Welcome to the World Bank's SAR COVID-19 vaccination strategy workshop series

We want to hear from you;
• If you have questions or comments to share during the presentation, please share your thoughts using the Zoom chat feature
• Our team will monitor the questions and share them with the presenters to address immediately or when they get to the appropriate topic

At the end, there will be a short Q&A session where you can raise outstanding questions

Thank you for your engagement and participation!
Workshop 3: Demand Management

World Bank SAR COVID-19 Vaccine Strategy Workshop Series
Initial series of five workshops to address critical COVID-19 vaccination topics

**Feb. 22:** Intro & potential vaccination scenarios

**Mar. 1:** Supply chain readiness & distribution networks

**Mar. 8:** Demand management

**Mar. 15:** Digitalizing Covid-19 vaccination

**Mar. 22:** Procurement and regulatory best practices

Additional topics to be covered in future workshops
Objectives for today

- Discuss key elements in **beneficiary journey**, approaches to **manage demand**

- Key factors in **generating confidence in vaccination** including **role of communities and social learning**

- Importance of **Equitable demand management** for Covid-19 vaccine

- Engage in **dialogue with regional experts on emerging challenges** being faced by countries in generating Vx demand and how to address them
AGENDA

Welcome remarks & objectives
Ajay Tandon 5 mins

Part 1: Session 1 – Beneficiary Journey and Demand Management
Abhishek Gopalka 20 mins

Part 1: Session 2 – Building confidence in vaccination
Sherin Varkey 15 mins

Part 1: Session 3 : Equitable demand management
Theo Vos 15 mins

Q&A Part 1
Ajay Tandon 5 mins

Part 2: Leadership Panel:
Emerging demand-side learnings from vaccine roll-out 25 mins

Closing Remarks
Trina Haque 5 mins
Part 1: Session 1
Beneficiary Journey and Demand Management

Abhishek Gopalka
Managing Director and Partner, BCG
Demand management must focus on two broad elements

**Coverage**
Maximize vaccination uptake to match demand generation with supply forecast and throughput

**Equity**
Ensure vulnerable groups (e.g., minorities, refugees, underserved communities) are not left out
Drop-offs can occur along multiple steps in the demand journey - critical to address barriers at each step to ensure adequate uptake

- Don’t know vaccines are available
- Don’t know if eligible to receive vaccine
- Don’t know that vaccine is free
- Don’t think vaccines are safe, effective, necessary, or accessible
- Have mistrust on healthcare system
- Don’t know how to register
- Don’t have access to computer/phone/in-person location to register
- Don’t complete registration due to types or length of questions asked
- Don’t know how or forget to schedule appointment
- After registering, don’t know how or forget to schedule appointment
- Can’t find a time that works
- Once an appointment is made, unable to reschedule due to conflict
- Don’t have transportation to vaccination site
- Don’t have paid time-off from work/child-care
- Unfamiliar with/don’t prefer administration site location
- Experiences side effects after first dose; this may be unexpected if insufficient communication about possible side effects at earlier stages of the process
- May decide not to return for second dose
- Too long of a wait once arriving to site
- Unpleasant experience; spreads negative anecdotes via word-of-mouth and may decide not to return for second dose
- Don’t think vaccines are safe, effective, necessary, or accessible
- Have mistrust on healthcare system

Note: Not all of these steps are necessary in an ideal consumer vaccine journey
Demand generation: two aspects

Increase awareness/willingness to take vaccination

- Understand population sentiment towards vaccination
  - Level of awareness
  - Levels of hesitancy/indifference – and their drivers

- Evaluate vaccination turnout (for key population segments) to identify demand gaps

- Develop targeted strategies to address concerns:
  - Behavior change communication
  - Influencers / change-agents
  - Community engagement activities

Ensure a positive beneficiary journey

- Address potential barriers:
  - Before vaccination: Ease of registration and scheduling, ease of access
  - During vaccination: On-site experience, AEFI management
  - After vaccination: Follow-ups and reminders

- Provide incentives to encourage uptake and positive word of mouth
  - Vaccine certificates
  - "Delighters" in vaccination experience

Demand generation activities need to be informed by data-specific to population segments
Several approaches are being used for demand-side research...

