

Improving the multilateral pandemic response

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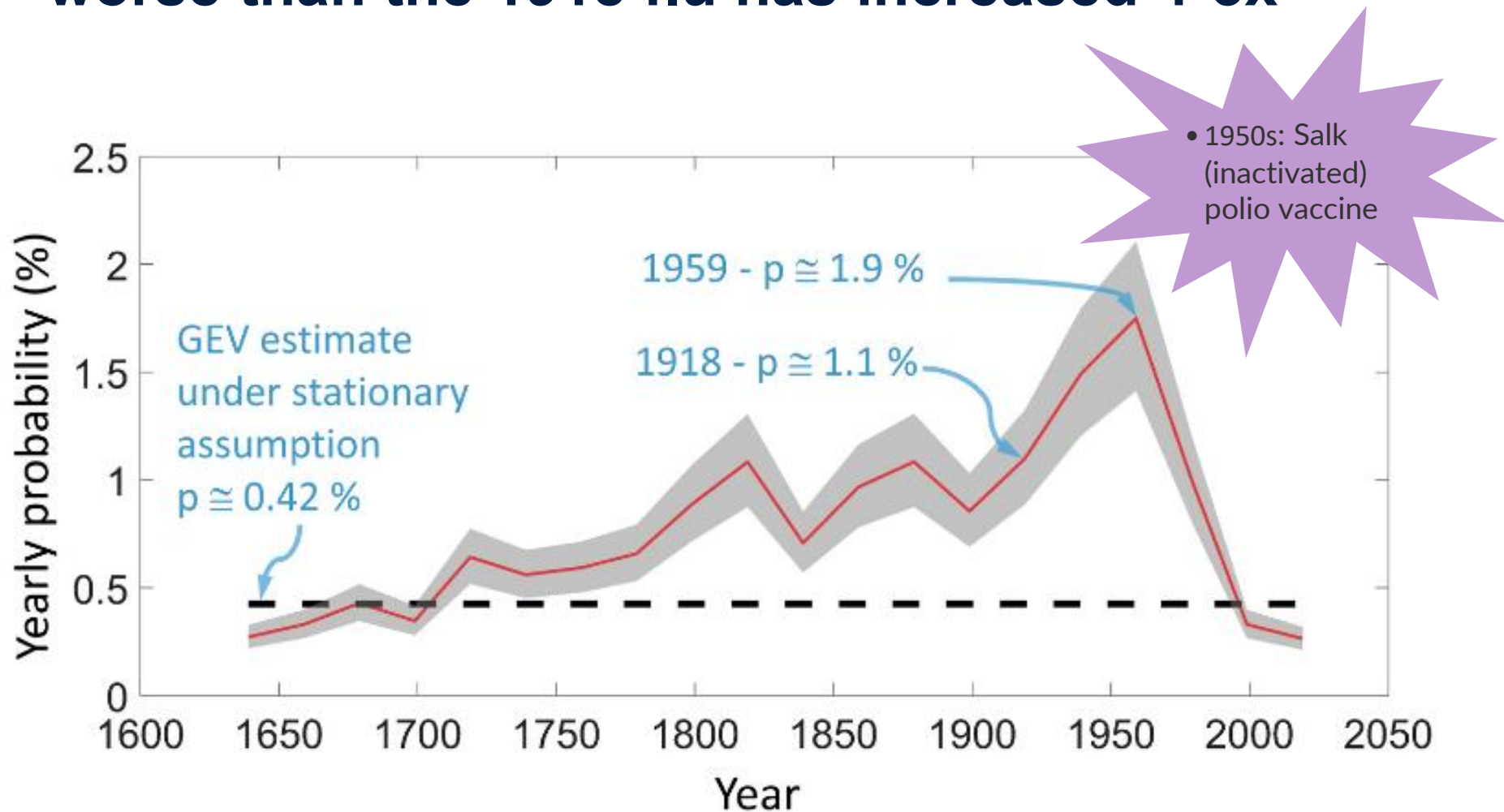


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Road Map

- A. International inequality in human and economic effects of COVID-19
- B. How did countries cooperate (multilateralism) to respond?
- C. A faster and more equitable response is possible, with the same resources as in COVID-19

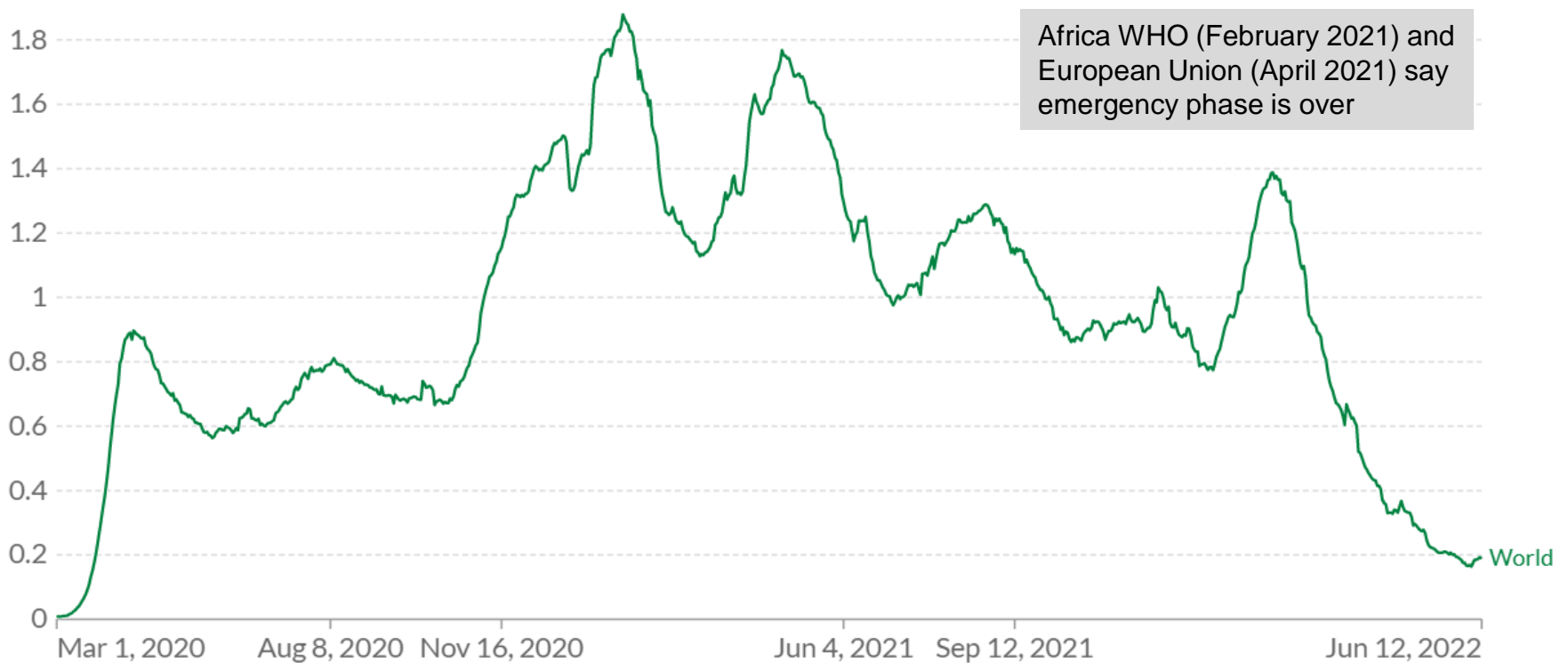
The latent probability of a disease outbreak worse than the 1918 flu has increased 4-5x



SOURCE: Marani, M., Katul, G.G., Pan, W.K. and Parolari, A.J., 2021. Intensity and frequency of extreme novel epidemics. *Proceedings of the National Academy of Sciences*, 118(35).

