

Use of GVMM Data in decision making

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Agenda

Item	Content	Time
Introduction	Current industry vaccine market resources and tools	5 min
GVMM Methods	 The Global Vaccine Market Model (GVMM) Demand forecast methodology and scope 	20 min
Using GVMM	 How to access and log into GVMM Case studies 	10 min
Further Use of GVMM	HPV strategyMeasles to MR transition	10 min
Q&A		15 min

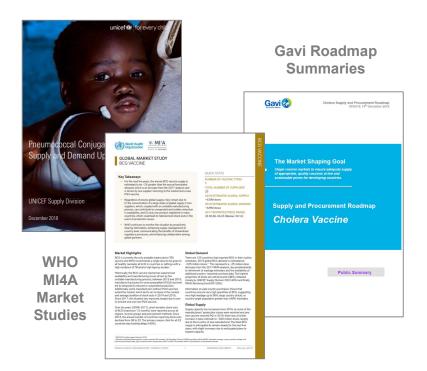


Vaccine Markets Resources

Current Market Resources for Industry

Many global health organizations help vaccine manufacturers understand their role in supplying key public vaccine markets by providing a range of useful resources and interactions

Public Documents



Industry Outreach



Vaccine Market Dynamics Data Tools

A list of important public data sources for suppliers to understand the supply, demand, pricing, usage and coverage dynamics across vaccines

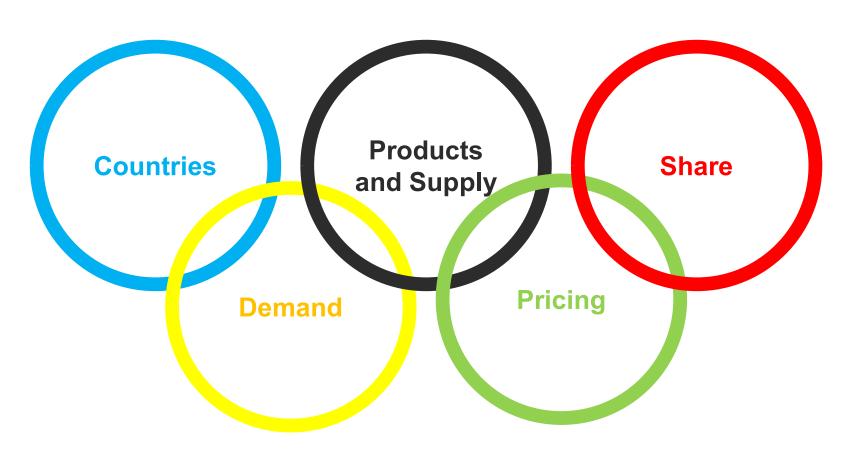
Information Level

Category	Source Name (Source Link)*	Antigen	Supply	Demand	Price	Supplier	Country
Multiple	Linksbridge Global Vaccine Market Model	Ø					
Demand	Gavi Demand Forecast (<u>Login</u>)			Ø			
Product Profile	Gavi Detailed Product Profiles - DPP (<u>Link</u>)					Ø	
Product Profile	WHO PQ List (<u>Link</u>)					Ø	
Intro & Usage	View Hub (<u>Link</u>)						Ø
Coverage	WUENIC (<u>Link</u>)						Ø
Supply	Gavi Shipment Reports (<u>Link</u>)						Ø
Price & Supply	WHO MI4A/V3P Database (<u>Link</u>)				•	•	
Price	UNICEF Price List (<u>Link</u>)					②	
Price	CDC Price List (<u>Link</u>)				•	Ø	
Price	PAHO Price List (<u>Link</u>)	Ø					

^{*} List is not exhaustive

The Global Vaccine Market Model (GVMM)

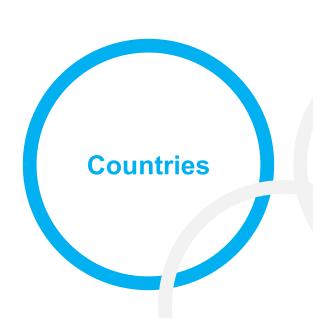
GVMM is a vaccine market resource compiling public and private information from the Gates Foundation, CDC, CHAI, PAHO, PATH, UNICEF, WHO and other sources that is managed and curated by Linksbridge, SPC