Quantitative Surveys
To evaluate sentiment towards vaccination, by population groups - and identify targeted action areas

Social media tracking
To identify information being exchanged on social media regarding vaccination - and respond to address concerns

Rumor mapping
To understand rumors circulating around vaccination and undertake targeted strategies to dispel misinformation

...some opportunities to strengthen the rigor/ actionability of the research

1 Not adequately representative of population
   - E.g., survey limited to digital platforms/ rural areas

2 Limited solution-orientation and actionability
   - E.g., service delivery gaps/ access preferences not evaluated
   - E.g., hesitancy / indifference drivers not identified by population segment

3 Conducted as a one-time exercise
   - Perceptions towards vaccine uptake can change over time (e.g., success of vaccination drives, disease progression, availability of more information)
In addition to research, identify demand gaps by evaluating vaccination turnouts

- Registration data can be leveraged to identify under-represented population segments
- Targeted actions can be taken to increase uptake among these segments

1. From 2019 Census data; 2. Others include Pacific Islander, Native American, Other, and Unknown
3. White, affluent neighborhoods designated as median income over $70k and over 65% white
Source: PCCI data, zip-code.com & BCG analysis
Communications need to be tailored to each segment – potentially informed by behavioral economics

**Indonesia: social media influencers**

- Decision taken to combat skepticism (related to safety and religious beliefs) among young people
- **Social media influencers among those prioritized for vaccination**

**Flu Shots: behavioural economics**

- "Bridging the intention-action gap": SMS texts with ‘reserved for you’ messaging boosted flu vaccine uptake rates by up to 11%\(^a\)
- Behavioural economics principles can be leveraged for Covid Vx as well – e.g., loss aversion, framing the default

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Source: Press searches
A: Research conducted with 700,000 Walmart pharmacy patients and approximately 50,000 primary care patients at Penn Medicine and Geisinger
Key elements to ensure a positive beneficiary journey

Simplify administration processes
Capture data required during registration and minimize end to end time at vaccination site
Ensure data systems are tested for load and use cases

Provide adequate information
Ensure staff is trained to provide adequate vaccination related information (e.g., expected side effects, time between doses)

AEFI management
Set up robust processes to manage AEFI
Ensure digital tracking and monitoring of AEFI cases

Follow-ups and reminders
Ensure follow up after vaccination to collect feedback on experience and monitor for side effects
Set up digital reminders ("nudges") to ensure patients take second dose
Multi-channel registration necessary to ensure maximum coverage

Several examples of countries adopting flexible registration processes

1. **Online**
   - Targeting large percentage of population

2. **Phone**
   - Targeting 65+ and less tech-enabled population

3. **In person**
   - Targeting under-represented community groups

Reducing technological barriers

- **Israel**
  - Using call centers (in addition to online registration) to capture those who do not have access to the Internet/ not tech-savvy

Helping seniors register

- **United Kingdom**
  - Can go through GP-led primary care networks, that population is comfortable with and have existing relationships with
Several considerations possible in vaccination to improve ease of access

Location preferences and accessibility

- Vaccination at nearby clinics vs large hospitals
- On-premise vaccination at work sites
- Mobile vaccination sites
- Free transportation for vaccination

Flexibility for working population

- Vaccination outside of working hours
- Develop legislation to allow paid leave / time off work for vaccination

Countries have been working to provide vaccinations in the most convenient way

Location preferences and accessibility

USA

- Plans to outfit grocery stores as vaccination centres (Arizona)
- Local transit authorities offering free transportation to vaccination sites (San Diego, North Carolina)

Germany

- German employment law allows employees to get vaccinated during working hours, when no appointment can be found outside of working hours
Key takeaways

