Evaluation of COVAX Facility and AMC and COVAX Pillar Delivery Efforts

Guyana Case Study Final Report

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Prepared for
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LIST OF ACRONYMS

ACT	Access to Covid-19 Tools Accelerator
AMC	Advance Market Commitment
CCE	Cold Chain Equipment
CDS	Covid-19 Vaccine Delivery Support
CoVDP	COVID-19 Vaccine Deployment Program
CSO	Civil Society Organization
EPI	Expanded Programme on Immunization
Gavi	Gavi, the Vaccine Alliance
GDF	Guyana Defense Force
GHS	Global Health Security Index
HEOC	Health Emergency Operations Centre
HIV	Human Immunodeficiency Virus
KAP	Knowledge, Attitudes, Practices
KI	Key Informant
MoH	Ministry of Health
MMU	Materials Management Unit
NDVP	National Deployment Vaccination Plan
PAHO	Pan American Health Organization
PHC	Primary Health Care
PLHIV	Persons Living with HIV
PPE	Personal Protective Equipment
SOP	Standard Operating Procedure
UHC	Universal Health Coverage
UNDP	United Nations Development Programme
UNICEF	United Nations International Children's Emergency Fund
WHO	World Health Organization

EXECUTIVE SUMMARY

Background on Guyana and COVAX

Guyana, an English-speaking independent republic on the northern coast of South America, benefited from COVAX from March 2021 through July 2023. In addition to facilitating COVID-19 vaccine delivery, COVAX supported the training, storage, social mobilization, transport, and monitoring and evaluation aspects of COVID-19 vaccine administration.

The core delivery partners for COVAX in Guyana were Pan American Health Organization (PAHO) and the United Nations International Children's Emergency Fund (UNICEF). The Government of Guyana was one of the early signatories to become part of the COVAX Facility. The first set of 24,000 AstraZeneca vaccines from COVAX were received on March 29, 2021 and by November 2021 approximately 50% of the Pfizer and AstraZeneca vaccines allocated to the country had been received.

COVAX support received in Guyana

Major components of COVAX support were:

- Technical guidance in the preparatory phase, vaccine delivery, and the facilitation of vaccine shipments received from other suppliers.
- Funds to purchase cold chain equipment.
- Trainings of health care providers.
- Facilitating outreach in hard-to-reach areas (including providing per diems for workers).
- Assisting with sensitization (education and awareness of the COVID-19 vaccines).
- Addressing hesitancy (posters, social media, "edutainment," translation).
- Providing laptops, vaccine cards, transport, safety surveillance, monitoring and evaluation, and waste management.

Outcomes and challenges of COVAX delivery in Guyana

The key successes of COVAX support in Guyana included the seamless integration of COVAX initiatives into the routine Primary Health Care system and the Essential Program on Immunization. Additionally, notable achievements included an increase in vaccine coverage, enhanced multisectoral collaboration, upgraded technology, expansion of the cold chain, extensive training for healthcare workers, and strengthened monitoring of adverse events. These successes were largely enabled by strong political will, robust multistakeholder partnerships at the local, regional, and international levels, and a well-established pre-existing immunization program. Notably, collaboration between UNICEF and the World Health Organization/PAHO offices was highly effective in addressing country-specific needs. Furthermore, delivery modalities were key in supporting equitable vaccine distribution and reinforcing various levels of the national healthcare system.

However, key challenges remained, including vaccine hesitancy, insufficient human resources, and vaccine stockouts or preferences. Additionally, a lack of understanding regarding the allocation of COVAX funding versus other funding limited the ability to fully assess its broader

impact. According to key informants, issues related to vaccine availability, frequent stockouts, and short shelf lives unintentionally contributed to the spread of misinformation leading to vaccine hesitancy.

Broader lessons or insights

In Guyana, local actors effectively engaged with global partners to secure sufficient funding, with regional and international entities working collaboratively and in a timely, responsive manner with the government. Strong political will within the country, coupled with a robust pre-existing immunization program, played a crucial role in the success of vaccination efforts. To ensure speed and efficiency in procurement and distribution, existing systems, such as the PAHO Revolving Fund, should be utilized.

Regional and global partners provided exceptional technical support and assistance, particularly in terms of infrastructural changes that offer long-term benefits, alongside protocols and templates that are adaptable for future use.

A key takeaway from this evaluation is the need to address human resource shortages during crises by proactively expanding the health workforce and establishing a readily available reserve cadre of workers.

Regional and global partners also contributed significantly to addressing the challenge of vaccine hesitancy. This included investing in strong in-country vaccine advocacy systems and preemptively countering misinformation in future health crises.

BACKGROUND AND COUNTRY CONTEXT

This country case study is one of six contributing to the *Evaluation of COVAX Facility and AMC and COVAX Pillar Delivery Efforts*, with the aim of providing illustrative examples of COVAX's implementation in context and demonstrating how its implementation achieved results amidst evolving global and local contextual factors.[a] **Appendix A** outlines the methods for this case study.

Guyana is an English-speaking independent republic on the northern coast of South America. With a relatively small but growing population of 746,955 people, the ethnically and religiously diverse country's economic activities are related to natural resources, including oil, which has exponentially increased its gross domestic product (GDP) growth rate.[1]

COVID-19 and COVAX characteristics

COVID-19

- Infection rate: 9,329 per 100,000
- Mortality Rate: Case fatality rate 1.8%
- Government Stringency Index average [pre-2021]: 71.6
- Government Stringency Index average [post-2021]: 18.5

COVAX

- CoVDP focus: No

The COVID-19 epidemic started in Guyana in March 2020. The incidence then increased rapidly, and by August 2022 there were more than 70,900 cases with more than 1,270 known COVID-19 related deaths.[2] The majority of cases occurred in Region 4, which is the most populus region and where the capital city of Georgetown is located, followed by Regions 3 and 6, which have the highest populations after Region 4.[3]

Country response to COVID-19

The government responded to the outbreak by developing a COVID-19 Preparedness and Response Plan and activated the Health Emergency Operations Centre (HEOC) to oversee its coordination and implementation.[4] In the latter part of 2020, the National Deployment Vaccination Plan (NDVP) was instituted and contained an outline of the coordinating structure for the vaccination program and priority areas.

The vaccine response was headed by the National COVID-19 Vaccine Coordinating Mechanism, which established a COVID-19 Technical Working Group by expanding the existing Expanded Programme on Immunization (EPI) Inter-Coordinating Committee.[4] The first set of vaccines the country received were a quota from Barbados' Indian donation on February 10, 2021, followed by donations of Sinopharm[5] and Covishield[6] from China and India respectively,

[a] COVAX, the vaccines pillar of the Access to COVID-19 Tools Accelerator (ACT-A), was launched at the end of April 2020 under immense pressure during the COVID-19 pandemic to deliver vaccines worldwide, introducing an unprecedented market mechanism at a global scale. COVAX was co-led by the Coalition for Epidemic Preparedness Innovations (CEPI), Gavi, the Vaccine Alliance (Gavi), UNICEF, and the World Health Organization (WHO). COVAX represents a partnership of 193 countries coordinating resources to secure access to a portfolio of COVID-19 vaccine candidates, aimed to provide participating countries with early access to vaccine doses sufficient to vaccinate up to half of their populations.

in early March 2021. The first batch of vaccines through COVAX arrived on March 29, 2021. Vaccination initially started mainly through fixed sites but by 2022 was switched to more mobile methods and outreach events since uptake had stalled due to vaccine hesitancy.[7] By November 2022, 87.4% of adults had a first dose and 67.9% were fully immunized.[8] This coverage was accomplished with a wide variety of vaccines, including Sputnik, Sinopharm, Covishield, AstraZeneca, Pfizer, Moderna, and Johnson & Johnson.[9] Given that 10 Caribbean countries had not reached 40% coverage in February 2022,[10] Guyana's uptake was on the higher side for the region.

