Introduction to COVID-19 and Vaccination

VACCINE HESITANCY WEBINAR SERIES

OUTLINE

COVID-19 vaccines

Data on the COVID-19 pandemic

Data on vaccination coverage

Why the hesitance?

Vaccine hesitancy continuum

Determinants of vaccination

Infodemic and COVID-19 vaccination myths

COVID-19 VACCINES

▶ Since the beginning of the pandemic, several vaccine manufacturers have been racing to develop safe and effective vaccines

▶ COVID-19 vaccines aim to:

▶ To build immunological protection

▶ Preventing the morbidity and mortality associated with COVID-19

▶ Note: A growing body of evidence shows that the benefits of COVID-19 vaccination outweigh the known and potential risks of COVID-19 infection

https://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines/how-they-work.html

mRNA vaccine

▶ mRNA vaccines are newly available to the public, though researchers have been studying and working with mRNA vaccines for decades.

▶ Technological advancements allow scientists to quickly and easily identify the organism's genes that code for antigens that elicit an immune response

▶ Scientists use this information to guide the host to produce the antigen as opposed to producing it in a factory set-up.
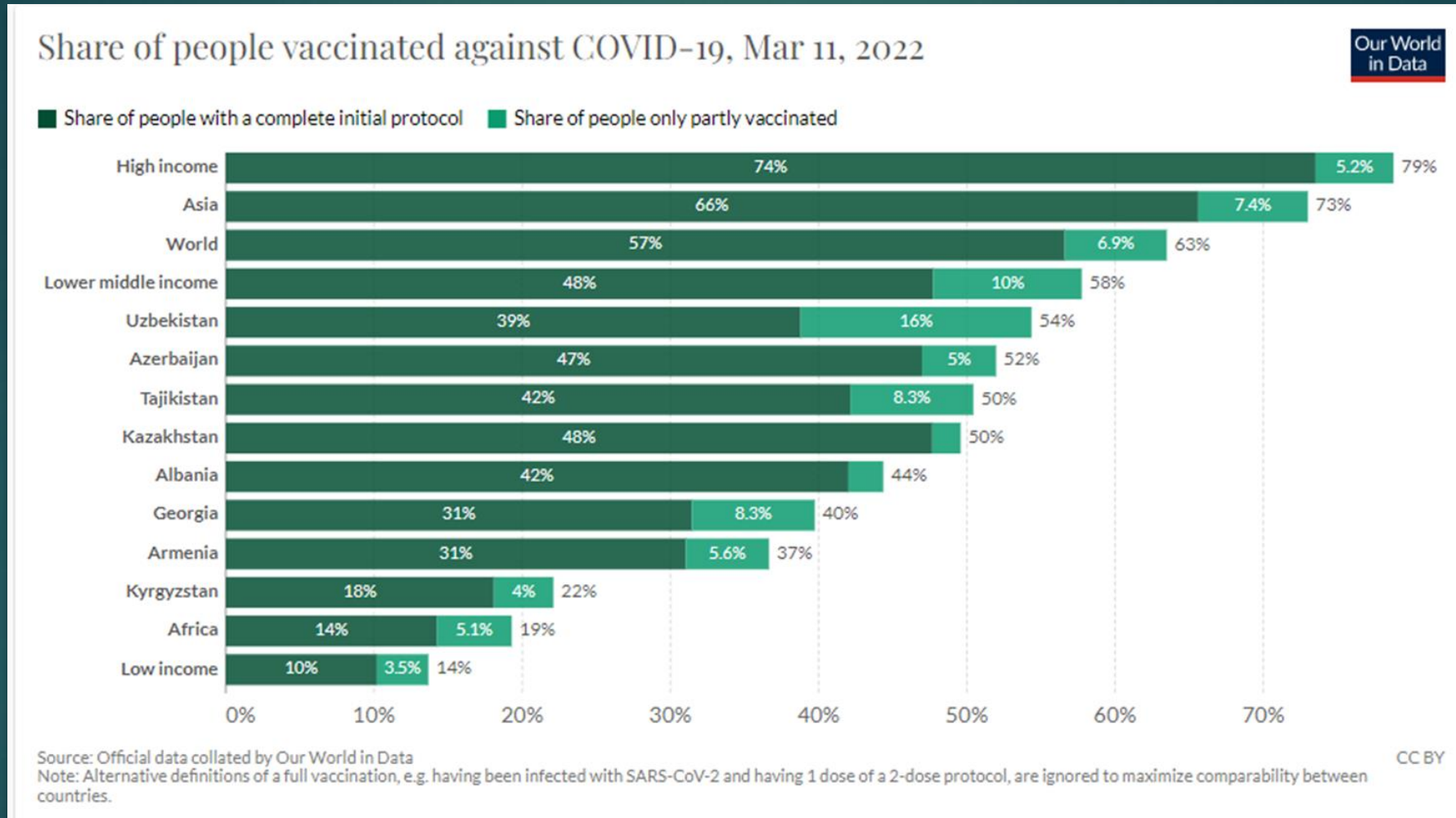
COVID-19 Vaccines and effectiveness against the different strains