1. Critical to inform demand generation approach via on-going segment-specific understanding of beneficiary hesitancies and preferences

2. Analyses of registration data can provide early insights into demand gaps

3. Communications need to be tailored to each segment – potentially informed by behavioral economics

4. Ensure a positive end-to-end beneficiary journey – e.g., simplify pre-vaccination processes, make access convenient and ensure seamless day-of experience

5. Consider providing incentives to encourage uptake (e.g., vaccine certificates, "delighters" on-site – e.g., food/dinks)
Part 1: Session 2
Building confidence in vaccination

Dr. Sherin Varkey
Senior Health Specialist, Health Nutrition and Population Practice Group, MENA Region, The World Bank
**What is Vaccine Hesitancy and Vaccine Confidence?**

**Vaccine hesitancy** is defined as a “delay in acceptance or refusal of vaccines despite availability of vaccination services” (WHO).

**Vaccine confidence** is the trust that patients, their families, and providers have in (adapted from CDC 2021):

- Recommended vaccines
- Providers who administer vaccines
- Processes and policies that lead to vaccine development, licensure or authorization, manufacturing, and recommendations for use

Many factors influence vaccine decision-making, including cultural, social, and political factors; individual and group factors; and vaccine-specific factors.

**Vaccine hesitancy has resulted in a 30% rise in measles cases worldwide—even in countries such as the USA, where measles had been eradicated in 2000—prompting WHO to declare vaccine hesitancy one of the ten biggest threats to global health.**

_Sage Vaccine Hesitancy Working Group & Diagnosing the determinants of vaccine hesitancy in specific subgroups: The Guide to Tailoring Immunization Programmes (TIP), Butler and MacDonald Journal of Vaccine, 2015_
Global evidence of vaccine confidence

Global confidence in COVID-19 vaccination is rising. According to a survey done by the Institute of Global Health Innovation, 58% of respondents across 15 countries would get a Covid-19 vaccine. (increased in 11 of the 15 countries since November, when 41% of respondents said they would get vaccinated).

<table>
<thead>
<tr>
<th>Issue</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>People worried about potential side effects</td>
<td>45%</td>
</tr>
<tr>
<td>Believe that their government will be able to provide a vaccine</td>
<td>56%</td>
</tr>
<tr>
<td>Trust the vaccine</td>
<td>68%</td>
</tr>
</tbody>
</table>

The report looks at attitudes towards a COVID-19 vaccine in 15 countries between November 2020 and mid-January 2021. Countries included are Australia, Canada, Denmark, Finland, France, Germany, Italy, Japan, Netherlands, Norway, Singapore, South Korea, Spain, Sweden and the United Kingdom. The total sample is of ~13,500 people.

Factors influencing Vaccine confidence and uptake

The vaccine demand continuum

- Vaccination hesitancy: Accept some, delay some, refuse some
- Refuse all vaccines
- Passive Acceptance
- Demand

Factors influencing Vaccine confidence and uptake:

- Factors related to the illness and the vaccine
- Community-level factors (Health systems, social norms), “historical” factors
- Individual-level factors
- Behavioral biases (risk aversion, intention-action gap)

Susceptibility to misinformation

The COVID-19 Infodemic

• Misinformation and disinformation can cause grave harm to health, public trust and social cohesion
• Digital media has transformed the way and speed with which information is created, disseminated and consumed.

Communities on Facebook that distrust establishment health guidance are more effective than government health agencies and other reliable health groups at reaching and engaging "undecided" individuals. (Johnson et al, Nature May 2020)
Managing the Infodemic

• While it is not possible to eliminate, it is possible to manage the Infodemic.
• Infodemic management must be backed by science and make use of best practices
• Moving from surveys, to datapools and AI analytics that are real-time, flexible and locally adaptive.