Guyana's health sector at a glance

Guyana had begun pursuing Universal Health Coverage (UHC) prior to the pandemic and health investments had resulted in improved strategic health outcomes.[11] However, the country's health system capacity to effectively address preparedness and response to outbreaks was limited.[4] Its Global Health Security (GHS) index score pre-pandemic (31.7), ranked it 24 out of 33 Latin American countries, and even with a slightly above average score for worldwide compliance there were noted gaps in the system's ability to prevent, detect, report, treat the ill, and protect health workers.[12] There were also major concerns about adequate equipment, supplies, and human resources, especially in the hinterland regions (Regions 1, 7, 8, and 9).

The results of Guyana's national elections on March 2, 2020, were not declared until August 2, 2020.[4] During this period there were security issues,[13] and the government faced the dual task of managing the pandemic and a politically uncertain environment. In 2021 disastrous flooding caused by heavy rainfall led to significant loss of livestock and agriculture, with the government giving out cash grants of US$240 to US$480[b] to affected households and farmers.[2] The pandemic affected employment and food security, resulting in an overall increase in the cost of living. Between 2020 and 2022, the government disbursed a series of cash grants to mitigate these effects, including grants focused on specific subpopulations like public servants, school children, children with disabilities, fisherfolk, hinterland/riverain households, and sugar workers.[2] Another contextual factor that influenced the response was the roughly 11% of persons who live in the hinterland areas, which are remote, hard-to-reach, and share borders with Brazil and Venezuela.[14] In these areas there are small permanent communities with a large number of mobile persons, including gold miners, loggers, and international migrants. Underdeveloped health infrastructure and increased poverty pose challenges in reaching national healthcare coverage goals, and these regions also faced low vaccine uptake.[14,15]

Guyana spent large amounts of financial resources during the first two years of the response, allocating US$11 million for vaccination programs in 2021 and US$32.5 million for the national COVID-19 programs in 2022.[c,2] Funding was also received from the World Bank, Inter-American Development Bank, and Pan American Health Organization (PAHO)/World Health Organization

[b] GY$50,000 to GY$100,000
[c] GY$2.3 billion going to the vaccination program in 2021 and GY$6.8 billion allocated for the national COVID-19 programs in 2022

(WHO), which in 2020 provided a US$1 million grant through the Pandemic Emergency Financing Facility administered by the World Bank.[2]

Key Country Characteristics

Population

- Total population: 746,955 (Guyana Census 2012)
- Urban population: 27%
- Population > 60 years: 5.13%
- Population < 18 years: 37%
- Health care workers: 0.23%

Health care system strength

- Health expenditure (2021): 3.34% of GDP
- Health expenditure per capita (2021): US$471
- Routine vaccine coverage (2019): 99% (BCG, DTP3, HepB3, Hib3, Rota), 97% (Polio3), 98% (MV1), 92% (MCV2), 98% (PCV3), 13% (HPV), 94% (YFV)

Global health security

- Global Health Security (GHS) Index score (2021): 30.8
- Major epidemics since 2000: None

Socioeconomic indicators

- World Bank classification: high-income country

OVERVIEW OF COVAX ENGAGEMENT IN GUYANA

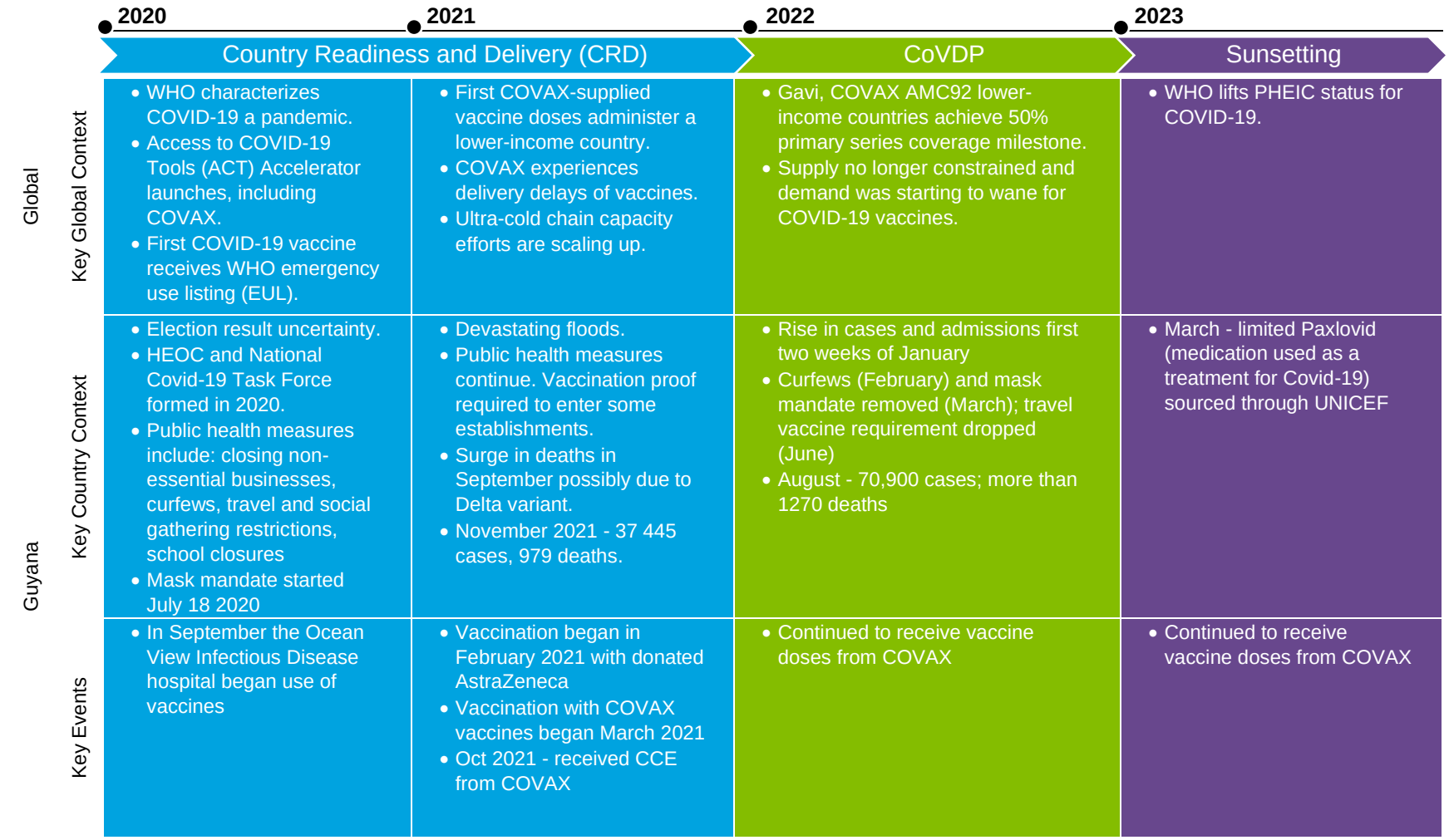
The core delivery partners for COVAX in Guyana were PAHO and the United Nations International Children's Emergency Fund (UNICEF). The Government of Guyana was one of the early signatories to become part of the COVAX Facility and planned to use the guaranteed 20% coverage provided by the facility on priority populations.[4] COVAX supported the procurement of vaccines from AstraZeneca, Pfizer, and Johnson & Johnson (**Table 1**). The first allocation of 24,000 AstraZeneca vaccines from COVAX were received on March 29, 2021, and by November approximately 50% of the Pfizer and AstraZeneca vaccines allocated to the country had been received, and delivery was pending for 28,000 Johnson & Johnson doses.[16]

Table 1. COVAX Procured COVID-19 vaccination types in Guyana (2021-2023)

Vaccine	Vaccine dose amount
AstraZeneca	217,920
Pfizer	301,800 (including 52,800 pediatric doses)
Johnson & Johnson	36,000
Unspecified	11,500 (2024)

Figure 1 includes to global timeline across the three distinct COVAX phases (Country Readiness and Delivery [CRD], COVID-19 Vaccine Delivery Partnership [CoVDP] and Sunsetting).

