PEER LEARNING WORKSHOP REPORT

Future of COVID-19 Vaccination Strategies: Integration and Equity

USAID FROM THE AMERICAN PEOPLE

MOMENTUM A Global Partnership for Health and Resilience

HEALTH SYSTEMS STRENGTHENING ACCELERATOR

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About

This report was produced by the Health Systems Strengthening Accelerator (the Accelerator) project and the MOMENTUM Routine Immunization Transformation and Equity project. Both projects are funded by the U.S. Agency for International Development (USAID). The Accelerator project is implemented by Results for Development (R4D) under USAID cooperative agreement no. 7200-AA-18CA-00037. MOMENTUM Routine Immunization Transformation and Equity is implemented by JSI Research & Training Institute, Inc. (JSI), along with PATH, Accenture Development Partnerships, Results for Development, and CORE Group under USAID cooperative agreement #7200AA20CA00017. The contents of this assessment are the sole responsibility of R4D and JSI and do not necessarily reflect the views of USAID or the United States Government.

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Context

In 2023-2024, USAID's Health Systems Strengthening Accelerator (the Accelerator) and MOMENTUM Routine Immunization Transformation and Equity projects, managed by Results for Development and JSI, respectively, conducted qualitative assessments of the status of and plans for low and middle-income countries (LMICs) to integrate COVID-19 vaccination into routine immunization and broader health systems, and equitably reach priority populations with COVID-19 vaccination in the near and long term. The assessments were carried out in nine LMICs. They yielded important information about the state of planning for future COVID-19 vaccination, future outbreaks, new vaccine introductions, and life-course vaccination strategies.

On February 28 – March 1, 2024, the projects held a multi-country workshop to provide an opportunity to share results with participating countries, allow for cross-country learning, and provide a space to build on ongoing planning efforts at the country, regional, and global levels. The workshop took place in Accra, Ghana. It was hosted by the Ghana Health Service, facilitated by the Accelerator and MOMENTUM Routine Immunization Transformation and Equity projects, and funded by USAID. A total of sixteen government representatives from eight assessment countries (Benin, Ethiopia, Ghana, India, Kenya, Liberia, Nigeria, and Togo) joined the meeting, including three national immunization program officials, three officials working specifically on COVID-19, five sub-national health officials, and two directors of primary health care and non-communicable diseases. The workshop was also joined by representatives from USAID's headquarters in Washington, DC, the USAID Mission to Ghana, Africa Centres for Disease Control and Prevention (CDC), Gavi, the Vaccine Alliance, UNICEF, United States Center for Disease Control (CDC), World Health Organization (WHO) headquarters, the WHO Regional Office for Africa, and United States Agency for International Development (USAID) implementing partners in Washington and Ghana. A full list of participants can be found in Annex 2: Participant list.

The objectives of the workshop were to:

- Understand the state of planning and practices for sustaining COVID-19 vaccination at the country level, focusing on strengthening health systems and reaching priority populations as strategies for sustainability.
- Share lessons learned and challenges for COVID-19 vaccination planning between countries and with regional and global policymakers.
- Identify the next steps for carrying over lessons learned for the future of COVID-19 vaccination and related initiatives, such as outbreak

preparedness, new vaccine introduction, and life course vaccination strategies, building on the workshop's learning.

The first day of the workshop focused on identifying challenges, successes, and lessons learned from efforts to reach priority populations and COVID-19 vaccination integration efforts to date, including sharing draft assessment findings. The second day looked ahead to identify strategies and resources needed for COVID-19 and emergency preparedness in the future and included a site visit to health facilities implementing COVID-19 vaccination in Accra. The final day allowed countries to prioritize COVID-19 vaccination and emergency preparedness strengthening activities and identify practical next steps for implementing activities. The agenda was iterated throughout the workshop in response to participant comments and topics identified as priorities for discussion. A complete agenda can be found in Annex 1: Agenda.

Findings

Setting the Stage

Following the welcome and introductory remarks, participants were split into their country delegations (with staff from partner organizations scattered throughout the conversations) and asked to identify five health sector-wide or immunization priorities for their programs over the next several years. They then discussed how COVID-19 vaccination fits into these priorities in terms of providing lessons, offering resources, improving the health of priority populations, serving as a potential test case, or presenting risks to the achievement of objectives.

Prominent discussion points included:

- There is a high demand for health systems strengthening for broad emergency preparedness and other health priorities:
    - COVID-19 risk perception is low in most countries, but emergency and outbreak preparedness broadly are high priorities. COVID-19 vaccination may provide learnings and resources to support these objectives if they are invested in broader health systems strengthening initiatives.
    - Strengthening primary healthcare and promoting quality healthcare services are key priorities for countries and can strengthen the system in a way that promotes resiliency against future emergencies. In these circumstances, it makes sense to deliver COVID-19 vaccination through primary healthcare settings moving forward.

    - Countries emphasized the importance of strengthening community health policies and community health workers' engagement in immunizations as critical to the future of immunization and emergency response.
    - Supply chain strengthening is a key priority for COVID-19 vaccination and routine immunization.
- There is a need to preserve gains made during the emergency response phase of the pandemic to benefit the immunization and health system broadly:
    - Health system improvements made during the emergency response phase – particularly around data systems, data digitization, supply and cold chain, and community health worker engagement in immunization – must be preserved and sustained to benefit broader health objectives.
    - The COVID-19 vaccination effort led to new partnerships with civil society organizations (CSOs), patient support groups, and communities. These partnerships can be leveraged for other health priorities – including improving vaccine acceptance and demand – if we invest in maintaining them.
- Lessons learned from COVID-19 vaccination can be applied to other health initiatives:
    - During the emergency response phase of the pandemic, COVID-19 provided touch points to reach high-priority populations (such as HIV/tuberculosis patients) through existing service delivery platforms. Additional services were provided for these populations alongside COVID-19 vaccination in some countries. These experiences demonstrate how integrated service delivery can work.
    - COVID-19 vaccination provides lessons and opportunities for other new vaccine introductions, such as cholera vaccine.
    - In countries with high hesitancy, COVID-19 has provided learning opportunities and capacity development around risk communication and management at all health system levels, which are important learnings for routine immunization.
- Perceived and unaddressed COVID-19 vaccination challenges may impact other health objectives:
    - COVID-19-driven vaccine hesitancy may threaten routine immunization and populations' trust in the health system.
    - Lack of financial resources and long-term sustainability are critical challenges for COVID-19 vaccination and integration efforts.

Country teams then discussed what they hoped to learn from the workshop. Learning questions included:

- How can countries expand routine immunization to include adult vaccinations?
- How can countries manage vaccine hesitancy and misinformation?
- What form of compensation and incentives work to increase vaccination?
- What strategies work to sustain integration once it is implemented?
- How can monitoring and evaluation be carried out for integration?
- How can countries ensure sustainable vaccine financing and procurement?

COVID-19 Vaccination Integration Assessment Findings and Country Case Studies

MOMENTUM Routine Immunization Transformation and Equity presented the multi-country COVID-19 vaccination integration assessment results. Four countries were then invited to join a panel to discuss their experiences with COVID-19 vaccination integration. The lessons they highlighted included:

- In **Ghana**, integration has been an ongoing process but is only now being formalized as the country begins disseminating and implementing the National Integration Plan developed in 2023. During the pandemic, COVID-19 vaccines were delivered through existing healthcare structures, and vaccination was offered at multiple levels of the health system, from clinics to hospitals. Key factors in this success included optimizing data management tools (including tally sheets and registers) for COVID-19 vaccination, strong governance and leadership, and the engagement of private health facilities. Hesitancy and low-risk perception are now the biggest challenges, the latter being driven in part by the WHO's declassification of COVID-19 as a public health emergency of international concern. Systemic issues, particularly funding constraints, the need to manage other outbreaks, and mistrust of the government also hamper integration, and there remains a strong need for coordination between the EPI and other programs to develop additional health worker capacity to deliver COVID-19 vaccines.

- In **Ethiopia**, COVID-19 vaccination was envisioned as being integrated with routine immunization from the start of the pandemic, building on strong tuberculosis and HIV programs and campaign platforms already in place. Key to this success was the creation of small teams or working groups within the Ministry of Health that included all partners. It allowed for close collaboration and coordination on key issues. Challenges during the emergency phase included cold chain, difficulty procuring the Pfizer COVID-19 vaccine, large populations, including internally displaced persons, and misinformation.

