



COMPASS INITIATIVE SERIES: ADAPTATIONS

ADAPTATIONS USED TO ENSURE CONTRACEPTIVE ACCESS DURING THE COVID-19 PANDEMIC

COVID-19 Adaptations for RH Supplies

MAY 2023

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Acronyms

ADEMAS	Agency for the Development of Social Marketing
API	Active Pharmaceutical Ingredient
BMGF	Bill & Melinda Gates Foundation
CBD	Community-Based Distribution
CHAI	Clinton Health Access Initiative
CHV	Community Health Volunteer
CHW	Community Health Worker
DCSM	District Commodity Store Manager
DMPA-SC	Depot medroxyprogesterone acetate - Subcutaneous
DMPA-IM	Depot medroxyprogesterone acetate - Intramuscular
FP	Family Planning
GMP	Good Manufacturing Practice
GHSC-PSM	USAID Global Health Supply Chain Program-Procurement and Supply Management Project
IDI	Infectious Disease Institute
IP	Implementing Partner
IUD	Intrauterine Device
IPC	Infection Prevention Control
JMS	Joint Medical Stores
JSI	JSI Research & Training Institute
KEMSA	Kenya Medical Supplies Authority
KII	Key Informant Interview
LARC	Long-Acting Reversible Contraceptive

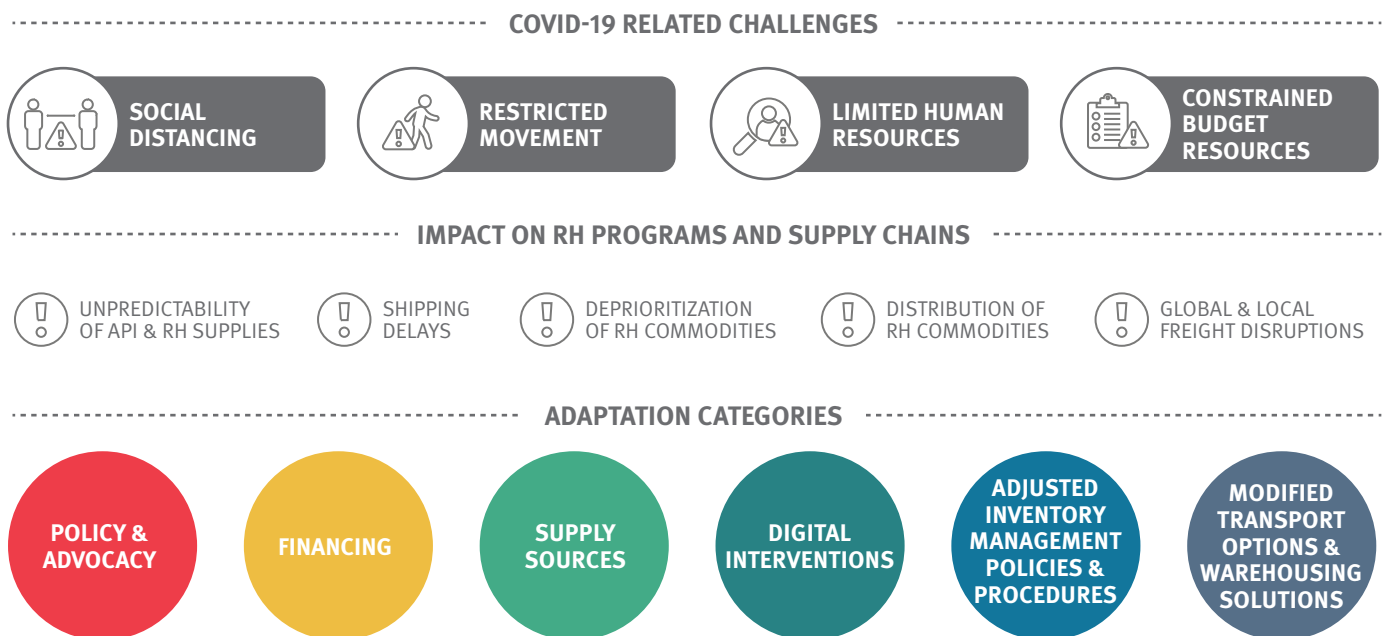
LMIC	Low- and Middle-Income Country
LMIS	Logistics Management Information System
MOH	Ministry of Health
MSK	Marie Stopes Kenya
MOU	Memorandum of Understanding
NGO	Non-Governmental Organization
NMS	National Medical Stores
OP	Ouagadougou Partnership
PSI	Population Services International
PSK	Population Services Kenya
PPE	Personal Protective Equipment
RH	Reproductive Health
RHSC	Reproductive Health Supplies Coalition
RMNCH	Reproductive Maternal Newborn Child Health
SCM	Supply Chain Management
SCOR-DS	Supply Chain Operations Reference-Digital Standard
SMO	Social Marketing Organization
SSA	Sub-Saharan Africa
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development
VAN	Visibility and Analytics Network
WAHO	West African Health Organization

Executive Summary

The COVID-19 pandemic had, and continues to have, a profound impact on global health systems and on supply chains, including on contraceptive or reproductive health (RH) supply chains. This report documents a systematic investigation of the effects of the pandemic on RH supply chains and adaptations undertaken by a range of stakeholders in sub-Saharan Africa (SSA) to ensure continued access to RH commodities.

The findings are organized into a framework of adaptation strategies that identify (1) global challenges caused by the pandemic, (2) RH supplies-specific challenges, and (3) types of adaptations found in the sources included in this assessment. This framework is explored through a series of country-specific examples that detail the challenges that necessitated the adaptation, the experience of stakeholders considering or implementing the adaptation, and lessons on institutionalization or sustainability of the adaptation beyond the immediate COVID-19 response period. Country- and organization-specific adaptation examples are organized within six categories of adaptation strategies: policy and advocacy, financing, supply sources, digital interventions, adjusted inventory management policies and procedures, and modified transport options and warehousing solutions.

Figure 1: Framework of adaptation strategies



Finally, the adaptation strategies are contextualized within the Supply Chain Operations Reference Digital Standard (SCOR-DS) model categories (Orchestrate, Plan, Source, Transform, Order, Fulfill and Return) to direct practitioners to the types of adaptations implemented in different aspects of supply chains. The insights, lessons learned, and recommendations from this report are intended to be used to increase the resilience of RH supply chains and to help prepare for future crises.

Key Findings

1

Twenty adaptations are detailed in this report. Adaptations emerged from a literature review of 85 documents and key informant interviews with 26 RH stakeholders.

2

The challenges that impacted the delivery of RH supplies and services were diverse. They affected everyone involved in RH supply chains and service delivery. While some challenges had the greatest impact during the onset of the pandemic, others were more persistent, creating new conditions and roadblocks in the delivery of RH supplies and services that still exist today.

3

The responses to pandemic-related challenges included the enhanced use of existing policies, procedures, systems, and technologies, in addition to the development of new adaptations. While the circumstances and challenges associated with each adaptation were different, common themes in the successful implementation of adaptations emerged:

- Actions taken to clearly prioritize access to RH services were critical to enable the movement of essential personnel and to create conditions supporting the availability of RH products and services.
- Emergencies have unexpected financial impacts. Pooling resources via organized regional partnerships and memberships, such as the Ouagadougou Partnership, supported and enhanced programs' access to funds and resources during the pandemic.
- The limitation of regional RH manufacturers likely disadvantaged SSA as the vast majority of RH supplies are imported. Efforts to foster greater regional pharmaceutical manufacturing on the continent are underway; while each product category has its own challenges and opportunities, it will be important for RH product manufacturing to be included in some manner in discussions and efforts.
- Digital interventions enabled greater levels of data visibility and use in the pandemic. During the pandemic, data visibility across supply chains supported: the redistribution of products within countries and regions; improvements in inventory management and procurement execution; and identification of alternative supply sources through data sharing between buyers such as SMOs.
- The adaptations to logistics management procedures – including adjusting inventory levels and reorder periods, and the redistribution of products – helped to improve RH product availability in many settings.
- Collaboration across supply chain actors was essential for the success of adaptations.

