Welcome back to the **World Bank's MENA COVID-19 vaccination strategy** workshop series

We will be starting shortly

Here are some ways to **engage with us** today

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

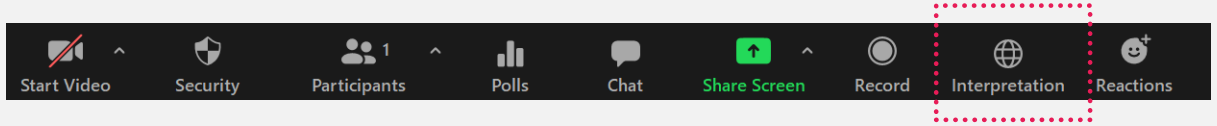
At the end, there will be a **short Q&A session** where you can raise outstanding questions

Thank you for your engagement and participation!

Interpretation options available in **French** and **Arabic**

1

In your meeting/webinar controls, click **Interpretation**



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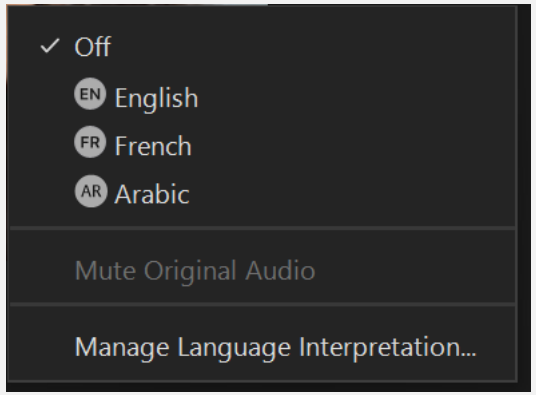
Click the language that you would like to hear.



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BOSTON CONSULTING GROUP

Workshop 6: COVID-19 Vaccine Costing and Human Resources

World Bank MENA COVID-19 Vaccine Strategy Workshop Series

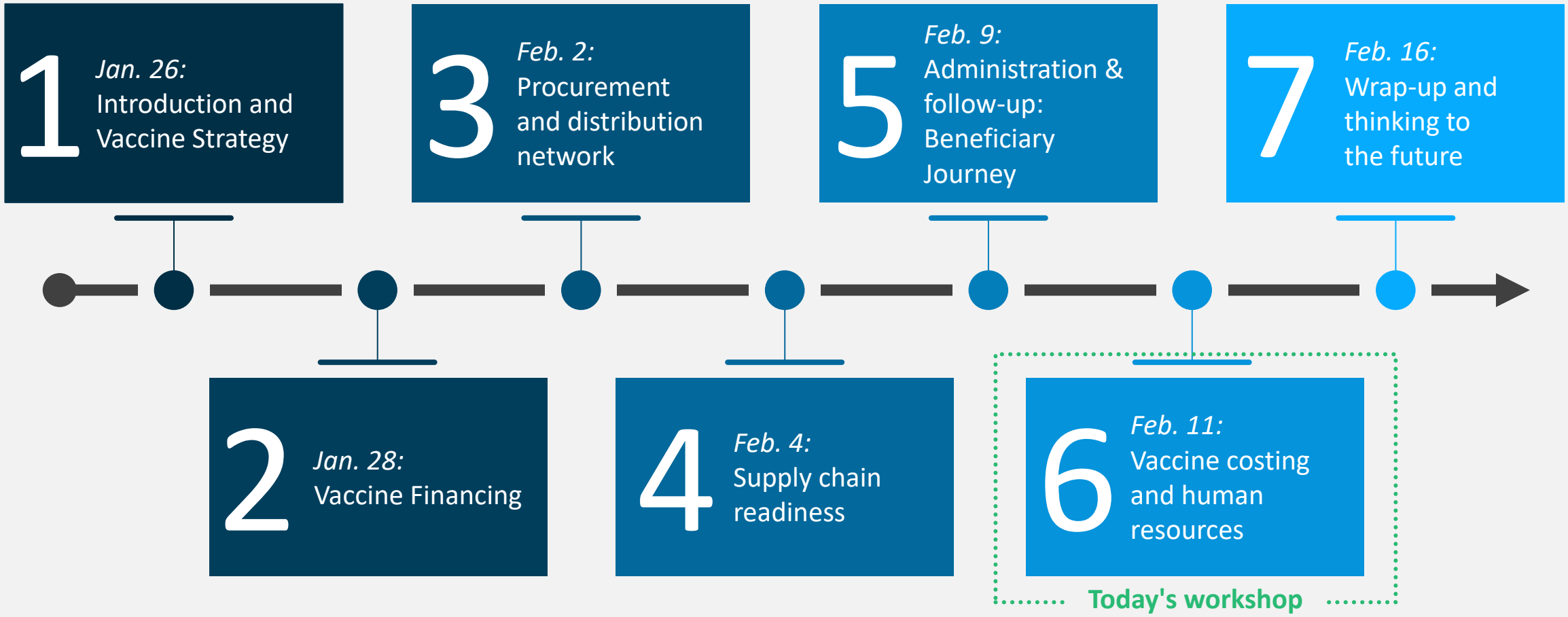
THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP

11 FEBRUARY 2021

Welcome Remarks

by Jorge Coarasa,
Senior Economist, World Bank

Sixth in seven workshops to address critical vaccination topics



Objectives for today

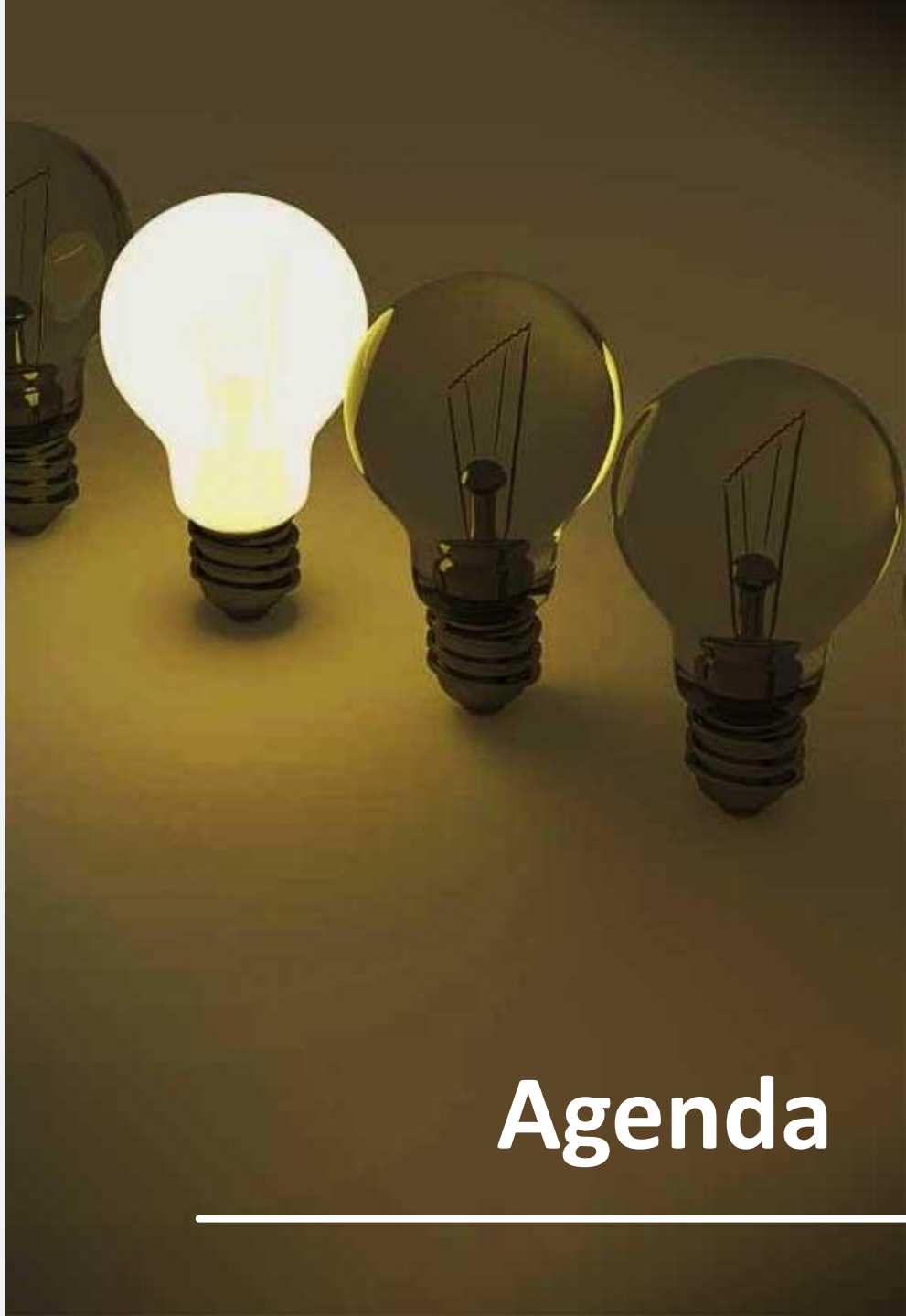
- Share strategies on the **costing process** and **uncertainties** and review **key tools** available
- Discuss levers to **increase health care worker capacity**
- Engage in **peer-to-peer l**earning by hearing about **Tunisia's** vaccine costing journey and about **West Bank and Gaza's** health care worker strategy

Recordings and materials (including French and Arabic versions) can be found on the World Bank event website