▶ COVID-19 viruses are constantly changing and the new variants of the virus are spreading globally

▶ COVID-19 vaccines are effective against the Delta variant and other variants

▶ Current vaccines are expected to protect against severe illness, hospitalizations, and deaths due to infection with the Omicron variant.

▶ Vaccine effectiveness monitoring activities will assist in determining the impact of new strains on COVID-19 vaccines in real-world conditions.

https://www.cdc.gov/coronavirus/2019-ncov/vaccines/effectiveness/work.html

COVID-19 Update in the Region (12th March 2022)

Country	Confirmed cases	Deaths	Vaccine doses
Globally	452,201,564	6,029,852	10,704,043,684 (6th Mar 2022)
Georgia	1,633,443	16,505	2,567,028 (13th Feb 2022)
Kazakhstan	1,392,590	18,989	24,149,547 (20th Feb 2022)
Azerbaijan	790,153	9,575	12,659,541 (20th Feb 2022)
Armenia	421,842	8,568	1,971,565 (13th Feb 2022)
Uzbekistan	237,129	1,637	42,121,870 (20th Feb 2022)
Kyrgyzstan	200,707	2,971	2,492,189 (20th Feb 2022)
Tajikistan	17,786	125	9,279,471 (20th Feb 2022)
Turkmenistan	0	0	7,580,976 (29th Aug 2021)

https://covid19.who.int/

Share of people vaccinated against COVID-19, Feb 15, 2022

Share of people vaccinated against COVID-19, Mar 11, 2022

Our World in Data

■ Share of people with a complete initial protocol ■ Share of people only partly vaccinated

	Complete initial protocol	Partly vaccinated	Total
High income	74%	5.2%	79%
Asia	66%	7.4%	73%
World	57%	6.9%	63%
Lower middle income	48%	10%	58%
Uzbekistan	39%	16%	54%
Azerbaijan	47%	5%	52%
Tajikistan	42%	8.3%	50%
Kazakhstan	48%		50%
Albania	42%		44%
Georgia	31%	8.3%	40%
Armenia	31%	5.6%	37%
Kyrgyzstan	18%	4%	22%
Africa	14%	5.1%	19%
Low income	10%	3.5%	14%

Source: Official data collated by Our World in Data
Note: Alternative definitions of a full vaccination, e.g. having been infected with SARS-CoV-2 and having 1 dose of a 2-dose protocol, are ignored to maximize comparability between countries.

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https://ourworldindata.org/explorers/coronavirus-data-explorer?zoomToSelection=true&facet=none&pickerSort=asc&pickerMetric=location&Interval=7-day+rolling+average&Relative+to+Population=true&Color+by+test+positivity=false&country=AZE~ALB~ARM~Asia~UZB~TKM~TJK~Lower+middle+income~Low+income~KGZ~KAZ~High+income~Africa~GEO~OWID_WRL&Metric=People+vaccinated+%28by+dose%29

Vaccine Hesitancy

▶ Vaccine hesitancy, which is defined by WHO as a "delay in acceptance or refusal of vaccines despite availability of vaccination services"