The coronavirus pandemic was devastating, but is no longer a crisis

Daily new confirmed COVID-19 deaths per million people

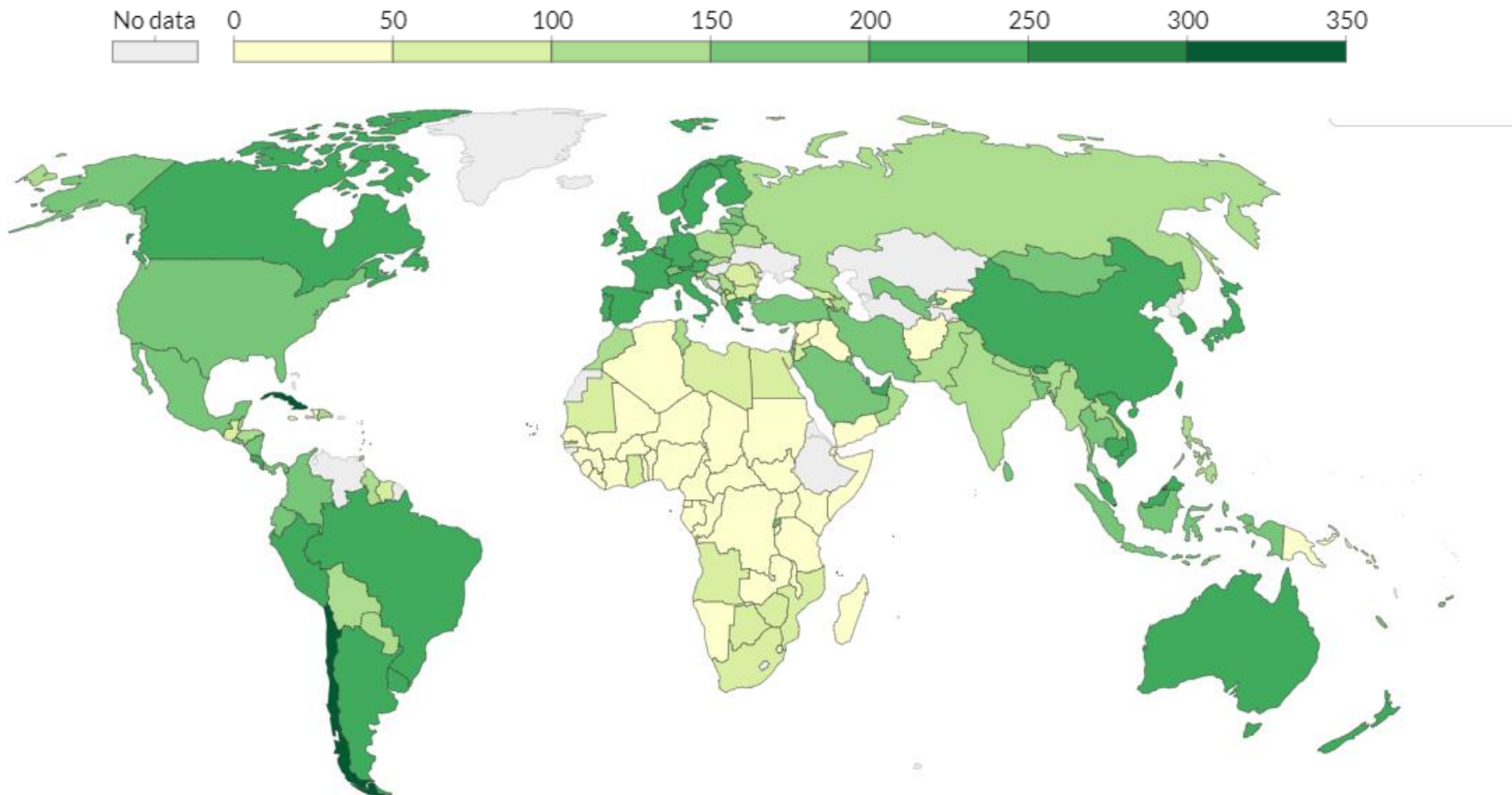


SOURCE: Our World in Data

Vaccination has driven the recovery, but coverage is unequal

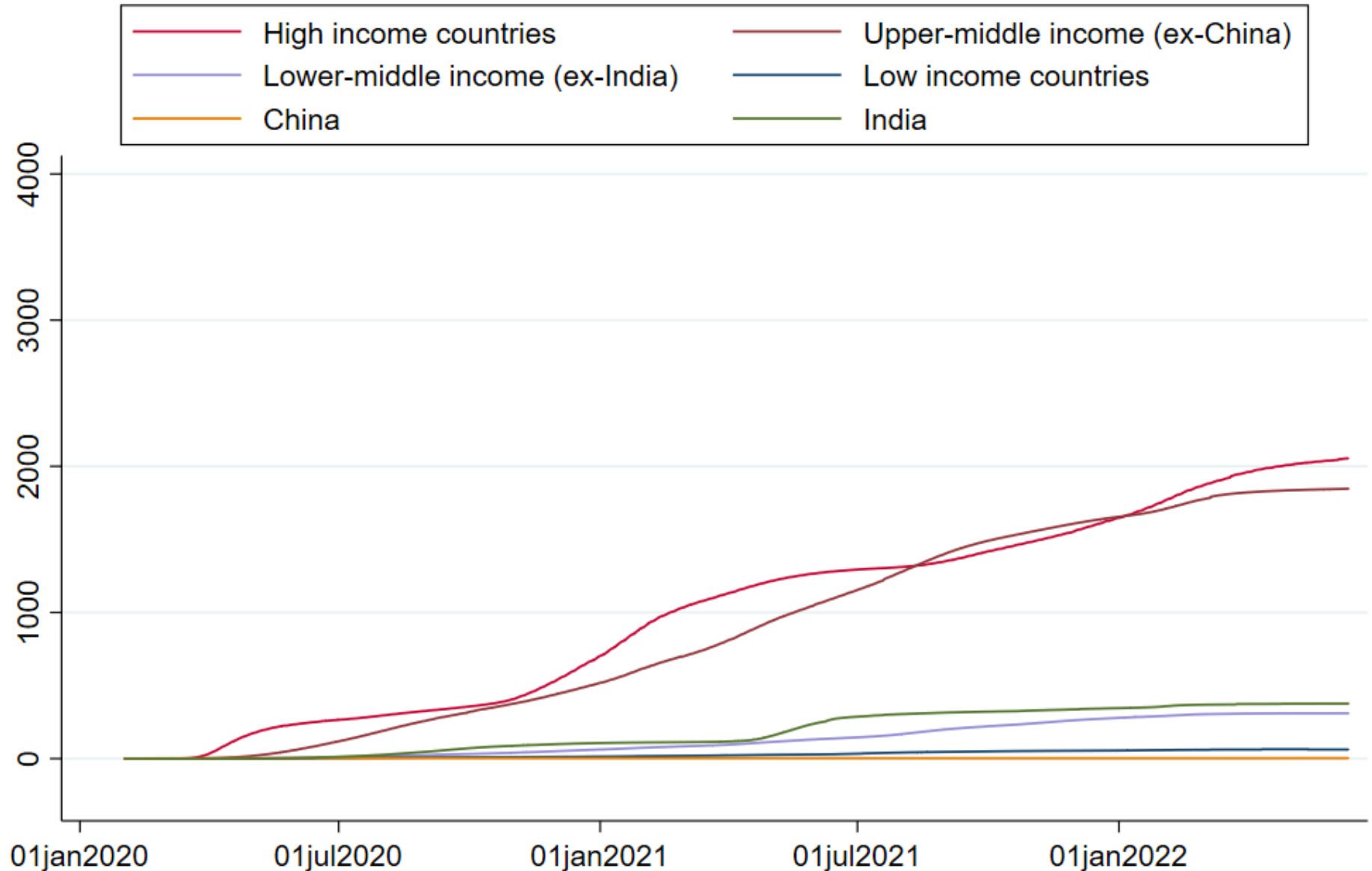
Total COVID-19 vaccine doses administered per 100 people