Website link will be shared in the zoom chat and via email

Agenda

Welcome remarks and objectives	08:00 – 08:05 am
Part 1: Costing Process, Uncertainties, and Sources	08:05 – 08:25 am
Part 2: Costing tool	08:25 – 08:35 am
Part 3: Tunisia's approach to costing	08:35 – 08:45 am
Part 4: Human resources for health to support the COVID-19 vaccination roll out	08:45 – 09:00 am
Part 5: West Bank & Gaza perspectives on health care worker capacity	09:00 – 09:10 am
Q&A and closing	09:10 – 09:30 am



Part 1: What will it cost to vaccinate the population?

by Dr. Sarah Alkenbrack, Senior Health Economist with Health, Nutrition and Population Global Practice, World Bank

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Outline

1. Overview of the costing process
2. Quick review of indicative costs
3. Key decisions, uncertainties and resources

Key costing questions to support vaccine deployment planning

Cost of what?

- What will it cost to reach goals of national delivery and vaccination plans (NDVPs)?
- What can be achieved within the available resources?
- What are the biggest/most critical gaps and what will it cost to address them?

Cost to whom?

- Who are the 'budget holders'? (national vs. subnational government; other sectors; multi-lateral development banks; development partners, etc.)
- How can the costing process be used to ensure alignment/harmonization of funds from multiple sources?

Cost for when?

- What are the cost implications for the future?
- What are the immediate and long-term costs/benefits across sectors?

Outline

1. Overview of costing process
2. Quick review of indicative costs
3. Key decisions, uncertainties and resources

Estimated cost to vaccinate one person in MENA countries

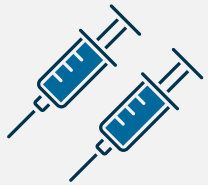
Anticipated average cost per dose	Two doses needed for most vaccines	Transportation cost currently included in dose price	Service delivery & supply chain in country $1.67 - $2.36 per dose; 5% wastage	Climate sensitive cold chain investment	Cost of fully vaccinated person
$7.00/ $10.55[2]	$14.00/ $21.10[2]	n/a	$1.39-$1.97	+ 20% of deployment costs	**$18.21-$19.12** in AMC countries **$27.11-$28.47** in other countries
Dose prices vary based on producer and country income classification COVAX suggests AMC countries assume $7/dose, and $10.55 for self-financing countries. Includes syringes & safety boxes	Only J&J vaccine is a one dose regimen Assumption of 5% wastage factored into vaccines and service delivery unit cost; COVAX currently not delivering additional doses to include wastage	COVAX includes transportation cost to country in price/dose Vaccines purchased via direct agreements may need to account for this (~10%)	Cost estimates for supply chain and service delivery are based on data from COVAX costing group's compilation of unit cost data for both non-COVID and COVID immunization. Estimates presented above are for Gavi and non-Gavi eligible countries	Cost estimates for climate friendly cold chain are estimated by the Energy & Extractives Global Practice at the World Bank, and are on a global basis	

Costs assume existing system can be leveraged; only includes incremental financial cost; health worker salaries excluded

1. (20% of service delivery and supply chain cost); 2. AMC / Other
Source: Portnoy A, Vaughan K, Clarke-Deelder E, Suharlim C, Resch SC, Brenzel L, Menzies NA. Producing standardized country-level immunization delivery unit cost estimates. PharmacoEconomics. Sept 2020;38 (9):995-1005.

Annual resource needs for 2021 on vaccines alone will increase substantially in MENA region*

Covering 20% of the population in 2021 would require a **1.5 to 2.5-fold increase in vaccine spending** in AMC countries and a **1.5 to 5-fold increase** in self-financing countries



Covering 25% of the population in 2021 would require a **3.4 to 10-fold increase in vaccine spending** in AMC countries and a **2 to 13-fold increase** in self-financing countries

Covering 35% of the population in 2021 would require a **5 to 15-fold increase** in vaccine spending in AMC countries and a **3 to 19-fold increase** in self-financing countries

*Analysis excludes delivery and investments needed to support successful vaccination of the adult population

Strengths of indicative approach…

- Relatively fast and inexpensive
- Helpful for informing dialogue around resource mobilization, particularly financing through loans and development assistance
- Justifiable at earlier stages of planning given uncertainty around vaccine pricing, efficacy, approvals and availability; readiness assessments, etc.
- Likely gives reliable estimate of vaccine costs compared with more detailed costing

… and its limitations

- Does not factor in need or readiness assessments
- Typically, does not reflect variation of service delivery modality; in reality, cost structure of outreach vs. fixed will vary
- Does not distinguish between cost type: variable costs vs. fixed; capital vs. recurrent; systems building vs. incremental
- Does not estimate synergies/economies of scale
- Not appropriate for budgeting

But costing is typically **iterative**; as **more details become available** at country level, more precise estimates are possible

Outline

1. Overview of costing process
2. Quick review of indicative costs
3. Key decisions, uncertainties and resources

Vaccine costs

Which vaccine products?

