

COVID-19 Vaccines: the daze beyond efficacy

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International
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“vaccines” are the answer, what are the questions?

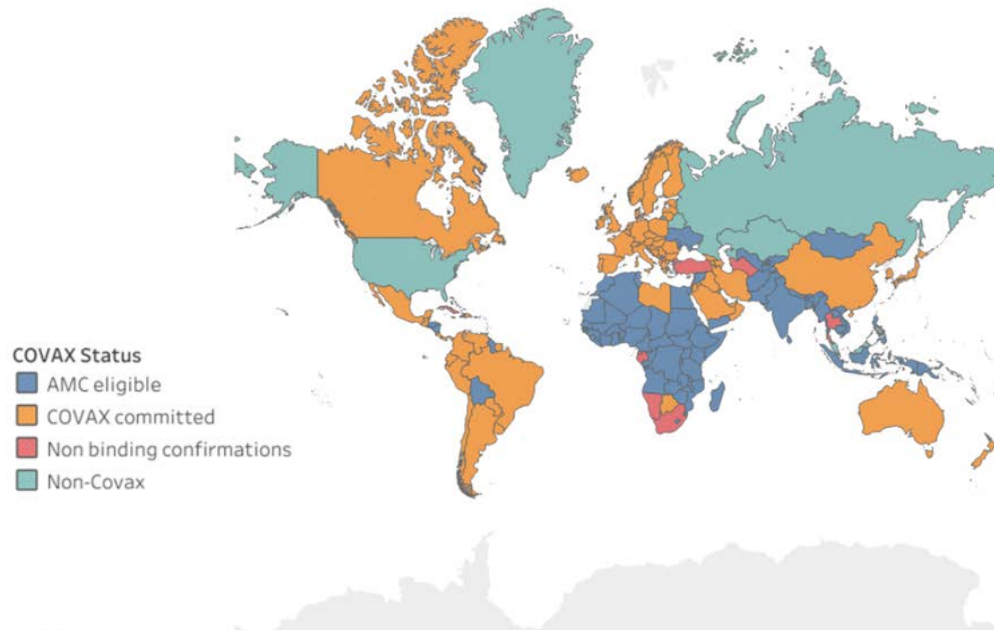
- Pfizer/BioNTech: VE 95%
- Gamaleya: VE 92%
- Moderna: VE 94.5%
- AstraZeneca: 70% overall
90% VE: ½ dose / full dose
62% VE: full dose/ full dose
- Sinopharm: 86%, 79%
- Sinovac: 50% 65% 78% 91%?

The BIG questions

- Can you prove it works: YES
- Can you make it: ???
- Can you use it effectively, fairly: ???