June 12, 2022



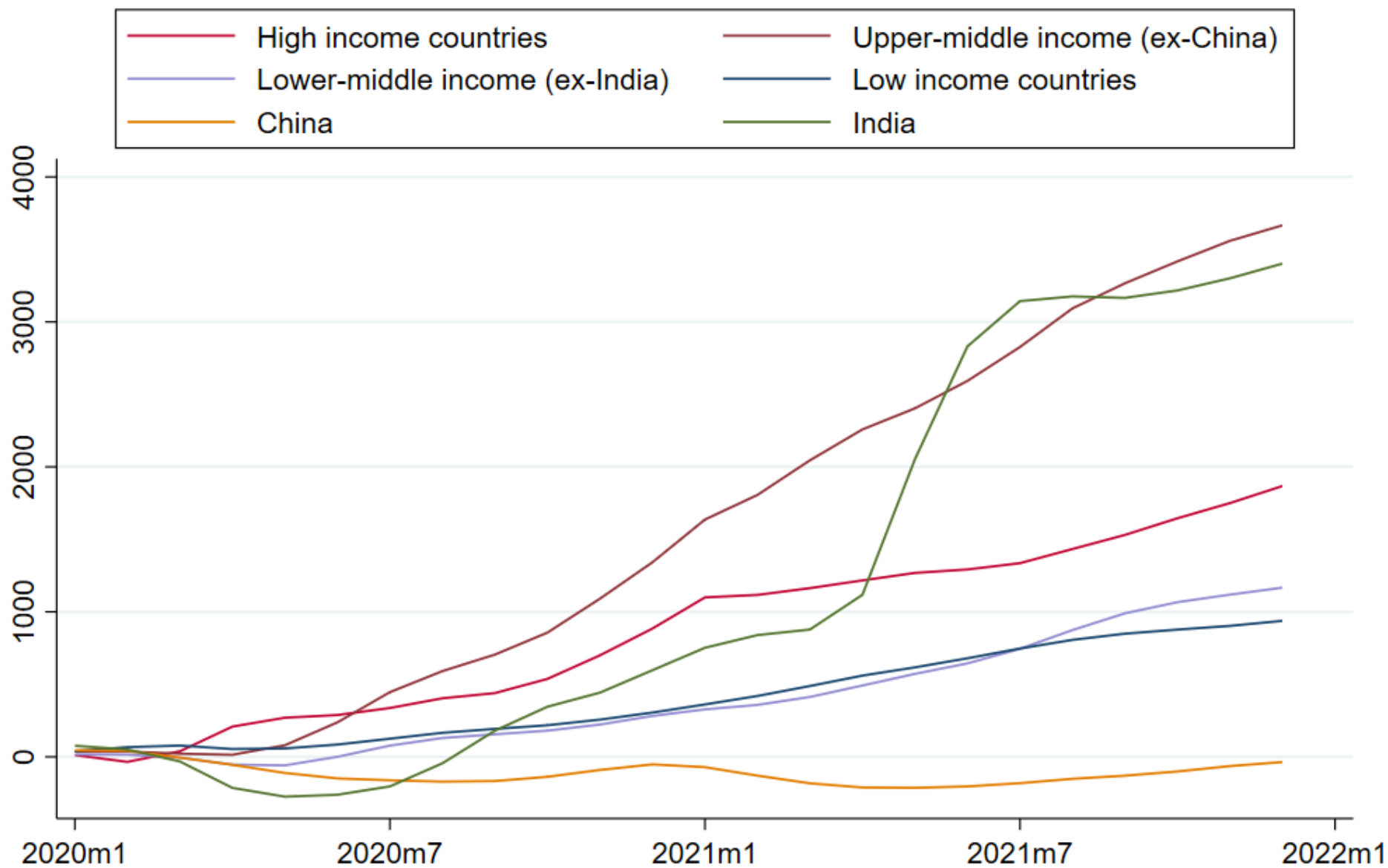
SOURCE: National authorities via Our World in Data

Confirmed COVID-19 deaths per million people



SOURCE: Our World in Data; Goldberg, P.K. and Reed, T., 2020. The effects of the coronavirus pandemic in emerging market and developing economies: An optimistic preliminary account. *Brookings papers on economic activity*, 2020(2), pp.161-235.

Estimated excess deaths per million people



Source: World Health Organization

After an unequal recession and recovery, growth and income convergence to outpace 2019 in 2023

	2019	2020	2021e	2022f	2023f	2024f
Real GDP per capita <i>(Percent change from previous year)</i>						
High-income countries	1.4	-4.9	4.8	2.4	1.9	1.7
Middle-income countries	3.1	-2.2	5.9	2.4	3.3	3.6
Low-income countries	2.2	-0.7	1.3	1.5	2.7	3.1