Figure 1. Country timeline[d]



[d] Note that Guyana moved from the CRD phase to COVDP phase in terms of activities, however, the country did not receive COVDP associated funds. September 2021: 62.5% adults (1st dose), 32.8% adults (fully vaccinated); 9,909 adolescents taken the Pfizer vaccine
November 2022: 87.4% adults 1st dose, 67.9% (second dose)

Country Readiness and Delivery (CRD) phase

Beginning in the last quarter of 2020, COVAX was involved in providing guidance to the government of Guyana on formulating the country's NDVP and guiding documentation for reviewing and expanding cold chain systems. In October 2021 Guyana used the COVAX cold chain equipment (CCE) funding worth US$55,203 to acquire CCE (**Table 2**).[17]

Table 2. CCE purchased and installed using initial COVAX funds

Equipment	Quantity purchased
Solar Direct Drive refrigerators	2
Electronic refrigerator loggers	2
Vaccine carriers	400
Cold boxes	20
30-day logs	200

By January 2022 COVAX delivered approximately 262,000 vaccine doses (AstraZeneca and Pfizer) to Guyana and facilitated shipments of vaccines received from other suppliers.[18] This was done through Covid-19 Vaccine Delivery Support (CDS) funding and utilized the pre-existing PAHO revolving fund as an implementing partner.

Vaccine allocations and intermittent deliveries continued until the end of 2023 but were then funded through PAHO health emergency funding and not CDS. Other COVAX-supported activities through implementing partners PAHO and UNICEF included planning support, multiple training of health care providers, conducting knowledge attitudes and practice surveys (KAPs), facilitating outreach in hard-to-reach areas (including providing per diems for workers), assisting with sensitization and addressing hesitancy (posters, social media, edutainment, translation), and providing laptops, vaccine cards, transport, safety surveillance, monitoring and evaluation and waste management.

FINDINGS ON COVAX SUPPORT IN GUYANA

This section describes the structures that underpinned COVAX's support to Guyana, planning processes and equity considerations, the resources provided at different times, and the complementary roles of Alliance partners and the country stakeholders. These findings are based on multiple sources of evidence, integrating the perspectives and experiences of a range of partners. Data collection methods included desk reviews and key informant interviews (KIIs), with the findings reflecting areas of convergence across stakeholder input and supporting documentation. A validation session was held with stakeholders to ensure alignment and consensus. This section is structured by evaluation question (EQ).

Country-level support provided through COVAX

EQ 3: Was the implementation framework for the COVAX Delivery Pillar appropriate to achieve overarching objectives?

Sub-EQ 3.1: To what extent did core delivery partners and delivery modalities respond to identified needs and priorities of (1) priority population groups, (2) national governments, and (3) COVAX stakeholders?

Finding 1: Priority populations in Guyana were frontline health workers, people over 65 years old, and other high-risk groups, including those with comorbidities and chronic diseases, joint forces, and auxiliary health workers. COVAX-supported activities such as training of health care providers and outreach funding to improve access to priority populations.

During planning, COVAX held meetings with the government to assist on developing the NDVP and assisted with information on deployment and risk communication. By the end of 2021 COVAX had assisted with the country's priorities of vaccinating 20% of the population (including priority populations) and enabling infrastructure by providing CCE. Key informants agreed that the core delivery partners—UNICEF and PAHO—were involved and integral throughout the process of planning to delivery.

> ***"Definitely these partners mentioned here, UNICEF, PAHO, WHO and so many others, they played an integral part in the COVID-19 response for Guyana, helping to facilitate, in many instances, the entire process, from beginning of planning what to order to an extent of delivery straight to patients, many of these organizations were involved in monitoring and evaluation, looking at supply chain, looking at stock out, so they were part and parcel with the Ministry, and that's where you see that close knitted relationship." –National Government Health Official***

Key informant applauded the efforts of UNICEF, noting that they stepped up despite the agency's lack of a health portfolio in Guyana. However, key informants saw a bigger presence and involvement of PAHO.

> ***"PAHO was in everything – COVID-19 guidelines, information, in terms of best practices, references, equipment, one of our main go-to was PAHO, in all the meetings" –National Government Health Official***

Sub-EQ 3.2: To what extent and how were (1) in- and intra- country equity and (2) gender equity considerations integrated into delivery modalities?

Finding 2: Stakeholders emphasized that equal access to health services for all, is a core tenet of the country's universal health care system. The important aspects of equity in COVAX delivery were as follows:

a. COVAX partners helped identify persons living with HIV (PLHIV) as a priority population enabling access to vaccinations for this group.
b. By increasing the number of available vaccines, COVAX contributed to increased access throughout the country. This was also bolstered by supporting CCE in outlying areas and supporting personnel to reach and implement in these areas. However, in September 2022 vaccine stock-outs still existed at service delivery points contributing to inequitable access.[7]
c. Guyana aimed to ensure that access to healthcare in the hinterland was on par with that of the coast. By January 2024, 64% of people living in coastal regions received a single dose of the COVID-19 vaccine and 50% of people living in coastal regions received two

doses.[19] In Hinterland regions, 56% of the population received a single dose and 40% received two doses.

d. Migrants were included in the COVID-19 vaccination campaigns without the need to present proof of citizenship or residency.
e. Messaging was translated into Spanish, Portuguese, and Indigenous languages, especially Warrou. Doctors and health care providers also assisted with translations.
f. Gender was not an explicit consideration for Guyana's COVID-19 response but was more implicitly embedded within the pre-existing public health delivery system. Data disaggregated by gender is not available.

Sub-EQ 3.3: Were human and financial resource allocations to delivery modalities (1) adequate, (2) defined, (3) coordinated, and (4) agreed?

Finding 3: Direct evidence of agreements between the government and COVAX were restricted and the exact monetary amounts were difficult to ascertain (apart from CCE). According to the CDS 3rd funding window application form, the Guyana's Ministry of Health (MOH) requested US$120,000—split evenly between the MOH, WHO/PAHO, and UNICEF—to train vaccinators.[8] Other financial resources requested to support Guyana's MOH and COVAX alliance partners, including WHO/PAHO and UNICEF, can be found in **Table 3**.