4

In some cases, adaptations were implemented in response to acute crises. These adaptations may not have been sustained beyond the immediate crisis response, but they can be utilized in response to future crises. Other adaptations resulted in policy or practice changes that have been institutionalized to improve data quality, decision-making, and access to services and supplies.

Background

In the first few months of the COVID-19 pandemic, various response strategies, including social distancing and movement restrictions, were put in place by governments across the globe; many of these led to significant disruptions in public health supply chains. These disruptions exposed underlying vulnerabilities and interdependencies in supply ecosystems and impacted the supply and demand for contraceptive or reproductive health (RH) services and products. Many national RH programs and supply chain managers had to react rapidly to ensure that products continued to flow and could be provided to clients.

In April 2021, the Reproductive Health Supplies Coalition (RHSC) and John Snow, Inc. (JSI) released a new Roadmap report to promote more resilient supply chains and markets for RH products in the face of COVID-19. Their research revealed the domino effect caused by the COVID-19 disruptions and the interdependency between supply chain functions. It also highlighted the potential risks if the RH community becomes complacent since the pandemic's aftershocks are likely to last for years and new crises will emerge. According to the Roadmap report, the RH supply chain community should document, support, and scale up successful adaptation strategies used during the pandemic to ensure access to supplies.

While COVID-19 has not gone away, it is beneficial to examine the adaptation strategies that were used and adopted in response to the pandemic and to identify lessons learned. While much has been published on the impacts of COVID-19 on service delivery, the impacts on RH supply chains are not as well-documented. To that end, and recognizing that a variety of adaptations were enacted during the pandemic in support of access to RH supplies, RHSC contracted inSupply Health to conduct an assessment of adaptation strategies used to ensure access to RH supplies in the pandemic. This assessment included the development of a strategic framework of adaptation strategies planned and/or used to ensure access to RH supplies during the pandemic, with country-specific examples.

This report shares all findings from the assessment and focuses on examining strategic supply chain adaptations that have been considered, attempted, or implemented, how they have been implemented and sustained, and the lessons that can be learned by the RH community. The insights from this report aim to improve the resilience and performance of supply chains now and in preparation for future crises.

Methodology

This report synthesizes the findings from a literature review of 85 documents covering 30 countries across SSA, as well as from 26 key informant interviews (KIIs) with non-governmental organizations (NGOs), pharmaceutical manufacturers, social marketing organizations (SMOs), and other implementing partners (IPs).

Table 1: Summary of Methodology

Scoping and literature review

Objective: Identify strategic adaptations documented in the literature to set the foundation for an initial, draft framework of adaptation strategies

Core activities:

- Conducted research to gather key documents covering aspects of RH supply chain adaptations across all regions in SSA
- Identified the key adaptation strategies from the literature
- Identified critical issues around the implementation and roll-out of these strategies
- Synthesized the findings from the literature review
- Developed a draft strategic adaptations framework
- Identified potential key informants and essential gaps in the literature to shape subsequent research and discussions

Key Informant Interviews (KIIs)

Objective: Fill in the gaps from the literature review, dive deeper into implementation experience and examples by country and region, and refine the draft strategic adaptations framework

Core activities:

- Formulated KII guides, informed by findings from the literature review
- Expanded KII list to maximize geographic coverage within SSA and to ensure inclusion of all supply chain functional areas
- Conducted KIIs subsequent research and discussions
- Iteratively refined the discussion guides to include clarifying questions on aspects not addressed in the first few interviews and revisited literature to gather additional information for refining the draft adaptations framework.
- Continuous discussions among RHSC, inSupply Health, and JSI to shape the direction of synthesis and data collection

Final synthesis of primary and secondary data and documentation

Objective: Finalize the strategic adaptations framework, incorporating synthesized output from both primary and secondary data collection activities and documenting findings in the project report

Core activities:

- Finalized in-depth analysis and synthesis, combining the literature review analysis and KIIs
- Identified compelling case studies and followed up with other actors as needed
- Finalized strategic adaptations framework
- Wrote project report

Literature Review

The team began by reading RHSC and JSI's Roadmap report and then conducted a literature review to identify the greatest challenges experienced for RH supplies access in the pandemic, the impacts on RH programs and supply chains, and supply chain adaptations undertaken by different types of organizations. Between October 2022 and January 2023, a total of 85 documents were reviewed with content from 30 countries across SSA. Key resources for the literature review included peer-reviewed papers, program resources such as those from the United States Agency for International Development (USAID) Global Health Supply Chain Program-Procurement and Supply Management Project (GHSC-PSM), interactive maps, and webinar recordings. A summary of key resources can be found in the References.

Many of the reviewed documents focused on supply chain and RH programming adaptations made during the pandemic to provide services and carry out program activities; examples of adaptations were provided from countries in Eastern and Southern Africa. The initial findings identified that most of these adaptations were developed to address service delivery constraints, and some were difficult to separate from supply chain-specific adaptations. We then modified the literature review to focus on adaptations specifically related to product flow and availability, as well as to supply chain processes, procedures, and policies. The full list of adaptations was initially clustered into four categories.

Key Informant Interviews

From the literature review and inSupply, RHSC, and JSI networks, the team compiled a list of key informants, ensuring broad geographic representation across SSA. KII guides were designed based on outputs from the literature review and the clustered adaptations. Twenty-six KIIs were conducted between November 2022 and January 2023, covering

19 countries. The interviews explored challenges experienced, adaptations undertaken, whether adaptations were discarded and why, whether adaptations were implemented and sustained, and reasons why they were not sustained. Key informants were drawn from all levels of the supply chain and included manufacturers, governments, SMOs, and IPs from Anglophone and Francophone countries. inSupply engaged a French-speaking consultant who translated the KII guide into French and conducted KIIs in Francophone West Africa.

Framework Development & Synthesis of Findings

A draft framework was initially developed to organize adaptations identified from the literature review. This framework informed the KIIs and was shared during interviews for validation. The framework articulated three levels of impact of the pandemic: (1) challenges due to COVID-19; (2) the impact on RH programs and supply chains; and (3) the adaptations themselves.

After completing about 80% of the KIIs and reviewing the synthesized findings, the draft framework was revised and the number of adaptation categories were increased from four to six. The final categories were deemed more relevant to supply chain practitioners and more supportive of future use. Subsequently, a deeper dive analysis identified relevant examples of RH supply chain adaptations used in the pandemic; these examples represented all categories of the strategic framework.

Findings

Strategic Adaptation Framework

The strategic framework identifies actions that were taken to respond to challenges and minimize disruption of access to products and services. Three levels of the framework are described below.

1

COVID-19-Related Challenges

The COVID-19 pandemic brought many challenges to the delivery of health products and services across the globe. According to the literature review, four primary challenges emerged. They include social distancing, restricted movement/travel, limited human resources, and constrained budgets. Social distancing and restricted movement were highly interrelated and directly affected the ability to provide products and services— social distancing focuses primarily on the number of people allowed to be in one location at a time; restricted movement references movement between locations. Limited human resources compounded these issues due to increased pandemic case rates and/or health and safety concerns. Supply chain costs increased very significantly early in the pandemic, due to global cargo constraints and a corresponding rise in freight costs. Many types of businesses also faced constraints, such as movement restrictions and limited human resource availability.

2

Impact on RH Programs and Supply Chains

For RH programs and supply chains, these challenges resulted in constraints in three main areas: human resources and PPE for service provision and supervision; in-country commodity distribution; and global supply and logistics. Human resources and PPE were in high demand and sometimes in short supply early in the pandemic. Organizations had to determine how to safely engage with patients and minimize the spreading of the virus. RH commodity distribution was deprioritized in many countries as COVID-19 response activities were elevated in priority, and demand became more unpredictable in the face of movement restrictions and service disruptions. Global supply and logistics constraints compounded in-country logistics challenges.

3

Strategic Adaptations

Supply chain actors responded to these challenges and constraints with a variety of adaptation strategies. The literature review and KIIs yielded numerous examples of adaptations implemented in different countries by NGOs, multilateral partners, governments, SMOs, and IPs. Several themes emerged during the analysis, leading us to define six categories of supply chain adaptation strategies that were planned and/or applied to ensure access to RH supplies in the pandemic:

**POLICY & ADVOCACY**

The use of advocacy or policy change to address RH supply chain challenges.

