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Engaging the private sector in health to roll-out the COVID-19 vaccine

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The COVID-19 pandemic has stretched many health systems, with countries facing constrained resources and difficult environments. In particular, the pandemic has highlighted the need to restore fundamental commitments to strong primary health care systems that include preventive health services, such as immunization, be accessible for all. The problem is, however, that not all country's health systems are sufficiently well-equipped with the resources needed to provide quality services that are available and accessible to all. To cope with these challenges, WHO advises to adopt a 'whole-of-system' approach (Box 1) that harnesses both the public and the private sector to increase access to and supply of immunization services.

Engagement with the private sector can serve multiple public health objectives - not only to accelerate rollout of the COVID-19 vaccines but also to address backsliding in childhood and other types of immunization programmes during the pandemic. Additionally, it can lay the foundation for future partnerships for immunization services in the longer term. But engaging and integrating the private sector in health into immunization programs also brings challenges (see Box 2). Governments need to weigh the benefits against the challenges when identifying opportunities to work with the private sector, and risks and challenges need to be acknowledged early on to design concrete actions to mitigate them.

Historically, national immunization programs have largely been the responsibility of the public sector. Moreover, these programs have focused mainly on childhood vaccines while the COVID-19 vaccine rollout targets the general adult populations. Governments in low- and middle-income countries might need to look beyond the public health care delivery system and consider how to expand their capacity through new partnerships with the private sector. Yet many countries have not developed the knowledge and 'know-how' to engage the private sector in health while ensuring equitable access to quality COVID-19 and financial protection.

Box 1 – 'Whole of society' approaches to immunization in technical guidance

- The [Immunization Agenda 2030](#) advocates for broadening partnerships and multi-sectoral collaborations to work together towards common immunization goals and objectives.
- The [2017 WHO Guidance Note on Engagement of private/non-governmental health providers in immunization service delivery](#) highlights areas for potential collaboration and action to enhance equity, quality and scope of vaccination coverage through engagement of the private sector in health.
- [WHO's COVID-19 vaccine introduction toolkit](#) guides countries on the introduction and roll-out of COVID-19 vaccines and supports government engagement with multiple stakeholders including the private sector.

Box 2 – Benefits and risks

Benefits and opportunities. There are multiple benefits to government including: improving access to vaccination services and reducing inequities by serving hard-to-reach and marginalized populations; lower costs than in the public sector through access to cost-effective solutions; untapped expertise and other resources; and a secure supply chain with reduced risks of shortages.

Risks and challenges. Studies differ on challenges with private sector delivery of vaccines. Most common challenges include heterogeneity in the level of quality of private services; poor adherence to vaccination schedule and governmental immunization policies; insufficient reporting to health ministries; and, limited private sector interest in immunization outcomes. Challenges on the governments side include weak enforcement of regulation and unwillingness to involve the private sector.

What can you find in this rapid review?

This rapid review has been developed in the context of WHO's Country Connector on Private Sector in Health and includes snapshots of how countries have previously engaged the private sector (defined in Box 3) for immunization and draws lessons learnt from those initiatives to support countries which are currently rolling out the COVID-19 vaccine.

The objectives of this rapid review are:

1. Provide examples about how to engage the private sector in the field of immunization in a way which is consistent with national health objectives;
2. Identify potential areas for private sector participation and concrete strategies to harness private sector resources; and
3. Share emerging country examples of engagement with the private sector to deliver COVID-19 vaccines. While this rapid review focuses on a specific aspect of engaging the private sector in health in the field of immunization, we encourage the reader to consult WHO's Country Connector (www.ccpsh.org) to access other products to learn more about private sector engagement this topic.

Audience



Target audience for this rapid review ranges from LMICs policy makers and immunization program managers involved in the design and delivery of COVID-19 vaccines, to development partners funding and providing technical assistance to countries, to international experts in the vaccine community advising governments.

