

Autodisable syringe gap analysis

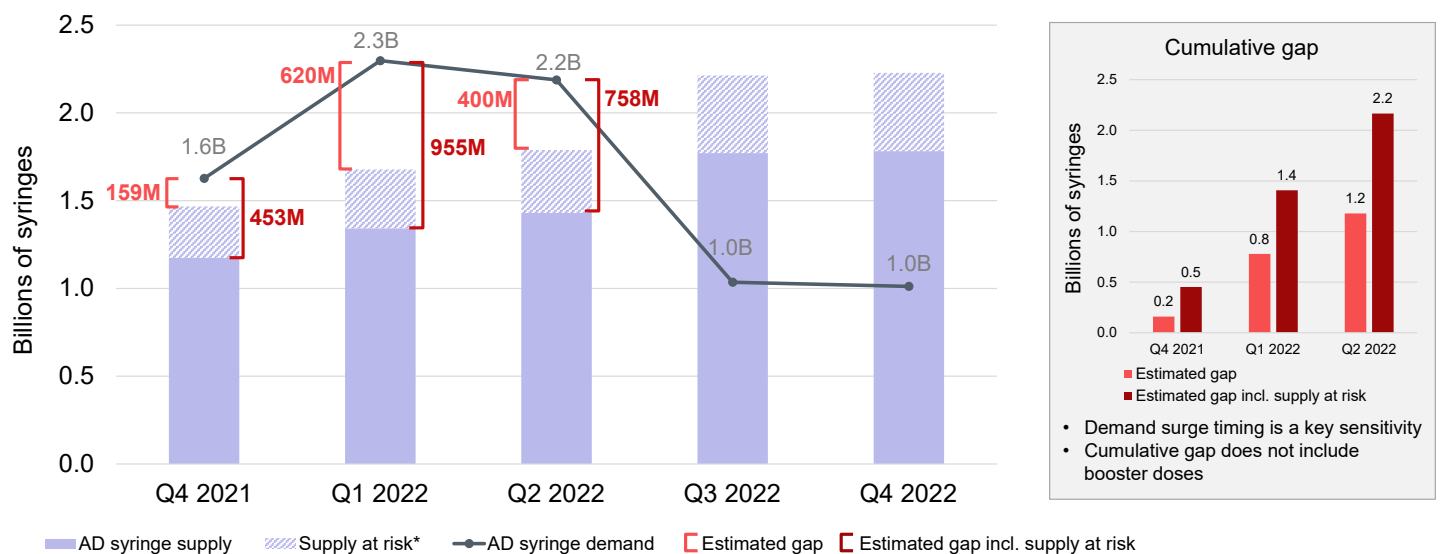
November 11, 2021



The autodisable (AD) syringe gap analysis combines syringe supply capacity collected from manufacturers with estimated syringe demand from all countries known to use AD syringes globally, including demand for both COVID-19 and non-COVID-19 immunizations. The demand forecast for COVID-19 vaccination syringes is based on projected vaccine availability through the end of 2022 and includes secured bilateral deals, COVAX deals, donations, and other multilateral deals. The forecast accounts for the number of vaccines administered to date, probability of success for unapproved vaccine candidates, and the World Health Organization (WHO) target of vaccinating 70% of the global population in 2022. Non-COVID-19 demand for other immunizations (such as routine childhood immunizations and supplemental immunization activities, such as measles vaccine campaigns) is based on PATH's analysis of the AD

syringe market prior to the COVID-19 pandemic and is expected to increase in 2022 to make up for missed routine immunizations. The AD gap analysis accounts for syringe shipping lead times and typical vaccine and syringe wastage rates. The analysis also assessed a scenario where 20% of global AD syringe supply is considered at-risk and is not available for timely use with vaccine doses. This scenario represents the potential impact of risks reported by manufacturers and global partners such as export restrictions, shipping delays, failure to receive WHO prequalification on new manufacturing lines, delays in completing planned manufacturing expansions, and/or supply of 0.3ml and 0.5ml syringes not matching demand. Rapidly changing information regarding the precise timing of vaccine availability and the absorptive capacity of countries to deliver vaccines on schedule are key limitations of the analysis.