**FINANCING**

Adaptations related to global, in-country, and partner financing to support RH supplies access.

**SUPPLY SOURCES**

Adaptations related to the sourcing of components or finished products.

**DIGITAL INTERVENTIONS**

The use of technology, including new or adapted digital and mobile applications, platforms, and systems, to address challenges in RH supply chains.

**ADJUSTED INVENTORY MANAGEMENT POLICIES & PROCEDURES**

Adaptations to in-country logistics, supply chain standard operating procedures, or other supply chain management policies.

**MODIFIED TRANSPORT OPTIONS & WAREHOUSING SOLUTIONS**

Changes in the physical movement or storage of commodities to ensure continued access to services and products.

Following are examples of adaptation strategies that were implemented within each category, along with an identification of the types of organizations involved in executing the adaptations, and a brief description of the adaptation outcomes. The majority of KII respondents reported that the adaptations they implemented were immediately successful or successful after some iteration. Only a few adaptations were reported as either being partially successful or not successful to the extent of being discarded as outlined in the section below.

Adaptations



Policy & Advocacy

In the early months of the pandemic, national governments across the globe enacted policies to reduce the spread of COVID-19. Many of these policies concerned the restriction of movement, and others defined which activities and services were judged essential to the country. These decisions directly affected healthcare supply chain activities. For the RH area, such policies resulted in limitations on the ability of public and private organizations to provide services and/or products. For supply chain practitioners, health care providers, and clients, social distancing requirements and fear of virus transmission further compounded the situation.

1.1 Adaptation: Advocate for RH as an essential service

“The IUDs are classified as essential medicines in India. And we had to lobby with the local authorities, the local FDA including using the services of some of our customers, such as DKT to get support letters from them, which we enclosed with our application to the government to say that, you know, we should be allowed to continue manufacturing and this helped in getting the support from the central authorities to convey and give us. Inviting that you know, [our]continuous operations”

—RH Manufacturer, India



Challenge: Initial policies designed to limit the spread of infection combined with individual behaviors of healthcare workers and clients led to decreased service provision across the healthcare sector. Early in the pandemic, policies defining essential services in healthcare were not clearly articulated. Many healthcare providers halted or minimized contact with clients, especially with those seeking services classified as non-essential.



Actions taken and results: Stakeholders within and across countries galvanized as a community to consult, share information and push for quick actions and decisions to minimize disruption for health products and technologies, including RH products and services. One of the forums was led by Africa Health Business and drew expert opinions from WHO, NGOs such as Amref Health Africa, manufacturers, logistics providers, and development and investment firms. In member countries of the Ouagadougou Partnership (OP) in West Africa, the Ministries of Health (MOHs) in partnership with IPs like FHI360, Clinton Health Access Initiative (CHAI), and Population Services International (PSI) supported the prioritization of RH, and they quickly integrated infection prevention control (IPC) measures into training modules for healthcare providers. These actions helped to ensure that RH services continued and that providers were equipped with supplies for IPC.

Through COVID-19 task forces around the region and WHO guidance, several country governments including Kenya, Mozambique, Uganda, and Zimbabwe implemented steps to formally designate RH services as essential to minimize disruption of access. Guidelines were issued in April 2020 in Mozambique, Kenya, and Uganda, and in June 2020 in Zimbabwe. Many elements of WHO's 2020 recommendations were included in country policies.

Uganda's government released guidance on the continuity of essential health services during the COVID-19 Outbreak (Uganda Continuity of Essential Health Services). Mozambique issued two directives via circulars to facilitate access to maternal health and immunization services and products, and a third circular was issued in February 2021 to broadly address mitigation measures for the health sector.

In Kenya, COVID-19 policy guidelines were issued by the MOH to address various operational aspects of the health, transportation, and business sectors, and the guidelines were made available on a Kenyan government website. Of these, three guidelines were directly applicable to Reproductive Maternal Newborn Child Health (RMNCH) service delivery and included the review and the release of the Reproductive, Maternal, Newborn, and Family Planning guidelines and the Release of Guidelines on the Continuity of Essential Health Services.



Sustainability and institutionalization: After the early months of the pandemic, RH services continued to be designated as essential services in many settings, as established by guidelines and policies earlier. In some countries, including Indonesia and India, staff had already been classified as essential service providers before the pandemic.

1.2 Adaptation: Modify COVID-19 guidelines and directives to facilitate movement of people and products required for essential services

“In Kenya obviously the kind of border closures for Greater Nairobi were there but we ended up, you know, we were able to get passes to move for the med reps. You know our logistics, we outsource our warehousing and delivery services and they, you know, they had the authority to move around so we never really had serious issues in terms of being able to get products and deliveries to distributors around. And the med reps on the large, for the most part, could still move, you know, you might have a few headaches here and there for a few days... Certainly that first month or two. The dynamic with the med reps not being able to visit providers or providers not willing to see them...”

—DKT, Kenya and Uganda

“...the port being closed had to do with both social distancing requirements, the restricted movement, so you didn't have the human resources running the port and therefore they could not receive the shipment at that time...”

—Global Manufacturer, Indonesia





Challenge: Initial policies designed to limit the spread of infection combined with individual behaviors of healthcare workers and clients led to decreased service provision across the healthcare sector. Early in the pandemic, policies defining essential services in healthcare were not clearly articulated. Many healthcare providers halted or minimized contact with clients, especially with those seeking services classified as non-essential.



Actions taken and results: In most countries included in this analysis, professional healthcare associations and special interest groups successfully lobbied governments to waive COVID-19-related restrictions to allow for the movement of essential health products. In some countries, personnel were issued with “COVID-19 passes” (labeled differently across each country) that would allow their movement despite lockdowns. These waivers and passes were applied across the value chain from shippers and product handlers to healthcare professionals and support staff working in healthcare facilities until lockdown directives were lifted. The Kenya Medical Supplies Authority (KEMSA) was given special status as an essential service provider, allowing it to transport healthcare products, including RH supplies, during curfews. In Djibouti, “essential medicine” status allowed products to flow across the border, where earlier delays had created backlogs. Ethiopia’s pharmaceutical regulatory body adjusted the documentation requirements for customs clearance to speed the import process, including for RH products. In Indonesia, manufacturing company employees were issued government letters that allowed their movement. Before diagnostic tests were widely available, preventative measures such as temperature checks were implemented. This was later coupled with periodic testing of all staff. In Kenya, to ensure continuity of services, a variety of stakeholders, including the Kenya Healthcare Federation, lobbied for staff from organizations such as NGOs and IP organizations to be classified as “essential health care workers”, enabling movement and support to counties for training community and facility health workers.

In Malawi, policies were also enacted to enable the movement of people and commodities by classifying RH services as essential. In Madagascar, an action plan for the continuity of essential RH services in the context of COVID-19 was developed with the Ministry of Public Health and RH partners. In Uganda, online platforms were used during the pandemic for RH advocacy meetings with stakeholders, in which RH champions in academia, media, and legislature advocated for RH service delivery continuity.

Beyond travel, manufacturers in India and Indonesia also engaged their governments through various associations and platforms. One Indian manufacturer lobbied through the local authorities and the local food and drug agency for classification as an “essential service” and included customer support letters with their application to the government. With classification as an “essential service”, their employees could receive waivers, allowing them to go to their workplaces. To ensure their health and safety as they were exempt from movement restrictions, again protective measures such as temperature checks were implemented at work sites. Manufacturers also supplied PPE to factory workers although supplies were often constrained. Office-based staff were able to work remotely and limit their interactions with others.



Sustainability and institutionalization: “COVID-19 passes” for travel were not needed after geographic lockdowns were lifted. Following early implementation, the classification of healthcare workers as essential staff was highlighted and sustained beyond the pandemic. After national guidelines that deemed RH an essential service were issued, supply chain disruptions were reported to have improved.

1.3 Adaptation: Revise national policies to enable RH commodity access, including community-based distribution and updated dispensing protocols

“The thing that changed is they [ministries] allowed community-based workers, CHVs, to go to the village, distribute pills, and even do injections. So it meant there was a lot of stock that had to be pushed downward.”