- In **Kenya**, COVID-19 vaccination was also envisioned as being integrated into routine immunization and primary healthcare regarding management, facilities, workforce, and cold chain. In 2023, the government officially introduced COVID-19 vaccination into primary health care. Key to this success was strong coordination through the Ministry of Health's COVID-19 Task Force (which is still active) and COVID-19 coordinators placed at the county, sub-county and facility levels; a 2023 COVID-19 vaccination readiness assessment that informed the country's approach, Standard Operating Procedures (SOPs) that were developed for health workers clearly outlining screening and referral guidelines; the use of specialized clinics such as tuberculosis clinics to provide COVID-19 vaccination or referral; clear definition of respective roles and responsibilities of different cadres of personnel; and updates to procurement policies to make vaccine procurement easier. Moving forward, Kenya is looking for sustainable strategies for keeping COVID-19 vaccination "within reach" of the health system. Routine immunization integration remains a high priority given ongoing and anticipated introductions of HPV, malaria, typhoid, and cholera vaccines, and the government is now developing COVID-19 integration

guidelines with inputs from health workers. Hesitancy, health worker burden, the need to strengthen community health systems, and lack of data system interoperability remain critical challenges for integration.
- In **Benin**, the government devoted attention to ensuring the quality and safety of vaccination services to counter hesitancy and reduce drop-out rates. Challenges to maintaining COVID-19 vaccines at proper temperatures were highlighted, as were the development of SOPs to support proper vaccine handling practices. A tagging system was used to identify vaccines exposed to heat, and safety guidelines were developed with support from local partners. SMS reminders were also used for second-dose appointments. Achieving full primary coverage and booster doses remains challenging due to a high drop-out rate. There is a need to counteract rumors and misinformation and engage health workers in COVID-19 vaccination efforts.

In the discussion following the panel, points that were raised included:

- Hesitancy, demand, and risk perception are major challenges for COVID-19 vaccination and pose challenges for integration and risks for other integrated services. Countries have some lessons learned about strategies for addressing hesitancy:
    - Involving community voices is an important component of risk communication.
    - Social media and religious leaders became important channels to increase vaccine confidence.
    - **Kenya** experimented with using interpersonal communication messages centered around the more popular malaria vaccine to build vaccine confidence broadly.
    - The under-reporting of AEFIs and mistrust of government institutions remain serious concerns.
- It is important to consider the context when promoting COVID-19 vaccination integration.
    - Lack of COVID-19 vaccine in many countries hampers COVID-19 vaccination integration.
    - The viability of various strategies like integration with HIV/tuberculosis services is dependent on the prevalence of those diseases, the availability of services to address them, and care-seeking behavior for these other services in each country.
    - Cultural and social considerations are also important – for example, parents may be unwilling to be vaccinated in locations where they have gone to seek health services for their child. Socialization efforts to change the norms around what one can expect in a health facility may help with these efforts.

- As we move into the post-emergency phase, additional challenges for COVID-19 vaccination and integration arise.
    - Some countries no longer view COVID-19 vaccination as a priority, given the reduced incidence of the disease and the WHO declaration that the emergency phase of the pandemic was over.
    - Some countries will consider procuring vaccines outside of Gavi and COVAX. This raises new considerations about vaccine safety.
    - Countries may need to consider how-to stand-up programming and COVID-19 systems rapidly and temporarily in the face of sporadic severe outbreaks.
- Participants see opportunities to apply COVID-19 integration lessons to other health objectives:
    - Applying lessons to broader emergency preparedness is a high priority.
    - All the study countries have existing adult vaccination platforms for tetanus vaccination of pregnant women or women of childbearing age, which COVID-19 vaccination was able to leverage. India also has influenza experience. We should consider how to utilize and expand these platforms for other adult vaccines, like maternal tetanus and tuberculosis.

COVID-19 Vaccination Priority Populations Assessment and Country Case Studies

The Accelerator presented the results of the Equitably Reaching Priority Populations with COVID-19 Vaccination assessment. Four countries were then invited to join a panel to discuss their experiences reaching priority populations with COVID-19 vaccination. The lessons they highlighted included:

- In **Nigeria**, health teams relied heavily on existing networks of local, traditional, and religious leaders to encourage vaccination among priority and hard-to-reach populations. Messaging to these populations was developed based on surveys and social listening techniques and regularly updated to incorporate lessons learned during implementation. Nigeria also used “campus storms” to target university students, workplace and travel vaccination requirements, and integration with PHC and routine immunization. Population mapping and accountability frameworks were used to manage resources effectively.
- In **Togo**, health teams set up vaccine buses and vaccine sites on football fields and other public spaces, successfully reaching large numbers of adults despite them being a new population for vaccination services. The government also relied on the National Federation of Voodoo Culture to generate social support for mass vaccination campaigns. The

frequent and continuous use of traditional and social media to disseminate information about vaccination sessions and messages from national leaders was key to success.

- In **India**, high coverage was achieved through mass vaccination campaigns and targeted local communications. Messaging to priority populations was successful because it used local, science-based statistics (such as “80% of people who died in your city from COVID-19 had co-morbidities”) that were persuasive for encouraging vaccination.

- In **Liberia**, vaccinating health workers was key to dispelling concerns about the COVID-19 vaccine among the general population. To target priority populations, the government worked with religious leaders to address misinformation and developed targeted radio messages. As part of this messaging, the EPI engaged with other programs that worked closely with target populations, such as the non-communicable diseases team. People visiting health facilities for other services could be referred for COVID-19 vaccination in a nearby facility.

In the discussion following the panel, points that were raised included:

- Low demand and threat perception within governments make prioritizing COVID-19 integration difficult, and we should consider that when framing messaging around COVID-19 vaccination and integration.
    - It is difficult to get political engagement as reporting has declined, and it is becoming harder to describe the situation.
        - WHO is ending cumulative case and coverage reporting and will now be looking at annual tracking of those who are vaccinated within the year compared to deaths.
    - To get buy-in from government leaders to continue targeting high-risk populations despite the low mortality from the current variant, we can focus messaging around lessening the burden on the health system and reducing overall costs out of pocket for patients, including for other health issues such as NCDs if high-

risk individuals are being screened earlier at integrated service delivery points.
    - It is hard to get political attention for diseases like Ebola until they are very serious. We must consider how to quickly maintain systems to scale for major outbreaks and pandemics.
    - WHO's website now has some sample social media messaging that countries can utilize.
- Countries do not want to integrate for the sake of integrating.
    - Countries should consider their target populations and available systems and resources to determine what can be achieved practically from the community to the national level.

Looking Ahead

The second day began with a presentation from WHO on its Roadmap for the Uses of COVID-19 Vaccines in the Context of Omicron and High Population Immunity and its interim recommendations for the optimal use of COVID-19 vaccination. This presentation highlighted the need to focus COVID-19 vaccination efforts on reaching high-priority groups. Such efforts build the country's capacity to strengthen its health systems to provide other vaccines to high-priority groups not part of traditional routine immunization. Countries then split into pairs and were joined by partners to discuss what would be required to implement these guidelines. The discussion questions and findings are highlighted below.


Photo credit: Sakina Kudrati / MOMENTUM Routine Immunization Transformation and Equity

How can we leverage investments and experiences from COVID-19 vaccine delivery to fortify and prepare health systems for future emergencies?

Countries discussed key resources from the pandemic that could be strengthened and sustained for future emergencies.

- Leadership and governance
    - COVID-19 was an opportunity to bring together many stakeholders to collaborate on immunization and PHC, including Ministries of Finance, Education, subnational governments, and interest groups.

Countries should consider how to institutionalize and maintain this collaboration.
    - COVID-19 was an opportunity to review and revise regulatory frameworks. Countries should review these regularly to enable rapid response to future emergencies.
- Financing and funding flows
    - Donor funding mechanisms were complex and unprepared to respond to emergencies, significantly delaying emergency response. Funds often came with conditionalities that complicated application procedures and the ability to receive and access funding promptly. There is a need to simplify donor funding processes during emergencies.
- Human resources
    - Additional human resources were hired during the pandemic, but the backbone of PHC is community health. We need to strengthen and better utilize community health workers during emergencies, which starts with restructuring community health systems.
    - Human resources are critical all the way up the health system – we also need to strengthen human resources for procurement, health promotion, supply chains, data management, and quality assurance.
    - We should consider how WHO guidelines from the pandemic can be leveraged to broadly strengthen human resources and their management.
    - Countries should continue holding regular simulation exercises to keep outbreak response capacities fresh.
    - Outbreak task forces put in place during the pandemic, bringing together surveillance staff, data management staff, and health workers, should be maintained to help identify and respond to future local outbreaks.
- Data and reporting systems
    - Many efforts were made to strengthen data systems during the pandemic – and significant gains were made. However, these new systems also came with many challenges, such as interoperability and health worker capacity, that still need to be addressed.
    - During the pandemic, we saw that when new data systems are imposed by partners, they may be incompatible with existing systems. Global partners and donors need to support countries to strengthen existing systems to be easily adapted to future emergency needs.
    - Countries must establish data protection systems that allow countries to migrate data between data systems and health

facilities. For this to work, data systems need to be transparent to clarify where data is going and who has access to it.