Module #1: Countries

Includes country population and current and projected country income and Gavi eligibility status





Content:

- UNPD estimated birth cohort
- IMF projected GDP per capita
- Gavi co-financing status
- · For all countries in the world
- By WHO region, World Bank status, and Gavi eligibility

Notes:

- Updated for users—so they don't have to
- Includes Gavi board decision monitoring etc. for changes to status policies
- Public and privileged source data only

Module #2: Demand

Demand, also referred to as Total Required Supply (TRS) for all vaccines for all countries 2000–2040, with a focus on routine immunization and partial information on campaign, outbreak and stockpile vaccines

Content:

- Global public demand for vaccines for the period 2000 through 2040
- Includes known new vaccine introductions and product replacements
- Special section on Covid-19 demand
- Private, traveler, military and hospital markets included

Demand

Main sources:

- WHO/UNICEF Joint Reporting Form
- MI4A Vaccine Purchase Data
- Gavi Strategic Demand
 Forecasts
- UNPD World Population Prospects
- Stochastic consensus vaccine introductions estimate
- Media monitoring at https://pharmanews.linksbridge.com
- Partner intel
- European CDC

Module #2: Demand

Demand by country, by vaccine is forecasted for each year based on the immunization schedule as reported by countries or projected for new vaccine introductions

- Population by country, year of life, and sex
- Country-reported target age from JRF
- Planned and projected new introductions as indicated by countries or from partner consultations

Target Population Number of Doses

- Country-reported immunizations schedule as reported in the JRF
- Planned and projected new introductions based on WHO recommended schedule

Coverage/Uptake **Analog**

- WUENIC coverage estimates (historical) for BCG, DTP1, and MCV1 for RI only
- Coverage type applied based on target age
- Projected as: if coverage <70% then 3% annual increase: 1% annual increase up to 90% (or highest historical if >90%)
- For new intros. uptake is applied (80% in year one)

Vaccine Wastage

- Based on doses per vial and presentation
- Standard wastage rates from WHO. unless countryspecific wastage is available

Buffer

- Buffer is added only in the calculation of demand for routine immunization
- It is most important for the introduction of new vaccines when countries are building stocks
- Calculated as demand in year X minus the demand in year X-1 multiplied by 25%

Module #3: Products and Supply

Marketed, prequalified, and pipeline vaccines across manufacturers aggregated from multiple sources

Contents:

- Vaccine products:
 - Pipeline
 - Marketed
 - PQ'd
 - Covid-19 pipeline and capacity
- Supplier:
 - Capacity
 - Time to market
 - PTRS discount



Main sources:

- Subscription data
- WHO PQ list
- Public procurement data
- · Weekly media monitoring
- Company websites
- Donor investments (mostly confidential)
- Supplier validation (Efficient Markets project)

Note: Details down to company-level are not available to maintain confidential information.

Module #4: Pricing

Vaccines bought by major procurers and countries since 2000



Contents:

- Pricing reference data 2000-2021
- GVMM pricing model 2022-2040 with price tiers as:
 - USA
 - Super HICs
 - HICs
 - UMICs
 - China
 - Other LMICs
 - India
 - PAHO
 - UNICEF
 - Private markets

Main sources:

- CDC
- PAHO
- UNICEF Supply Division
- MI4A (formerly V3P)
- Company press releases and media monitoring
- Country research for 17 countries including Brazil, Russia, India, China and South Africa
- GVMM Private Markets module

Pricing

Module #5: Share

Revenue and volume share of global and Gavi vaccine markets per company type

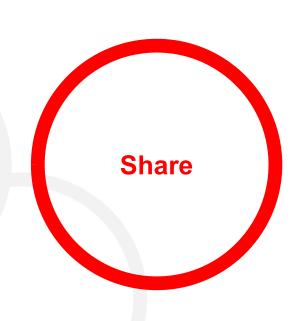


Contents:

 Estimated share of global and Gavi vaccine market volumes and revenues based on GVMM analysis

Main sources:

- Gavi public roadmaps
- UNICEF market notes
- MI4A market studies
- Company financial reports
- Media monitoring
- Country lot release data
- Donor information (confidential)
- Supplier validation (through Efficient Markets)



Note: Details down to company-level are not available to maintain confidential information.