Table 3. Guyana COVAX Funding Requests in USD [7]

Activities and items	CDS Early Access July 2021	Cold Chain Equipment Support September 2021	CDS Needs Based Funding Amount request November 2021	CDS-3 Amount request September 2022
Planning and coordination	0	0	0	25,000
Training of vaccinators	15,000	0	29,000	120,000
Cold chain equipment	0	62,549	0	77,243
Cold chain maintenance	0	0	60,000	70,000
Social mobilization	30,000	0	124,820	125,000
Monitoring and evaluation	105,450	0	42,250	40,000
Vaccine safety surveillance	5,000	0	28,000	20,000
Vaccine transport	20,000	0	15,000	0
Waste management	0	0	30,000	0
Per diem for outreach and incentives	0	0	72,000	90,000
Vaccination team transportation for outreach	12,000	0	144,000	120,000
Technical assistance	42,550	0	20,000	0
Post vaccine introduction evaluation	0	0	28,000	0
CDS Grant admin. and support	0	0	6,930	12,757
Total (USD)	**230,000**	**62,549**	**600,000**	**700,000**

Many key informants could not comment on financial resource allocations as it was not always obvious what was funded by COVAX. For example, one key informant noted that UNICEF was better at outlining source of funding while another key informant was unaware that the government receive any money directly from COVAX and instead believed the country utilized a World Bank loan.

The few key informants who commented on financial resources said it was not a challenge; one key informant pointed to the COVAX-supported stipends for volunteers and overtime as integral to efforts and another noted that COVAX was helpful in providing support to fill identified needs.

> ***"So COVAX offered you the opportunity to fill your needs, and although you had to prioritize, you were able to meet most of your emergent needs. You were able to get cold chain in areas that there was no cold chain before. You were able to expand access to vaccines, which is really what it's all about, having everybody being able to access a lifesaving commodity that would reduce the cost of health care and the burden of tertiary care greatly….it was surreal, because they were actually looking at needs and trying to meet those." –National Government Health Official***

Finding 4: Recruiting and retaining human resources during the pandemic posed a significant challenge, much as it had prior to COVID-19. To address staffing shortages, volunteers were enlisted, retired personnel were asked to return, and existing staff were reassigned from their regular roles. In addition, extra community health workers were deployed, and healthcare workers were assigned to multiple roles across various functions. Many staff members also worked overtime to meet the increased demands placed on the health system.

The Guyana Defense Force (GDF) served as a valuable human resource during the pandemic, offering crucial logistical support by transporting personnel and materials. Additionally, they assisted in enforcing public health mandates, including curfews, and contributed to clerical and administrative tasks. GDF medics played an essential role in administering vaccines, while GDF also supported post-vaccine surveillance through a dedicated hotline.

COVAX did not directly provide personnel to meet human resource needs and staff from UNICEF or PAHO were not seconded. COVAX's contribution to address human resource gaps centered on training health care workers and providing stipends and per diems for outreaches and overtime.

Implementation and adaptation of COVAX support

EQ 4: How well was the COVAX delivery pillar implemented and adapted as needed, in line with overarching objectives?

Finding 5: The NDVP planned for the use of existing EPI infrastructure, human resources, and processes, to integrate COVID-19 vaccination into its regular immunization schedule and existing distribution mechanisms. Guyana also leveraged COVID-19 funding to improve the routine immunization services, for example by using outreach activities and social mobilization to also communicate the importance of routine immunization.[20] When vaccination progress stalled due to vaccine hesitancy, the strategy was changed from fixed vaccination sites to house-to-house vaccinations, drive-throughs, and mobile teams. According to a national government health official key informant, additional adaptations included adjustments to legal frameworks to include the vaccines and to allow their emergency registration.

Integration into the existing Primary Health Care (PHC)/EPI system worked because it leveraged pre-existing structures; vaccine appointments were combined, and registers were used to track progress. A regional MOH representative key informant reported that while the COVID-19 vaccine is now part of Guyana's routine immunization program, only the Pfizer vaccine is available and as the Pfizer vaccines require ultra-cold storage, COVID-19 vaccines are only periodically administered in outlying regions that do not have ultra-cold storage.

Sub-EQ 4.1: What were the key enablers and barriers relative to successes achieved and challenges encountered?

Finding 6: Key challenges

The most frequent challenge mentioned by key informants was vaccine hesitancy. This theme was also noted in the desk review where community engagement to change the communities' views on vaccine safety was highlighted.[20] A key informant from a civil society organization cited preferences for certain types of vaccines and/or vaccines not being internationally recognized reduced uptake. Furthermore, early knowledge gaps and insufficient human resources posed a critical challenge. Key informants also identified late or stocked out vaccines, short expiration dates and vaccine wastage, along with insufficient infrastructure/hardware. The country also faced logistical challenges reaching remote areas and language barriers. The absence of an electronic immunization data management system added to the workload of health workers by requiring them to use a separate set of immunization data capture tools for COVID-19 during vaccination sessions.[21]

Finding 7: Key successes

Successes were not solely attributable to COVAX but were a result of many coordinated funding and implementing efforts. Documented successes of the implementation response included improved multisectoral collaboration (e.g., school-based programming vaccination initiatives to reach school children and teachers), technological upgrading (COVAX partners contributed by providing laptops), strengthened governance, strengthened social data generation (COVAX contributed by supporting several KAP studies), and effective and efficient training and performance management skills for health workers in the ten administrative regions (COVAX contributed by supporting many of these trainings).[20,21] Key informants also identified other successes, such as good first dose coverage, delivery in all ten regions with good distribution, smooth rollout, co-administration with other vaccines, decreased morbidity and mortality, staff dedication, and the ability to reach remote areas. Key informants also noted that point of care testing is now available in more regions, with increased focus on adult immunizations, and improved information systems (which has also continued and led to development of a disease elimination unit and better surveillance around arboviruses).

The enablers for these successes included prior infrastructure, good training, using community health care, technical support, having regional storage bonds, dedicated staff, the existing immunization program, pre-existing relationship with Civil society organizations (CSOs), support of central government and international partners, teamwork, and having a health census in some regions.

Sub-EQ 4.2: Did adaptations to delivery modalities in response to the changing context enable countries to prepare, introduce, and scale up vaccines in a timely and effective manner?

Finding 8: One adaptation was changing strategy from mainly fixed vaccination sites to house-to-house vaccinations, drive-throughs, and mobile teams after vaccine hesitancy stalled progress. COVAX provided stipends that allowed workers to work overtime during outreaches and support to get the vaccines and teams to outlying areas.

> ***"We wanted to do 5–10 outreaches in one day... We were able to bring in people, and say, 'Listen, you work your 8:00 to 4:30 and we're going to pay you from 4:30 to 7:00 a stipend just to give us those few hours'... Health care workers from all over Guyana benefited from the stipend." –National Government Health Official***

Finding 9: Implementing partners requested increased frequency of reporting (daily) from coordinating teams. While the need for close oversight was understood, this frequency was considered overly burdensome to many key informants.

Sub-EQ 4.3: How well did WHO and UNICEF country offices coordinate and collaborate to support Pillar delivery objectives relative to specific country needs?

Finding 10: The majority of key informants agreed that the collaboration between UNICEF and PAHO was smooth and frictionless, with the organizations operating under a clear delineation of roles. These agencies ensured alignment of their processes and models to Guyana's context and conducted well received follow-up meetings.

> ***"They looked at what resources we have, and they ensured that we utilize them well. So, they helped us to want to develop models based on Guyana setting." –National Government Health Official***

Sub-EQ 4.4: To what extent did delivery modalities complement existing health systems and routine immunization systems to jointly respond to the needs of priority population groups?

Finding 11: Guyana integrated communications about the importance of routine immunization into the COVID-19 mediums for outreaches and social mobilization[20] and in February 2022, there was gradual phasing of COVID-19 vaccination into routine vaccinations.[8] COVAX complemented existing systems to cater to priority populations by increasing vaccine supply, training workers, and enabling a supply of approved vaccines for vulnerable populations.

