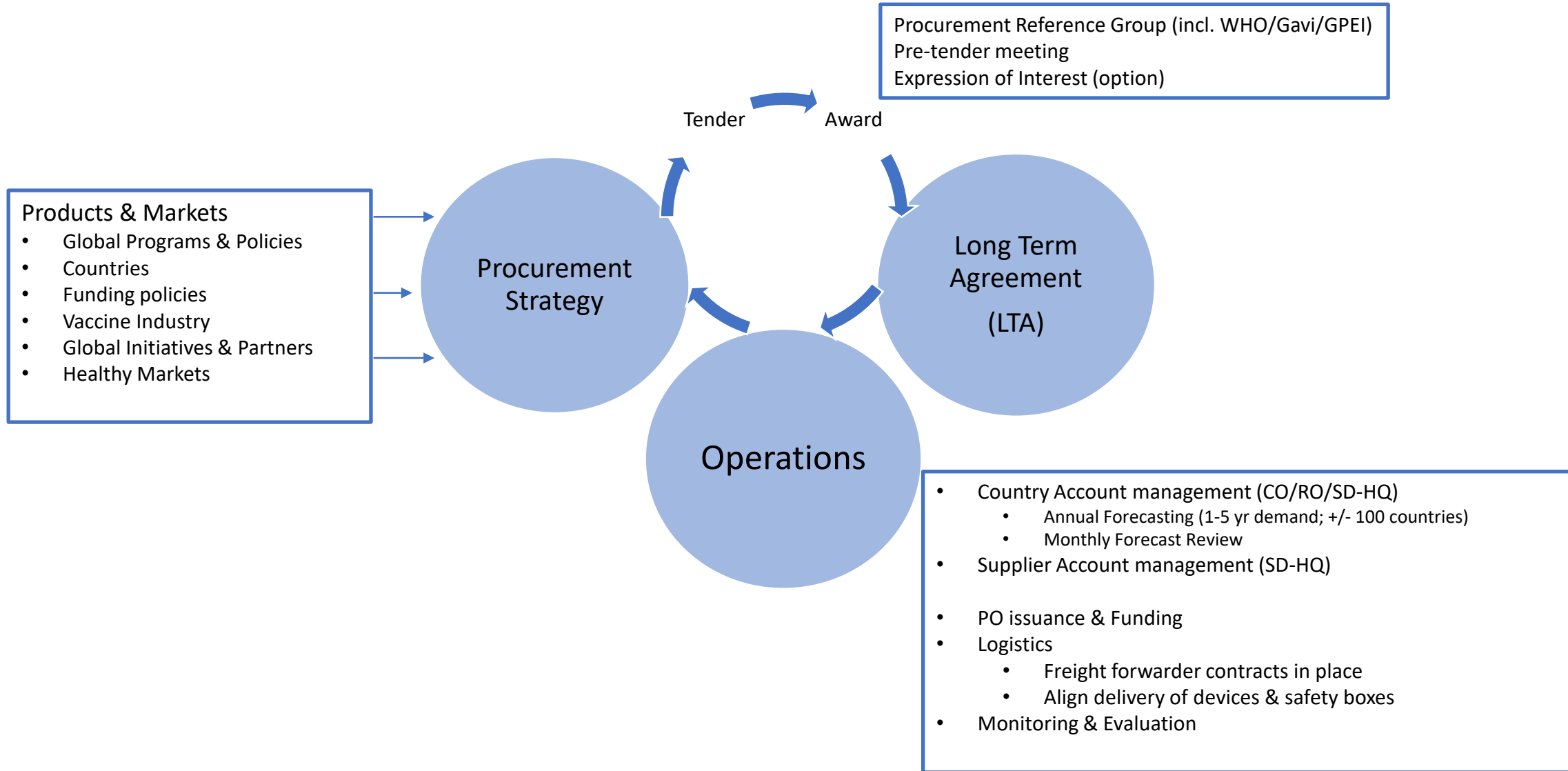
Tender process

- RFPs for strategic products – flexibility for manufacturers to shape the offer to highlight how they can bring best value
- Multi-year tender & award period – provides planning horizon and more certainty to manufacturers
- Wide invitee-list; all manufacturers are invited to participate (including pipeline)

Awards

- LTA – ‘good faith’ framework agreements:
 - Based on good will from accurate forecasts, but ‘treated’ as contracts
 - To achieve exceptional results, exceptional contracts have been awarded (e.g. firm or pre-paid contracts)
- Review with a Procurement Reference Group (GAVI-supported vaccines) or other confidential partner consultation (e.g. GPEI)
- Multiple suppliers awarded per product
- Pipeline assessed in award recommendation, and informs award strategy to incentivize continued market development

Vaccine Contracting – From Procurement Strategy to Operations



Engagement with Industry

- Public solicitations (**Tenders**) to vaccine manufacturers
- Participation in **Industry Associations Meetings** (DCVMN / IPFMA)
- **Regular visits** to manufacturers
- Participation **in vaccine congresses** to monitor pipeline and new vaccine development
- **Regular contact** with awarded suppliers (regular TCs) to ensure production meets forecasted demand and shipment plans of countries
- Annual **Vaccine Industry Consultation** at UNICEF Supply Division in Copenhagen
https://www.unicef.org/supply/index_92804.html
- **Ad hoc industry consultations** in UNICEF Supply Division in Copenhagen



Product Innovation Ecosystem

Medicines
Nutrition
Water,
Sanitation,
Hygiene
Education
Health
technology
Vaccines



Vaccine Product Innovation - unicef



- Global Partnerships
 - Technical expertise (supply & program)
 - Advocacy
- Target product profiles (TPPs)

- Demand generation
 - Field studies, implementation research (programmatic feasibility & pursue early adopters)
 - Program design, guidelines, social mobilization
 - Forecasting and planning
- Procurement
 - Market shaping, technical and/or financial requirements (product differentiation)
 - Informed by investment strategies (investment case, full public health value proposition)

Drive innovation - working with businesses and industries

work together towards accelerating access to a potentially game changing technology for immunizations



Supplier / developer

- Inform on
 - Product development, status, plans, timelines and milestones:
 - Anticipated: licensure, WHO-PQ, first commercial sales, scale and lead times
 - (Global) knowledge gaps, product development challenges
- Discuss strategic issues
 - Major Milestones to steer R&D pipelines/portfolios
 - Challenges (e.g. related to scale, markets)



UNICEF

- Work with partners on **global strategies** factoring in innovations (IA2030, VIPS)
- Contribute to vaccine technology advisory committees and working groups to provide **technical input** related to supplies, markets, supply chains, vaccine programs (PDVAC, IPAC, DT-WG, MR-MAP-WG)
- Discuss strategic (generic) **product development issues** with global **partners** (WHO, PATH, etc.)
- Develop **investment case** with partners (FPHVP, Gavi-roadmap)
- Factor in market intelligence, product innovation in **procurement strategies**, define product and market needs
- Convenes **industry-wide forums** by segment/product group on a (bi)annual basis for dialogues on strategic direction, to understand supplier challenges and market perspectives (e.g. pre-tender meetings, annual vaccine industry consultation)
- **Publishes strategic market information** (e.g. market analyses, demand/supply volumes, pricing, procurement plans, etc.) to **reduce market information asymmetries** ultimately to improve market functioning