Source: WHO https://whoinfodemic.citibeats.com/?highlight=IND,BRA,IDN,AGO,SEN&intent=C&cat=7CYMF9PJ2hQ7oJ2GNoTkWE, accessed on 5 March 2021
Use of Social Media

Building Confidence

“It seems the vaccine causes great joy and hope”

Sharing Information

Realtime data on registration, vaccine coverage, monitoring findings

I just registered to get the COVID vaccine in Lebanon, a smooth and easy process. It’s worth registering even if you’re in a group like me that would probably only get the vaccine way down the line.
Use of Social Media

Ensuring Accountability

Promoting Equitable Distribution

Jessica G. Obeid @Jessica_Obeid - 16h
We need to talk!
We won't change the country overnight, nor next month, nor next year. But we need to FOCUS efforts for a defined period to achieve even ONE thing that matters.
The vaccine roll-out seems like a good start.
FocusedEffortEverySingleDay

Timour Azhari @timourazhari - Mar 3
!! A Lebanese judge has ordered the health ministry to vaccinate an
man within 48 hours or pay a LL10 million fine for each day of delay,
it violated the principle of equal access by allowing lawmakers/office
jump the queue.

Implications for elsewhere?
Engaging communities with social listening, community health networks

Understanding community perspectives through social listening (offline and digital) and adopting a proactive approach.

Reaching communities through community health workers, vaccinating rural and vulnerable communities through mobile/outreach teams.


What can be done to address hesitancy and build confidence?


(Source: Guide to COVID-19 vaccine communications A practitioner’s guide to the principles of COVID-19 vaccine communications, Center for Public Interest Communications at the University of Florida College of Journalism and Communications in partnership with Purpose and the United Nations Verified initiative)
Focusing on the Messenger

Health care workers are critical and trusted sources for information. Target health workers as they are important influencers and are hesitant themselves.

* 13% of respondents involved in the health sector

Source: Survey supported by eMBeD team, World Bank, 2021

Immunize those who are willing and use them as Champions, build awareness on safety of vaccines and diligence of approval processes, address inequities in access and distribution.

Key takeaways for building vaccine confidence:

- Quick win – focus on the “persuadable”
- People believe in stories and anecdotes
- Lessons from the past – move away from verticality
- Address inequities at community, country and global level
- Find allies, champions who are trusted by the public
- It's all about TRUST


Elvis Presley appeared on the Sullivan show and received the Salk vaccine on TV. Vaccination rates among American youth skyrocketed to 80 percent after just six months.

Learning Resources:

Compiled from Workshop organized by World Bank MENA HNP practice and eMBeD on Building Vaccine Confidence on 2 March 2021

For WHO tools to address vaccine hesitancy see https://www.who.int/imunization/programmes_systems/vaccine_hesitancy/en/

Want to keep updated on infodemic management? WHO infodemic health topic: https://www.who.int/health-topics/infodemic#tab=tab_3

Information Network for Epidemics: https://www.who.int/teams/risk-communication

Subscribe to the WHO Infodemic Management News Flash: https://who.us18.list-manage.com/subscribe?u=74c4caeb23ab5c61c17e22a7&id=995f9a6165

Previous issues: https://us18.campaign-archive.com/home/?u=74c4caeb23ab5c61c17e22a7&id=995f9a6165

This work is part of the advancing the Public Health Research Agenda on Managing Infodemics: https://www.who.int/publications/i/item/9789240019508

Read about it: https://www.who.int/news/item/02-02-2021-who-public-health-research-agenda-for-managing-infodemics

Sabin and UNICEF webinar series on Inoculating against Misinformation

https://lnct.global/events/boost-webinar-inoculation-against-misinformation/
Part 1: Session 3
Equitable demand management
Discussion topics

- Define equitable
- What do we know about pandemic (in South Asia)?
- What do we know about vaccines and virus variants?
What is equitable re COVID-19 vaccination

- US National academies was asked to formulate criteria for equitable distribution of vaccines among groups of vaccine recipients based on
  - Population health disparities
  - Those at higher risk due to health status, occupation or living conditions
  - Geographical active virus spread
- Lockdown measures in most countries motivated by pressure on health services to cope with severe infections
- Reasonable to take severe infections (deaths as a proxy) as a guide
Discussion topics