- Communications and demand generation
    - We learned many lessons about being intentional around the "who, what, and when" of risk communication and community engagement that should be applied broadly.
    - Countries put in place new strategies during the pandemic for quickly identifying local outbreaks, reporting them to the national level, declaring emergencies, and communicating instructions back to local health workers. These structures should be used for future local outbreaks.


Photo credit: Sakina Kudrati / MOMENTUM Routine Immunization Transformation and Equity

What approaches are you taking for target setting for priority groups?

Countries agreed that target setting is a critical challenge for reaching priority groups, as data systems are not set up to enable quality disaggregated data analysis. A key issue is the unavailability of data on co-morbidities and the fact that many people have more than one co-morbidity – thus causing a lack of clarity on categorizing an individual within a system that attempts to disaggregate target populations by health condition.

What would it take to reach priority populations in the post-emergency pandemic environment? What would it take to reach them every 6-12 months?

- Take cultural and social considerations into account.
    - Cultural and social factors will impact the success of integration. For example, men may not go to a health facility that serves primarily pregnant women for vaccination.

    - Some countries mentioned a need to set up vaccination posts in places that travelers frequent, given that travel requirements remain one of the main drivers of COVID-19 vaccination.
- Utilize and scale new technologies.
    - Several countries have started using QR codes – first for COVID-19 vaccination and later for routine immunization. These can be placed on vaccine cards and linked to other identifying information like phone numbers and names, allowing the individual's vaccination history to be looked up should the card be lost.
- Leverage other health system initiatives.
    - Countries could consider how COVID-19 vaccination can be linked to the introduction of other adult vaccines, such as tuberculosis.
    - Countries mentioned service delivery integration as an opportunity for COVID-19 vaccination.
- Target communications to high-priority groups.
    - Countries mentioned a need for continued clear and targeted communications to high-priority groups that explain how long protection from each dose lasts and use local data to demonstrate continued risk.
    - Countries mentioned partnering with the private sector and civil society to reinforce messages about vaccination.

Partner resources

Partners were invited to join a panel to share their organizations' technical and financial resources for COVID-19 vaccination integration. The African Centers for Disease Control, Gavi, UNICEF, USAID, the U.S. Centers for Disease Control, and the World Health Organization (global and African regional level) each summarized their strategic directions, highlighted specific activities, and clarified the types of resources that they could offer in support of COVID-19 vaccination. Country participants asked numerous clarifying questions about how resources could be used and the process for applying for and receiving funding. A key discussion point was the need for efficient financing and procurement processes that allow countries to receive vaccines quickly in moments of high demand.

In this session, country participants also noted that they perceived the cost of integration to be high. Although donor funding is currently available to reduce the financial burden, integration has other costs, including the burden on health workers and government officials and the disruption of other health activities. Therefore, countries need to prioritize integrating activities based on the potential benefits to health systems and broader health priorities.

Site Visit

Participants were split into three groups to visit three health facilities performing COVID-19 vaccination in Accra. These sites included a public hospital and two public polyclinics. Participants toured the facilities at each site, heard presentations from government representatives and facility staff, and were invited to pose questions to health workers and share their experiences. Following the visit, participants returned to the workshop to discuss their findings. Key discussion points raised included:


Photo credit: Leah Ewald / Accelerator

- Staff reported extensive outreach activities and referrals from other services during the height of the pandemic.
    - One facility collected phone numbers for people receiving COVID-19 vaccines so that they could provide reminder calls about the second dose. They have ceased this practice, but staff noted that the strategy could be used for routine immunization.
    - Facilities reported working closely with community leaders, religious leaders, and schools for outreach activities.
    - Staff remained well informed about the meticulous system for reporting and responding to Adverse Events Following Vaccination (AEFIs).
- Ghana's integrated tally sheet allows health workers to record immunization data for multiple target groups all in one place.
    - The new tally sheet contains three pages – for child vaccination, pregnant women, and COVID-19 vaccination. The COVID-19 vaccination page also includes breakout information about priority groups.
- Low threat perception and demand on the part of health workers and target populations have reduced COVID-19 vaccination to low levels.
    - The limited number of people who seek vaccination now are usually doing so because it is required for international travel, work, or military duty.

- Competing priorities, limited resources, and low perceived need have caused health workers to cease many of the outreach and referral activities during the height of the pandemic. However, at one site, patients coming for tuberculosis screenings were still being referred for COVID-19 screening and vaccination.

Prioritizing COVID-19 Integration and Emergency Preparedness Activities


Photo credit: Dr. Isaac Yeboah / the Accelerator

In response to participant interests, on the final day, the workshop activities were revised to facilitate the identification of priorities for COVID-19 vaccination integration and broader actions to support preparations for future public health emergencies. The latter was intended to bring out how the experience with the COVID-19 pandemic response, including vaccination, could be adapted, and applied for forward preparations for such emergencies. Participants first split into their country teams and, together with partners, brainstormed activities that would help strengthen COVID-19 vaccination activities in their countries. They were then asked to plot these activities on a chart with impact/importance on the y-axis and resources/effort required on the x-axis. Anonymized copies of these charts can be viewed in Annex 3: Prioritizing COVID-19 vaccination activities (anonymized). Country teams were then invited to take a gallery walk to discuss other countries' charts.


Photo credit: Sakina Kudrati / MOMENTUM Routine Immunization Transformation and Equity

Regarding priorities for COVID-19 vaccination integration, key themes included:

Low-hanging fruit:

- Developing cross-program coordination mechanisms (including establishing coordination platforms, developing and implementing integration policies, and developing Standard Operating Procedures) to plan for and oversee integration implementation was consistently viewed as the most important and easiest activity to strengthen COVID-19 vaccination. This need was tied as the second most frequently mentioned theme across the flip charts, mentioned six times.
- Several countries identified working with partners to ensure financing or reprogramming existing grants for COVID-19 as highly important and requiring little effort and resources.

Worthy investments:

- Most countries mentioned continuing to build health worker capacity for communications and maintaining media and social media efforts around vaccination as high-cost and high-payoff. This need was the most frequently mentioned theme across the flip charts, mentioned 12 times.
- Most countries identified increasing access to local data, especially through digitalization, as moderate to very high importance but requiring moderate to high effort and resources. This need was tied as the second

most frequently mentioned theme across the flip charts, mentioned six times.

- Most countries identified a high need for evidence, cost-effectiveness analyses, and modeling to inform policy decisions about COVID-19 and integration – particularly to understand the future burden of COVID-19, the cost-effectiveness of different vaccines and delivery strategies, the economic benefits of integration, and the viability of data digitization. These efforts were seen as resource-intensive but important for building commitment and allocating resources.
- Most countries mentioned a need to reinforce and reinvigorate human resources for health with motivation, additional staff, and management tools as being of moderate to high importance and requiring moderate to high resources.
- Several countries mentioned a need to secure sustainable financing for vaccine procurement, outreach, and health worker incentives as being highly important and resource intensive.

Lower-priority activities:

- Three countries mentioned microplanning for COVID-19 vaccination as moderate to high cost and moderate impact.
- Several countries identified a moderate to high need to work with partners to improve access to preferred vaccine products and devices. Still, these efforts were considered resource-intensive or outside the countries' control.


Photo credit: Leah Ewald / The Accelerator

Variable costs and impact:

- Many countries mentioned activities related to service delivery integration (framed as training service providers at other points of service to deliver COVID-19 vaccine, defining delivery strategies for priority groups, or—in one case—integrating specific services). Their ratings of the

cost and impact of these activities varied widely.
- Only two countries mentioned target setting for priority groups. One viewed it as requiring low effort and resources, while the other viewed it as requiring very high ones. Both viewed it as being of moderate importance.

Country teams then repeated this exercise, focusing on emergency preparedness activities and reflecting on their experience with the COVID-19 pandemic response. Anonymized copies of these charts can be viewed in Annex 4: Prioritizing emergency preparedness activities (anonymized).