—RH Manufacturer, global



Challenge: Many policies and laws that were initially established as safeguards for quality assurance became hindrances to accessing RH commodities and services at the community level. Governments were forced to adjust policies to support health services while limiting the opportunity to spread infection.



Actions taken and results: Most countries included in this analysis reported that governments revised policies at various levels to ensure continuity of services and access to essential commodities; in many instances, governments sought to bring healthcare services closer to users, due to the lockdowns and movement restrictions.

In some countries, policies were passed to allow community-based distribution (CBD) of contraceptives, which reversed the slowing demand seen early in the pandemic. The use of CBD helped to ease the flow of clients at service delivery points, ensuring that only essential services were being provided at the primary healthcare level and minimizing the number of visits made to facilities. In Zambia, CBD of contraception was restricted to male condoms and oral contraceptives, and for the other RH methods, healthcare facilities were advised to offer 24-hour RH services to ease congestion at service delivery points.

At the same time, some countries adjusted policies on dispensing protocols. In Kenya’s MOH guidelines, dispensing protocols for male condoms and oral contraceptive pills were extended from 1 month to 3 months, and, same as Zambia, CBD was restricted to oral pills and male condoms. In addition, refills were offered without strict prescription requirements. Mozambique similarly offered a 3-month supply for new users and a 6-month supply for subsequent refills. Generally, multi-month dispensing was limited to short-term contraceptive methods and examples included male condoms, oral contraceptives, and depot medroxyprogesterone acetate-subcutaneous (DMPA-SC). GHSC-PSM Liberia did indicate that in Liberia 90 day packs for oral contraceptives were dispensed during the pandemic, and the multi-pack dispensing has continued.



Sustainability and institutionalization: There are recommendations to adopt multi-month packs at the manufacturing stage, similar to that for HIV medications, for sustainability and ease of implementation. As reported by GHSC-PSM Ghana, community-based strategies were successful and proved to be cost-effective; however, scale-up and national integration cannot be achieved without significant budget resources. It was noted that countries must balance the benefits of advanced provision of RH commodities with the need to ensure access to as many women as possible, especially in contexts where self-care supplies are limited. Women seeking a method that is unavailable or inaccessible due to disruptions may instead seek a self-care method that can be obtained with no or limited face-to-face interaction with a healthcare provider. This could include progesterone-only pills, condoms, and emergency contraceptives.

1.4 Adaptation: Use media to increase public awareness and communication on safely accessing RH services and products

“In April 2020, DESIP started broadcasting FP promotion shows coupled with COVID-19 prevention messaging. Since the onset of COVID-19, youth mobilizers have been reaching out to their peers with information on the availability of FP services and access to counseling via DESIP’s social media platforms, including WhatsApp, and SMS.”

—DESIP COVID-19 adaptations, PSI, Kenya



Challenge: Movement restrictions and many other pandemic-related policies limited access to RH products and services. Because the situation was evolving in many countries, policy and guideline changes were not always clearly and timely communicated to the public. Accessing RH products and services while minimizing exposure to COVID-19 was a concern for many women.

Actions taken and results: Governments and partner organizations used mass media and social media to create awareness that RH products and services were indeed available and to provide information on where and how to access them safely. Local media was used to deliver RH messaging; RH champions in academia, media, and legislature also advocated for continuity in service delivery.

In West Africa, Breakthrough ACTION reframed their radio commercials promoting confidence in RH methods and services to address hesitations about visiting health centers and limiting outings. Association Togolaise pour le Bien-Etre Familial started providing consultation and counseling services for abortion care, including subsequent clinic referral and booking, if required, through its mobile application ‘Infos Ado Jeunes’. Other organizations used mobile messaging and provided megaphones to community health workers for educating communities on the availability of RH services via community health workers (CHWs) and local health centers.

PSI Uganda used digital campaigns and then linked consumers with e-commerce platforms, such as Jumia and Safe-Boda e-shop, for product purchase and delivery. To encourage consumer RH product purchases and drive traffic, RH products were bundled with popular food items.

Sustainability and institutionalization: As reported by GHSC-PSM Liberia, organizations faced many obstacles in their ability to inform clients widely on the availability of RH services and supplies and how to access them. In other instances as mentioned by Save the Children in Mali, public awareness campaigns and state support in transporting RH products to the level of health centers, with the support of USAID and other organizations such as MSI, reduced RH product deficits. One global manufacturer has partnered with an NGO in East Africa that is committed to creating demand for and access to RH information, services, and supplies for youth. They are engaging in advocacy, capacity development, and family planning (FP) initiatives, which empower youth to lead healthy and self-determined lives.



Financing

The pandemic caused ruptures throughout supply chains, driving up costs and squeezing the profit margins of supply chain actors. Many adaptations that aimed to reduce the risk of supply gaps came with associated budgetary and financing implications. In some cases, they were minimal and could be absorbed easily within organizational budgets. In other cases, significant financial investments were required to undertake the adaptations. For national governments and RH programs, partnerships were key to accessing financial resources to address supply gaps.

2.1 Adaptation: Manufacturers and SMOs absorb additional short-term costs

“We had to be more proactive and order in advance, there was more risk from a financial perspective, because knowing the timeline was longer we had to buy more stock and take chances that the demand would be there... The adaptations were successful because as I mentioned, [our company] was able to deliver as per its commitment so there were no interruptions of production and we were able to fulfill our commitment. So that the patients who were looking to have access to the product were able to get it.”

—RH Manufacturer, global



Challenge: Pharmaceutical manufacturers saw increased costs and reduced profit margins in part due to global cargo constraints that drove freight rates up on shipments of Active Pharmaceutical Ingredients (APIs) and other components. Downstream buyers experienced similar price increases and margin pressures.



Actions taken and results: Four pharmaceutical manufacturers in long-term agreements with their clients did not seek to renegotiate contracts in line with rising unit costs and decided to absorb the additional costs, accepting lower profit margins for the short term and meeting commitments to all customers. All four companies interviewed elected to enter into longer freight contracts with logistics providers like Kuehne + Nagel to ensure their scheduling for freight was minimally disrupted. However, costs for freight could not be locked in due to high demand and limited capacity available. Even two years after the onset of the pandemic, manufacturers reported that freight costs remain higher than previous levels and have had a measurable impact on profit margins and prices of commodities.

Downstream in the supply chain, buyers of RH commodities, including SMOs such as PSI and DKT, experienced similar cost increases due to higher freight rates, congestion at ports, and national lockdowns. Many SMOs elected not to pass down the cost to their clients. PSI cited that they maintained their pre-pandemic prices during the height of the pandemic period (2020 to 2022) to avoid undermining customer trust and confidence. Given that the SMOs are required to have sustainable operations, they opted to accept lower margins rather than pass down the cost increase to their clients.



Sustainability and institutionalization: This adaptation had negative financial results for manufacturers and SMOs and was implemented as short-term action, avoiding the creation of additional disruptions and bottlenecks in an already stressed supply system. This adaptation was not viewed as sustainable. Manufacturers have reported that they cannot financially absorb the higher costs indefinitely. Some manufacturers have already adjusted their prices, others have noted they may not implement this adaptation in future crises, and instead may pass on costs to buyers.

2.2 Adaptation: Manufacturers and SMOs increase operating capital

“...So if you are asking distributors to hold more stock, you also have to accept that they need more time to pay beyond the 30 credit days”

—PSK



Challenge: All manufacturers were impacted by shipping delays for APIs and other manufacturing components, while SMOs were being impacted by shipping delays of finished goods arriving in SSA. These shipping challenges resulted in production and supply bottlenecks for manufacturers and inadequate levels of inventories of finished goods for SMOs. All of this had ripple effects throughout the supply chains.



Actions taken and results: Manufacturers and SMOs partially mitigated the impacts of shipping delays and unpredictable delivery times by ordering higher quantities. The procurement and storage by manufacturers of more raw materials, packaging materials, and other manufacturing components resulted in necessary increases in inventory investment and warehousing costs. SMOs were similarly impacted for the storage of their finished products. In these cases, increased expenses and financial investments were borne by the RH manufacturers, SMOs, and commercial distributors.