Most countries will have to purchase and manage the implementation of more than one type of vaccine

- Purchase costs ranging from $2.5 to > $44 per dose globally
- Variable implementation costs depending on ultra cold chain requirements (mRNA vaccines) or single dose (J&J) versus 2 doses vaccines (all other current frontrunner vaccines)

What level of coverage and frequency?

Uncertainty regarding duration, immunity with new variants, need for boosters, etc.; wastage also uncertain

Cost to whom?

AMC92 countries:

- Will receive first 20%* fully subsidized by COVAX AMC
- Many countries drawing on MDB financing for vaccines
  - May cost-share additional doses at $7/dose up to supply constraint of ~ 7% of population*

* Number of vaccines subsidized, supply availability changes regularly; unit costs based on averages communicated by COVAX and manufacturers, and global service delivery estimates

Delivery costs

Informed by 4 factors:

- A Population characteristics
- B Needs and readiness
- C Costing studies and unit cost estimates
- D Resource availability

A

Population characteristics determine delivery modality; affects cost

MENA countries have advantage of young population but some of the world's highest obesity and diabetes prevalence rates

Country Name	Nurses and Physicians (%)	Population ages 65 and above (%)	Obesity rate (%)	Diabetes prevalence rate (%)
Algeria	0.33	7	27	6.7
Bahrain	0.34	3	30	15.6
Djibouti	0.10	5	14	5.1
Egypt	0.24	5	32	17.2
Iran	0.42	6	26	9.6
Iraq	0.28	3	30	8.8
Jordan	0.51	4	36	12.7
Kuwait	1.01	3	38	12.2
Lebanon	0.38	7	38	11.2
Libya	0.86	4	33	10.2
Morocco	0.21	7	26	7
Oman	0.62	2	27	10.1
Qatar	0.97	2	35	15.6
Saudi Arabia	0.81	3	35	15.8
Tunisia	0.38	9	27	8.5
UAE	0.83	1	32	16.3
WB & Gaza	0.25	3	NA	9.5
Yemen	0.13	3	17	5.4
World average		9	13	

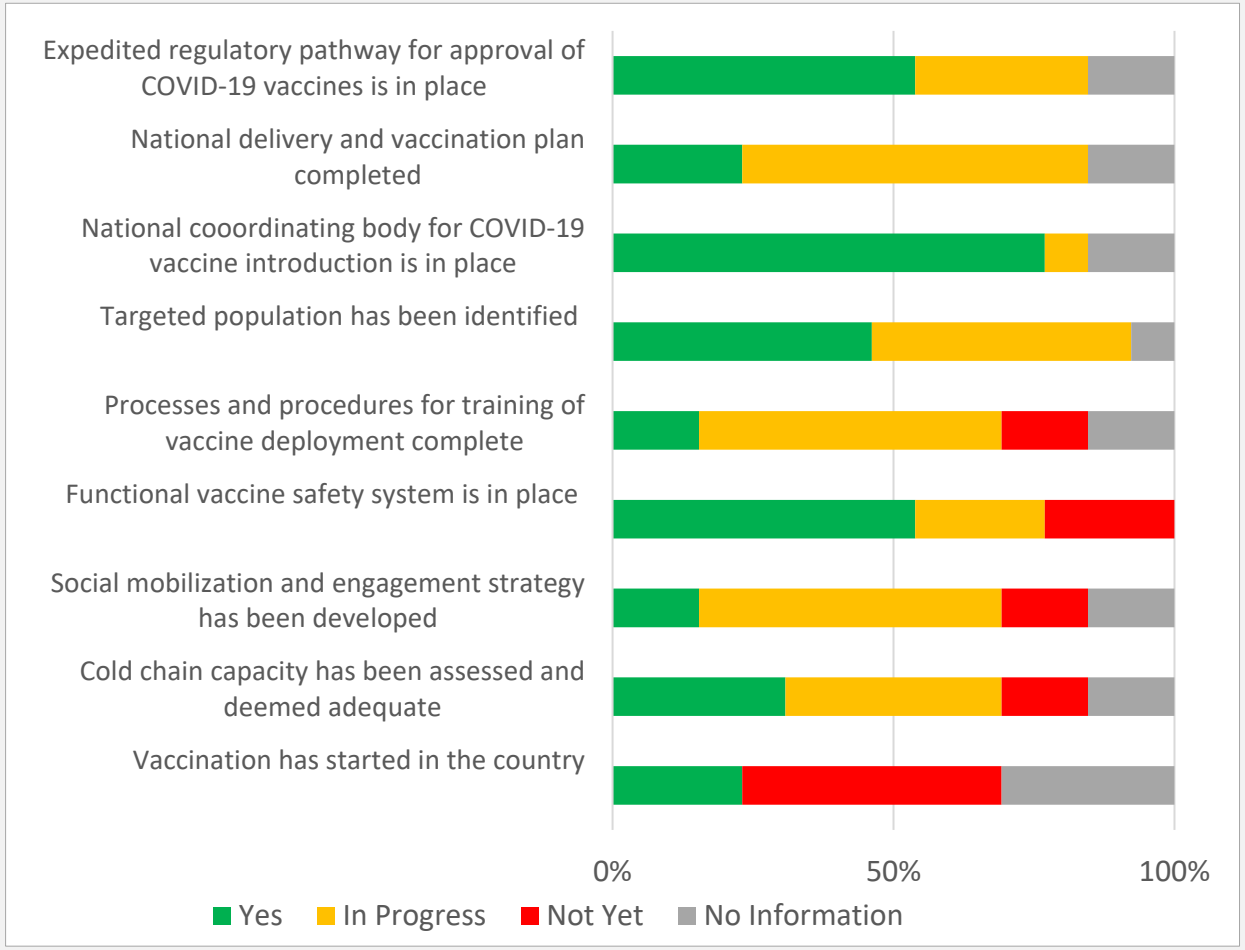
- Can all **health care workers** (HCWs) be reached at fixed site delivery?
- Will **outreach be required for elderly?** People with disabilities? If so, will additional vaccinators be needed? Task-shifting?
- **Outreach could be more than 3X cost** of fixed site delivery due to transport, PPE, etc.