Where does GVMM get resources and data from?

Entities contribute as financial or in-kind funders, as data collaborators, source data providers, and discounted subscription providers

Funders/In-kind

Program Partners

Main Public Sources

Subscription/Media

































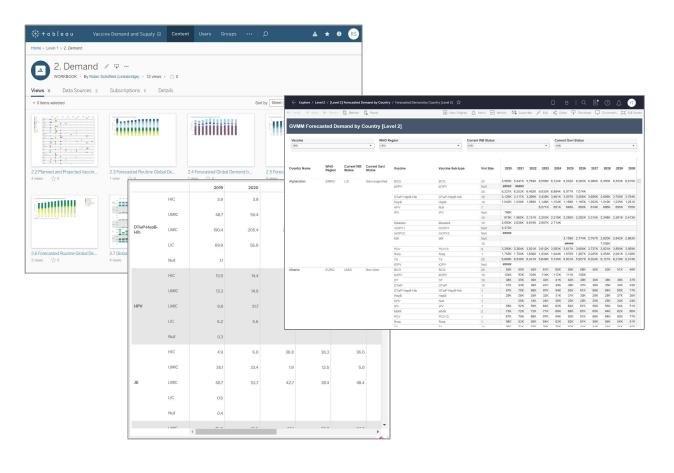






GVMM: A Vaccine Market Dynamics Data Resource

The Global Vaccine Market Model (GVMM) gives you direct access to timely, consistently-updated vaccine markets datasets that industry can query itself, analyze and download



- Data offered is subset of Global Vaccine Market Model (GVMM) information already available and used by global health actors
- 2. Easily accessible datasets provided
 - That industry can query itself online and carry out own analyses
 - Or download to analyze in companies' own preferred tool
- **3. Regularly updated** when new intelligence comes in



Accessing and Using GVMM

Efficient Markets: A GVMM Data Access Initiative

In 2019, Linksbridge launched a data-sharing initiative to provide GVMM data to DCVMs to support better supply and demand planning, in exchange, DCVMs provide data validation and intelligence support

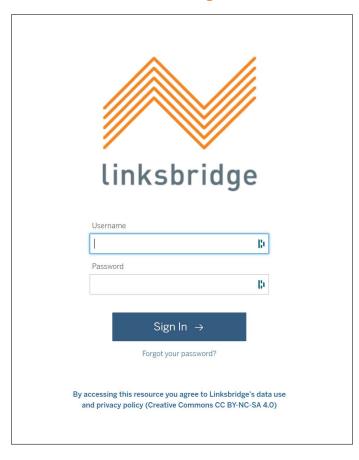
Level	Data User Receives	Data User Provides
Level 5	Share estimatesPrivate market estimates	 Validates share and pricing estimates
Level 4	Access to products mod lle	Validates capacity estimatesDialog on goals
Level 3	Access to pricing module	Country registrations
Level 2	 Global demand data by country Market value by product by WB income group 	 User validates pipeline and markets products
Level 1	 Countries reference data Global demand data by WB income group 	 No requirement

How to Access GVMM

- To set up free GVMM access, please send an email to gvmm@linksbridge.com with the names and email addresses of who you would like to request access for in your company
- 2 In your email request, please also indicate if you would like to have Level 1, 2, or 3 access
- 3 Level 1 access is available to all and requires no further steps
- If you indicate that you would like to access Level 2 and Level 3 content, we will respond with further instructions for you to provide information for access

Accessing GVMM (Live Demonstration)

data.linksbridge.com



Case Study [Level 2]

- What is the forecasted market demand for MR for UMICs over the next 5 years?
- What is the value of the overall HPV market for UMICs over the next 5 years?

Case Study [Level 3]

 What is the forecasted average price of PCV for UMICs over the next 5 years?