SMOs, such as PSI and DKT, increased their ordering levels and requested that their commercial distributors increase their stock levels from one month to three months to mitigate against unpredictable lead times. They made the additional inventory investments required to maintain this arrangement until the COVID-19 disruptions subsided. SMOs like PSI and DKT mentioned that they covered the higher investment costs from their organizational budgets since, at the time, these could not be passed on to the customers.



Sustainability and institutionalization: In most cases, increases in operating capital were meant as temporary actions, under the assumption that supply constraints and demand surges would normalize over time. Companies continue to adjust their operating capital investment in response to the fluctuations in supply and demand up and down the supply chain. Moreover, organizations are revisiting their approaches to operating capital investment—where and how much inventory to hold—and the risks inherent in global supply chains.

2.3 Adaptation: Leverage partnerships for funding and increase investment in RH products

“During an epidemic, another company can help NMS. Services can be divided accordingly and JMS only supplies laboratory equipment, MOH handles immunization and NMS can supply general medicine. NMS supplies even stationary so this can be supplied by another company”

—District Commodity Store Manager, Uganda



Challenge: A number of MOHs faced RH supply gaps that threatened to disrupt programming and training for service providers. In the early stages of the pandemic, government and donor budgets earmarked for FP were significantly slashed, up to 50% in some cases, in favor of responding to the pandemic. This combined with global logistical challenges and procurement difficulties led to increased risks of reductions in RH access for women.



Actions taken and results: MOHs including those in Ethiopia, Kenya, and Nigeria, through partnerships with Jhpiego, CHAI, FHI360, and other IPs, requested additional support from bilateral and multilateral partners, and other donors to address RH supply gaps. With additional funds and product allocation, mainly for depot medroxyprogesterone acetate - intramuscular (DMPA-IM) and implants, the MOHs were able to sustain their RH programming and training. In Kenya, this was particularly important, as implants and injectables represented 70% of the RH users and stockouts presented huge challenges.

Foundations like the Bill & Melinda Gates Foundation (BMGF) continued to support procurement for some RH commodities, especially in West Africa, and make matching donations to encourage the governments to set aside budgets for their RH needs. Partnership and collaboration among local organizations and stakeholders in the RH space continued to enhance procurement and access to services. The OP supported its member countries to participate in the BMGF incentive initiative and to increase their funding for RH services through their national budgets, with a focus on DMPA-SC. Countries were incentivized to dedicate a certain threshold percentage of their national budgets to RH, after which they would receive additional funding from BMGF. The use of this additional funding helped OP member countries to implement adaptations to guarantee the continuity of RH services. In Uganda, facilities that had results-based financing were able to enter orders through Joint Medical Stores (JMS) to supplement the stocks received from the National Medical Stores (NMS). UNFPA collaborated with other UN agencies and International Financial Institutions (IFI) to promote the establishment and execution of national COVID-19 readiness and response plans across several nations to mitigate disruptions of RH supplies, including building on their existing matched funding approach for supply purchases. In Mozambique, with IFI funding, UNFPA supported prevention and treatment measures in healthcare services, outreach programs, and training healthcare workers on properly using safety gear and safeguarding measures to minimize infections while providing healthcare RH services.



Sustainability and institutionalization: Most examples of this adaptation aimed to address urgent and unanticipated budgetary gaps that could cause significant RH supplies disruption. Reliable and strong partnerships proved invaluable in addressing potential shortages and supporting the continuation of programs and training.



Supply Sources

With the rapid shift of priorities and resources toward the pandemic response, stresses on the supply chain system underscored inefficiencies and exposed the interdependencies and risks with suppliers of finished goods, raw materials and other manufacturing components required to produce RH products.

3.1 Adaptation: Collaboration between SMOs, governments, and non-government organizations to share information on RH supplies availability

“In terms of the reduced funding, we did some financing work, you know, advocate. There’s already an agreement between government and donors on the mechanisms for financing commodities and so when some of those resources were diverted, because of the pandemic, there was work in ensuring that there are enough resources from the donor side to probably cover.”

—CHAI



Challenge: Many national governments in SSA faced challenges maintaining health product availability due to disrupted global supply chains and due to the shift in priorities in the near term toward COVID-19 response.



Actions taken and results: New collaborations emerged between SMOs, NGOs, and governments to improve RH product availability, especially in regions where RH supplies were reduced by restrictions on movement and decreased levels of human resources for RH service provision. The primary goal was to minimize stockouts at national and regional levels through the sharing of inventory data to inform decision-making which supported the MOHs to streamline their procurement processes.

In Kenya, CHAI collaborated with SMOs such as Marie Stopes Kenya (MSK) and Population Services Kenya (PSK), who do not normally bring large consignments of RH commodities into the country but were able to respond quickly to increase the importation of condoms and oral contraceptives. Implementing partners also advocated for expanding the supply base or changing specific suppliers; they provided the MOH with information on alternative strategies to ensure commodity availability, like advocating for RH supplies through the United Nations Population Fund (UNFPA).

In Uganda, multiple donors and partners came together to fund RH commodity distribution from alternative sources to fill supply gaps across the country; these organizations included Global Fund, GHSC-PSM project, and Infectious Disease Institute (IDI). Liaison with implementing partners to deliver commodities as they visit health facilities or travel in the same direction as the health facilities supported redistribution of RH commodities to the last mile by the DCSMs.



Sustainability and institutionalization: Government partnerships with SMOs can be strengthened in order to better guarantee the availability of contraceptive products at the last mile as seen in Francophone African countries like Senegal, Mali, and Guinea. Jhpiego reported success and mentioned that this is a strategy that has continued, and clients are being redirected to centers and facilities that have RH product availability. Information sharing across the ecosystem is instrumental in making procurement and purchasing decisions which facilitate RH stock availability overall.

3.2 Adaptation: Negotiate with suppliers of raw materials and components to increase inventories

“When COVID hit at that time, we had sufficient stock of raw materials to be able to carry on the operations for a couple of months... In some of the countries you know because of the local situations that they had, there were subsequent delays in getting the raw materials...The logistics cost or the cost of getting these raw materials from different countries was extremely high. Essentially, you know, [our solution] was a revising of the planning schedules to understand what the suppliers can deliver. We have still not been able to perfect it because, you know, we continue to face challenges as far as the supplies of the raw materials are concerned...”

–RH Manufacturer, India



Challenge: The supply chain disruptions combined with increased demand for key APIs and components resulted in supply shortages and ultimately manufacturing constraints for RH manufacturers. Male condom and PPE manufacturers competed for some of the same raw materials; the increased demand for vials for COVID-19 vaccines led to shortages of these components.



Actions taken and results: An SMO in Kenya negotiated with their suppliers' raw material suppliers to request that they hold larger API inventories. This would help to ensure more rapid fulfillment of purchase orders. Similarly, some pharmaceutical manufacturers renegotiated their supplier agreements to ensure supply continuity of critical components. All the manufacturing companies we interviewed tried to secure pricing and quantities by using agreements such as memorandums of understanding (MOUs) along with their long-term contracts with suppliers of APIs and other manufacturing components (e.g., vials, packaging cartons, etc.) Another company placed large advance orders for the different components needed in manufacturing their RH products. A third company ordered higher than usual quantities and stored more raw materials on site. Manufacturers also expanded and increased their storage spaces to accommodate more inventory.



Sustainability and institutionalization: While some elements of this approach were meant as temporary solutions, such as ordering larger quantities, some elements have remained. The use of alternative contract and agreement mechanisms added both flexibility and stability for some organizations. Further down the supply chain, buyers and importers recognize the dependencies on not only their suppliers, but the suppliers of their suppliers and are considering these upstream risks in their future planning.

3.3 Adaptation: Explore the use of alternative suppliers

“There was another strategy. We included them in terms of getting alternative suppliers you know like for some of these commodities there as we found in India itself. There’s one region of India that was heavily impacted by COVID. So, we found another supplier based in Mumbai. At least for condoms, you know like the regulator is a little bit flexible in terms of the sites that you can get condoms from yeah.”