- Define equitable
- What do we know about pandemic (in South Asia)?
- What do we know about vaccines and virus variants?
IHME Covid latest model development

January 2021 –
- Map cases, hospitalizations and deaths into daily infections using the infection detection rate, infection-hospitalization rate and the infection fatality rate
- Fit an SEIR model to daily infections for (almost) every country and admin 1 level in some countries (e.g. India states and Pakistan provinces)
- Including predictors
  - Mobility
  - mask use
  - Testing
  - pneumonia seasonality
  - vaccination
  - new variant prevalence

February 2021 – transition to model that allows for reduced cross-variant immunity
Empirical observations

Infection to detected cases

Infection-hospitalization

Infection fatality by age

Ratio of deaths to infections, India 2020

Infections and deaths by age, India 2020

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South Asia
Fitting model to the past
Population health disparities

- Exponential increase in severe disease/death with age
- M>F
- In US, BRA greater risk in ethnic minority groups
  - Higher infection rates due to living conditions, higher risk jobs
  - Comorbid risks: obesity/diabetes, COPD, heart disease
  - No differential in risk of death once hospitalized
- In India, greater concentration of infections and deaths in urban areas
- Study of 6400 genomes in India found evidence for presence of all major variants but too little information to identify geographical presence
Discussion topics

- Define equitable
- What do we know about pandemic (in South Asia)?
- What do we know about vaccines and virus variants?
## Estimated vaccine effectiveness

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Efficacy at preventing disease - wildtype / B.1.1.7</th>
<th>Efficacy at preventing infection - wildtype/B.1.1.7</th>
<th>Efficacy at preventing disease - B.1.351 / P.1</th>
<th>Efficacy at preventing infection - B.1.351 / P.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pfizer</td>
<td>95%</td>
<td>86%</td>
<td>72%</td>
<td>63%</td>
</tr>
<tr>
<td>Moderna</td>
<td>94%</td>
<td>85%</td>
<td>72%</td>
<td>62%</td>
</tr>
<tr>
<td>AstraZeneca</td>
<td>74%</td>
<td>52%</td>
<td>10%</td>
<td>9%</td>
</tr>
<tr>
<td>Janssen</td>
<td>72%</td>
<td>72%</td>
<td>64%</td>
<td>56%</td>
</tr>
<tr>
<td>Sputnik V</td>
<td>92%</td>
<td>80%</td>
<td>70%</td>
<td>61%</td>
</tr>
<tr>
<td>Novavax</td>
<td>89%</td>
<td>77%</td>
<td>49%</td>
<td>43%</td>
</tr>
<tr>
<td>CoronaVac</td>
<td>50%</td>
<td>43%</td>
<td>38%</td>
<td>33%</td>
</tr>
<tr>
<td>Sinopharm</td>
<td>73%</td>
<td>63%</td>
<td>56%</td>
<td>48%</td>
</tr>
<tr>
<td>CanSinoBio</td>
<td>66%</td>
<td>57%</td>
<td>50%</td>
<td>44%</td>
</tr>
<tr>
<td>Other mRNA vaccines</td>
<td>95%</td>
<td>83%</td>
<td>72%</td>
<td>63%</td>
</tr>
<tr>
<td>All other vaccines</td>
<td>75%</td>
<td>65%</td>
<td>57%</td>
<td>50%</td>
</tr>
</tbody>
</table>

- Greatest efficacy against disease (incl variant first detected in UK)
- Reduced efficacy against disease due to variants first detected in Sth Africa/Brazil
- Lesser efficacy in preventing infection
Variant scale-up results

Key research question is how will different variants compete with each other particularly B.1.351/P1 versus B.1.1.7?