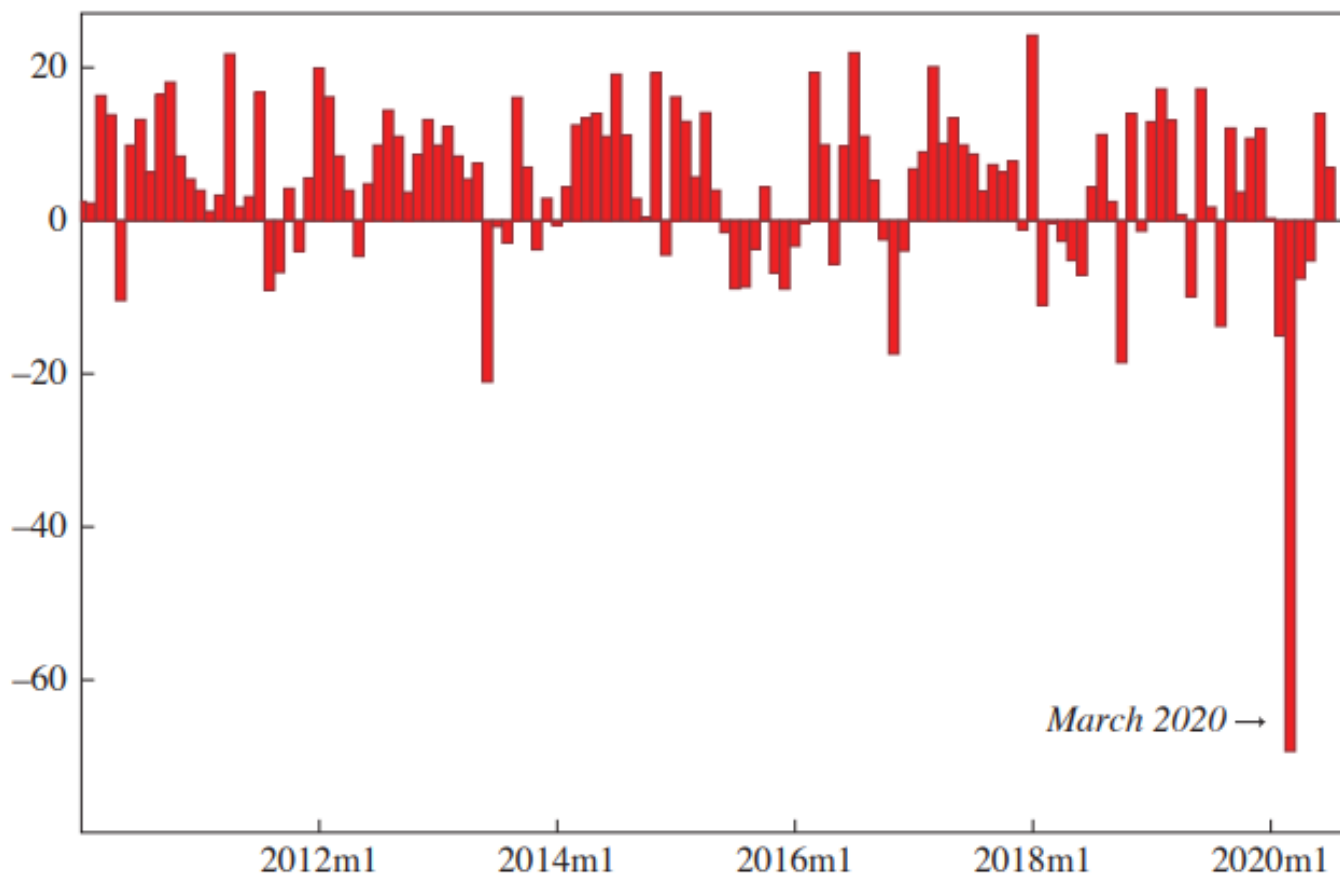
- **Estimates for 2021:**
 - Low- and middle-income countries grow faster than high-income
- **Forecast for 2022:**
 - Before Ukraine war, global growth faster than in 2019. Now lower in low- and middle-income
- **Forecast for 2023-2024:**
 - Growth faster everywhere than in 2019
 - Growth in middle-income > growth in low-income > Growth in high-income

Economic crisis and response

At pandemic onset, investors fled emerging markets

Figure 4. Nonresident Purchases (Sales) of EM Stocks and Bonds

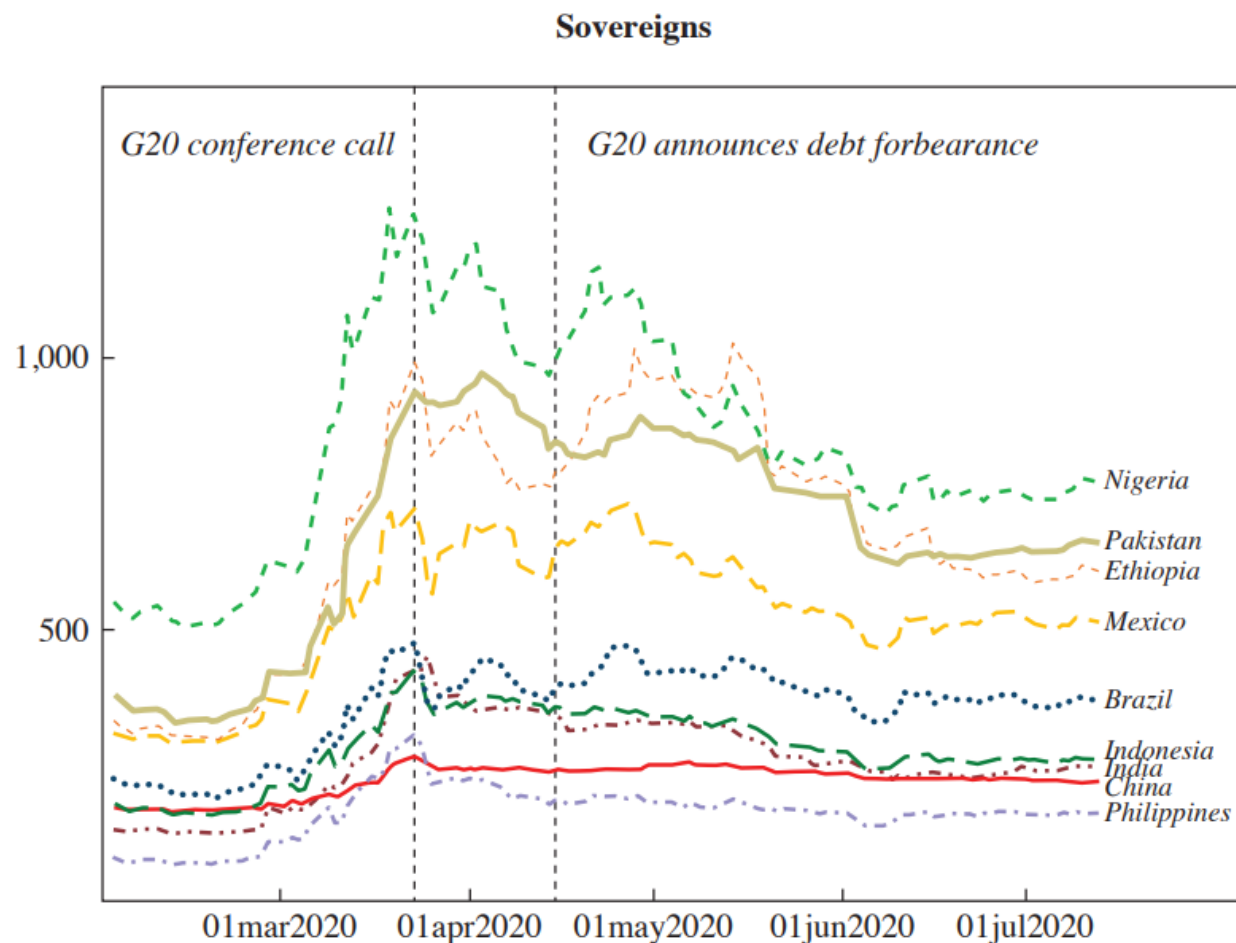
US\$ billions



SOURCE: Goldberg, P.K. and Reed, T., 2020. The effects of the coronavirus pandemic in emerging market and developing economies: An optimistic preliminary account. *Brookings papers on economic activity*, 2020(2), pp.161-235.