Possible gap of 1.2–2.2B units of AD syringes is projected to last through mid-2022 due to large surges of vaccinations



* Supply at risk includes volumes estimated to be unavailable for timely use with doses due to challenges such as export restrictions, shipping delays, failure to receive prequalification on new manufacturing lines, delays in completing planned expansions, and/or production breakdown between 0.3 mL and 0.5 mL syringes not matching demand.

Table 1: Key inputs and assumptions for November 2021 AD syringe gap analysis.

| Variable | Model inputs and assumptions | Sources |
|---|---|---|
| AD syringe demand for COVID-19 vaccinations | <ul style="list-style-type: none"> Secured and optioned deals (bilateral, multilateral, COVAX, donations) Vaccinations reported through Q3 2021 Approved vaccine candidates and candidates in regulatory review with 75% probability of technical and regulatory success applied | <ul style="list-style-type: none"> Linksbridge: Public data on vaccine deals COVAX forecast (Sep 8 2021)¹ Our World in Data: Country-level vaccinations² |
| AD syringe demand for non-COVID-19 vaccinations | <ul style="list-style-type: none"> Pre-COVID-19 volumes assumed to increase by 25% in 2022 to make up for missed routine immunizations | <ul style="list-style-type: none"> PATH market sizing analysis (Fall 2020)³ Manufacturer input on pre-COVID-19 production Historical and current UNICEF forecasts⁴ |
| Syringe demand timeline | <ul style="list-style-type: none"> Varies by country | <ul style="list-style-type: none"> COVAX forecast (Sep 8 2021)¹ Country vaccine progress and income level |
| % of doses needing AD syringes | <ul style="list-style-type: none"> 80% of doses in countries that use a mix of ADs and other syringe types 90% of COVAX doses | <ul style="list-style-type: none"> Based on previous and projected COVAX allocations to hit population targets¹ Manufacturer input |
| Target % of the population vaccinated | <ul style="list-style-type: none"> 70% of the total population Optioned doses will only be exercised until 70% coverage is reached | <ul style="list-style-type: none"> WHO global target⁵ |
| % of supply at risk | <ul style="list-style-type: none"> 20% (shown as a scenario) | <ul style="list-style-type: none"> Triangulations with UNICEF forecast⁶ Challenges expressed by manufacturers |
| Syringe shipping time | <ul style="list-style-type: none"> One quarter (3 months) for syringes to reach vaccine sites | <ul style="list-style-type: none"> Manufacturer input for sea transport |
| Wastage rates for vaccines and syringes | <ul style="list-style-type: none"> 10% | <ul style="list-style-type: none"> WHO measles vaccination campaign planning guide⁷ (COVID vaccine wastage may differ) |

¹ Source: <https://www.gavi.org/sites/default/files/covid/covax/COVAX-Supply-Forecast.pdf>

² Source: <https://ourworldindata.org/covid-vaccinations>

³ Source: https://path.azureedge.net/media/documents/PATH_Global_COVID_syringe_supply_assessment_path.org_3.8.21.pdf

⁴ Source: <https://www.unicef.org/supply/media/451/file/Safe%20injection%20equipment%20supply%20and%20demand%20update.pdf>

⁵ Source: <https://www.who.int/news/item/14-09-2021-leaders-make-urgent-call-to-accelerate-vaccination-globally-and-in-africa>

⁶ Source: <https://www.unicef.org/press-releases/urgent-action-needed-now-ensure-sufficient-covid-vaccine-syringe-supply-meet-2022>

⁷ Source: <https://www.who.int/immunization/diseases/measles/SIA-Field-Guide.pdf>