Additionally, key informants noted that the government was very good in ensuring private facilities received vaccinations for elderly residents and there was the combining of routine service with vaccination to address priority populations with comorbidities. The existing vaccine programs, care sites, clinics, and partnership with private facilities, meant that COVAX delivery efforts benefited from pre-existing systems that were ready to reach the population. For example, PLHIV were able to access the COVID-19 vaccines through their routine care clinics, which also had an existing practice of following up with PLHIV to ensure second doses were accessed. Overall, this meant fewer people with comorbidities and other vulnerabilities died or experienced severe illnesses.

Results of COVAX

EQ 6: To what extent have the intended results of the Delivery Pillar been achieved?

Finding 12: COVAX funding improved vaccine availability and bolstered routine immunization.[20,22] Concurrently, outreaches assisted in increasing the coverage for both first and second doses. Importantly, COVAX delivery modalities helped support equitable distribution and strengthened various levels of national systems. This support built upon the existing initiatives undertaken by local actors. While it was generally held that COVAX was timely and helpful, decreased transparency of what exactly was supported by COVAX limits the full assessment.

Sub-EQ 6.1: To what extent were COVAX Pillar delivery efforts outcomes and goals achieved, and were related targets and timelines appropriate?

Finding 13: Successes traced to COVAX include a 4.7% increase in coverage of COVID-19 vaccination following outreach in Region 9[5], strengthened monitoring of adverse events, technical guidance during planning, development of additional standard operating procedures (SOPs) to strengthen the operational and technical aspects of vaccine management and immunization supply chain, and the expansion of CCE.[20,21] By facilitating vaccine procurement, COVAX enabled the wide coverage achieved (**Table 4**) and by supporting outreach, enabled delivery to remote areas.

Table 4. COVID-19 vaccination coverage in Guyana as of January 2024 [19]

Population group	Vaccine coverage (First Dose)	Vaccine coverage (Second Dose)
Population >=18 years	87.9%	68.5%
Population >= 15 years	72.4%	55.9%
Total Population	64.4%	49.8%

Finding 14: Key informants reported that interagency collaborations because of COVAX were successful and contributed to a whole-of-government approach and that these collaborations have continued. Several key informants noted the effort is to be applauded as it provided accountability, a unifying banner, and opportunities for AMC countries that were executed in a collaborative fashion.

> ***"I think because of the COVAX intervention we're in a better place. We were able to reduce the morbidity and the mortality of COVID-19. So, it did really impact, and it came at a good time. You know, it was an intervention that alone, we couldn't do without the COVAX Facility." –National Government Health Official***
>
> ***"What was needed was a unified approach like COVAX. And I know COVAX provided a service of vaccination, and they provided a commodity of vaccination, but if somebody managed the actual COVID-19 disease the way COVAX managed delivery of COVID-19 vaccine, I think the world would have had quite a more harmonious humanitarian response to the pandemic." –National Government Health Official***

[5] A hinterland region with remote and difficult to access communities

Sub-EQ 6.2: Were equitable results achieved?

Finding 15: According to the operationalization of equity as access to everyone regardless of location, equitable results were achieved. This result was supported in part by COVAX-funded activities and resources, but also by in-country efforts to overcome the logistical difficulties and redistributing vaccines between regions. One key informant said that while vaccine delivery across the country was equitable, not all communities were equally sensitized and therefore it was not an equitable approach. Another pointed out that an equity consideration was how some persons received vaccines from certain suppliers that others did not. This happened because while people were often given a choice in which vaccine they preferred, stockouts made some vaccine types temporarily unavailable, effectively removing choice.

> ***"Could you imagine what effect that had on the populace, to say '…why are you giving certain people the other one and I'm getting this one?'" –National Government Health Official***

Sub-EQ 6.3: Did delivery modalities strengthen national and local systems and capacities?

Finding 16: Many key informants identified ways in which delivery strengthened the national system, such as improved planning and preparedness (some COVAX templates were adapted and are still being used and even applied to other areas, there is now better supply chain tracking), improved infrastructure (CCE and laptops), and improved surveillance, collaborations, outreach, and record keeping capacity.

While COVAX protocols contributed to strengthening PHC and provided structure, more broadly, the pandemic strengthened organizational response and governance, helped identify gaps and how to make systems more efficient, tested the national disaster response plan, and showed the citizenry what government was capable of. One key informant highlighted that while COVAX offered support, perhaps Guyana did not need this support because many nationally led initiatives were already being undertaken. Overall, while the pandemic tested the country's systems and governance and led to their strengthening through local initiatives, COVAX delivery modalities assisted with this improvement.

Sub-EQ 6.4: Did unintended consequences arise during the implementation of the COVAX Pillar delivery efforts? Were they directly or indirectly related to the pillar activities, or due to external factors?

Finding 17: The most common negative outcome mentioned was vaccine hesitancy and misinformation. Several factors outside the control of COVAX played into this, including religious influences and the internet, but pauses in having certain vaccines available, short shelf lives, not having stocks of follow-up doses, and the geopolitical element—whereby some vaccines were more internationally recognized for travel and vaccine cards—also contributed to this.

More timely procurement of a wider variety of vaccines by COVAX could have helped to alleviate this consequence. Several key informants also mentioned that COVAX should have shared vaccine information earlier to get ahead of misinformation.

Finding 18: COVAX boosted local confidence in being able to deliver other vaccinations on a mass scale, as will be useful in attempting polio eradication. While the pandemic itself tested the country's systems and governance and led to their strengthening under the force of local initiatives, COVAX delivery modalities assisted with this improvement. Areas of strengthening included planning, infrastructure, and capacity for outreach and data collection.

BROADER LESSONS OR INSIGHTS

Country-level challenges and priorities

The majority of key informants agreed that Guyana is better prepared for another pandemic and that all systems remain in place to tackle another crisis, especially the institutional memory, SOPs, and continued intersectoral communication avenues.

It was noted that decision-making has improved, and stakeholders are now more confident in trusting themselves and have real-world experience treating patients with a new or emerging disease (i.e. Mpox).

Practices that worked in Guyana and that can be seen as key lessons for future pandemic preparedness are:

- Having an environment where local actors and global partners can work in tandem to solve the issues, with local actors being able to lobby global ones for sufficient funding
- Regional and international entities working with government in a timely, responsive, and collaborative manner
- Having strong political will in-country to tackle the crisis
- Having strong pre-existing systems, including a robust immunization program
- Global actors leading by the needs on the ground rather than imposing from top down
- Regional and global partners providing excellent technical support
- Regional and global partners assisting with infrastructural change that can be used in the long term, and that is useful for both routine and emergency purposes
- Regional and global partners assisting with protocols and templates that can be easily adapted and repurposed (as is the case with the NDVD and other COVAX templates)
- Procurement and distribution should utilize systems already in place (for example the PAHO revolving fund) for speedy and efficient execution

The capacity built in conducting outreaches, data collection, and utilizing technology are already being used to address other areas and will be useful in future crises.

Given the challenges identified, there are also country-level lessons to close these gaps:

- A prominent theme from key informants was the stress of the pandemic's circumstances and working excessively, and long hours; addressing human resource shortages during a crisis by proactively expanding the health force and having an easily accessible cadre of reserve workers will help to alleviate this in the future
- Have continuous advocacy and community engagement to change the communities' views on vaccine safety; ensure all communities have comparable levels of sensitization
- Implement an electronic platform incorporating all antigens for vaccination while providing real-time monitoring

Regional and global level coordination and planning

Challenges encountered with vaccine stockouts and short expiration dates can be addressed at the regional and global level by having better bilateral collaboration and stronger networks for communicating how best to redistribute vaccines in a timely fashion.