COVAX: potential for near concurrent access

COVAX/Country

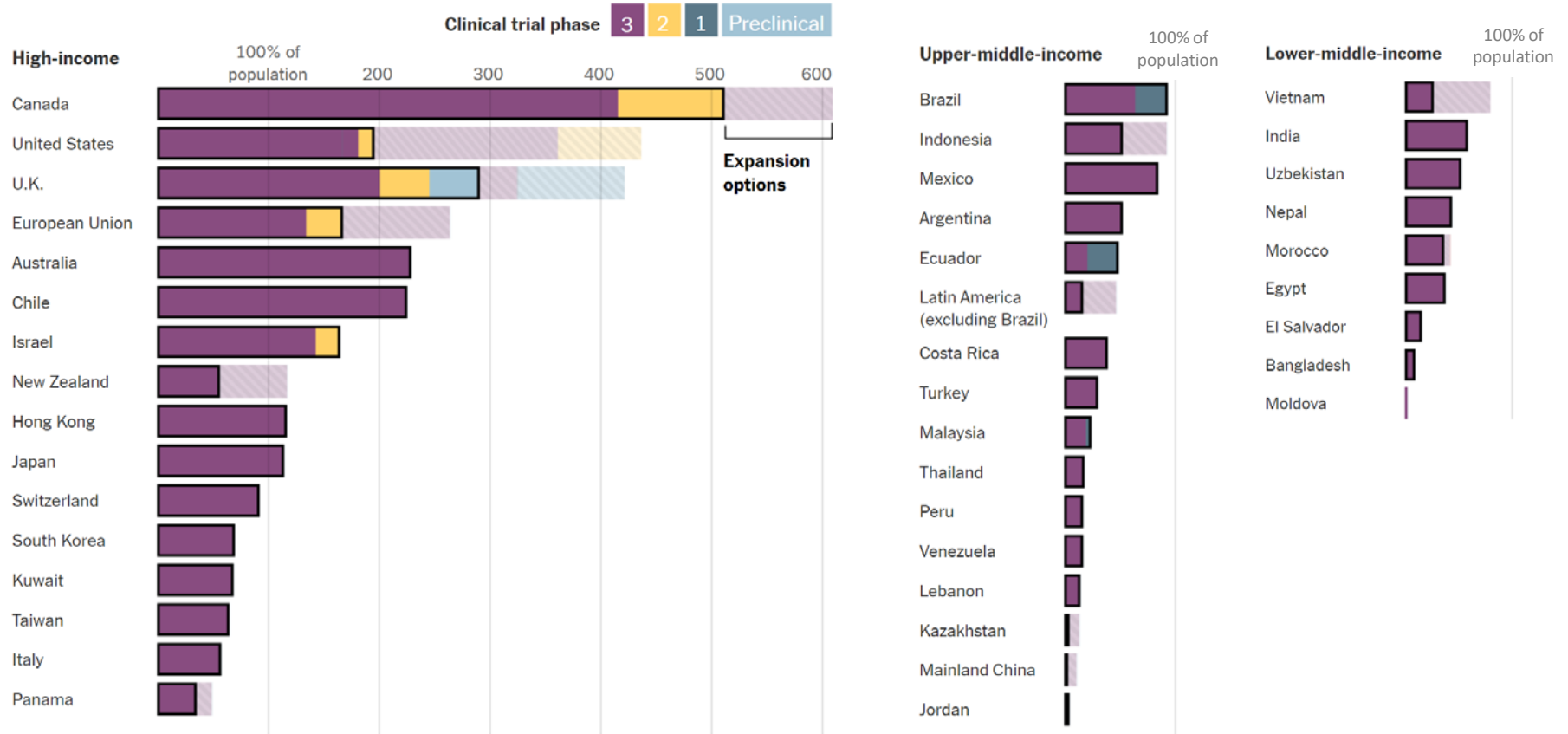


- 189 countries have joined COVAX
- Organized by CEPI, GAVI, WHO
 - Coordinated by Gavi under ACT Accelerator activity
 - 92 LMIC could be supported by the COVAX AMC
 - 2 billion doses of WHO PQ'd vaccines by end of 2021
 - Roughly 20% of need

Updated 29 Oct 2020, Duke Global Health Innovation Center. (2020). Launch and Scale Speedometer. Duke University. Retrieved from: <https://launchandscalefaster.org/covid-19>

- **But 8.8 billion doses are reserved, mainly by high income countries**
- **Modeling suggests that exclusive use of the first 2 billion doses by high income countries without some equity will double global deaths**
- **Is COVAX at high risk of failure (Reuters/Gavi) or hitting its vaccine commitment targets (WHO)?**