Regarding priorities for public health emergency preparedness, key themes included:

Low-hanging fruit:

- Most countries mentioned developing national emergency response plans, coordination mechanisms, and Standard Operating Procedures as being of high importance and low cost. This need was the most frequently mentioned theme across the flip charts, mentioned ten times.
- Several countries mentioned strengthening integrated disease surveillance and response as low cost and moderate to high importance.
- A few countries rated political commitment to emergency preparedness as highly important and requiring low to moderate effort.

Worthy investments:

- Most countries identified a strong need and moderate to high cost to strengthen health workforces by hiring health workers, training health workers to respond to emergencies, operationalizing community health policies, and conducting simulation exercises. This need was tied as the second most frequently mentioned theme across the flip charts, mentioned six times.
- Most countries mentioned a moderate to high need to improve data systems, data digitization, and data use for decision-making at a moderate to high cost. This need was tied as the second most frequently mentioned theme across the flip charts, mentioned six times.
- Most countries mentioned investing in maintaining and strengthening structures put in place during the COVID-19 response, including digital data systems, cold chain, coordination mechanisms, and infrastructure such as treatment centers and emergency operations centers. These efforts were considered low to moderate cost and moderate to high importance.

- Securing protected domestic financing for emergencies was ranked by several countries as moderate to high cost and high importance. Mentions of financing included a need for ring-fenced emergency funds and funding for stockpiling vaccines or other health supplies (for example, personal protective equipment).
- A few countries mentioned a moderate to high need to strengthen risk communications and address misinformation during outbreaks at a moderate cost.

Variable costs and impact:

- Several countries mentioned revising or developing policies that hampered the COVID-19 response, including emergency procurement procedures, lack of social safeguards for vulnerable populations, Standard Operating Procedures for emergencies, emergency response plans, and One Health plans. These activities were seen as being of moderate to high importance, but highly variable cost.
- One country mentioned a need to advocate donors for changes in providing support, including developing a global mechanism to ensure equitable vaccine access (high cost) and collaborative surveillance efforts with countries (lower cost).
- One country mentioned investing in local vaccine manufacturing as having moderate cost and impact.

As can be seen in these responses, countries emphasized a need for coordination and strengthening data systems for both COVID-19 vaccination and broad emergency preparedness. However, COVID-19 vaccination priorities strongly emphasized communications and demand generation, while emergency preparedness activities strongly emphasized human resources for health and surveillance. Overall, countries appear to be thinking of strengthening COVID-19 vaccination and emergency preparedness at the health system level. In contrast, plans for integrating COVID-19 vaccination service delivery were less clearly defined or seen as somewhat costly.

Finally, country teams were invited to select a few activities from either chart and discuss the practical next steps for implementing them, including identifying who needed to be involved, what upcoming planning timelines the activities could fit into, and where resources could be found.

Key takeaways

This workshop clarified that the greatest challenge for COVID-19 vaccination is its declining demand among populations, health workers, and governments alike due to low-risk perception and low prioritization in the face of other

health priorities. Most countries are now vaccinating at very low levels, with international travel or employment requirements being the main motivators for the vaccination that occurs. Some countries have ceased procuring COVID-19 vaccines or requesting support for COVID-19 vaccines from Gavi.

In discussing COVID-19 vaccination, we should be cognizant of how it fits into countries' larger health priorities. Considerations include:

- Momentum for emergency preparedness remains high, with countries agreeing that health systems strengthening is the key to resiliency in the face of outbreaks and pandemics. Countries are particularly interested in using COVID-19 funding and lessons learned to strengthen multi-sectoral coordination, community health, data digitization, human resources for health, cold and supply chains, surveillance systems, and communications capacities in anticipation of future emergencies.
- Countries are also interested in leveraging COVID-19 investments and lessons learned for life course vaccination, future vaccine introductions, and primary healthcare integration.
- Countries perceive COVID-19 vaccination integration to require high resources and effort. Although donor funding is available, the cost goes beyond the financial to include health worker and government official workloads, significant disruption to other health activities, political and social will, and the risks that COVID-19-driven hesitancy and low demand pose to related health services.

Given these considerations, workshop participants indicated a pragmatic view of integration, seeking to implement it in places and services where the benefits to the health of their populations and their broader health priorities outweigh the costs.

Participants indicated several areas where donors and partners can support them in these efforts. These included:

- Improving coordination at the global level for pandemic response.
- Simplifying vaccine procurement procedures and funding mechanisms to allow for prompt emergency response.
- Developing mechanisms to ensure equitable vaccine supply for LMICs during emergencies.
- Ensuring that emergency support to countries is coordinated at the country level, builds on existing country structures (particularly data and surveillance systems), is considerate of country contexts (including electricity and internet infrastructure), is developed in collaboration with country stakeholders, and is sustainable beyond the period of initial donor investment.

- Supporting countries to sustain COVID-19 emergency-era gains with significant health system implications – particularly gains around cold chains, data systems, community partnerships, and coordination.
- Supporting countries to strengthen national and subnational multi-sectoral coordination mechanisms for immunization and emergency response—all countries identified this as the clearest low-hanging fruit.
- Supporting countries to update policies and laws, particularly emergency procurement regulations and social protection mechanisms for vulnerable populations, to address policy challenges that became apparent during the pandemic.
- Supporting countries to generate context-specific evidence needed for policy decisions around COVID-19 and emergency preparedness, including models of health system burden, cost-effectiveness analyses of various vaccines and delivery strategies, and value analyses of investments in data digitization.
- Supporting countries to continue building learning and capacities around communications and demand generation – including analyzing the root causes of low demand, which may include such diverse factors as low-risk perception, low trust in government, misinformation and hesitancy, or low quality of health services.

Annex 1: Agenda

Below is the official agenda for the workshop. However, in response to participants' feedback, adjustments were made to discussion topics and activities throughout the workshop.

Tuesday, February 27: Participants and partners arrive and check into Tang Palace Hotel, Accra

Wednesday, February 28 **Day 1: Sharing Integration and Equity Experiences and Lessons**		
Session	**Time**	**Facilitator**
Welcome and Introductions	8:30-9:00	**Dr. Maame Amo-Addae** Ghana Country Director, R4D/Health Systems Strengthening Accelerator **Rebecca Fields** Technical Director, JSI/MOMENTUM Routine Immunization Transformation and Equity Project **Dr. Zohra Balsara** Health Director, USAID/Ghana **Dr. Franklin Asiedu-Bekoe** Director of Public Health, Ghana Health Service
Setting the stage	9:00-9:30	**Leah Ewald** Senior Program Officer, R4D/Health Systems Strengthening Accelerator
Session 1: Identifying key priorities and challenges for COVID-19 integration (brainstorming session)	9:30 – 10:45	**Leah Ewald**
Coffee Break	10:45-11:15	
Session 2: COVID-19 Integration Assessment Findings: Status, Good Practices, and Lessons Learned (presentation)	11:15 – 11:45	**Adriana Almiñana** Senior Technical Manager, JSI/MOMENTUM Routine Immunization Transformation and Equity Project
Lunch	11:45 – 1:00	
Session 3: COVID-19 Integration: Good Practices and Lessons Learned (panel)	1:00-2:15	*Facilitator:* **Rebecca Fields** *Panelists:* **Dr. Landry Kaucley** EPI Director, Benin

Wednesday, February 28 **Day 1: Sharing Integration and Equity Experiences and Lessons**		
Session	**Time**	**Facilitator**
		Dr. Emmanuel Tettey Sally Senior Public Health Officer, Ghana **Dr. Mebratu Massebo** COVID Taskforce Coordinator, Ethiopia **Edwina Anyango** EPI Data Manager, Kenya
Coffee Break	2:15-2:45	
Session 4: COVID-19 Target Populations and Equity Assessment Findings: Status and Lessons Learned (presentation)	2:45-3:15	**Cheickna Toure** Co-Principal Investigator, R4D/Health Systems Strengthening Accelerator
Session 5: COVID-19 Target Populations and Equity: Good Practices and Lessons Learned (panel)	3:15-4:30	*Facilitator:* **Adriana Almiñana** *Panelists:* **Dr. Adejoke Kolawole** COVID-19 Desk Officer, Nigeria **Dr. Malewe Kolou** Vice President of Immunization Advisory Group, Togo **Dr. Thirumalaichiry Sivaprakasam Selvavinayagam** Director of Public Health and Preventive Medicine, India **Dr. Anthony Tucker** NCD Program Director, Liberia
Day 1 Closing	4:30-5:00	**Dr. Tanya Jones** Managing Director, R4D
Welcome Dinner and Cultural Performance (poolside)	6:30-8:00	