–PSI, Kenya



Challenge: Manufacturers were delayed in fulfilling purchase orders due to lockdowns, high COVID-19 infection rates for personnel, raw material and component shortages, and other challenges.



Actions taken and results: SMOs and other RH product importers sought alternative suppliers for RH products. For example, as reported by PSK, in one region in India, a male condom manufacturer was heavily affected by COVID-19 and was unable to fully meet PSK orders. PSK located an alternative condom supplier in another region, which was experiencing lower infection rates, and engaged them as a second supplier. PSK has continued since then to use both manufacturers of male condoms.

PSK also explored alternative suppliers for oral contraceptives and injectables; the supply of injectables was especially failing to satisfy the high levels of demand. However, because pills and injectables, which are classified as medicines, are much more regulated than condoms, which are classified as medical devices, opting for an alternative manufacturer for injectables presented significant challenges. The regulatory authority could not make the requisite site visit to audit for Good Manufacturing Practice (GMP) due to travel restrictions. Moreover, the timeline for approval was estimated at 3 months by the regulator but in fact, took longer than 12 months. Therefore, PSK did not proceed further with this adaptation.



Sustainability and institutionalization: In cases where alternate sources of supply were identified and successfully engaged, organizations were more likely to continue such relationships. Alternative sources of supply can be an effective strategy for reducing risk; however, the cost and performance of new suppliers must also be considered.

3.4 Adaptation: Leverage partnerships and procure supplies through multiple channels

“Even if you have the money, getting the product is not easy. Having adequate supply within the right turnaround time is a challenge. Some commodities have a monopoly situation. When you talk about Implanon, for instance, you’re not getting it easily because MSD is the only manufacturer in the world. So it’s difficult for us to get particular commodities when you are coming with orders that are small quantities, they don’t mind you. Utilization of the funding was the main issue, there were no commodities and supplies were a challenge. At some point, the funds were not sufficient because of the increase in prices..”

—WAHO, Global



Challenge: Disruptions to planned manufacturing output led manufacturers to more cautiously prioritize their customers’ orders. Some countries perceived manufacturers prioritizing the fulfillment of orders from buyers possessing more market power than those of countries making individual orders. Lower levels of responsiveness and longer lead times from suppliers were common during periods of disruption.



Actions taken and results: Coordination and intervention among global partners were required. Implementing partners played an important role in sharing on-the-ground information within global forums to influence donors’ actions. To secure commodities, the West African Health Organization (WAHO), with a membership of 15 West African countries, committed to buying up to 35% of their RH commodity needs through UNFPA and buying the rest directly from the manufacturers. IPs like CHAI also advocated with USAID for procurement in cases where USAID was conducting pooled procurement and distributing to countries. As reported in several instances, funding was not necessarily the primary barrier to order fulfillment. Rather the barriers related to issues of systems, governance, regulation, innovation, transparency, trust, and partnerships. As an example, countries with a history of delayed payments may have been deprioritized for order fulfillment. These coordination mechanisms addressed many or all of these barriers towards ensuring consistent RH supplies.



Sustainability and institutionalization: This strategy was reported as being successful and has been sustained with collaboration and coordination through forums like national and regional RH commodity security meetings, which include a variety of stakeholders (e.g., government, NGOs, manufacturers, IPs, and SMOs). Established prior to COVID-19, the forums were held more regularly and virtually during the pandemic, and continue with a more regular cadence. In these forums, members plan for rationalized orders and optimized stock levels with an eye to strengthening RH supply chain resilience.



Digital Interventions

At the start of COVID-19 lockdowns, digital communication platforms and tools like Google Meet, Microsoft Teams, WhatsApp, and Zoom rapidly grew in use across the globe. Similarly, for RH supply chain actors, digital communication platforms also became the primary means for members of various types of organizations to work effectively. Beyond these existing digital communication platforms, organizations also deployed a variety of other digital tools to support supply planning functions. This section details how digital communication platforms and tools were leveraged, adopted, or adapted for the planning function within supply chains during the pandemic to support RH supplies access.

4.1 Adaptation: Adopt digital platforms for training, orientations, and supervision for service delivery

“So what we did in Nigeria, was we moved to a lot of digital adaptations where we were doing a lot of our programming online. We were doing training with providers via WhatsApp and even supportive supervisory visits... I mean I think some of those adaptations have been really successful and so much so that we’ve kept doing them...”

—PSI, Nigeria



Challenge: Faced with mandated movement restrictions, organizations had limited ability to convene groups of supply chain and healthcare practitioners to carry out training, supervision, and other capacity-building activities that ensure continuity and quality in the provision of RH services and products.



Actions taken and results: Beyond using Google Meet, Microsoft Teams, WhatsApp, and Zoom for holding meetings, several organizations adopted these platforms to ensure the continuity of services and availability of RH products and to minimize disruptions in supply chains. As one example, PATH through the Access Collaborative project, worked with the MOHs and regional management teams in DRC, Madagascar, and Senegal to conduct regional orientation meetings in small groups and outdoor settings to advance the introduction of online courses on the self-injection of DMPA-SC in the countries. Jhpiego also relied on these digital communication platforms to ensure continuous training of healthcare providers, including training pharmacy staff to order contraceptives, follow up on orders, and fill out their stock monitoring tools. The digital communication platforms were also used to hold weekly meetings for project staff to monitor the progress of activities.

Similarly, in Kenya, the USAID-funded Delivering Sustainable and Equitable Increases in Family Planning (DESIP) project delivered virtual training on social and disability inclusion to service delivery staff via Zoom; where virtual training was not feasible, they provided in-person disability inclusion training to CHWs while following social distancing guidelines. For a number of organizations that needed to ensure ongoing learning for frontline practitioners, such as GHSC-PSM and Save the Children, WhatsApp became a popular choice for commodity management training and support supervisory visits.



Sustainability and institutionalization: Many organizations that have adopted digital platforms to support service delivery have continued to use them, even when movement restrictions were removed. They established new ways to communicate and share information with providers and clients that were additive to the existing systems.

4.2 Adaptation: Adopt digital platforms for supply chain planning functions and enable more rapid response to supply gaps

“While interacting with the district public health nurses and the facility managers during this push and during the extension of the last mile to communities, we added those cadres on to the WhatsApp group for sharing information on last mile distribution... And you have realized that that has improved the information management and use in ordering commodities and receiving commodities. So that has been also sustained and it’s benefiting the country”



—GHSC-PSM, Ghana



Challenge: Global supply ruptures were trickling down through supply chains and creating local logistical delays and supply shortages and imbalances. Planning activities were not carried out frequently enough and were not able to capture the real-time needs and emerging trends with existing reporting mechanisms.



Actions taken and results: Digital interventions were important adaptations to support the planning function within supply chains to enhance data visibility, inventory management, and forecasting, particularly as product supply became more unpredictable and demand signals were skewed by policies restricting movement and by limited human resources for health. For example, GHSC-PSM in Ghana deployed WhatsApp to manage inventory in the CBD system, using the platform to place emergency orders and communicate logistical delays and challenges. This was done mainly for male condoms and other short-term RH commodities to inform resupply and address shortages through redistribution among CHWs.

In Togo, Jhpiego deployed an application to monitor the availability of contraceptive products, mapping and identifying the service delivery sites and ensuring real-time visibility of the available stocks of DMPA-SC and other RH products. The applications made it possible to anticipate stock shortages and allowed better supply planning. The availability of data enabled clients to be referred to partners who had stocks (e.g., DKT for DMPA-SC) when public sector facilities were out of stock. As the pandemic unfolded, self-injection was increasingly recommended for women in Francophone African countries, as seen in Burkina Faso, Congo, Guinea, Mali, Senegal, and Togo.

In Nigeria, WhatsApp was used to provide training for healthcare workers and for supportive supervision activities. PSI worked closely with the MOH on planning activities that leveraged data gathered with the app, including forecasting and monitoring inventory levels on a monthly basis. They assisted with identifying redistribution needs for RH commodities and physically redistributing products between states. While this helped to address some supply shortages, the overall supply of RH commodities was not sufficient to meet demand.