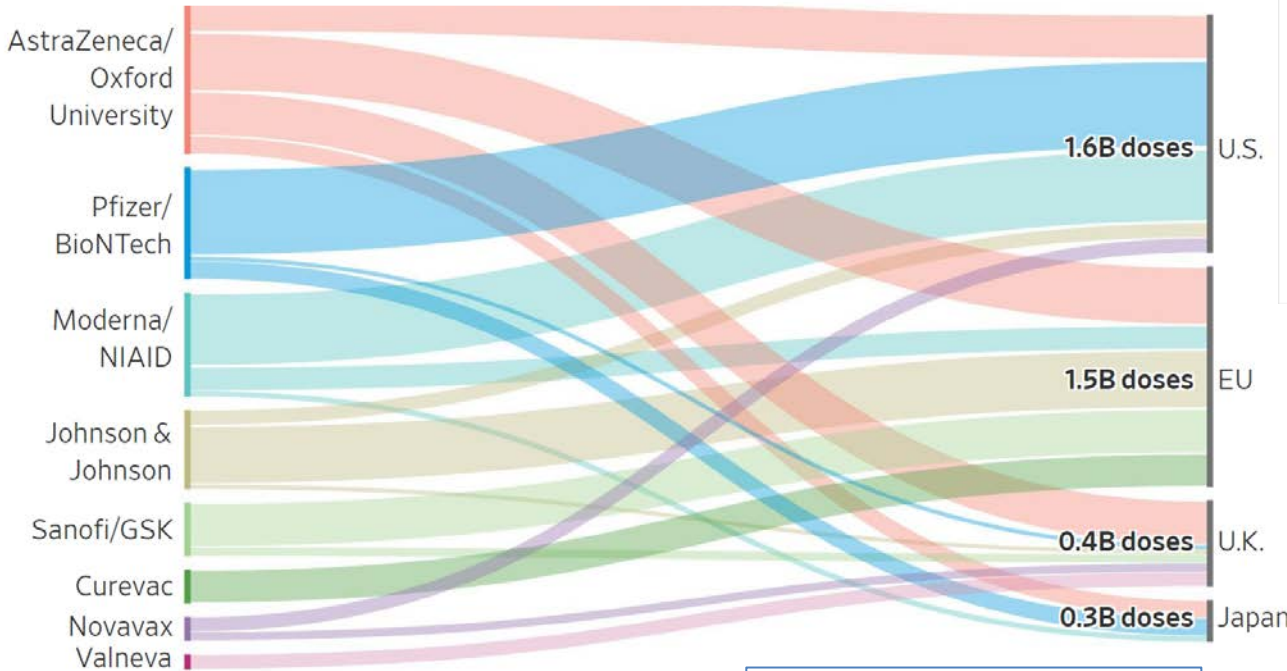
Pre-orders by countries stratified by income



NYT 15 Dec 2020, Duke Global Health Innovation Center, income ranking by WB

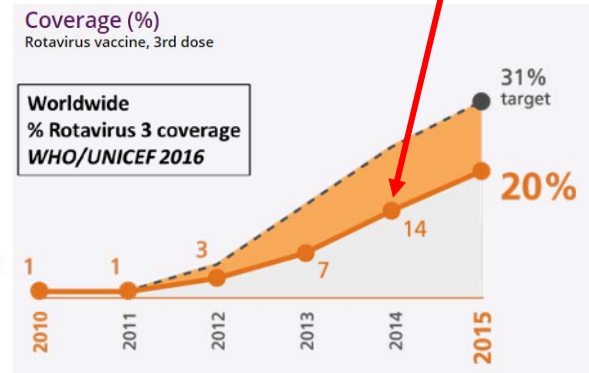
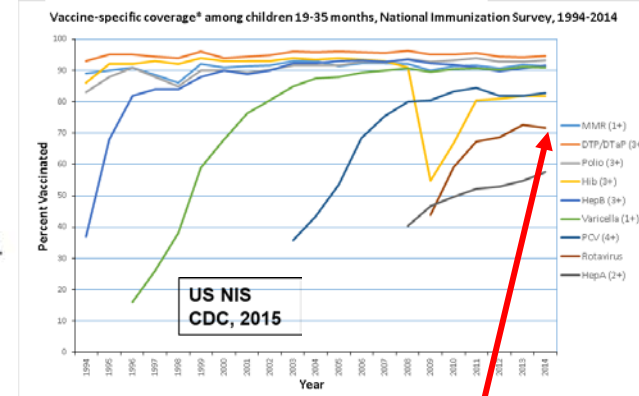
Equity and access – avoiding the Equity Gap