Thursday, February 29 **Day 2: Planning for the Future of COVID-19 and Related Initiatives**		
Session	**Time**	**Facilitator**
Session 1: Reflecting on Day 1	8:30-9:00	**Leah Ewald**
Session 2: Identifying Priorities and Resources for the Future of COVID-19 Vaccination (break-out discussions)	9:00-10:30	*Facilitator:* **Leah Ewald** *Group 1:* **Rebecca Fields** ● India ● Ethiopia *Group 2:* **Dr. Tanya Jones** ● Nigeria ● Ghana *Group 3:* **Dr. Conrad Tonoukouen** ● Benin ● Togo *Group 4:* **Adriana Almiñana** ● Kenya ● Liberia
Coffee Break	10:30-11:00	
Session 3: Development Partners – Perspectives and Resources (panel)	11:00-12:00	*Facilitators:* **Tanya Jones and Rebecca Fields** *Panelists:* **Dr. Zohra Balsara** Health Director, USAID/Ghana **Marta Urrutxi Gallastegi** COVID-19 Strategic Liaison, Gavi, the Vaccine Alliance **Imran Mirza** Global Lead, COVID-19 Program, UNICEF **Dr. Abraham Alemayehu** National Coordinator for Ghana, Africa CDC **Dr. Alba Vilajeliu** Technical Officer, WHO **Melissa Dahlke** COVID-19 Global Vaccines Team Member, US CDC

Thursday, February 29 **Day 2: Planning for the Future of COVID-19 and Related Initiatives**		
Session	**Time**	**Facilitator**
Lunch	12:00-1:00	
Site visit: Integrated COVID-19 vaccination site	1:00-5:00	*Bus 1: Achimota Hospital* **Adriana Almiñana** *Bus 2: Nima Polyclinic* **Adwoa Twum** *Bus 3: Kaneshie Polyclinic* **Leah Ewald**

Friday, March 1 **Day 3: Engaging Support**		
Session	**Time**	**Facilitator**
Session 1: Takeaways from site visit	8:30-9:30	*Facilitator:* **Dr. Conrad Tonoukouen** Benin Country Director, R4D/Health Systems Strengthening Accelerator
Session 2: Next steps (workshopping session)	9:30-10:45	*Facilitator:* **Leah Ewald** *Group 1:* **Rebecca Fields** ● Ghana ● Kenya *Group 2:* **Dr. Tanya Jones** ● Nigeria ● India *Group 3:* **Dr. Conrad Tonoukouen** ● Benin ● Togo *Group 4:* **Adriana Almiñana** ● Ethiopia ● Liberia
Coffee Break	10:45-11:00	
Session 2: Workshopping report out (plenary)	11:00-11:30	**Leah Ewald**
Workshop Closing	11:30-12:30	**Rebecca Fields**

Lunch	12:30-1:30	

Afternoon of Friday, March 1 – March 2: Participants depart

Annex 2: Participant list

Future of COVID-19 Vaccination Strategies: Integration and Equity Workshop
Wednesday, February 28 – Friday, March 1, 2024
Accra, Ghana

Participant and Facilitator List

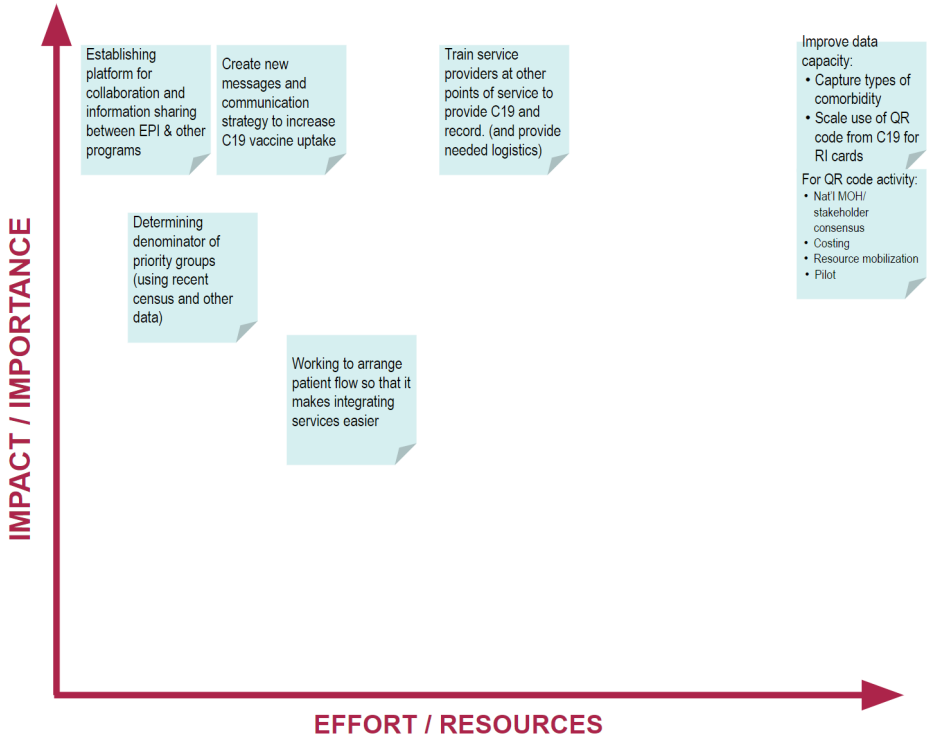
Participants		
Name	**Title**	**Org/Institution**
Dr. Emmanuel Tettey Sally	Senior Public Health Officer	Ghana Health Service
Dr. Asiedu-Bekoe	Director of Public Health	Ghana Health Service
Emmanuel Teviu	Deputy Director Ashanti	Ghana Health Service
Bridget Anim	Health Promotion Division	Ghana Health Service
Dr. Koffi Agbetiafa	Director of Golfe Health District	Ministry of Health, Togo
Dr. Guezo Blaise	Director General	National Primary Healthcare Agency, Benin
Dr. Kaucley Landry	EPI Director	National Primary Healthcare Agency, Benin
Dr. Adejoke Oladele	COVID-19 Desk Officer	National Primary Healthcare Development Agency, Nigeria
Ene Eko Gbenewei	Assistant Chief Community Development Officer, COVID Desk	National Primary Healthcare Development Agency, Nigeria
Adolphus Clarke	EPI Director	EPI, Liberia
Dr. Anthony Tucker	NCD Program Director	Ministry of Health, Liberia

Participants		
Name	**Title**	**Org/Institution**
Dr. T S Selvavinayaga m	Director of Public Health and Preventive Medicine	Directorate of Public Health & Preventive Medicine, Chennai, India
Dr. Vinay Kumar	Joint Director, Immunization	Directorate of Public Health & Preventive Medicine, Chennai, India
Dr. Vidhya Viswanathan	Deputy Director (NCD & Immunization)	Directorate of Public Health & Preventive Medicine, Chennai, India
Edwina Anyango	EPI Data Manager	National Vaccines and Immunization Program, Kenya
Dr. Japheth Athanasio	Health System Specialist	Ministry of Health, Kenya
Dr. Mebratu Massebo	COVID-19 Task Force Coordinator	Federal Ministry of Health, Ethiopia
Dr. Marta Urrutxi Gallastegi	Senior Manager, COVID-19 Strategic Liaison	Gavi
Dr. Graca Matsinhe	Immunization Advisor	JSI
Dr. Alba Vilajeliu	Technical Officer	Essential Programme on Immunization (EPI) Unit, Department of Immunization, Vaccines & Biologicals (IVB), WHO
Dr. Abraham Alemayehu	National Coordinator	Africa CDC
Melissa Dahlke	Epidemiologist	CDC
Imran Mirza	Health Specialist	UNICEF
Kaitlyn Moberly	MEL and Analytics Advisor	USAID
Dr. Celina Hanson	Senior Immunization	USAID