B

MENA readiness assessments indicate need for investments in training, community mobilization, climate-friendly cold chain, vaccine safety

Progress in Readiness Assessment Across Select Indicators

13 countries reporting



Strongest areas

- Strong progress in **planning and coordination**
- Good progress in **expediting regulatory approval of COVID-19 vaccine**
- Good progress in **identifying primary target group for vaccines**

Areas for further development

- Strengthen **planning for training of health care workers/vaccinators**
- Develop strategies to **generate public confidence, trust & demand for COVID-19 vaccines**
- Strengthen **cold chain through climate-friendly** solutions
- Develop a **functional vaccine safety system** that allows consistent monitoring

* Cold chain deemed adequate refers to that cold chain sufficient for Phase 1, strengthening of capacities may be needed as vaccination roll-out is scaled up

C

Costing studies and unit cost estimates

Existing cost studies on immunization provide a good start

- Studies from a large systematic review of over 15,000 published and unpublished resources on vaccine delivery costs from low- and lower-middle income countries (2005 to 2019) available at immunizationeconomics.org
- Provide details for each country by four cost categories:
  - Labor
  - Capital costs
  - Supply chain
  - Service delivery

COVAX costing group built on this database with COVID-19-specific data

- Compiled data from mix of modeling and in-country COVID-19 specific unit cost studies
- Cost estimates available upon request.

C

Costing studies inform costs at various levels: some examples

Cost category	US $	Unit
Planning & coordination	$590,000 – $800,000	Per country cost
Training	Varies by topic/mode	Health facility or individual
Pharmacovigilance	$79	Health facility
Social mobilization	Varies by type/country specific	Per national or subnational campaign
Cold-chain equipment	Country specific	Per country
Cold-chain recurrent	$0.01	Per dose
Vaccine transport	$0.04	Per dose
Personal protective equipment	$0.07 fixed sites ($0.11 outreach)	Per dose
Waste management	$0.04	Per dose
Hand hygiene (sanitizer, soap)	$0.11	Per dose
Transportation for outreach	$0.49	Per dose

C

Cost timeframe also important to consider

Many countries planning and budgeting for 2-3 year time horizon

Countries will do well to consider trade-offs between short-term and long-term costs and benefits; necessary for both ensuring sustainable recurrent budget and building more resilient health systems, e.g.,

- Some investments (e.g., climate-friendly cold chain) may be **more expensive** in the short-run, but will **save** energy costs and **accrue benefits** in reducing climate change in long-run
- Investments in data strengthening, innovations can have lasting impact on health systems, e.g., digital solutions; accountability mechanisms, etc.

Benefits to rolling out vaccines > costs due to lives saved, economic recovery, and recovering from setbacks in human capital outcomes

C

Tools and approaches

WBG, WHO, Gavi, UNICEF, BMGF, ThinkWell and Partners are working together to support COVAX AMC countries with costing needs, but resources may be helpful for all countries

Costing tool for indicative costing available from World Bank. The World Bank has developed a simple spreadsheet model to assist teams to estimate the cost of vaccines, and it includes an indicative estimate of deployment costs, based on the COVAX costing group's unit costs. In addition, the Energy GP is working with WHO to develop an add-on module that can complement CVIC to estimate the cost of energy requirements, given various scenarios of green house gas emissions.

WHO has developed the COVID-19 Vaccine Implementation Costing tool, to enable more detailed costing at the program level. Several WB teams also supporting governments to use CVIC for scenario planning. Trainings held regularly.