Rich countries have preordered the production of drug makers



Wall Street Journal, 2 Sept 2020

The rotavirus vaccine story



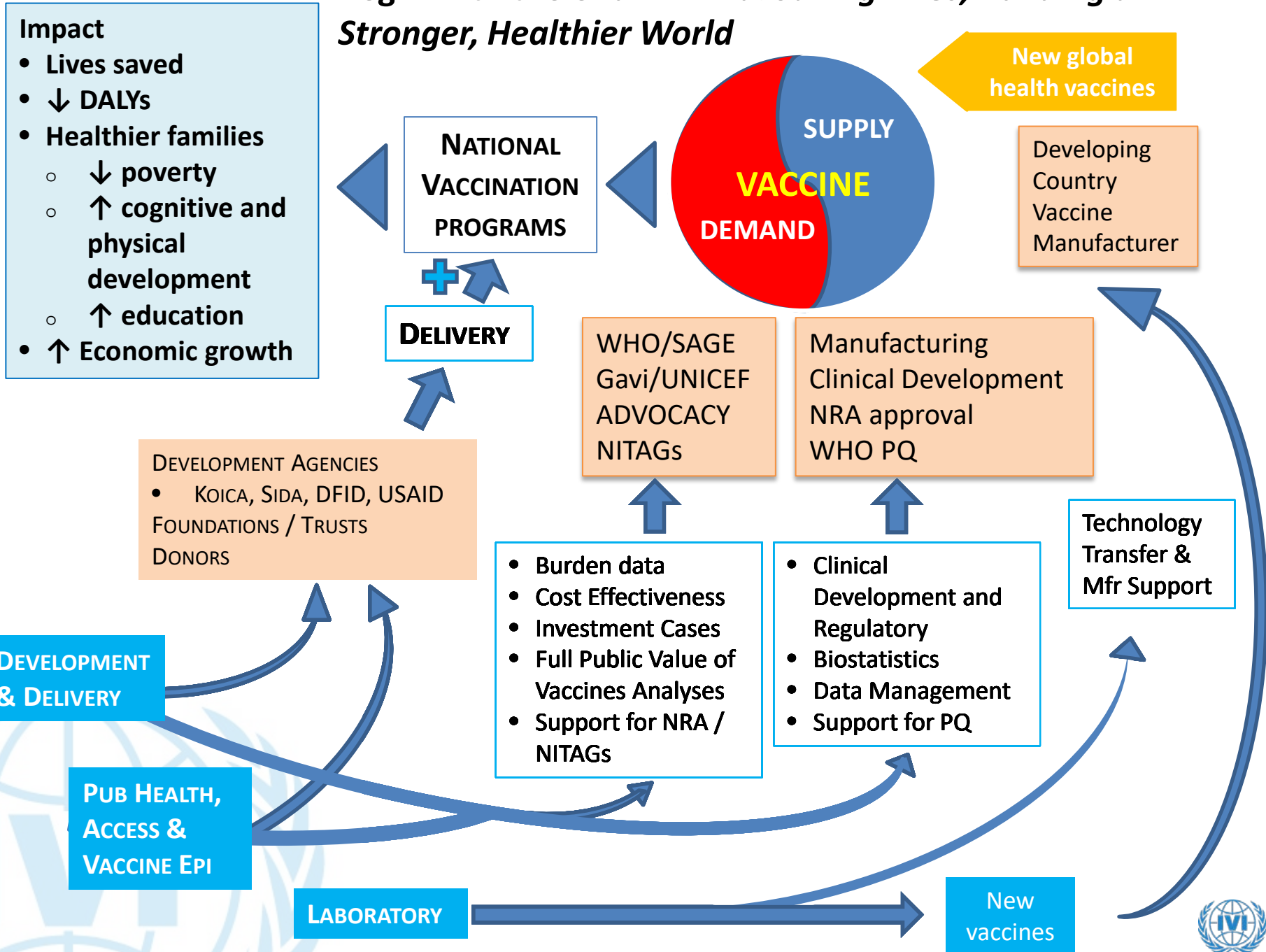
13 years after rotavirus vaccine was approved by the US FDA and 11 years after WHO recommendation, 60% of children do not receive 3 doses of rotavirus vaccine

IVI: Bioinnovation & Facilitation of COVID-19 Vaccine Development



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Begin with the end in mind: *Saving Lives, Building a Stronger, Healthier World*