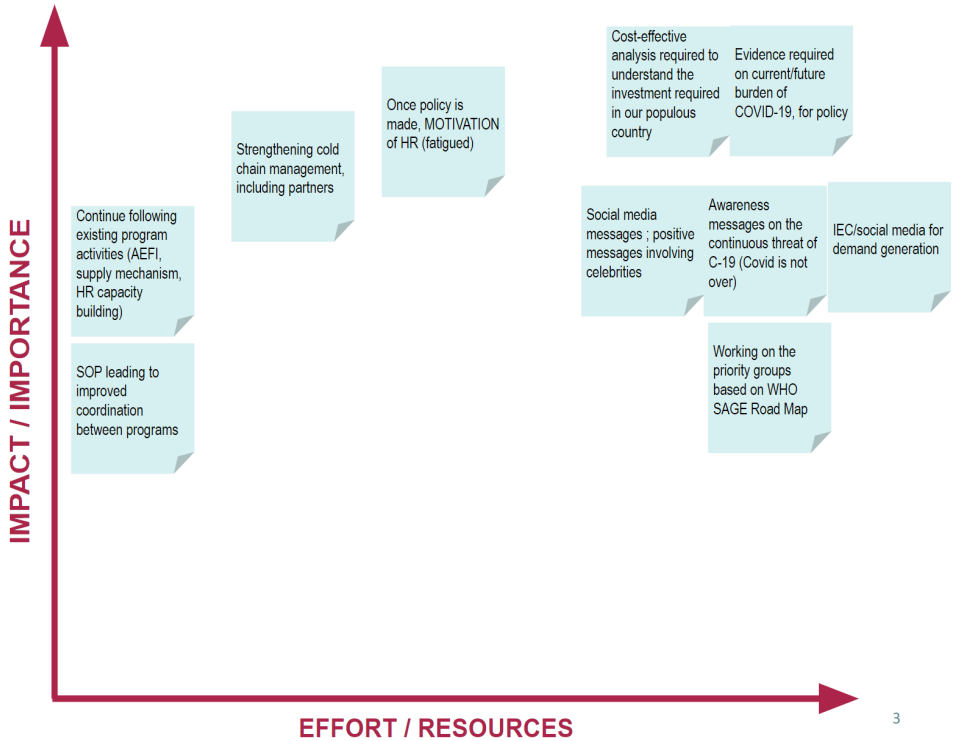
Participants		
Name	**Title**	**Org/Institution**
	Technical Advisor	
Belinda Nimako	COVID-19 Response Technical Advisor	USAID Ghana
Donald Brooks	Epidemiologist	Essential Programme on Immunization (EPI) Unit, Department of Immunization, Vaccines & Biologicals (IVB), WHO
Dr. Reena Doshi	Emergencies Immunization Officer	WHO AFRO
Facilitators		
Name	**Title**	**Org/Institution**
Dr. Conrad Tonoukouen	Country Project Lead	R4D
Dr. Tanya Jones	Managing Director	R4D
Leah Ewald	Senior Program Officer	R4D
Rebecca Fields	Technical Director for Immunization	JSI
Adriana Alminana	Senior Technical Manager	JSI
Sakina Kudrati	Technical Specialist	JSI

Annex 3: Prioritizing COVID-19 Vaccination Activities (anonymized)

COUNTRY A
COVID-19 vaccination



COUNTRY B
COVID-19 vaccination



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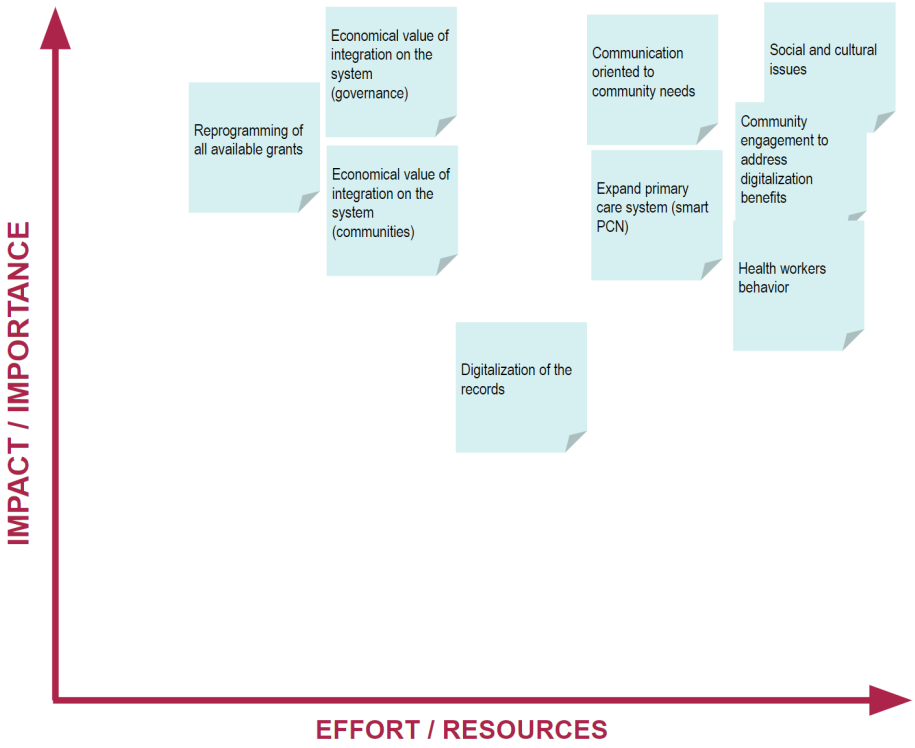
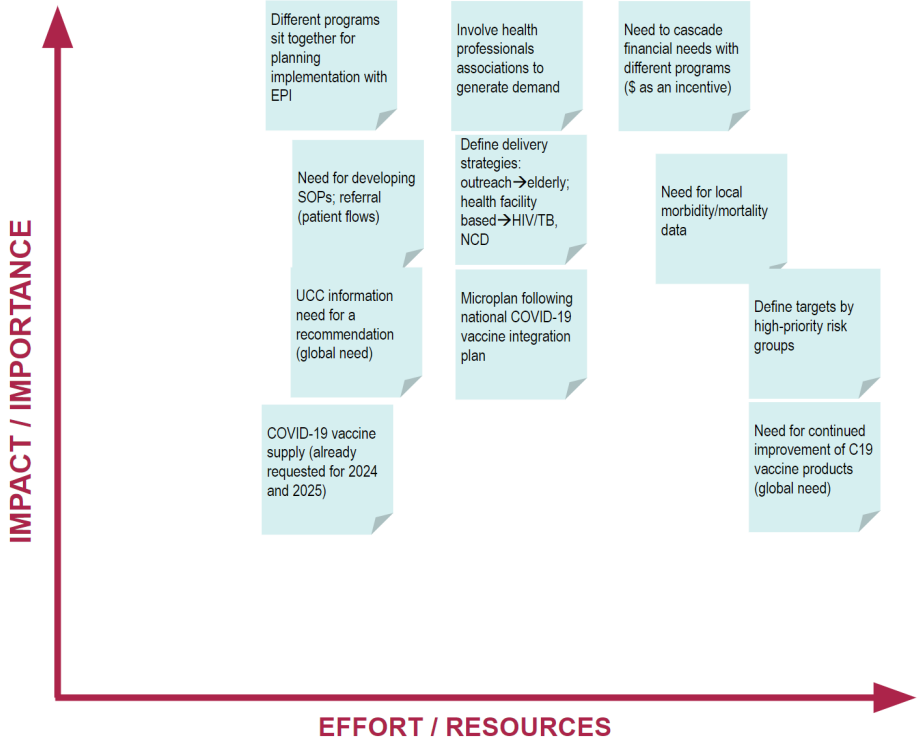
COUNTRY C
COVID-19 vaccination