As a result, governments' financing costs ballooned

Figure 5. Hard Currency Bond Spreads in Emerging Markets



SOURCE: Goldberg, P.K. and Reed, T., 2020. The effects of the coronavirus pandemic in emerging market and developing economies: An optimistic preliminary account. *Brookings papers on economic activity*, 2020(2), pp.161-235.

Multilateral institutions provided finance much cheaper than market



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World Bank delivers unprecedented \$204 billion to governments in 2020-21

- \$135 billion to governments (through IBRD/IDA)
 - ❖ Spreads are 65-115 basis points, depending on maturity
 - Compare to market rate of ~800 basis points for Nigeria; ~600 for Ethiopia
 - ❖ Finance doesn't just support health, but maintains continuity in other programs
 - 31 percent contributed climate co-benefits
- \$69 billion to private sector (through IFC/MIGA)
 - ❖ Emerging market corporates also faced an increase in financing cost

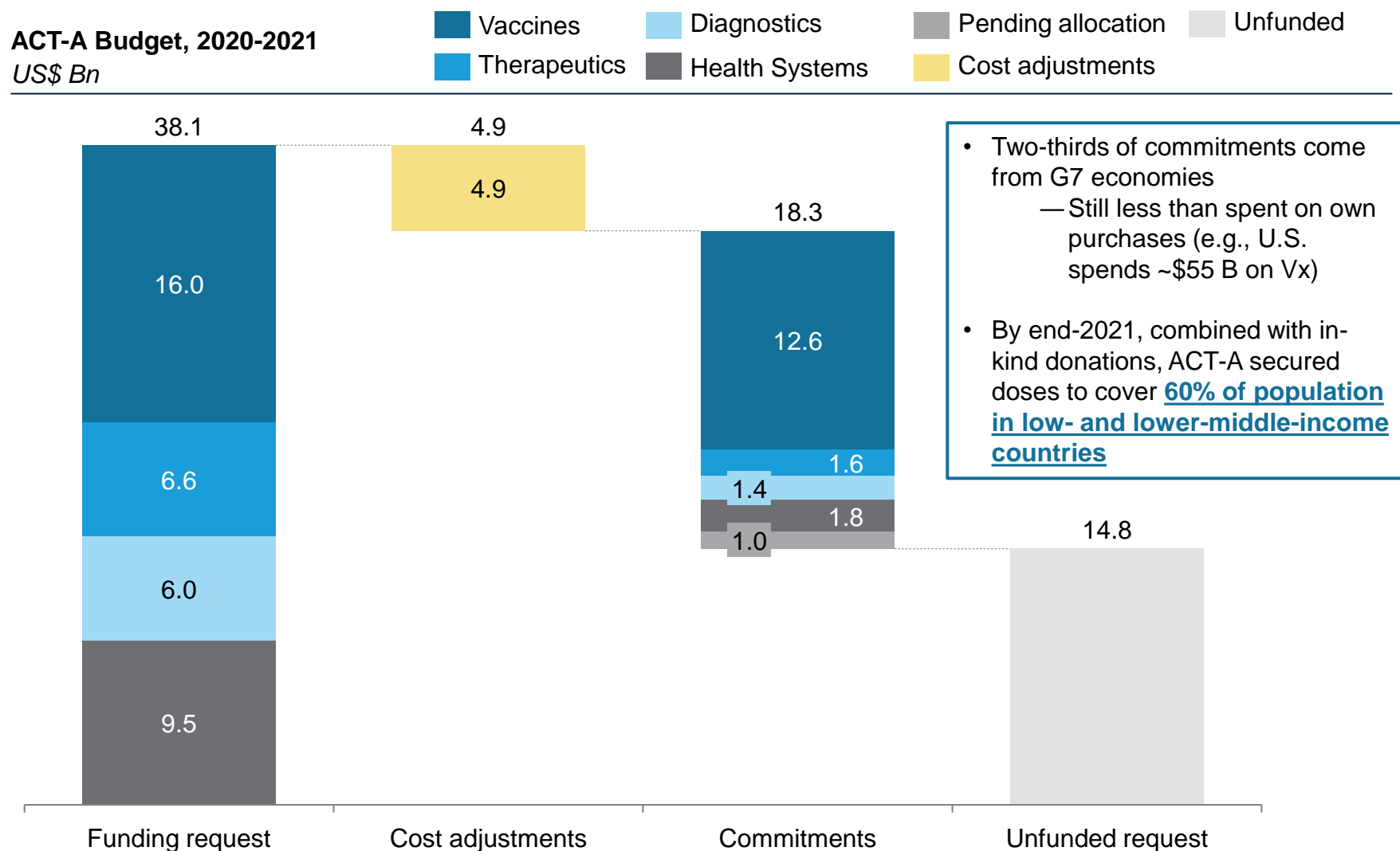
Regional development banks (e.g., ADB, AfDB, IDB) play similar role to the World Bank, funding specific projects

IMF also delivers support to governments

- \$179 billion in grants to cover existing debt owed to IMF
- \$650 billion in liquidity through special drawing rights, but 74% to HICs
 - ❖ Allocation to MICs covers 10% of debt service in next 5 years; Covers 20% for LICs

Public health crisis and response

Donors funded ACT-A to promote international equity in access to vaccines and other medical countermeasures



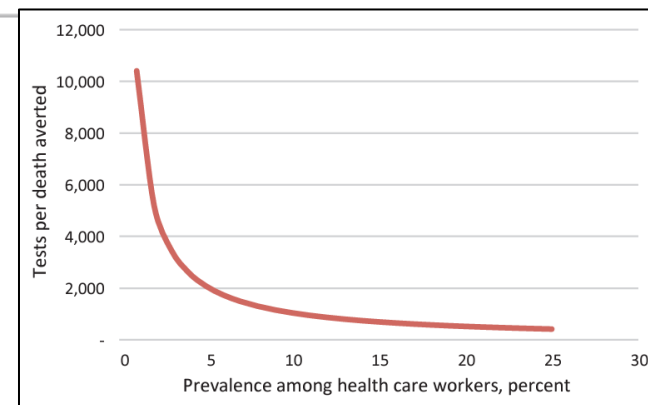
Why did testing receive so little funding?

Table 1. Summary of Diagnostic Cost-Effectiveness by Type of Intervention

Intervention	Tests per death averted	COVID-19 deaths averted	Tests required	Testing population
1 Clinical triage and cohorting	940	106	100,000	100,000 patients upon admission
2 At-risk worker screening	1,042– 5,208	19–96	100,000	100,000 workers for one week
3 Population surveillance to trigger or avoid lockdown	1,611	175	281,884	Regular samples per 100,000 for one year
4 Test-trace-isolate	4,459	392	1,763,485	Regular samples per 100,000 for one year
5 Border screening	8,838	11+	100,000	100,000 border crossers

Source: Authors' calculations.