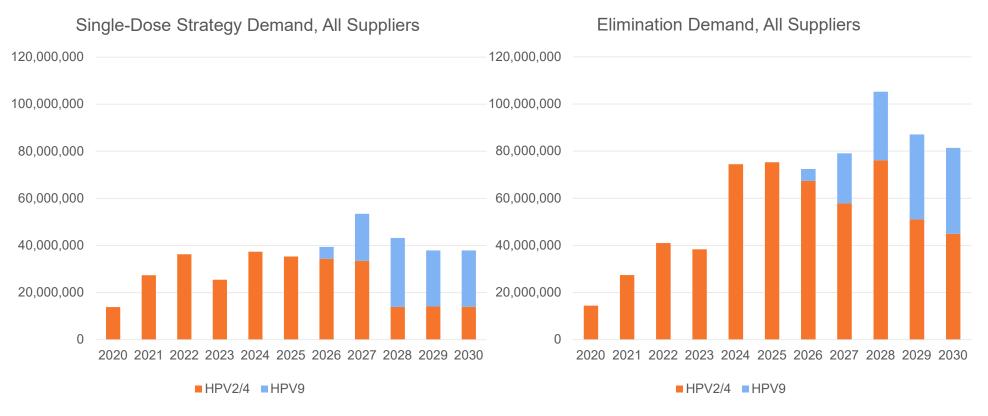


Further Use of GVMM

Further Use of GVMM

The GVMM database allows you to conduct your own analysis to answer your market needs. However, if you have more specific questions, partners such as Linksbridge or CHAI can support with the further discussion and interpretation of the data

Gavi 73: HPV Demand (Sample analysis produced from GVMM)



Further use of GVMM with CHAI

Example: Expected Switch from Measles to MR vaccines for Gavi Countries

Country	Expected RI Intro	Annual Demand (doses, M)
Comoros	2022	0.5
Guinea-Bissau	2022	1.1
Liberia		2.7
Mali		11.6
Niger		14.7
Ethiopia	2023	26.9
Sudan	2023	23.5
Congo, Dem. Rep.	2024	43.9
Madagascar	2024	13.6
Afghanistan		20.1
Central African Republic	2025	3
Guinea]	6.9
South Sudan		5.9
Chad	2026	7.9
Djibouti	2029	0.5
Pakistan		79.3
Somalia	Uncertain	9.9
Nigeria		59.9

Context:

- Majority of countries using Measles vaccines are Gavi countries
- Expected switch from Measles to MR vaccines based on timelines in GVMM
- Annual demand in year of switch comprises RI and campaign demand

Using Data:

- Inform timelines for country registrations
- Plan capacity and requirements for long-term planning
- Form expectations and strategy for markets in the future

CHAI can support discussion and interpretation of GVMM data to inform your strategy and decision-making

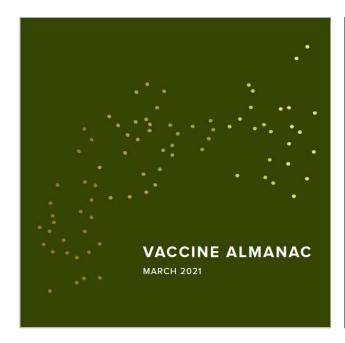
Contact Wrik Ghosh (wghosh@clintonhealthaccess.org) to discuss how CHAI may be able to support you

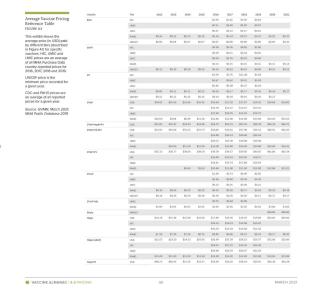


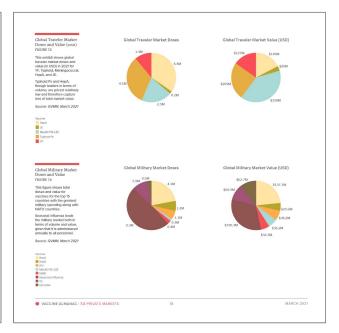


GVMM: the Vaccine Almanac

The Vaccine Almanac is a catalog of the data available in GVMM – reach out to receive a free copy in your inbox











THANK YOU!

Please don't hesitate to reach out if you have any further questions



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