Sustainability and institutionalization: The use of digital technology to hold virtual meetings, share experiences, and share real-time data on RH supplies with the various focal points has been maintained as a best practice. Digital technology has also facilitated virtual supply planning meetings to be held more frequently (e.g., monthly as opposed to quarterly).

4.3 Adaptation: Amend or develop processes and tools for streamlined, virtual decision making

“...Our manufacturing is done in different countries and restriction of movement meant we could not work centrally in the office...”

—RH Manufacturer, global



Challenge: At the start of lockdowns, when movement was tightly restricted in many geographies, the functional teams – from sales to production to legal – for many organizations were shifted to “working from home”, and the normal flow of business and decision-making was suddenly disrupted. For manufacturers with global supply chains and products produced in different countries, the inability to work with their teams centrally or convene cross-functional committees challenged their ability to coordinate and make timely decisions and approvals, and effectively manage their supply chains. In some cases, the quick decisions and approvals were critical to mitigating the risks of changing government policies on lockdowns and restricted movements.



Actions taken and results: Organizations quickly adopted digital platforms to enable collaboration among their now dispersed teams and to re-capture efficiencies that may have been lost with the sudden shift to remote work. One manufacturer noted that adopting these platforms was crucial for convening committees for cross-functional decisions and approvals, and timely communication and coordination across global teams. The use of tools such as digital signatures helped streamline approvals and workflow. Standard operating procedures were amended to accommodate new processes and tools.



Sustainability and institutionalization: Many of the digital platforms and tools that were adopted continue to be in use. Many organizations have been able to increase efficiencies through the use of these new tools and processes and have incorporated them into their operations. This adaptation has been sustained, and it allows faster decision-making and more efficient management of supply chains.

4.4 Adaptation: Use telemarketing, virtual visits, and digital platforms to support service providers and supply chain management staff

“The dynamics with the medical representatives not being able to visit providers or providers not willing to see them. You know, we tried to do follow-ups in terms of phone calls, and still, you know, encouraging orders and checking on supply remotely...”

—DKT Uganda



Challenge: During critical periods when movement was restricted or not advised, organizations sought to protect the health and safety of their staff while ensuring continuity in the provision of social marketing products and maintaining customer relations.



Actions taken and results: The Agency for the Development of Social Marketing (ADEMAS), is a local Senegalese SMO that supports the supply of RH products in both private and public sectors. To protect the welfare of its staff, ensure continuity in the distribution of RH products, and manage customer relations, ADEMAs implemented an RH telemarketing strategy. The telemarketing strategy allowed marketers to be in communication, conducting sales and promotion activities, with customers, prescribers, and pharmacists following two “circuits” – pharmaceuticals and non-pharmaceuticals.

As part of their pharmaceutical circuit, ADEMAs set weekly targets of 75 telephone contacts and 2 field visits for each marketer. Marketers were required to make daily phone calls to prescribers and pharmacists in the ADEMAs customer database to check stock status, promote social marketing products, and then report back to their supervisor. For the non-pharmaceutical circuit, each marketer had a weekly objective of 75 telephone contacts. Marketers called existing and new customers to promote products, check stock status, take new orders, or make collections.

To operationalize the telemarketing strategy, ADEMAs set up a virtual coordination system that relied on telephone calls and online meetings. Every month, a total of 36 coordination meetings were organized. Meeting agendas included reviews of current conditions and stock levels from the previous week, discussing the evolution of and constraints on their activities, and issuing new instructions.

In East Africa, a similar strategy for virtual coordination and follow-up with clients was implemented by SMOs, including PSK for Kenya and DKT for Kenya and Uganda. While follow-up calls could not fully replace face-to-face interactions with clients, they minimized disruptions to client relationships when COVID-19 measures like social distancing and movement restrictions were put in place.



Sustainability and institutionalization: As with some other digital innovations, these platforms opened channels to interact with RH service providers and staff. Telemarketing, telemedicine, teleconferences, and virtual market visits are activities that have been integrated into RH supply chain operations. However, internet service availability, speed, and reliability don’t enable full use of this type of adaptation throughout all countries included in this assessment.



Adjusted inventory management policies and procedures

Disruptions in global health supply chains, and specifically in logistics, impacted supply chain actors in countries across SSA due to factors such as delays in processing at shipping points, lack of logistics personnel, increased shipping costs, and movement restrictions. While demand for RH commodities remained high, the majority of countries included in this assessment experienced longer lead times and stockouts, particularly with injectables and implants. RH stakeholders and supply chain actors considered new strategies and adjustments to existing strategies to counter these effects.

5.1 Adaptation: Adjust inventory levels and reorder frequency

“Increasing the frequency of monitoring our inventory from quarterly to monthly has been a very successful initiative and we have sustained it because we realize that it has more benefits even without COVID-19. So that has been sustained”

—GHSC-PSM, Ghana



Challenge: Disruptions throughout global health supply chains resulted in longer and unpredictable lead times for RH products, which threatened stock availability in countries in SSA.



Actions taken and results: Across a number of organizations, a common adaptation was to re-evaluate order levels to accommodate longer and unpredictable lead times and to maximize stock availability. This was especially true for condoms, which before the pandemic had shorter lead times and were not necessarily being ordered in large quantities due to their bulkiness in packaging and storage space requirements.

SMOs and commercial distributors adjusted their inventory strategies to hold higher buffer stocks, thereby raising overall inventory levels. PSK in Kenya undertook three related adaptations: (1) they negotiated with commercial distributors to hold higher inventory levels; (2) they extended the duration of credit periods to their commercial distributors; and (3) they opened up their distribution structure to enable sourcing to be done across regions. SMOs including DKT, PSK, and MSK in Kenya adjusted the months of stock their local distributors could hold from three months to six months, depending on supply availability. This was mainly done for oral contraceptives and condoms. This logistical adjustment had cost implications since it translated to holding higher inventory levels, resulting in increased storage space requirements. The organizations' existing warehouses did not always have extra storage capacity available, and new storage arrangements were sometimes needed.

Governments, through the support of IPs and SMOs, adjusted inventory and supply planning procedures for both public and private health facilities, and monitored inventories on monthly rather than quarterly intervals and guarding against future supply interruptions. For example, in Kenya, the MOH's Division of

Reproductive Health officially increased the minimum stock level at service delivery points from four to six months of stock to protect against delays and uncertainty. In Ethiopia, the government outsourced in-country distribution to a private Ethiopian shipping agency with the aim of increasing “surge capacity”. The Ethiopian MOH also issued a directive to regions to ensure maximum stock availability at facilities in April and May 2020. The country’s distribution hubs subsequently pushed commodities to facilities regardless of orders or existing stock levels.



Sustainability and institutionalization: Most of these adaptations were implemented as temporary measures to address what was hoped to be a short-term supply issue. As such, inventory levels continue to be monitored and adjusted as the global supply situation readjusts.

5.2 Adaptation: Commodity redistribution within and across countries

“You would get instances where, for example, like we were supposed to order for Tanzania but then the UNFPA would say that all actually, you know, can you hold out that delivery from Tanzania because you know another country, you know, for example, like maybe in the power might need it more urgently. So we have to do a lot of shifting. Reshift things of order and everything, you know. So I think I think that’s a challenge that we also have to act swiftly”

—RH Manufacturer, Indonesia

“I used to liaise with those implementing partners, especially the Clinton Health Access Initiative which helped us very much. They used to come here and ask “we are going to this facility, do you have anything?” Actually Clinton Health Access Initiative is more effective in those issues of redistribution so they used to come, and you can give them commodities and they deliver to health facilities that are in the direction they are going to.”

—DCSM, Uganda



Challenge: Unpredictable demand and supply led to supply imbalances within and across countries. In-country transport challenges were mainly attributed to the lack of finances to procure fuel to travel to every healthcare facility for outreach and to distribute RH commodities. Global cargo constraints limited international freight options, adding further uncertainty to supply lines.



Actions taken and results: A common response to disrupted supply chains and associated RH product shortages was the introduction of initiatives to redistribute RH commodities from overstocked areas to undersupplied or stocked-out regions. This adaptation was used nationally, between countries, and regionally, as well as across public and private sectors within countries.