Regional and global contributions to tackling the major challenge of vaccine hesitancy can take the form of investing in strong in-country vaccine advocacy systems and pre-emptively addressing misinformation in future crises.

Greater transparency on how COVAX funded implementing partners is necessary and would be aided by better record keeping in the future. COVAX should also address challenges in getting pledges and vaccine hoarding, which would improve timely procurement and the facility's utility in the future.

CONCLUSION

Conclusion 1: COVAX support was well received and assisted in achieving equitable results, with the core delivery partners coordinating well to respond to the country's identified priorities through material (CCE, vaccines, vaccine equipment), financial (per diems to outreach teams), and resource support. There were many successes noted, and the key enablers of these were political will, excellent multistakeholder partnerships at the local, regional and international level, and a strong pre-existing immunization program. At the same time, vaccine hesitancy was a major challenge along with insufficient human resources to cope with a long-term health crisis and issues with vaccine stockouts and mismatch of preference with available supply. Issues with human resources were addressed by diversion of personnel (which strained the system), increased recruitment, an all-hands-on deck approach, and some support from COVAX. However, opaque funding pathways challenged the full examination of financial resources provided by COVAX.

Conclusion 2: The implementation of COVAX Delivery Pillar efforts in Guyana went as planned and included integration into the routine PHC/EPI. Country-level adaptation of vaccine delivery strategy from fixed to mobile and outreach activities were supported by COVAX to enable vaccine scale-up.

Conclusion 3: Critical priorities for next steps include ensuring that gains made during the response are maintained (for example cold chain storage and surveillance maintenance) and that the pre-existing systems that enabled delivery are both maintained and strengthened. Tackling human resource challenges in the system during a non-crisis period will also aid preparation for the future. Learning from what worked, such as strong multisectoral collaboration, political will, maximizing efficiency by using proven pre-existing pathways, responsive technical support, and international support being driven by local needs is important.

Going forward, having better record keeping and transparency on how COVAX-funded implementing partners will assist in better assessments of efficacy. COVAX and other global partners can help tackle the major challenge of vaccine hesitancy by investing in strong in-country vaccine advocacy systems and pre-emptively addressing misinformation in future crises. COVAX should also address challenges in getting pledges and vaccine hoarding, which would improve timely procurement and the facility's utility in the future.

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APPENDIX

Appendix A: Methods

The evaluation design was grounded in understanding the intention of COVAX, defined by the theories of change (TOC), and comparing this to its actual implementation and adaptations over time. At a country level we have drawn on this theory-based design to establish the logic and intended strategy for delivery pillar activities in the country. To complement this approach, we have integrated a systems lens to drive an emphasis on context and to narrow the focus on areas of the vaccine delivery system in the country. Within this overarching framework we have followed a mixed-methods approach. This has included supplementary data collection and analyses at the country level, with a focus on key informant interviews (KIIs) and a data/document review to gain a comprehensive understanding of the implementation and results achieved by COVAX in a real-life setting. The country case study (CCS) followed a four-phased approach as outlined below. To guide this, a CCS workbook was developed, which included templates specifying the outputs of each phase of the CCS. The country engagement approach was integrated into each phase of this CCS, with focal points officially appointed from each of the UNICEF and WHO country offices as well as Gavi, and the government. These focal points played a key role in document transfer, consultation on TOCs, workshop coordination, result reviews, validation, lesson sharing, and dissemination.

Phase 1. Building context, planning country-specific CCS scope, and updating or validating country-specific TOC.

The first phase of the CCS focused on understanding the country context and developing a country-specific scope for the CCS (including the development of the TOC) in order to prepare for data collection (Phase 2). The phase began with a kick-off meeting to establish the process and goals of the evaluation, and an introductory meeting with the country focal points. Using the CCS workbook templates, a robust data and document review was undertaken. Consultations with the focal points were conducted to assist in building context to produce a country context specific TOC from the “generic” country TOC developed during the inception phase of the evaluation. These consultations helped identify country-level learning questions within the general scope of our evaluation and were prioritized throughout the CCS. At the completion of Phase 1, a validation session was hosted with the focal points to ensure the updated TOC reflected and was aligned with the context and focus of COVAX’s work in the country.

Phase 1 activities

- Country kick-off meeting with local consultant.
- CCS methods workshop with local consultant.
- Data/document review to build background and context for work.
- Engagement with country focal points/primary stakeholders to gather information for TOC update.
- Identification of country-level learning questions and areas where COVAX support was focused (“focus areas”).
- TOC validation workshop with focal points/primary stakeholders.

Phase 2. Planning for and conducting primary data collection.

This phase involved tailoring and adapting data collection instruments to fit the country context and focus areas, as well as initially defined country learning priorities. Drawing on a predeveloped “generic” evidence matrix and data collection instruments, interview questions were made country-specific using insights gathered in Phase 1. Additionally, a stakeholder list of interviewees was mapped to ensure that appropriate perspectives and expertise were included. This list was validated with the focal points prior to conducting interviews. Interviews were scheduled and conducted with 15 identified key stakeholders. They included stakeholders from the MoH/Government of Guyana, Regional Health Authorities, UNICEF, PAHO, GDF, Gavi and the private sector.

During data collection, a structured evidence matrix was populated with the primary data to account for evidence gathered and to direct and focus remaining data collection activities. Quality-controlled interview transcripts were prepared following all interviews.

Phase 2 activities

- Phase 2 CCS data collection session (tailoring and adapting instruments to country context and focus areas of COVAX).
- Development of stakeholder list for KIIs.
- Scheduling and conducting KIIs/focus group discussions.
- Developing quality-controlled interview transcripts.