Model: IVI Cholera Vaccine Programs 2000 - 2020

DOMI
2000

CHOVI
2006

Program	Title	Funding
DOMI	Diseases of the most impoverished	\$40M
CHOVI	Cholera Vaccine Initiative + Cholvax supplement	\$14.1M
Shantha	Technology Transfer to Shantha (Sanofi)	CHOVI
EuBiologics	Technology Transfer to EuBiologics	\$19.7M
Cholvax	Technology Transfer to Incepta	CHOVI
MOCA	Cholera vaccine effectiveness Mozambique	\$3M
GICC-ECHO	Global Initiative for Cholera Control-Ending Cholera (Mozambique/Nepal) KOICA	\$8M
OCV-reformulation	OCV reformulation / Eubiologics / Gates	\$4.5M
Cholera Conjugate Vaccine	CCV / RIGHT Fund / Wellcome Trust	\$7.0M

Shantha
2007

EuBiologics
2010

CCV
Eubiologics

GDEF
2020

OCV
reform. EuB

MOCA
2016

Cholvax
Incepta
2014



IVI: Accelerating COVID-19 vaccine development



- **Support for epi & Phase III site development**

- Sida (Sweden) – two sites in Africa
- BMBF – sites in S/SE Asia
- Gates – Phase III site preparation



- **Supporting Clinical trials for COVID-19 vaccine**

- 4 vaccines: INIVIO, Genexine, Cellid, Clover
- ELISA, wild type neutralization assay
- Clinical trials (Phase I – III)



- **International Standard Serum and Assay development**



- **Pre-clinical support for COVID-19 vaccine & therapeutics**

PARTNERS



Great Integration and Innovation to develop breakthrough biologics



IVI is an International Organization dedicated to Global Health

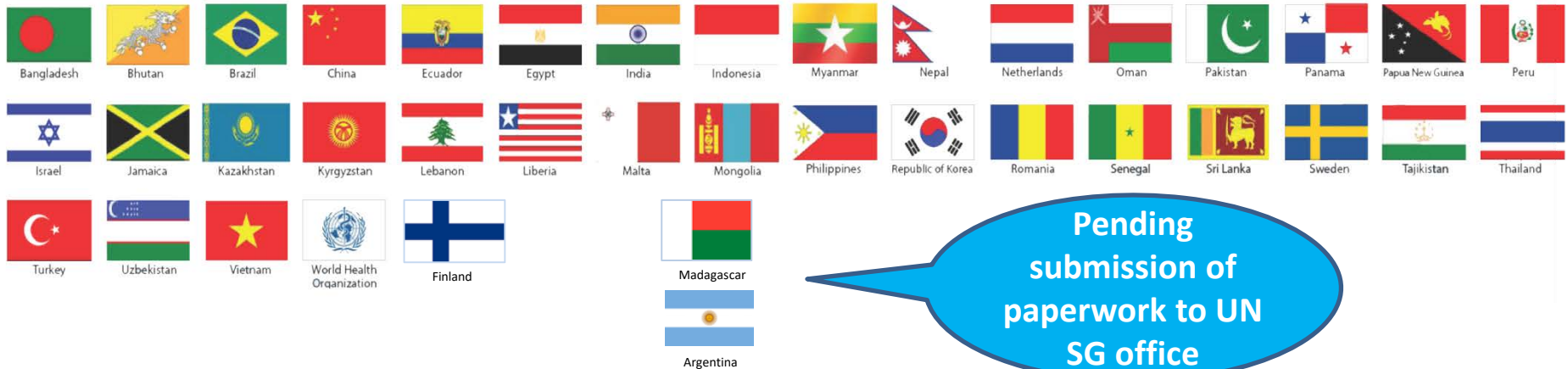


Global Vaccine Research Institute

- HQ and labs at Seoul National University
- Field programs in 28 countries: Asia, Africa, Latin America
- 19 nationalities in workforce of 169

OECD-recognized International Organization (not for profit)

- UNDP initiative
- First international organization in Korea (1997)
- 36 countries and WHO as state parties (now 38 – Madagascar & Argentina pending final submission to UN)



Thank you for your attention!