Methods



The author conducted a literature search between January and March 2021 using PubMed and Google Scholar for articles published between January 2000 and March 2021. The author focused on articles that discussed a combination of key concepts, including vaccines, immunization, private sector in health, engagement of the private sector, governance, regulation within LMICs and OECD countries. We shared the first draft of this report to the WHO Advisory Group on the Governance of the Private Sector for UHC and to WHO regional offices for their inputs and validation of the report's country examples and findings.

Box 3 – Key concepts

Who is the private sector?

The private sector in health includes all entities not owned nor directly controlled by governments:

- For-profit or not-for-profit.
- Formal or informal.
- Domestic or foreign.

The private sector in health also includes other non-state actors that do not deliver health services but contribute by bringing their resources and competencies to support a health objective.

What is private sector engagement?

Private sector engagement is the meaningful inclusion of private providers for service delivery in health systems using dialogue, policy, regulation, partnerships, and financing.

Engagement is used to leverage the private sector's presence, activities, and resources to accelerate access and amplify private sector's impact.

How has the private sector contributed to past immunization initiatives?

The rapid review, although somewhat limited, demonstrates what can be the potentially positive impact of engaging the private sector in national immunization campaigns. The evidence finds the contribution of the private sector to past immunization campaigns has been heterogeneous and varies across regions and within regions. Data from 2016 indicate that 17% of total vaccines were administered by the private sector in India, while in Kenya 34% of the private facilities and 80% of NGO-managed facilities administered vaccinations in support of national vaccination campaigns (13). In Afghanistan, civil society organizations are major players in the delivery of health services and are often contracted out to administer immunization (14).

The rapid review reveals that several country specific factors determine the role the private sector can play in sustaining immunization programmes such as the national economic development level, the size of the private sector, the scope of the activities carried out, and governance arrangements (15). These factors influence how quickly and for what purpose a government can engage the private sector. For example, in low-income countries, private providers have been assisting ministries of health to increase access to vaccines (in particular, the standard EPI vaccines) while in middle-income countries, the private sector helped governments to introduce new vaccines into the country or support access to rare vaccines (15, 16).

While the private sector role may differ, the small but albeit growing evidence acknowledges that the private sector has participated in different forms in all aspects of a national immunization programme (see Figure 1).

Figure 1 - Vaccine roll out components



Planning, coordination, regulation and financing

To design vaccination services that efficiently and effectively deliver vaccines to all target groups, the Global Vaccine Action plan (GVAP) requires governments ensure coordination between the public and the private sectors for new vaccine introduction, reporting of vaccine-preventable diseases and administration of vaccines, and ensure quality of vaccination both in the public and private sectors (17). With regards to COVID-19 vaccines roll-out, WHO advises countries to develop working groups and coordinating bodies comprised of both public and private stakeholders to will ensure common understanding and adherence to delivery timelines, to estimate human and operational resource needs, to identify potential sources of funding, and mechanisms for disbursement to operational levels, and to confirm the regulatory pathway for licensing COVID-19 vaccine in country (18). Successful engagement with the private sector implies involving them in all these processes, early on.

Several country governments moved quickly to remove or temporarily loosen regulations, fast-track regulatory processes and / or put in place new regulatory systems to facilitate a greater private sector in the COVID-19 response (30).

- Jordan accelerated the registration process for COVID-19 related therapeutics and medical supplies and regulated their prices offered by private suppliers (30).
- I.R. Iran, Lebanon and Pakistan eased regulatory requirements for importation of COVID-19 related supplies and equipment, removed taxes and customs fees to decrease private sector costs and streamlined customs process to accelerate entry in country (30).

The private sector actively participated in technical working groups in COVID-19 planning in Jordan, Libya, and Tunisia (30).