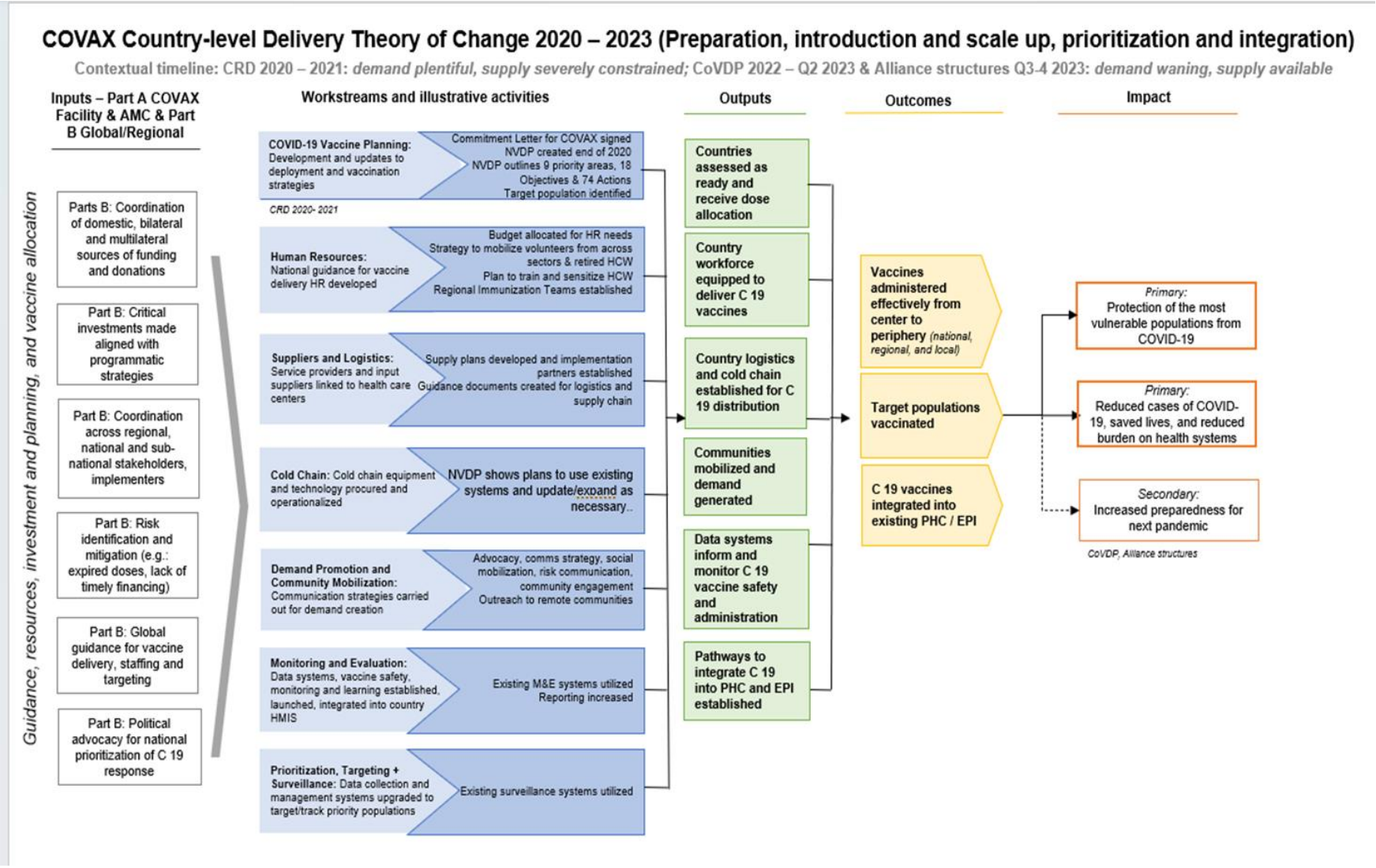
Phase 3: Analysis, synthesis, and report compilation.

Phase 3 involved the analysis of the interview data collected in Phase 2 and the development of findings using a standardized analysis template. This template allowed for new themes to be identified but retained a focus on comprehensive answers to evaluation questions and learning priorities. Initial findings were reviewed with the evaluation team to ensure that they were articulated appropriately and presented with relevant evidence. Findings were incorporated into a draft CCS report and shared with stakeholders in a validation session to ensure consensus before finalizing the document. Further clarification was then sought from the MOH and all additions incorporated in the report.

Phase 3 activities

- Conduct of thematic analysis of key takeaways.
- Compilation of findings into complete CCS report.
- Final validation session with key stakeholders.
- Facilitation of a consensus conversation with Ministry of Health.
- Finalization of CCS report.

Appendix B: Adapted Country Theory of Change



Appendix C: Country Timeline

2020–2021	*Country Readiness and Delivery (CRD) Phase of COVAX*	*COVID-19 becomes a public health emergency of international concern; first COVID-19 vaccines become available.* *Supply is constrained while demand for vaccines is high. COVAX is limited.* *Prevailing conspiracy theories, speculations, and misinformation about COVID-19 vaccines.*
2022–mid-2023	*COVID-19 Vaccine Delivery Partnership (CoVDP) Phase of COVAX*	*Increased supply of vaccines; vaccination coverage increases, especially in developed countries.* *Gradual shifting narratives about the vaccine as it shows some efficacy.* *Vaccine demand begins to wane COVID-19 epidemic slowing down.*
Mid-2023–End of 2023	*Alliance Phase of COVAX*	*Supply of vaccines highly available and very low demand. Life returning to pre-COVID normalcy.*

Time Period / Duration	Global Context	Country Context	COVAX Engagement	COVAX Results
January 2020	WHO declares COVID-19 a public health emergency of international concern (PHEIC).			
March 2020	WHO characterizes COVID-19 a pandemic.	The COVID-19 epidemic started in Guyana in March 2020, with the first case being declared the same day WHO announced the infection as a global pandemic—March 11 National elections were held in March 2020 just	COVAX was involved in providing guidance on formulating the country National Deployment Vaccination Plan and guiding documentation for reviewing and expanding cold chain systems.	

Time Period / Duration	Global Context	Country Context	COVAX Engagement	COVAX Results
		before the pandemic was declared and Guyana got its first confirmed case. A protracted official declaration of results, saw a new government and administration taking the helm in August 2020. During this period there were security issues, and the government faced the dual task of managing the pandemic and a politically uncertain environment.		
April 2020	Access to COVID-19 Tools (ACT) Accelerator launches, including COVAX.			
June 2020	Global Vaccine Summit 2020: Gavi COVAX AMC launches.			
August 2020	COVAX deal for upfront capital to Serum Institute of India (SII) for 100m doses for Gavi COVAX AMC. 172 economies now engaged with COVAX Facility.			
October 2020	Gavi Board approves $150m to jumpstart Gavi COVAX AMC countries' readiness to deliver COVID-19 vaccines.			
December 2020	First COVID-19 vaccine is approved by stringent	NVDP developed and contained an outline of the		Guyana formulated an NVDP toward the end of

Time Period / Duration	Global Context	Country Context	COVAX Engagement	COVAX Results
	regulatory authority (SRA): Pfizer/BioNTech by UK's Medicines and Healthcare products Regulatory Agency (MHRA). First COVID-19 vaccine receives WHO Emergency Use Listing (EUL): Pfizer/BioNTech.	coordinating structure for the vaccination program and priority areas.		2020. This iterative NVDP outlined 9 Priority Areas with 18 Specific Objectives, and 74 Measures (Actions). Within this document it was noted that Guyana signed the commitment letter for COVAX Facility and submitted an AMC proposal as well as the Indemnity agreement with COVAX for vaccines to cover 20% of the population. The target population for COVID-19 vaccination was selected with the help of guidance provided by the WHO and PAHO. The country selected the first 20% of the population r to meet the allotted vaccines to be received from the COVAX Facility. During planning COVAX held regular meetings with Guyana to assist on developing the NVDP plan and assisted with information on deployment and risk communication. COVAX involvement in human resources was limited to training on the vaccine use; this was done with the technical support and materials from PAHO,

Time Period / Duration	Global Context	Country Context	COVAX Engagement	COVAX Results
				which received some funding from COVAX.
February 2021	COVAX ships its first doses: 600k doses of AstraZeneca/Oxford vaccine for SII.	"The COVID-19 pandemic is stretching the country's public health systems and threatening the economy. In line with international best practice, the Government enacted several mitigation measures, including a shutdown on many non-essential services, restrictions on travel, social and other economic activities. In addition, schools were closed, and virtual learning is being implemented until it is safe to return to a physical learning environment. Despite Guyana maintaining a positive economic outlook, the pandemic and containment measures, including travel restrictions and social distancing measures, are impacting employment and livelihood. Industries in the services sector will be most affected including retail trade, transport, food, and accommodation services. The impacts will fall disproportionately on informal workers who account for approximately		