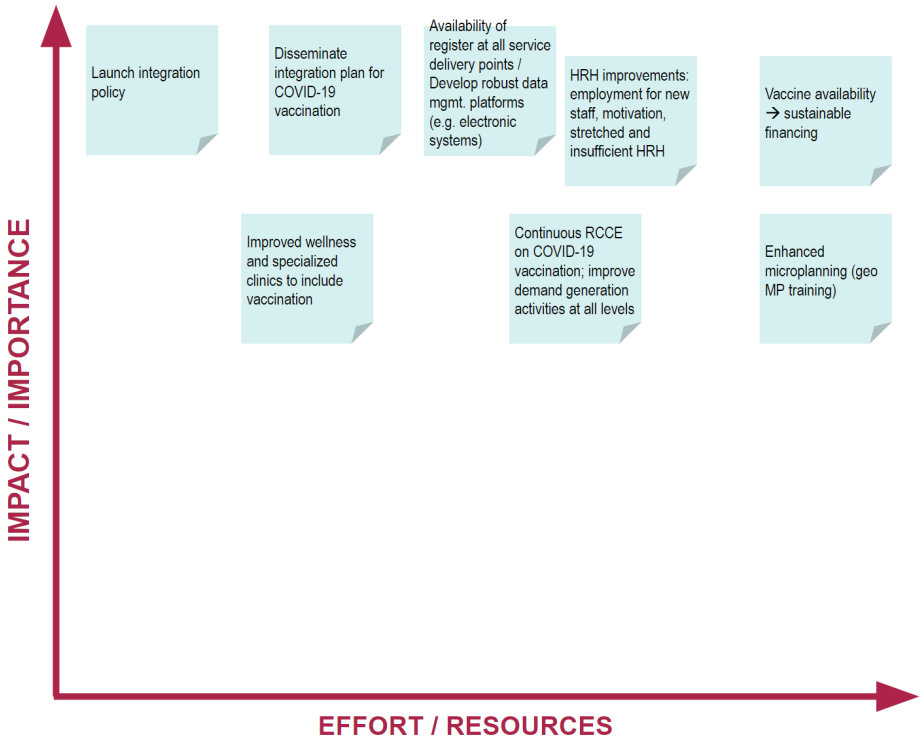


COUNTRY D
COVID-19 vaccination



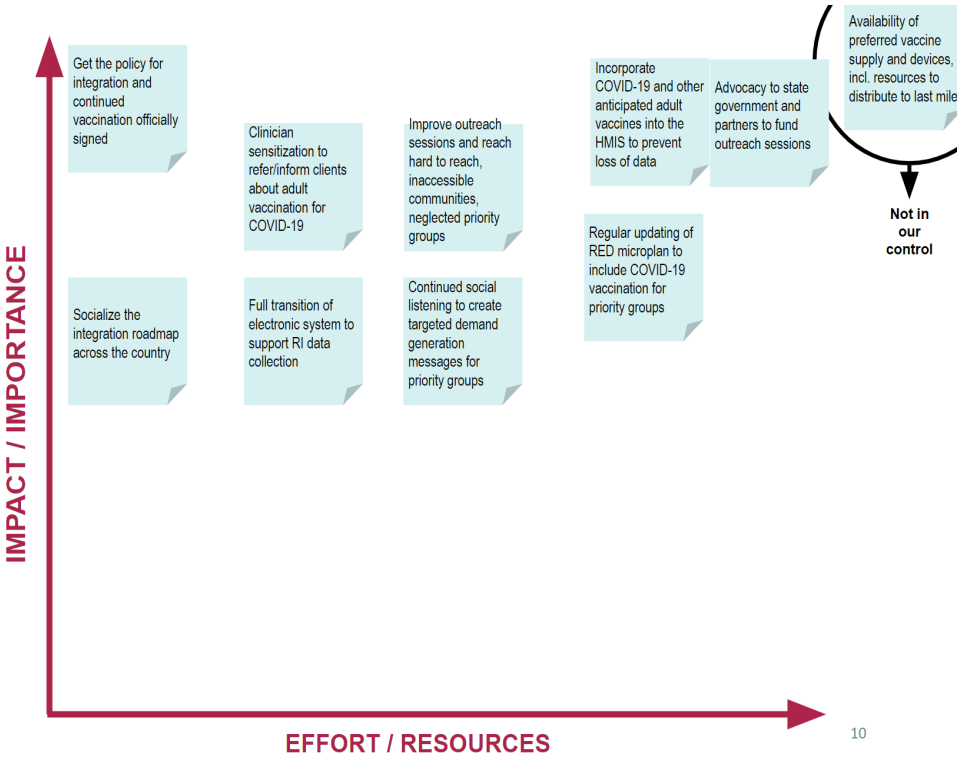
COUNTRY E

COVID-19 vaccination



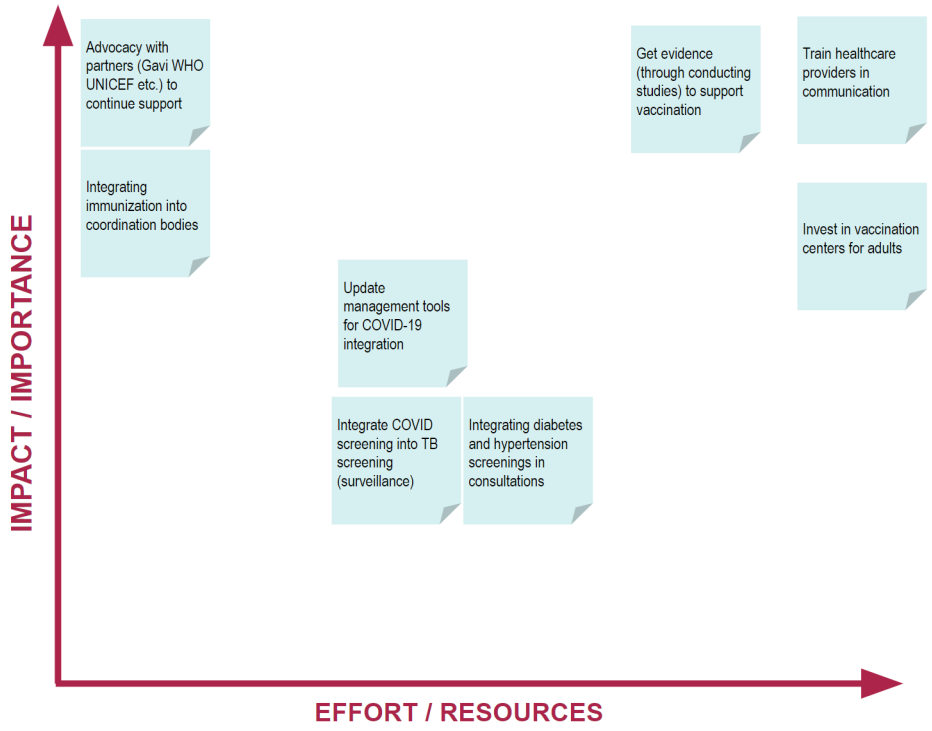
COUNTRY F

COVID-19 vaccination



COUNTRIES G & H

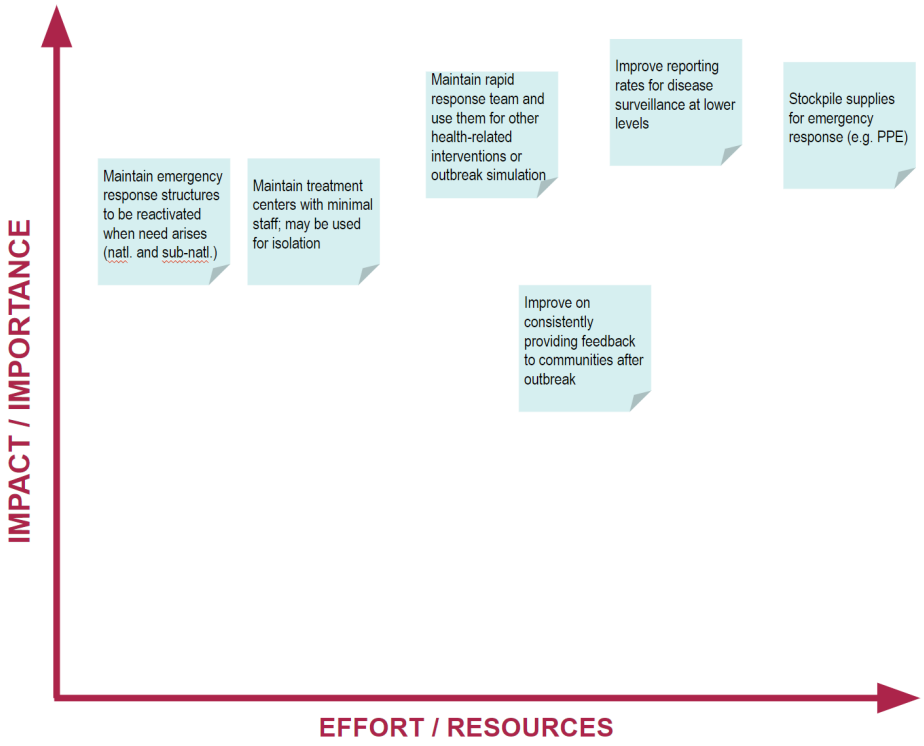
COVID-19 vaccination



Annex 4: Prioritizing Emergency Preparedness Activities (anonymized)