D

Resource needs need to align with resource availability, but joint financing and alignment essential

Immunizing the world calls for **collective action**, with all sectors, levels of government, multilateral organizations, private sector (and in LICs and LMICs, development partners) **working together to prepare for unparalleled scale of vaccine roll-out in countries**

- Costing therefore needs to take a **holistic approach** that considers all budget holders
- Costs will span across **multiple 'budget holders'** (national vs. subnational government; other sectors; multi-lateral development banks; development partners, etc.)

Key questions:

- Does the plan fit within the available resource envelope (without affecting financing for other health and social services, particularly those that are most essential?)
- Should COVID-19 vaccination be a joint responsibility across sectors?
- How best can LICs and LMICs align financing from development partners to country priorities in a way that creates synergies/reduces duplication?

Key messages

Rolling out the **largest vaccination program in history** will require substantial resources

Uncertainties in timing and efficacy of vaccines, countries' capacity to deploy the vaccine at large-scale, and the evolving situation with the virus, **complicates planning, costing and budgeting**

Indicative cost estimates can be useful at earlier stages of planning given uncertainty around vaccine pricing, efficacy, approvals & availability; readiness assessments, evolving plans, etc.

However, **more detailed costing exercises**, informed by readiness/needs assessments, as well as COVID-19 specific cost data from different settings, **will be essential** for informing planning

COVID-19 vaccination roll-out is a **collective effort that requires strong coordination and alignment**

Several **resources are available** to support countries with the costing of their vaccination plans

Part 2: Costing framework and tool tutorial

by Dr. Raymond Hutubessy,
Senior Economist with the Immunization, Vaccines and Biologicals (IVB) Department, World Health Organization

World Health Organization

COVID-19 Vaccine Introduction and deployment Costing tool (CVIC)

Global High-Level Overview and Technical Training

CVICosting@who.int

World Health Organization

Overview | The COVID-19 Vaccine Introduction & Deployment Costing tool (CVIC)

The tool provides a **structured** and **comprehensive**, estimation of:

- Incremental **operational** and selected **capital costs** of introducing and deploying COVID-19 vaccines

It is used for **resource mobilization**, **budgeting**, requests for **external funding**, **strategy refinement**, e.g.,

- **NDVP[1] Budgeting and Costing**
- Refinement of strategy (**scenario analysis**)
- TA and funding resource requests through **WHO COVID-19 Partners Platform** (both AMC and self-financing countries)

In alignment with

- Guidance on developing a NDVP[1] for COVID-19 vaccines
- Guidance for prioritization and allocation: WHO SAGE values framework and prioritization roadmap
- Readiness assessment tool (VIRAT-VRAF-2.0)
- Gavi COVAX Readiness and Preparation TA Plan

1. National Deployment and Vaccination Plans

About the tool

Current version (1.0) available at: www.who.int/publications/i/item/10665337553

Version 2.0 will be available in February 2021 in all six working UN languages (Arabic, Chinese, English, French, Russian, Spanish) and Portuguese

World Health Organization

Why use the CVIC tool?

Population

Priorities

Vaccines

Distr./Admin.

Output

Convenient & Customized

- Data payload built-in
- Easy **construction** and **adjustment** of SAGE target populations

Changeable

- **Updateable** vaccine specifications and unit prices
- Explore different vaccine types and **scenarios**

Comprehensive

- Every country is **different,** important to **comprehensively** consider all the cost drivers;
- Cost different scenarios – **optimize!!**

Compatible

- Made with **partnerships** in mind
- Resource mapping over 2021-2023.

World Health Organization

Inputs: What data is required to fill in the CVIC?

Note: the tool is prepopulated with data from national/international sources and updateable via internet each time the user logs on

Population

- Demographic data **optional** – only if wish to override UN WPP

Priorities

- NDVP / Sage Target Populations, incl. older adult age cutoff and those with comorbidities
- Geographic distribution of target population (access to health facilities)
- Prioritization plans

Vaccines

- Vaccine Supply – Covax and non-Covax
- Vaccine prices and approximate delivery schedule
- Assumptions on vaccine wastage and expected uptake

Distr./Admin.

- **Cold storage distribution points:** Regional stores, district stores
- **Service points:** Fixed sites with cold storage, fixed sites, outreach sites
- **HRH** supply
- **Unit prices** for HRH compensation, transportation/logistics, data management, demand generation. Optional: Unit prices for commodities
- **Unit prices** for central activities

Output

- Relevant Country Partners
- Potential financing interest areas

World Health Organization

Resources and support are available

Resources
(links to be shared in zoom chat)

- Tools to address vaccine misinformation
- Guides and tools for supply and logistics
- COVID-19 vaccination training for health workers
- Detailed simulation exercise to plan ahead and be prepared
- Costing tool
- Infection Prevention for COVID-19 vaccination

+++ more to come +++
https://www.who.int/initiatives/act-accelerator/covax/covid-19-vaccine-country-readiness-and-delivery

Technical support

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World Health Organization

Part 3: Country costing example

by Tunisia

Professor Hechmi Louzir

Professor of Medicine (Immunology), Faculty of Medicine of Tunis / University Tunis El Manar and Director General of the Pasteur Institute of Tunis, Tunisia