Time Period / Duration	Global Context	Country Context	COVAX Engagement	COVAX Results
		60% of the workers in the sector." (Guyana NVDP, 2021) Govt gazette notes a rapid assessment of the COVID19 response was made and concluded the response was fragmented and insufficient to provide public health, social and economic measures to promote well-being. The gazette also notes that the govt is taking an overhauled response/approach to the pandemic. Curfew put in place and social activities restricted. Lockdown measures in place. Govt allocated 750millionGYD in national budget to support the rolling out of COVID19 vaccines. "Guyana is the first AMC country in the Caribbean to receive the vaccines through COVAX." Vaccination began in February 2021 with donated AstraZeneca. Vaccination efforts begin, targeting priority groups. Guyana begins vaccinating all individuals aged 18 years and older and not just priority pops, indicating		

Time Period / Duration	Global Context	Country Context	COVAX Engagement	COVAX Results
		a significant scale-up in the local vaccination rollout. Vaccines procured via COVAX enter the public health system and are available to the Guyanese population.		
March 2021	First COVAX-supplied vaccine doses are administered in Africa. COVAX experiences delivery delays of vaccines from SII and AstraZeneca due to COVID-19 surge in India.	By end of March 2021, Guyana has reported over 10,000 positive cases of COVID-19 infections.	March 29, 24,000 AZ doses delivered to country from COVAX (country allocated 100,000).	
April 2021	COVAX ships its 38 millionth dose, reaching 100 economies.	Government of Guyana has made bilateral, international agreements to get vaccines to the population. Guyana first set of COVID vaccines are the Sputnik doses. By April 2021, Guyana had procured 138,000 vaccines of Sputnik. Earlier, 3,000 Oxford-AstraZeneca vaccines were received from Barbados; 20,000 Sinopharm doses were received as a donation from China; a further 80,000 AstraZeneca vaccines were received from India; Health Minister announced that 86,601 people across Guyana received their first dose of		

Time Period / Duration	Global Context	Country Context	COVAX Engagement	COVAX Results
		one of the three vaccines across Guyana.		
May 2021	COVAX deal with Johnson & Johnson for 200m doses.	Mask mandates are still in place. Introduction of measures that restrict access to public places/recreation spaces to persons who are vaccinated. Places of business are required to ask patrons for proof of vaccination. The Ministry of Finance's Mid-Year Report for 2021 has indicated that Guyana recorded real gross domestic product (GDP) growth of 14.5% while non-oil GDP grew by 4.8%, despite the challenges of the COVID-19 pandemic and even the devastating floods experienced in May-June.		
June 2021	Gavi COVAX AMC Summit raises $2.4b. USA announces procurement of 500m Pfizer/BioNTech vaccine doses for COVAX. Gavi Board approves approximately $800m for COVAX delivery funding for AMC-eligible economies. COVAX Humanitarian Buffer opens application	Pediatric vaccines begin.		

Time Period / Duration	Global Context	Country Context	COVAX Engagement	COVAX Results
	system to cover refugees, internally displaced people, and asylum seekers.			
July 2021	Ultra-cold chain (UCC) capacity efforts are scaling up, ultimately establishing facilities in 47 countries by year end. Cost sharing with World Bank launches, allowing Gavi COVAX AMC countries to purchase doses beyond fully donor-subsidized doses they are already receiving from COVAX.		CDS funding comes under the management and oversight of UNICEF. Guyana has been allocated 100,000+ doses of Pfizer vaccine for July through Sept 2021	
September 2021				62.5% adults received 1st dose, 32.8% adults fully inoculated; 9,909 adolescents have taken the Pfizer vaccine
October 2021			Guyana's cold storage capacity is bolstered. Guyana used the COVAX CCE funds to acquire 2 Solar Direct Drive fridges, 2 Electronic refrigerator loggers, 400 Vaccine carriers, 20 cold boxes, and 200 30-day logs at a cost of $55,203. The implementing partner for this acquisition was UNICEF.	

Time Period / Duration	Global Context	Country Context	COVAX Engagement	COVAX Results
November 2021	COVAX Humanitarian Buffer delivers first doses to Iran. COAVAX releases joint statement with African Union and Africa CDC on dose donation standards.			
December 2021			By December 2021 COVAX delivered approximately 220,000 vaccine doses (AstraZeneca and Pfizer) to Guyana and facilitated shipments of vaccines received from other suppliers. By the end of 2021 COVAX had assisted with the country priorities of vaccinating 20% of the population (including priority populations) and enabling infrastructure by providing cold chain equipment.	
January 2022		Emergency measures are still in place. Upsurge in cases at the beginning of 2022 attributed to social gatherings during the Christmas celebrations. Kaieteur News analysis shows that from January 1 to 30, a total of 20,230 confirmed COVID-19	Guyana received 28,800 doses of the Janssen Ad26COV2.S vaccine as part of the dose-sharing mechanism. Guyana expects to continue expanding COVID-19 vaccination coverage, which to date is 59.1%.	

Time Period / Duration	Global Context	Country Context	COVAX Engagement	COVAX Results
		cases were detected in the country. MoH suspects Omicron variant present in Guyana.		
February 2022	COVAX ships its 1 billionth dose to Gavi COVAX AMC countries, meeting its 2021 target of providing doses to protect 20% on average.	Barima-Waini (Region 1) is leading the government's COVID-19 vaccination campaign in the hinterland territories. Minister of Health, Dr. Frank Anthony, said the region, known for its mining activities has so far vaccinated 89.1 percent of its population with a first dose of a vaccine. Ongoing efforts to reach PLHIV. 57% of HIV patients fully vaccinated.	.	
April 2022			Request to COVAX for 150,000 pediatric doses for the rest of 2022. Guyana was allocated nearly 8,000 AstraZeneca and 28,000 J&J. Accepted the J&J and rejected AZ due to uncertainty of utilizing doses within short period before expiration. Offered 100,800 Pfizer Pediatric vaccines but only accepted 20,800 and then declined even that because doses had short shelf life.	
May 2022			Training of vaccinators, social mobilization, M&E,	

Time Period / Duration	Global Context	Country Context	COVAX Engagement	COVAX Results
			vaccine transport, vaccine safety surveillance and outreach. By this time there was also a shift in strategy: Given that recently, the progress of COVID-19 vaccination has been stalled due to vaccine hesitancy, among other challenges, the MOPH changed its strategy from mainly fixed vaccination sites to house-to-house vaccinations, drive-throughs, and mobile teams.	
June 2022	Gavi Board extends administration of COVAX Facility through 2023.		Guyana is allocated 127,000 Pfizer vaccines for Aug-Oct, but the country declines the allocation.	
July 2022		Ongoing efforts to vaccinate children and adolescents. Over 4,000 children in 5-11 age group get first COVID-19 vaccine.		
August 2022	Gavi COVAX AMC 92 lower-income countries achieve 50% primary series coverage milestone against global coverage of 62.5%.	70,900 cases with more than 1,270 known COVID-19 related deaths		
November 2022				87.4% adults first dose, 67.9% second dose

Time Period / Duration	Global Context	Country Context	COVAX Engagement	COVAX Results
December 2022	One year after support launched for 34 countries furthest behind in COVID-19 vaccination only 7 countries remain below 10% primary series coverage.		Allocated and received 8,640 Pfizer and 4,800 Pfizer pediatric doses.	
May 2023	WHO lifts PHEIC status for COVID-19.			
July 2023			Invitation extended to Guyana to start applying for wave 1 and 2	
October 2023			Decision Letter for Guyana on COVID-19 Program 2024 from Gavi grant, with Pan American Sanitary Bureau of procurement agency of 11,500 vaccine doses.	