Note: Tests per death averted may not match ratio of tests required to COVID-19 deaths averted due to rounding. All scenarios consider the incremental value of testing, compared to a scenario where individuals are isolated based on symptoms alone. The major effect of border screening is in minimizing the introduction of virus to the country and so contributes to making all the other aspects of mitigating epidemic more likely to work. “+” indicates that the estimate of deaths averted refers only to the number of infections among those quarantined, who were not already infected.

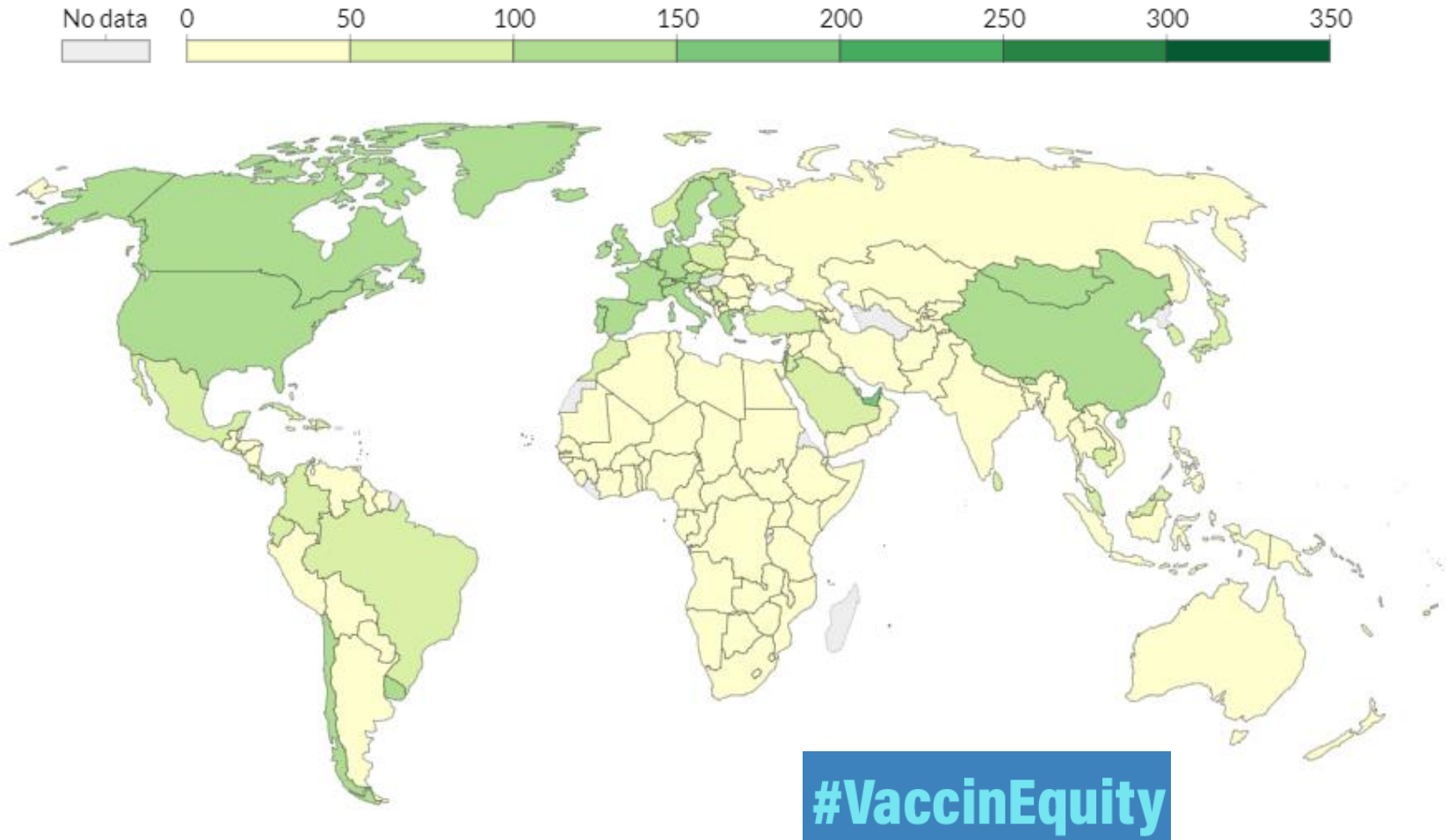


SOURCE: Reed, T., Waites, W., Manheim, D., de Walque, D., Vallini, C., Gatti, R. and Hallett, T.B., 2021. “Five Ways that COVID-19 Diagnostics Can Save Lives.”

Despite ACT-A, vaccine access was unequal in 2021

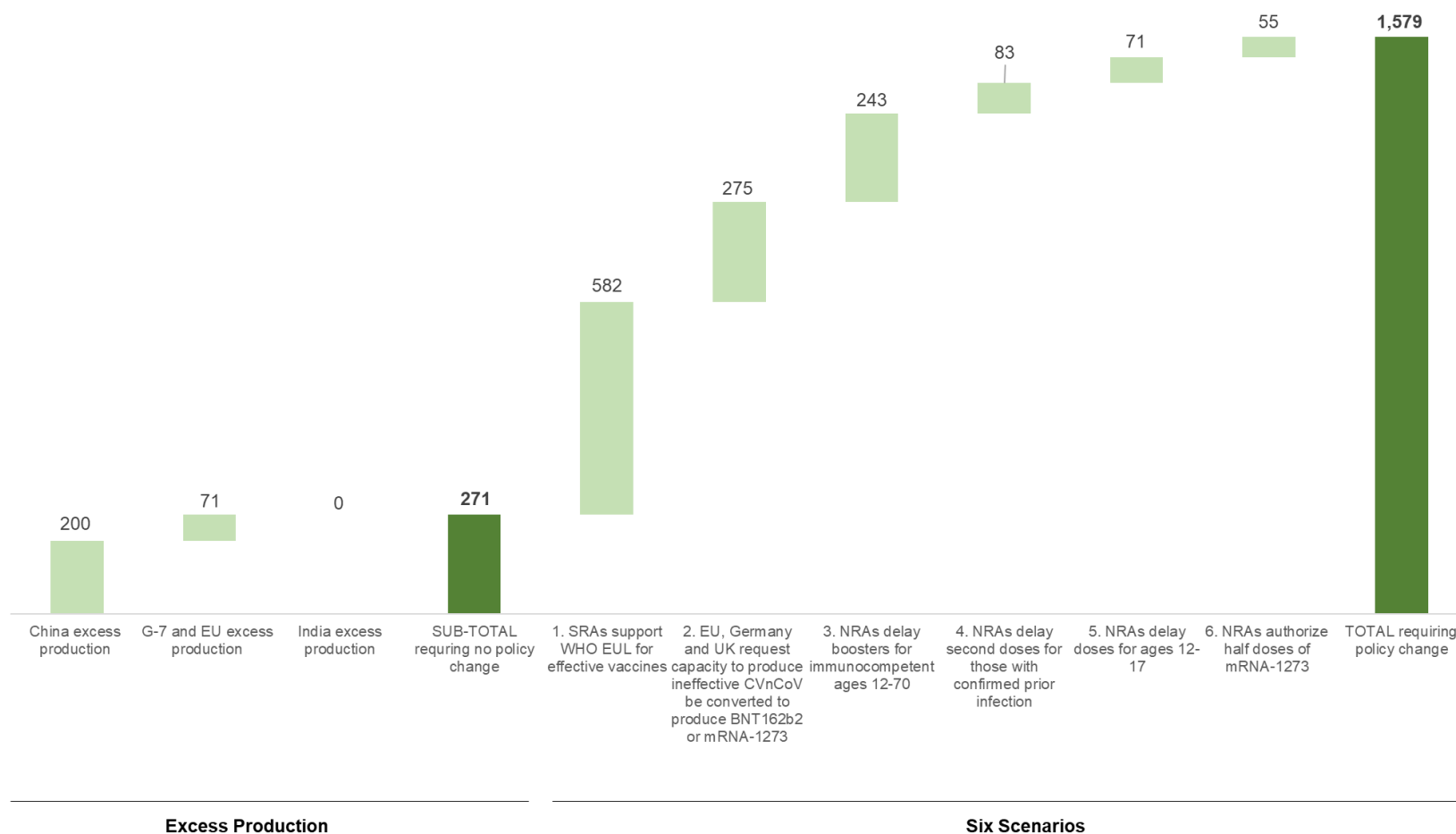
Total COVID-19 vaccine doses administered per 100 people