▶ Vaccine hesitancy occurs on the continuum between high vaccine demand and complete vaccine refusal'

▶ It ranges from total acceptance to complete refusal

▶ They are a heterogeneous group in the middle of this continuum

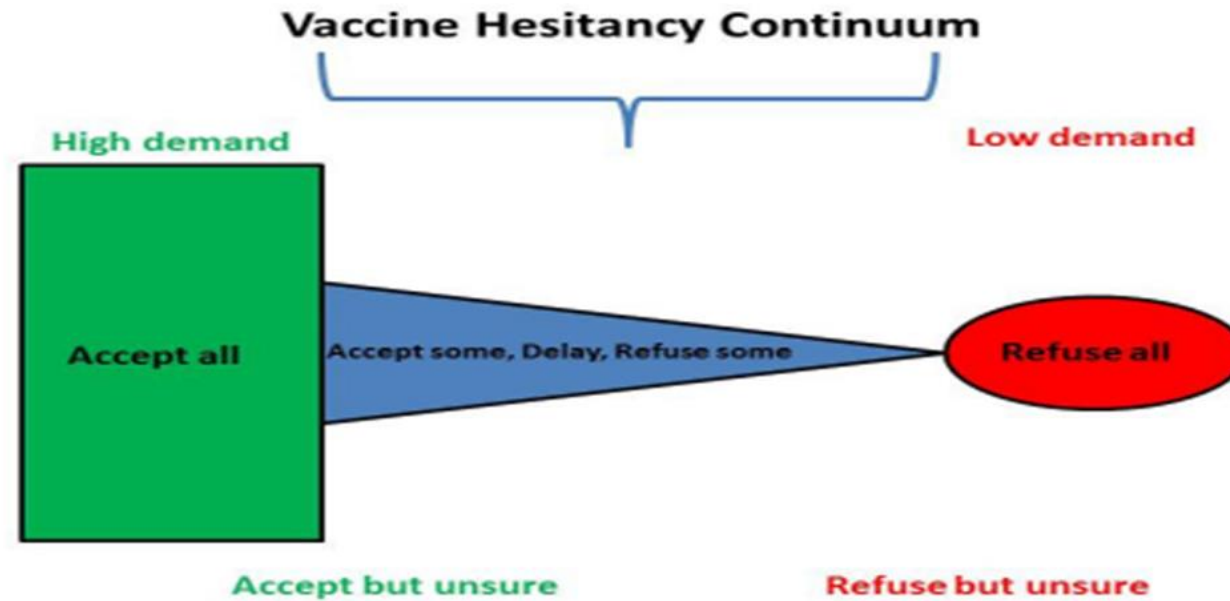▶ Individuals may refuse some vaccines, but agree to others

▶ They may delay accepting some vaccines

https://www.who.int/immunization/sage/meetings/2014/october/1_Report_WORKING_GROUP_vaccine_hesitancy_final.pdf

https://www.thelancet.com/journals/lanchi/article/PIIS2352-4642(19)30092-6/fulltext

Vaccine Continuum

Figure 1: The Continuum of Vaccine Hesitancy between Full Acceptance and Outright Refusal of all Vaccines

Determinants of Vaccination

Confidence

Complacency

Constraints/ Convenience

Calculations

Collective responsibility

Infodemic

Infodemic

- According to the World Health Organization (WHO) this is 'too much information including false or misleading information in digital and physical environments during a disease outbreak.

- Impact of Infodemic

- It causes confusion and risk-taking behaviors that can harm health

- It also leads to mistrust in health authorities and undermines the public health response

- It can intensify or lengthen outbreaks when people are unsure about what they need to do to protect their health and the health of people around them.

- With growing digitization, expansion of social media and internet use, information can spread more rapidly.

- This can help to more quickly fill information voids but can also amplify harmful messages.

Common COVID-19 Vaccine Myths

https://uwaterloo.ca/news/news/q-and-experts-busting-common-myths-about-mrna-vaccines

Common COVID-19 Vaccine Myths

▶ **MYTH:** The natural immunity I get from being sick with COVID-19 is better than the immunity I get from COVID-19 vaccination.