Part 4: Human resources for health to support the COVID-19 vaccination roll out

by Dr. Mickey Chopra, Global Solutions Lead for Service Delivery in the Health Nutrition and Population global practice, The World Bank

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Coordinating and laying a strong workforce foundation to support vaccination efforts is critical

To support the **largest-ever vaccination campaign in history**, countries need to **ensure the workforce is available and prepared** to administer vaccines in an efficient manner, particularly to priority groups

This requires national level planning and coordination for HRH[1], including:

- Determining the **types of health workers** that will be needed
- Planning for **health care worker training** and supervision
- Enabling supportive **working arrangements**

1. Human Resources for Health

Health care workers may face increased responsibilities

To support vaccination campaigns, health care workers may be asked to pick up increased responsibilities, e.g.,

- Determining beneficiary identity and eligibility
- Creating community demand for the vaccine to provide clear, accessible information on vaccines and build trust
- Handling logistics, e.g., transportation of vaccine, cold chain handling, training of staff
- Administering the vaccines, e.g, use of multi-use vials
- Monitoring, detecting, and managing adverse effects or reactions following vaccination
- Managing surge in waste, from face masks to gloves to discarded syringes and needles
- Monitoring & evaluating vaccination uptake, potentially including data collection to help to inform evaluation of the vaccination program, whether all the doses were delivered, and the impact of the vaccine

Note: these responsibilities do not necessarily need to fall on health care workers

… when stress and burnout levels are at record highs


The New York Times

The Coronavirus Outbreak ›

LIVE Latest Updates Maps and Cases See Your Lo

A Parallel Pandemic Hits Health Care Workers: Trauma and Exhaustion

Vaccines may be on the way, but many on the front lines are burned out. Has the government done enough to help alleviate their stress?

209

What kind of health workers should be mobilized?

This ultimately depends on the vaccination strategy:

- Traditional strategies use health facilities or outreach sites to vaccinate people
- Other methods see vaccinators carry out house-to-house visits

Considering which health workers to mobilize is important. Does it require expensive medical professionals, or can it be done by other cadres?

- Many countries are drawing on their primary care workforce including doctors, nurses, midwives, allied health professionals
- In Australia, pharmacies will be used to distribute the COVID-19 vaccines and pharmacy workers will thus need training on how to administer the jab
- Some countries are also considering volunteers, specially trained for vaccine administration

Case Study: Mobilizing a diverse workforce for vaccination administration in the United Kingdom

In the UK, primary care workforce is largely in charge of administering the vaccine

- Advice from the BMA is that vaccination program should be delivered by staff other than GPs
- GPs should play a role in mentoring, supervision, coordination etc.
- GPs considered most useful in overseeing the vaccination workforce, providing clinical supervision and routine care to other patients
- In addition to NHS staff, flexible workforce provider agency, NHS Professionals, is also contracting and training non-government staff for vaccine administration

The UK is drawing on non-conventional vaccinators to meet needs

Government Healthcare professionals who do not normally vaccinate: The law was recently amended to allow registered healthcare professionals, who do not normally vaccinate, to safely administer a licensed or temporarily authorized COVID-19 or flu vaccine. Such workers include: paramedics, physiotherapists, student doctors and nurses, doctors and nurses working outside the NHS

Retired staff: Retired staff re-join the NHS and its COVID-19 vaccination team for mass vaccination centers. NHS England and NHS Improvement team are contacting retirees directly or retirees can contact their local practice or PCN to get involved

UK is also making provisions for medical workers in training to administer vaccines

Medical trainees: BMA is explicit that doctors in training in general practice should not be diverted away from educational activities to staff vaccination centers as this could degrade their educational experience. However, they have **an option to volunteer to provide extra sessions at vaccination centers**. Any such sessions are expected to be entirely voluntary and should be contracted as extra hours

Medical students: BMA encourages primary care practices to approach local medical schools about the possibility of **medical students assisting in the program**. Many factors need to be considered, including payment, risk assessment and safety guarantees. Any roles are recommended to be available to students on an opt-in basis and avoid any adverse impact on their education

The UK is even opening up the vaccination effort to non-clinical volunteers

Non-clinician volunteers: NHS professionals are working to **recruit and train thousands of volunteers** to administer the vaccine and meet mass immunization targets. Volunteers must be between the ages of 18 and 69, have at least two or more A-levels or equivalent, be at low risk of COVID-19, and be prepared to undergo a reference check

Non-vaccine administration volunteers: In the UK, the Chartered Institute of Environmental Health has established a **register of people** willing to volunteer to support services during the pandemic. This includes people with public health and administrative skills currently working in the private and business sectors

End of Case Study

Systems and organizational level interventions are critical to support vaccination roll out