August 1, 2021



LMICs were at back of the queue, and supply was controlled by the biggest economies

Excess supply available from China, EU, G-7, and India in 2021 (“G10” largest economies)
Millions of doses



SOURCE: Murthi, M. and Reed, T., 2021. Policy Actions to Increase the Supply of COVID-19 Vaccines in the Short Term. *World Bank*.

Vaccine supply was rationed through queuing

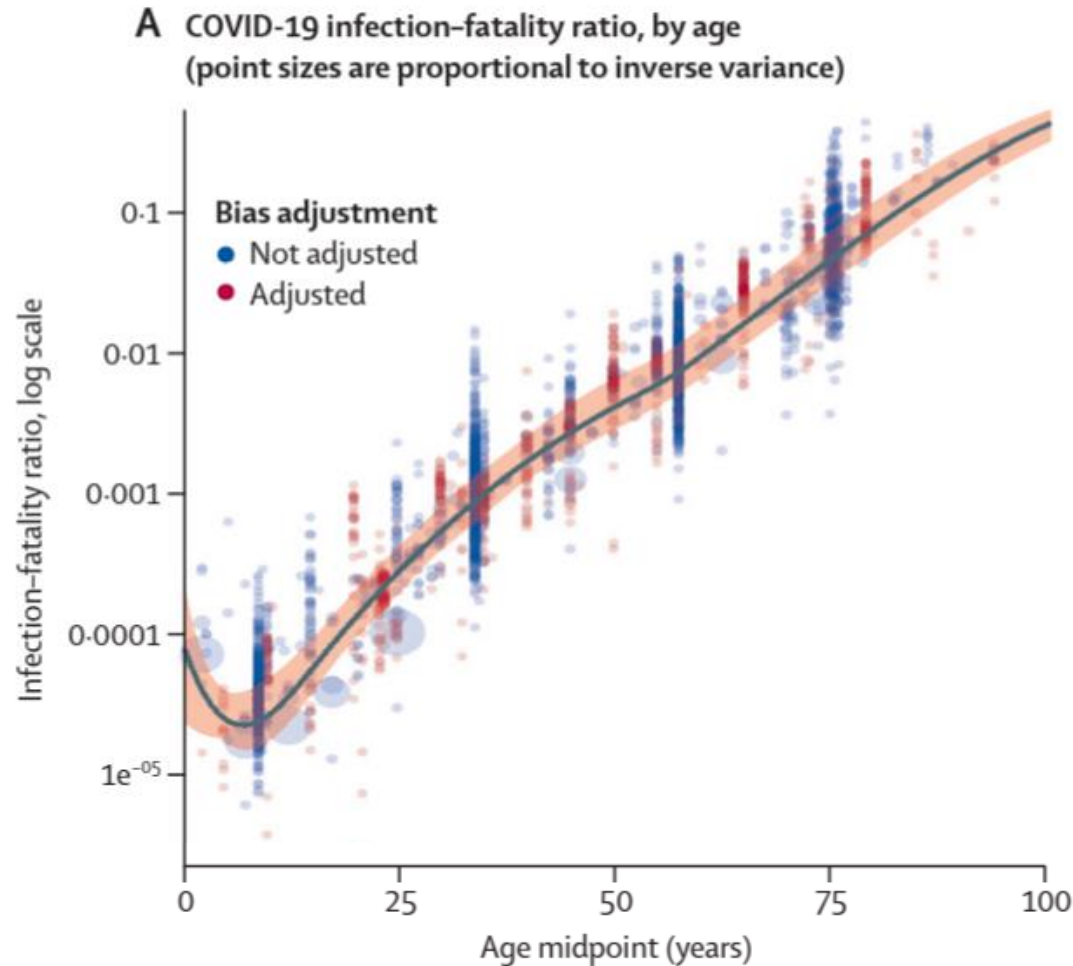
World Bank country income classification	Number of advance purchase agreements	Average month contract signed	Earliest month contract signed
High income	211	December 2020	May 2020
Low income	8	May 2021	February 2021
Lower-middle income	105	March 2021	August 2020
Upper-middle income	135	February 2021	August 2020

Regression analysis shows global vaccine market was fairly free:

- 25% of delay in deliveries to LMICs is a fixed effect that occurs **regardless of time ordered** (e.g., due to export restrictions)
- 75% of delay attributed to month contract is signed

Why didn't low and middle-income order vaccines earlier?