To facilitate better planning for their national COVID-19 response, I.R. Iran, Pakistan and Tunisia conducted a rapid assessment to create an inventory of private health facilities, their staffing and equipment (30)

Box 4 – Approaches to engaging the private sector in planning, coordination, regulation, and financing

- Invite private sector to immunization national platforms. These platforms offer the space for public and private sector groups to exchange information, provide inputs into policy and plans and build relationships needed to implement national vaccines strategies.
- Engage early and often. Consultation with different types of non-government providers of vaccinations is critical to understand their current or potential role in the vaccine system to ensure effective involvement. Early discussions will also quickly reveal the barriers to the private sector role (e.g. regulatory, capacity, financial).
- Gather data to inform planning. Mapping non-government providers currently involved in providing immunization services is critical. Health ministries may also have to rapidly collect additional data (e.g. number, location, capacity) given the lack of accurate data on the private sector.
- Involve a wide range of actors. Identify a wide range of private providers (e.g. paramedical and community health workers) beyond immunization programmes who may be co-opted for future expansion of vaccinator capacity.
- Review and reform regulations as needed. Private providers may play important roles on the front-line but may not be authorized or trained to administer COVID-19 vaccines. Quickly review regulations can help identify barrier and coordinate with the authorities to address them. Also coordinate to disseminate the new rules and train providers to ensure compliance.
- Talk about financial resources – openly. Estimating resource and financial requirements for timely implementation is critical for a national immunization plan's success. The private sector may have resources and finances that can be leveraged. But they may also need financial support to perform its role in vaccine plan.

Development, manufacturing and procurement of vaccines and supplies

To overcome challenges in advancing the development of new vaccines, public-private collaborations have shown to be a key alternative. These partnerships have overcome barriers to vaccine development - high capital costs and specialized capabilities - by combining government financing and public health priorities with the private sector expertise to carry out the steps crucial to achieving licensed technologies (19). Likewise, they have addressed the imbalance between public health needs and the commercial incentives required by vaccine manufacturers by reducing financial risk and supporting return on investment (20). Engagement with the private sector has played an instrumental role in developing new vaccines (19) by expanding developing country vaccine manufacturing capacity to produce over 50% of the vaccine doses procured by UNICEF globally, assuring vaccines are supplied to where they are needed most (21).

In South Africa, the Government have partnered with BIOVAC Institute since 2003 to support development of safe and affordable vaccines. Commercial loans and development partners, such as the Programme for Appropriate Technology for Health (PATH), provide funds that enable BIOVAC to undertake research and development. The partnership has developed a novel conjugate vaccine that has been licensed to two international companies and for which the BIOVAC receives royalty revenue (3, 4).

The suspension of the Serum Institute of India's production of COVISHIELD highlights the challenges of manufacturing sufficient supply of COVID-19 vaccines. To motivate private pharma industry to invest in manufacturing requires reducing financial risk to earn a return on their investment. Financial mechanisms, such as advance market commitments and joint-ventures, have successfully "crowded-in" private investment in manufacture medicines and vaccines (20).

In Japan, joint research between academia and the private sector helped develop a new COVID-19 vaccine. The Japanese government funded a collaborative research process involving industry and universities (7).

Box 5 – Approaches to engaging with the private sector in development, manufacturing and procurement of vaccines

Use licensing agreements and joint ventures-both are viable means for manufacturers to access technologies and develop innovative products. They can reduce the time frame and high costs associated with products development.

Use advance purchase agreements(APA). Evidence shows they increase incentives to develop and produce vaccines for diseases concentrated in LMICs (11). APAs have been used extensively in high-income countries and use tax-payer money to purchase in advance a manufacturer's product. In addition to vaccines, countries like India, have successfully used APA to incentivize local manufacturers to produce inputs for the vaccine test kits.

Vaccine cold chain and logistics

The role of the vaccine value chain and logistics is to ensure effective vaccine development, manufacturing, storage, transportation, and stock management, as well as rigorous temperature control in the supply chain, and maintenance of adequate logistics management information systems. From port of entry to service delivery points, countries are called on to assess and plan for logistics needs to grant the uninterrupted availability of quality vaccines (18).