- Identify the workforce needed in line with vaccination strategy
- Plan for needed numbers, optimal skill mix, and team composition (anticipate absenteeism rates due to burnout or illness, etc.)
- Analyse and ensure workforce financing needs to meet coverage goals
- Ensure health workers have decent working conditions with support workers and team-based mentoring
- Introduce and allow for different contracting modalities engaging an extended team (beyond regular workforce)
- Ensure training is provided to all vaccination administrators to maintain high standards

It is critical to leverage standardized training course to ensure competencies

A standardized training is a critical precondition for anyone administering the vaccine, to ensure they can safely and effectively carry out their responsibilities

- COVID-19 vaccines require a range of information, e.g., multi-use vials & handling practices for Pfizer
- Identify training needs, develop materials and find platforms to train staff
- Organizations (e.g. WHO) have developed several COVID-19 vaccination training materials
- Trainings can be adapted by national bodies, e.g., the Australian College of Nursing is leading preparation of training materials which will cover handling and administration of COVID-19 vaccines
- For remote areas, innovative approaches in rapid training and e-learning should be explored
- Once vaccination begins, health ministry staff and partners should provide supportive supervision to vaccinators, identifying and demonstrating best practices

Protect safety of Health Workers through vaccination

Consider prioritizing health workers…

Community health workers, auxiliary staff, and private sector employees should be considered when planning health worker vaccination

In countries with ongoing COVID-19 vaccination programs, health workers have been **relatively accessible** target group

- Vaccination sites co-locate with employment
- Digital employee tracking and communication systems used to schedule appointments & monitor for compliance
- Health workers tend to have lower vaccine hesitancy rates and can model vaccine uptake to patients & social networks

…and improving information systems

Rapid assessments of country capacity to develop health worker registries needed to quickly identify bottlenecks

This up-front work to improve data systems **will make vaccination campaign roll-outs smoother**

- Easier targeting of health workers for vaccination
- Data available for more efficient planning of health worker recruitment and vaccine administration
- Better opportunities for two-way communication between health workers and leadership

Improving HRHIS[1] *now* will also improve long term performance of the health system and make strategic health system design possible

1. Human resource for health information system

To rapidly assess HRHIS[1], consider three questions

How mature is the HRHIS in these key areas?

- Tracking of:
  - Public sector health workers
  - in-service training
  - performance management
- Interoperability between HRIS systems

Are all critical HRHIS functions included?

- Registration & licensure tracking
- Staffing gaps & needs
- Payroll information
- Personnel actions
- In-service training
- Workforce exit / attrition
- Pre-service education registries
- Health worker registries
- Attendance and performance
- Visibility of private sector systems
- Visibility of all cadres, including community health workers

What are key gaps in digital health & HR governance structures?

- Government effectiveness
- Control of corruption
- Digital health strategy
- Data protection policies
- HRH planning methodologies
- Health worker salary payment timeliness

1. Human resource for health information system

Without urgent & targeted technical assistance, HRHIS bottlenecks will prevent most LMICs from achieving complete, efficient, and timely vaccination of the health workforce

HRHIS exist	HRHIS is digitized and functional	All health workers are captured in HRHIS	HRHIS includes all critical components	Current and accurate HCW registry available
Nearly all LMICs use some information system to track human resources for health	Most systems are digitized, but some countries will need support to make them functional in preparation for mass HCW vaccination	Many lack key components, e.g. employee attrition information, or they function without appropriate digital and HRH governance structures	Few LMICs have HRHIS that includes all HCW cadres requiring vaccination, e.g. private sector, community health worker, auxiliary health workers, health facility staff	Very few LMICs can quickly and accurately use data to produce the up-to-date and discrete registry of all health workers necessary to facilitate vaccination

Number of countries achieving each HRHIS stage

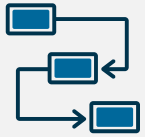
Complete, efficient, & timely vaccination of the health workforce

Critical to leverage governance & leadership

Recognize and appreciate the achievements of health workers

Introduce necessary fast track regulatory mechanisms to mobilize vaccination workers

Strengthen information systems and e-health to support vaccination efforts



Underscore the heath system linkages and the importance of having a strong health system in order to be effective, including HRH systems more generally, pharmaceuticals, service delivery, health financing, and governance structures

Part 5: Country health care worker example

by West Bank and Gaza

Dr. Yaser Bozya

Director of Salfeet Public Health,
Director General Of public Health Directorate, Palestine

Questions & Answers

Closing remarks

- Thank you for joining the sixth workshop in our World Bank MENA COVID-19 Vaccine Strategy Workshop Series

- The final workshop will take place on Tuesday 2/16 at the same time. It will provide:
  - Summary of key learnings and reflections
  - Learnings from experts and MENA leaders on the future of COVID-19 strategies, resilience against variants, and long-term implications on national health systems
  - Forum for discussion of the session's topics and outstanding questions from the series

- If you have not already, please RSVP at www.113.vovici.net/se/13B2588B7195CC37

Thank you

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