Hypothesis 1: Limited perceived benefit relative to cost



SOURCE: COVID-19 Forecasting Team, The Lancet, 2022

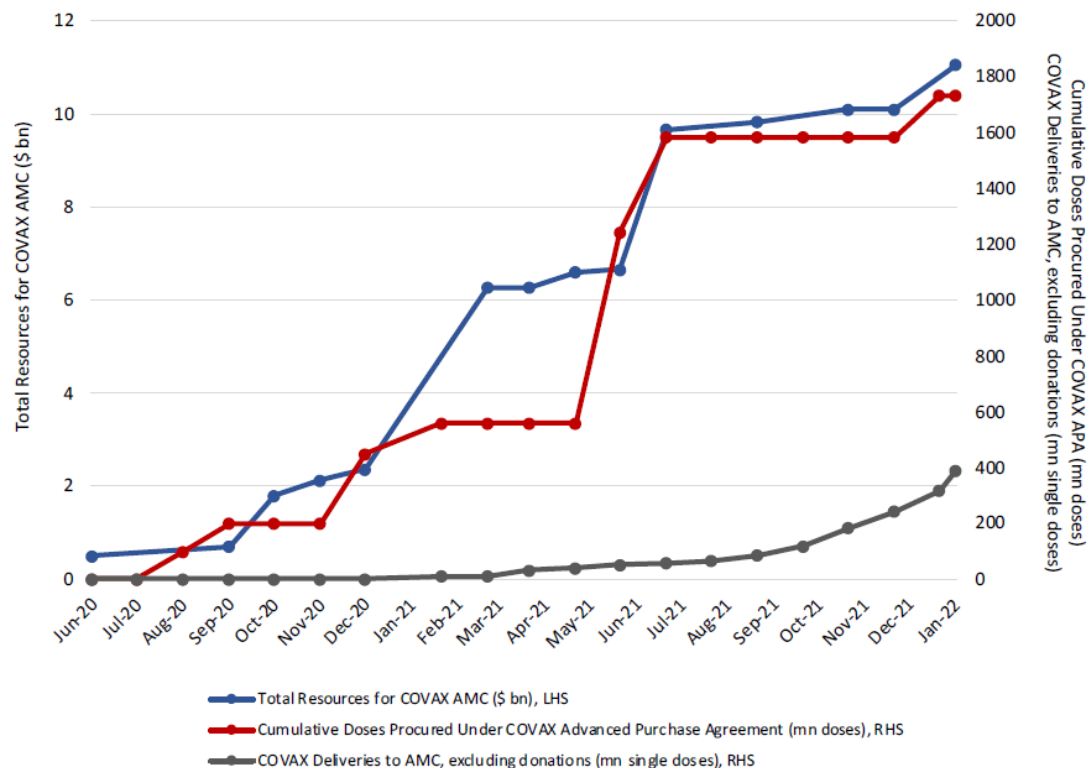
Why didn't low and middle-income order vaccines earlier?

Hypothesis 2: Limited bargaining capacity/power

Smaller economies had less bargaining power with pharma companies

- COVAX AMC (Advance Market Commitment) set up to overcome this problem
 - Facility pooled demand of all LMICs (2.5 billion people), more than G7 economies + EU!
 - Facility could make “at risk” purchases before regulatory approval, and before countries placed orders
- But, COVAX did not have access to sufficient financing until mid-2021

Timing of Funding Raised for COVAX AMC
vs. Procurement and Delivery of Vaccines



SOURCE: Agarwal, R. and Gopinath, G. 2022. Seven Finance and Trade Lessons from COVID-19 for Future. Forthcoming Oxford Review of Economic Policy. October 2022.

Why didn't low and middle-income order vaccines earlier?

Hypothesis 3: Limited access to finance

Finance was not available for “at risk” vaccine purchases for LMICs, before emergency use authorization (EUA)

- COVAX AMC started with only \$300 million in contributions, \$2 Bn in Dec 2020
 - ❖ Even with commitments, COVAX AMC didn't have access to cash
 - European Investment Bank lends against “Team Europe” commitments
 - ❖ Multilateral development banks have capital, but typically lend on a “by country” basis, and so don't make loans directly to COVAX AMC
 - Africa Vaccine Acquisition Trust borrows from AfrExim in advance of country commitments
- World Bank requires approval by multiple Stringent Regulatory Authorities (SRA) before financing purchases
 - ❖ AstraZeneca Oxford vaccine administered in UK, has not been authorized by multiple authorities
- Asian Development Bank and World Bank require either SRA approval or WHO Emergency Use Listing before purchase, prohibiting pre-payments in advance purchase agreements

Lessons for the future

Covid-19 sparked extraordinary interest in pandemic preparedness

- 2017: JYK raises \$181 million for pandemic emergency financing.
 - Pilot project closes in 2020 in April 2020, having disbursed \$258 million using payouts from insurance
- 2020: G20 high-level independent panel recommends \$10 billion per year for new World Bank Financial Intermediary Fund (FIF)
 - Would fund “peace time” pathogen surveillance, interdiction of wild animal trade, and maintenance of vaccine manufacturing capacity
 - \$962 million committed as of May 12, 2022
- To avoid 2021 vaccine access inequity, need strong health systems and “surge” funding for “war time”



A pandemic Advance Commitment Fund could accelerate funding for pandemic response

- Step 1. Countries establish a pandemic Advance Commitment Fund
 - ✓ In “peace time” operations are minimal
 - ✓ Activate to purchase health products during “war time” following rules agreed in advance (e.g., fund triggered when WHO declares global pandemic, or agreed number of death threshold, to avoid moral hazard)
- Step 2. A financier establishes a credit line to the Fund
 - ✓ Credit line becomes active when pandemic declared
 - ✓ Notional value is \$18.3 billion, same given to ACT-A in 2020-21
- Step 3. The Fund invests to secure a place in line on day-zero
 - R&D investments in broad portfolio of candidates, with option to purchase with guaranteed place in line (e.g., at pre-clinical phase)
 - ✓ Support to scale up manufacturing capacity, with option to purchase with guaranteed place in line (e.g., after Phase 1/2 trials)
 - ✓ Advance purchase agreements, with guaranteed place in line (e.g., after Phase 2/3 trials)

A financier could provide a credit line to the Advance Commitment Fund

Manage the risk using these four options separately or in combination:

- A** Donors commit to ACT-A in advance (e.g., \$18.3 Bn from 2020-21)
- B** Low- and middle-income countries guarantee credit line in advance (e.g., through regional orgs like Africa Vaccine Acquisition Trust; PAHO)
- C** Pandemic insurance (e.g., at 11.1% per year)
- D** Shareholders permit financier to bear the risk (e.g., through promising a capital increase after pandemic)

➤ To avoid liability for delivering ineffective or unsafe vaccine, financier commits to finance advance purchase agreements with some pre-payment and a commitment to procure only after emergency use authorization

ACT-A provides operational lessons for Advance Commitment fund

Diversify supply across countries

- ACT-A concentrated orders with Serum Institute of India, which was subject to export restrictions in April 2021
 - **Next time** purchase from **countries that allowed freer flows of exports during COVID-19** (e.g., China, European Union members) and **smaller countries that can satisfy domestic demand more quickly** and need not restrict exports (e.g., South Korea, Switzerland)
- Expanding regional vaccine manufacturing capacity in small countries (e.g., in Africa) would provide double benefit, allowing countries to meet domestic needs faster, and expanding the number of exporters
 - To achieve this, trade law should not punish subsidies for medical products/services, or enforce patents outside high-income countries

More progressive targeting of subsidies

- ACT-A agreed with its donors to provide free vaccines for all low- and lower-middle income countries
- Yet, lower-middle income countries like India, Indonesia, and the Philippines, had resources to procure vaccines for populations at cost
- Scarce donor funds could be deployed more effectively by providing **free vaccines all low-income countries first**

Summary of findings

- A. International inequality in human and economic effects of COVID-19
 - Excluding India, low and lower-middle income countries have had **lower average deaths per million**
 - Yet vaccine access was unequal in 2021
 - Per capita **income convergence forecast to return** in 2023
- B. How did countries cooperate (multilateralism) to respond?
 - G20 offers **forbearance**
 - Development banks provide **cheap finance**, but not for 'at risk' purchases
 - Donors commit \$18 Bn to **ACT-A**, but only after 18 months
 - 24 months into pandemic **vaccine supply is not a constraint**
- C. The response could have been even faster and equitable
 - Had funds been available in early 2020, funds could have been deployed to incentivized **earlier expansion of supply**
 - Earlier orders would also have secured LMICs a more **equitable place in line**, benefiting high risk populations in LMICs