The rapid review shows that the private sector can be crucial in supplementing capacity constraints in the public sector and address last mile challenges in the public supply chain. The private sector offers expertise and infrastructure in supply chain management (1, 4, 8), in temperature control (2, 8), transportation (1, 8) and in use of technology to manage supply chains (3, 22). An increasing number of LMICs are outsourcing specific areas of the public supply chain to private companies to leverage their comparative advantage in storing, handling, and transporting vaccines at lower costs and with better performance outcomes (23). Although outsourcing can be a promising approach to harness needed capacity in the vaccine supply chain, it is important to note that not all private logistics companies in LMICs meet minimum standards of effective vaccines storage and transport, underscoring the need to perform due diligence to select qualified private vendors.

Further barriers that make country governments hesitant to engage the private sector in vaccine cold chain and logistics are: concerns over cost, reluctance to commit to sustained funding for third-party contractors, lack of appropriate procurement frameworks (e.g. contracting and/or public-private partnership frameworks), insufficient capacity to manage contracts, or low confidence that outsourcing processes will be fair and transparent (24-26).

In 2009, the United States Centers for Disease Control and Prevention contracted a logistics company to distribute H1N1 vaccines to state and local health departments. The experience was successful, and the United States government decided to outsource logistics for the COVID19 vaccine rollout and expand the number of contracts and scope of their activities. They contracted multiple partners to transport, store and distribute vaccination kits and vaccines as well as build expansive freezer farms for vaccine storage (10).

In 2005, South African Western Cape Department of Health (WCDH) entered in a PPP with a private logistics service provider. The private vendor performed better on all relevant Effective Vaccine Management (EVM) dimensions. The contract was critical in the 2010 measles outbreak. The WCDH contracted the same private vendor to transport, and store needed vaccines (1, 2).

In Egypt, the government has partnered with the private sector to manufacture vaccines against COVID-19 and encourage local production (25-27).

Box 5 – Approaches to engaging the private sector in vaccine cold chains and logistics

- Explore options. There are several ways a country can engage with the private sector for vaccine cold chains and logistics.
- Strengthen contracting and regulatory capacity. Many countries have limited capacity to contract with the private sector, but guidance exists to support them through this process and to help them build their capacity to design and manage contracts.
- Use fair, clear and transparent processes and frameworks. This will help to provide partners with the visibility they need and will also ensure engagement with the private sector could be monitored by third parties.

Communication and demand generation

A hallmark of the COVID-19 vaccine rollout is hesitancy. Concerns about safety, fear of unknown side effects, and misinformation are some of the reasons why people may not accept a vaccine (27). In the case of COVID-19, misinformation is a major cause of vaccine hesitancy, yet few LMICs governments have plans in place to address this challenge. A recent World Bank report notes that less than 30% of countries have developed demand-generation strategies to encourage COVID-19 vaccine uptake (28).

Governments should “design and implement demand creation, risk communication and community engagement strategies to generate confidence, trust and demand for COVID-19 vaccine”(18). The rapid review shows that in the past, governments have deployed private companies’ complementary and specialized expertise in strategic communications and behavioural and social sciences to raise the population’s awareness during vaccination campaigns, to educate patients on the benefits of vaccination and to provide counselling to address their fears about vaccine side-effects (13, 29, 30). Governments have used this same private sector expertise to boost the COVID-19 vaccine roll-out (13, 29).

GAVI has leveraged its vast network with global corporations and non-profits to harness their expertise in communications to increase vaccination coverage. GAVI partnered with private entities who mobilized their global networks of volunteers to educate communities about the benefits and availability of vaccines. Comic Relief, another GAVI private sector partner, highlighted immunization to millions during its telethons on the BBC (8).

The Australian Government is partnering with the Aboriginal and Torres Strait Islander Community Centers and other religious and interfaith centers to increase the awareness of the COVID-19 vaccination program (6).

In the Philippines, the T3 Task Team government formed a task team to coordinate all vaccine related communications to tackle growing vaccine hesitancy and encourage public uptake. The Department of Health’s communication strategy relies heavily on their private partners’ expertise and capacity including tapping into their social media platforms, working with Telecom providers and developing software solutions (9).