Clearly linked to issues of cross-variant immunity as well.
Reduced cross-variant immunity

• Attack rate in the Novavax placebo arm was 3.9% in COVID-19 antibody positive and negatives.
• Surge in Amazonas, Peru and other locations strongly suggests some reduced cross-variant immunity.
• If there is reduced immunity between ‘wild’ type and B.1.351/P1 this has profound effects on the prospects of achieving herd immunity and forecasts for the northern hemisphere winter 2021/2022.
## Excess death and infection rates South Asian countries, 2020

<table>
<thead>
<tr>
<th>Country</th>
<th>Deaths per 100,000</th>
<th>Infections per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afghanistan</td>
<td>32</td>
<td>6568</td>
</tr>
<tr>
<td>India</td>
<td>27</td>
<td>4561</td>
</tr>
<tr>
<td>Maldives</td>
<td>22</td>
<td>4979</td>
</tr>
<tr>
<td>Nepal</td>
<td>16</td>
<td>3544</td>
</tr>
<tr>
<td>Pakistan</td>
<td>14</td>
<td>3731</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>14</td>
<td>2078</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>7</td>
<td>373</td>
</tr>
</tbody>
</table>
ICMR antibody study

<table>
<thead>
<tr>
<th>Variable</th>
<th>Odds ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
</tr>
<tr>
<td>18-45</td>
<td>1.0</td>
</tr>
<tr>
<td>46-60</td>
<td>1.21 (0.87-1.68)</td>
</tr>
<tr>
<td>&gt;60</td>
<td>1.28 (0.94-1.74)</td>
</tr>
<tr>
<td><strong>Male sex</strong></td>
<td>1.22 (0.99-1.50)</td>
</tr>
<tr>
<td><strong>Area of residence</strong></td>
<td></td>
</tr>
<tr>
<td>Urban slum</td>
<td>7.23 (5.67-9.21)</td>
</tr>
<tr>
<td>Urban non-slum</td>
<td>3.48 (2.65-4.58)</td>
</tr>
<tr>
<td>Rural (Village)</td>
<td>1.00</td>
</tr>
</tbody>
</table>
What would lead to equitable allocation of vaccines?

1. Dominant strategy: protect the elderly who are at much higher risk of adverse outcomes

2. Secondary considerations
   a) greater risk of disease transmission in urban areas, crowded living conditions (poor neighborhoods, slums)
   b) give preference to those with major risks (obesity, DM, heart disease, existing chronic respiratory disease)

3. .....how long will immunity last? .... will we need regular boosters to deal with new variants?
Part 2: Leadership panel
Emerging learnings from Vx roll out
Introducing our esteemed panelists and moderator

Layla Saad
Social/Behaviour Change Adviser, UNICEF Regional office, South Asia Region

Dr. Ghulam Dastagir Nazary
National EPI, Director, Spokesperson and Senior Advisor, Ministry of Public Health, Afghanistan

Dr. Meerjady Sabrina Flora
Director, Institute of Epidemiology, Disease Control and Research, Bangladesh

Dr. Soofia Yunus
Deputy National Program Manager, Expanded Program on Immunization, Pakistan

Moderated By:
Gandham N.V. Ramana
Lead Health Specialist
Key topics for discussion today

1. Best practices in communication design and channel strategy which countries should consider to build trust in vaccines

2. Country perspectives on emerging concerns on vaccine hesitancy among the population and methods to tackle them

3. Innovative solutions to help countries ensure the proper reach and distribution of vaccine

4. Role played by non-government agencies like NGOs, civil societies etc. to improve vaccine uptake
Closing Remarks

Trina Haque
Practice Manager, Human Development, South Asia Region,
World Bank
Thank you for joining the third workshop in our World Bank SAR COVID-19 Vaccine Strategy Workshop Series.

The next workshop will take place on Monday March 15 at the same time. Key topics:

• Understand emerging trends in Digitizing the Covid-19 Vx rollout
• Understand key learnings and challenges from different countries in their journey to digitize Vx rollout

If you have not already, please RSVP at

https://www.113.vovici.net/se/13B2588B3F19B167