▶ **FACT:** Getting a COVID-19 vaccination is a safer and more dependable way to build immunity to COVID-19 than getting sick with COVID-19.

▶ **MYTH:** COVID-19 vaccines contain microchips.

▶ **FACT:** COVID-19 vaccines do not contain microchips. Vaccines are developed to fight against disease and are not administered to track your movement.

▶ **MYTH:** A COVID-19 vaccine can make me sick with COVID-19.

▶ **FACT:** Because none of the authorized COVID-19 vaccines in the United States contain the live virus that causes COVID-19, the vaccine cannot make you sick with COVID-19.

▶ **MYTH:** A COVID-19 vaccine will affect my fertility.

▶ **FACT:** Currently no evidence shows that any vaccines, including COVID-19 vaccines, cause fertility problems (problems trying to get pregnant) in women or men.

https://www.cdc.gov/coronavirus/2019-ncov/vaccines/facts.html?s_cid=11356:can%20covid%20vaccine%20give%20you%20covid:sem.ga:p:RG:GM:gen:PTN:FY21

COVID-19 Vaccine Hesitancy Challenges

HISTORICAL CHALLENGE: We are witnessing the largest vaccination effort in history, set to determine the course of vaccination in the years to come.

SOCIAL CHALLENGE: Infodemia, anti-vaxx and overall communication around COVID-19 vaccination significantly affect vaccine demand and uptake.

TECHNICAL/REGULATORY CHALLENGE: COVID-19 policies and practices are likely to influence hesitancy to vaccination, thus contributing to the changing of the existing vaccine hesitancy profile in the countries of the region.

Regulatory Challenges

Extended target group beyond traditional immunization programmes

Introduction of novel vaccines

Inequality in access to vaccines, vaccine nationalism and vaccine tourism

Limited transparency in procurement affected people's reaction to vaccinating

Innovative models of vaccine administration

Freedom of choice, access to information and transfer of responsibility

Technical Challenges

Spillover of crisis of trust from overall pandemic response to COVID-19 vaccination

Cash and other incentives

Vaccination requirements

Inter-dependency with other preventive measures

Proliferation of laboratory testing

VAF's Key Collaboration Areas

IMMUNIZATION**:** Review of national immunization plans to ensure effective application of new strategies and removal of key systemic barriers to access to vaccination.

VACCINE PROCUREMENT: Vaccine supply and procurement analysis; vaccine supply market projection reports; implementation guidelines for the national childhood and booster vaccination programs.

VACCINE DELIVERY: Vaccine adherence support; vaccine hesitancy surveys; cold chain capability analysis and roadmap to guide vaccine delivery system strengthening.

VACCINE DEVELOPMENT: Regional vaccine R&D capacity assessment; harmonization of GMP regulatory guidelines.

VAF's SURVEY - METHODOLOGY

Survey

The surveys were developed by VAF key experts based on existing similar surveys from other institutions, as well as feedback from country experts.

The surveys are anonymized to allow participants honest answers.

The survey can be accessed only after the participant has read informed consent and agreed to participate.

Based on the response of Both surveys have English (https://forms.gle/XE8deDbTUm679nEu9) and Russian (https://forms.gle/17cSdVGsAWmRozYs5) versions,

The links branch out to surveys for healthcare managers or providers based on the response at the beginning of the survey.

We do not offer any monetary or otherwise rewards for survey completion to avoid coercion and breaking of anonymity of the respondent.

VAF's SURVEY - METHODOLOGY

Population

- We will use "snowball sampling" methodology to roll out the surveys for all countries except for Tajikistan, where paper-based survey will be used for primary healthcare workers in addition to online variant.
- We chose snowball sampling as it allows collection of data from a relatively unknown population and requires significantly less resources compared to conventional population sampling methodologies.
- Country experts will work with representatives of Ministries of Health in the region to place the links to the survey to WhatsApp chat groups for healthcare workers and the participants to share the links with their colleagues.
- Data analyses
- The surveys will use Google forms to collect and analyze the data.
- The surveys have both close- and open-ended questions.
- The results will be presented as frequencies for close-ended questions and quotes for open ended questions.