Box 6 – Approaches to engaging the private sector in communication and demand generation

- Develop clear messages. The best way to approach misinformation is with education and accurate, fact-based information, bringing together a group of private sector communication experts with public health scientists to develop easy to understand messages based on facts.
- Link with the right messengers. Allies in the private sector can be important messengers. Involve community leaders, industry leaders, and private healthcare workers and equip them with tools that make them become effective advocates.
- Use available resources. Private industry – through their Corporate Social Responsibility or philanthropic arms – have considerable finances and infrastructure resources to offer government. For example, a private phone company delivered COVID-19 messages to all mobile users in Kenya. Another private company in India has financed communication campaigns designed by Federal Ministry of Health.

Vaccine delivery

Under 'service delivery', there are activities to 'establish the priority target populations and develop strategies (traditional or nontraditional) to best reach them'(18). While governments may be involved in purchasing, allocation, and distribution of vaccine, delivery will require greater partnerships between the public and private sectors, especially in environments with under-resourced public health systems. The private sector has access to additional resources, staff and infrastructure that could be mobilized - particularly in later phases of COVID-19 vaccine rollout when governments need to reach large sections of the general population. There are several examples in the literature that shows how the private sector can support governments' objectives to deliver immunization services in hard-to-reach areas (e.g. rural, conflict-affected or other complex emergency settings), therefore increasing access and equitable distribution of vaccines (12, 15, 22).

The most important challenges to consider while collaborating with the private sector in vaccine delivery are, among others, equitable distribution, and quality. WHO produced a guidance note to assist countries to improve their collaboration with private providers in the delivery of immunisation services (see box 1). It points out that partnering with the private sector can contribute to increased vaccination coverage and equitable distribution as well as improved quality of immunisation services delivered by private providers and increased reporting to the government on vaccinations administered and adverse events following immunisation (29).

In Afghanistan, the government sources all vaccines and distributes them to the private providers for administration. Then private providers, in addition to delivering the vaccines, is required to participate in the national immunization registries by reporting the number of vaccines given. The public-private collaboration has increased the coverage during the vaccination campaigns and enable private providers to adhere to the national standards of immunization service provision, including monitoring, reporting and quality service (5).

In Sudan, the National Immunization Programme (NIP) partners with the private sector to ensure immunization coverage. If gaps in coverage of vaccination services are found in a geographical area, then the NIP asks private providers to establish immunization services within their existing facilities or to set up a new outreach site. Private health facilities spread all over the country are indeed duly included in Government's plans and in the mapping of services that the immunization programme undertakes each year as part of the state's annual needs assessment of health services (12).

Box 7 – Approaches to engaging the private sector in service delivery

- Involve in planning. Service delivery planning to address who administers the vaccines, where the vaccines are delivered and how they are delivered is critical. Consider engaging the private sector in a timely manner to identify supplementary sites and the workforce (private clinical providers) required to provide surge capacity in vaccine administration.
- Create a level playing field. To maximize private sector quality and prevent compliance failures, it is necessary to have standards and systems for service quality monitoring of private providers for each aspect of the vaccine value chain (e.g. proper storage and handling, appropriate use of injections, proper recording and adherence to safety measures, and waste management and disposal). Critical to compliance is sharing these standards with authorized private providers and supplementing it with clinical training.
- Protect private healthcare workers. Prepare authorized private healthcare workers as if they were ministry staff. Share protocols for infection prevention and control and provide adequate personal protection equipment to minimize exposure risk during immunization sessions.

Human resource management

Mobilizing competent staff to administer the COVID-19 vaccine is a balancing act. Public sector health workers may not be able to conduct all COVID-19 vaccination activities without disrupting other critical services. One possible strategy is to mobilize private health workforce to complement the public one. But governments need to ensure that healthcare workers who can administer vaccines are licensed, trained, and supervised. Governments will need to identify number and type of staff needed to provide immunization services, 'identify training needs, develop materials / platforms, deploy staff to reach target groups, and establish supervision models' (18). The rapid review shows that the private sector has access to additional human capital that can be deployed to complement public human resources in the delivery of COVID-19 vaccines. However, it is important to ensure that private healthcare workers are trained, licensed, and provided with necessary equipment to administer COVID-19 vaccines safely and effectively.