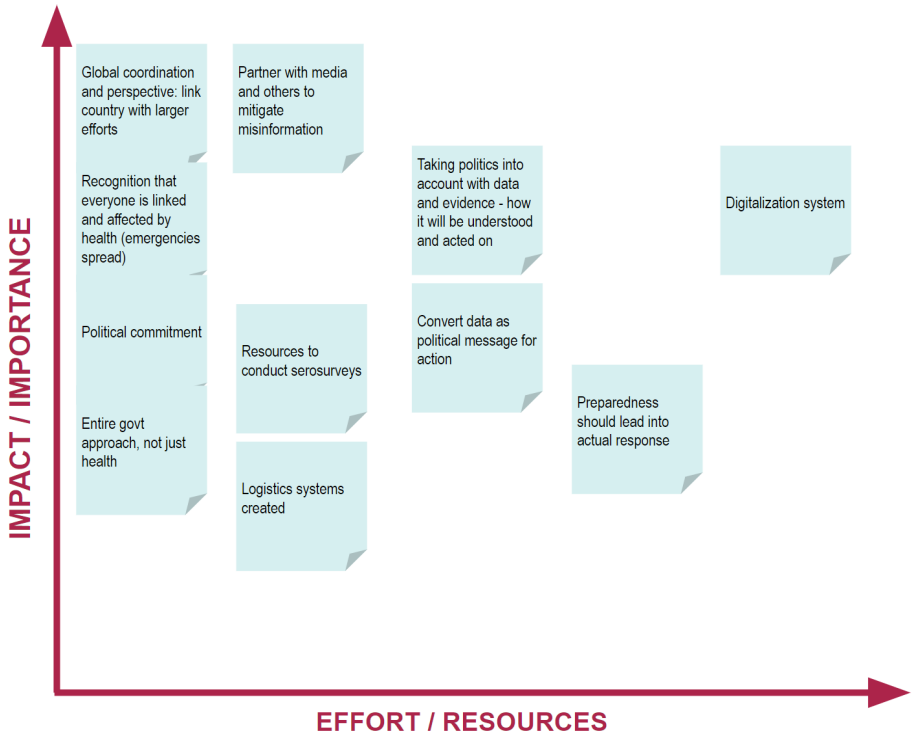
COUNTRY A

Preparing for future health emergencies



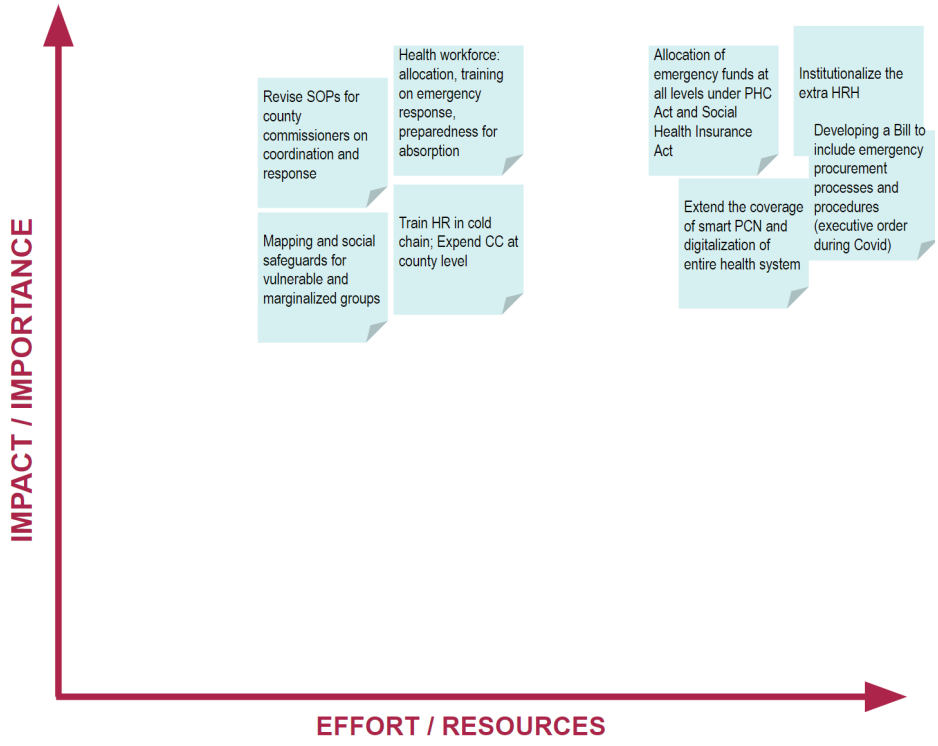
COUNTRY B

Preparing for future health emergencies



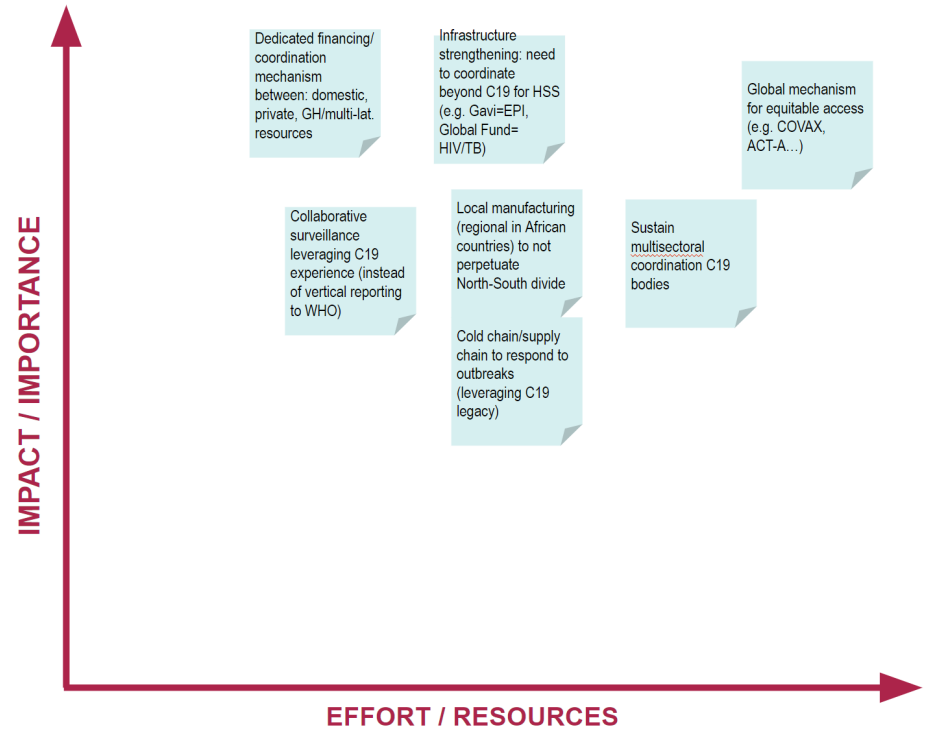
COUNTRY C

Preparing for future health emergencies



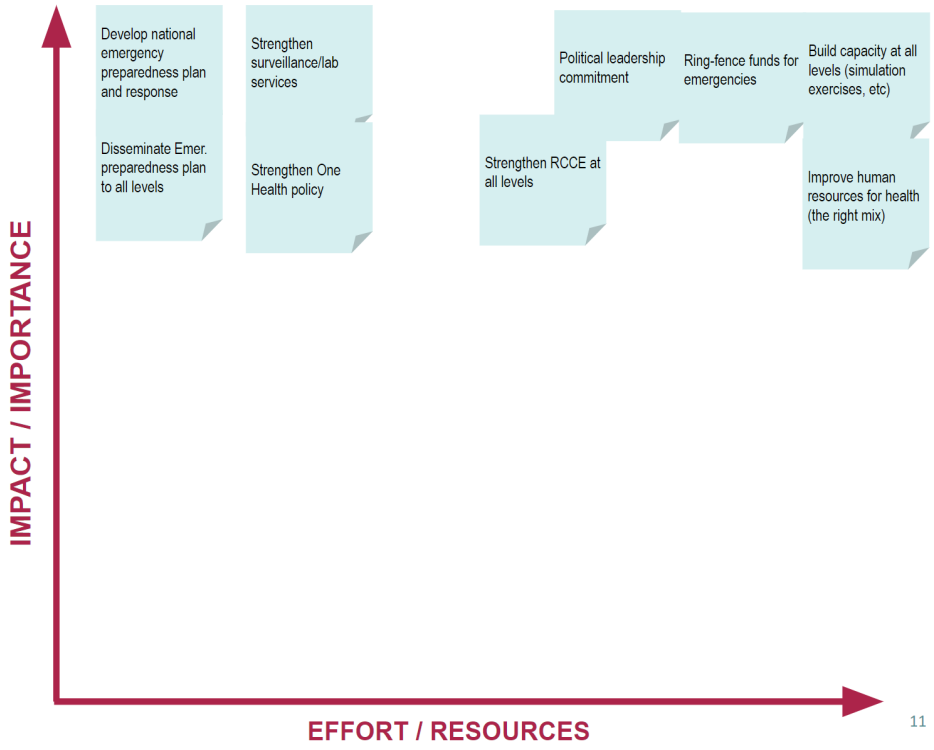
COUNTRY D

Preparing for future health emergencies



COUNTRIES E & F

Preparing for future health emergencies



COUNTRIES G & H

Preparing for future health emergencies