With support from the Uganda Ministry of Health, the Uganda Healthcare Federation developed an eLearning course to rapidly disseminate information and knowledge to both public and private healthcare workers on relevant issues related to COVID-19 including data reporting. The course includes various public and private experts (31).

Box 8 – Approaches to engaging the private sector in human resource management, supervision, and training

- Involve the private sector in planning. Early engagement with professional peak bodies and professional associations and health ministries can ensure that the health workers from the private sector can organize themselves to participate in the efforts.
- Demand and enable reporting. Bring together professional associations representing private providers with regulatory bodies to inform (or remind) them of their regulatory responsibility to report on vaccine uptake indicators and identify solutions – like software platform – to enable them to submit reports to the national immunization plan.
- Harness private resources for training. Non-government agencies may provide expanded opportunities for scaled-up training in venues or access to information technology.
- Provide training. Private sector health professionals should be included in public health trainings, especially those who play a critical role in the roll-out of COVID-19 vaccines for service delivery and all other 'touch-points' in the system from managing cold chain, to risk communication and community engagement, and for surveillance, monitoring and evaluation.

Monitoring and evaluation

In developing and updating their national deployment and vaccination plan for COVID-19 vaccines, governments are recommended to develop or adapt monitoring tools, updating data collection tools as needed, and to ensure that sufficient capacity for vaccine safety surveillance is in place (18). Closely monitoring the COVID-19 vaccination roll out is key in many ways. It can help ensure the best use of scarce resources, rapidly adapt to changing supply, demand, logistical, and epidemiological situations. Constant surveillance of what is happening on the ground is key to ensure the vaccine is delivered safely. In this area, a recurrent problem with the private sector is the underreporting of data. The rapid review shows that private providers were less likely to report on these key indicators, due to challenges in coordination, governance and regulatory mechanisms, and due to poor reporting systems (e.g. paper-based, delayed).

In the Philippines, ongoing planning, and implementation of the COVID-19 vaccines rollout is closely monitored, as the task force has identified data metrics to be collected and analyzed to monitor progress towards targets (9).

Box 9 – Approaches to engaging the private sector in monitoring and evaluation

- Involve the private sector in data discussions. Early engagement with private professional associations to discuss reporting requirements, agree on metrics defining success and demonstrate how the data will be used will foster buy-in as well as trust.
- Map reporting mechanisms. As private providers use a variety of mechanisms to report data, a first step will be to understand what reporting mechanisms private providers use - conventional (paper-based forms and checklists) or alternative ones - to standardize the process.
- Assist private providers to report data. As private providers expand their reach and delivery, it is critical to ensure services and vaccines provided by private providers is recorded and measured. Reporting on vaccine administration errors as part of progress and performance monitoring is critical. Private providers, however, will need help to submit reports in a timely manner – such as training, access to ministry data systems, or IT platforms to report data electronically.
- Share the data provided by the private sector. Not only integrating private sector data will help with coverage estimates, but it will also acknowledge their contribution and help build trust and confidence in their role.



How to move forward to engage the private sector in COVID-19 vaccine rollout?

The unprecedented challenges presented by the COVID-19 pandemic call for unprecedented action by governments in LMICs to engage the private sector to support government national responses. As the rapid review shows, the private sector has been a longstanding partner with government in delivering childhood vaccines. Recently, a growing number of governments are exploring the best way to involve and engage the private sector to respond COVID-19(31, 32). WHO is committed to identifying best practices, resources and tools used by country governments and to share them widely to assist governments to exercise appropriate governance of the private sector to ensure equitable distribution of COVID-19 tools.

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