In West Africa, WAHO utilized the Visibility and Analytics Network (VAN) to identify an opportunity to redistribute IUDs from Nigeria to Niger. WAHO facilitated and enabled the RH product clearance and redistribution strategy by ensuring adherence to advanced clearance requirements for national distribution and to applicable regulations. Similarly, PSK supported the redistribution of commodities, mainly condoms and oral contraceptives, from overstocked commercial distributors to understocked distributors to service the increased demand from private facilities in Kenya.

In Nigeria, GHSC-PSM Nigeria and other partners supported the MOH to identify the regions which had surplus stocks of RH products, such as implants, and to redistribute this excess stock to areas where shortages were observed. In Ghana, there was a decrease in the uptake of short-acting contraceptives because they required more visits compared to longer-acting methods. This led to the deprioritization of some short-acting methods. GHSC-PSM implemented the smart push system which pushed the deprioritized short-acting RH methods from central stores to health facilities to ensure the availability of all methods. In Zimbabwe, FHI360 collaborated with the MOH to successfully implement weekly monitoring of RH products to inform the redistribution of commodities. Based on real-time data from the electronic Logistics Management Information System (LMIS), overstocked facilities redistributed their RH supplies to understocked facilities and addressed supply imbalances.

In Kenya, partners such as CHAI and FHI360 worked with the MOH to assess supply chain processes and streamline the procurement process for RH commodities. The MOH was supported to confirm and document the real-time stock position of RH commodities at service delivery points through site visits, followed by analyses of stock levels across the country, and subsequent data-based redistribution. In the private sector, PSK quickly supported the redistribution of commodities from their overstocked distribution points to understocked distribution points within the country to service the increased demand from private facilities, e.g., pharmacies, supermarkets, and convenience stores.



Sustainability and institutionalization: Redistribution was reported as not being sustained due to the additional costs required. Adequate support with means of transportation, fuel, and personnel to complete last-mile delivery is crucial for sustaining this practice.



Modified transport options & warehousing solutions

Shifting of priorities toward pandemic response exacerbated supply chain constraints as already congested ports prioritized pandemic-related shipments causing further delays. In some cases, efforts to ease the impact of supply constraints created new issues, such as a need for increased storage and warehousing capacity.

6.1 Adaptation: Expand warehousing and increase storage space

“We have limited storage space in our warehouse. So, we had to reorder more quantities. That required us to get extra space because some of these products are really bulky. The condoms are really bulky stuff. So we had to hire temporary space just to increase our order level.”

—PSK



Challenge: RH suppliers like the SMOs reported increasing their inventory levels, up to three times the normal level, to buffer against uncertainties in commodity distribution and in supply lead times. Existing warehouse capacity became insufficient to accommodate the significant increases in inventory levels, particularly for bulky items like male condoms. The influx of COVID-19 supplies such as PPE placed additional constraints on existing storage space. In Uganda, some government facilities and district boardrooms were converted into safe storage spaces to decongest the commodity stores that were overwhelmed with COVID-19 supplies.



Actions taken and results: Two of the adaptations implemented by manufacturers and SMOs to address this challenge were: (1) to secure additional warehouse space to accommodate increases in stock levels; (2) to shift warehouse locations to enable more efficient use of all warehouse space. In Kenya, PSK acquired additional warehouse space and used their commercial distributors to hold increased stock levels which led to significant increases in cost and working capital requirements. However, in some instances, relocation of warehousing facilities led to cost savings of up to 30% as reported by PSK, due to the cost differential in lease rates and warehousing costs.



Sustainability and institutionalization: In some cases, the adaptation became a permanent solution as both manufacturers and SMOs expanded and relocated warehouses. In other instances, leveraging partners and short-term contracting for inventory surges were temporary solutions, but may be incorporated into risk management and contingency plans in the future. For example in Kenya, PSK’s new warehousing location was sustained and was reported as producing positive unexpected benefits. The arrangements with commercial distributors reverted back to one month of stocks due to the payment and working capital constraints for business operations.

6.2 Adaptation: Use alternative shipping routes and modes of transport

“...Previously we used a combination of ships and air but now everything needed to be airlifted...”

—RH Manufacturer, global



Challenge: Congestion in major ports contributed to shipping and clearing delays. Given the constraints experienced by the ports and freight operators, priority was given to pandemic-related commodities, such as PPE, which contributed to longer lead times and subsequent stockouts of RH products.



Actions taken and results: In response, suppliers explored alternative transportation modes and shipping routes. Many suppliers cited changing their initial shipments from sea to air, or to alternate shipping routes to compensate for or avoid additional delays, especially for long-term contracts with customers such as USAID and UNFPA. PSK in Kenya avoided significant delays of their products coming from India by initially rerouting their shipments via Singapore as an alternative shipping route from the port in Colombo, Sri Lanka. This change led to significantly increased costs for the organization along with stricter timing requirements, which their male condom supplier in India could not meet. They subsequently settled on a more direct route out of India, which increased costs by almost twofold but was feasible for their supplier in terms of timing. PSK has continued using both shipping routes via Sri Lanka and Singapore, as the two options were advantageous for supply planning.

MOH in Nigeria reduced the size of their shipments and used ocean freight to facilitate moving goods. When international travel lanes were shutting down, GHSC-PSM recommended that countries prepare by moving most products out of warehouses and redistributing stocks to service delivery points at the last mile in geographic areas most in need.



Sustainability and institutionalization: Organizations made strategic choices to change modes, routes, and shipment sizes, sometimes at a higher cost, to minimize disruption to the movement of goods. Most examples of this adaptation were temporary solutions to address the immediate transport constraint. However, because the adaptation strategy proved successful in times of crisis, it will likely be considered for use again in future crises.

6.3 Adaptation: Utilize new distribution and service delivery channels for accessing RH products and services

“...During the COVID, there was more use of the mobile phone because the client did not need to go to the facility...They could just call and they got to engage with the service provider...”

—FHI360, Kenya



Challenge: Movement restrictions hindered clients from obtaining their RH products from health facilities and healthcare workers from staffing these facilities. Many countries saw an important shift in clients choosing to access RH products from retail pharmacies or via e-commerce and telemedicine providers.



Actions taken and results: Pharmacies, SMOs, and telemedicine providers adopted the use of motorbikes as a quick and reliable method to deliver RH products or customized orders that included RH, straight to consumers' homes. PSI Uganda partnered with an external rideshare app—Safe-Boda E-shop—for product delivery to enable customers to receive RH products at their homes. However, due to challenges with waiting times and transport costs, PSI Uganda launched an alternative delivery solution to better address client needs.

Given the fear of visiting healthcare facilities due to COVID-19 exposure risks and government restrictions, many clients sought to access RH products, mainly oral contraceptives and male condoms, through online shopping. In Kenya, e-commerce platforms such as Kasha and myDawa registered remarkable growth in their businesses during the COVID-19 pandemic.

Governments in countries including Ghana, Zimbabwe, and Uganda increased their RH outreach activities and use of integrated community services delivery. For example, in Zimbabwe, FHI360 reported that health facilities adopted high-impact practices where outreach teams primarily offered long-acting reversible contraceptives (LARCs), while healthcare workers in the static facilities offered short-term methods. The RH outreach teams are linked at the community level with teams for other health areas, such as immunization. In Senegal, delivery models involving CHWs, mobile outreach teams, and partnerships with small private healthcare providers were used to distribute free or subsidized RH products, while using social distancing.



Sustainability and institutionalization: Online marketplaces and door-to-door deliveries for RH commodities have been sustained, improving convenience and method choice. It's important to track the client's digital journey and user experience with RH service delivery and to understand barriers that prevent clients from adopting online platforms. A high degree of innovation is crucial for developing sustainable solutions at the last mile.

A Strategic Adaptations Framework for Supply Chain Stakeholders

Supply Chain Operations Reference Model

Adaptations did not have a 1:1 relationship to supply chain challenges being experienced. At times, a single adaptation was considered, attempted, or implemented with the goal of addressing several challenges at once, and perhaps in different areas of the supply chain. To capture these nuances of how adaptations were applied and enable ease of reference for all supply chain stakeholders, we have contextualized them within the Supply Chain Operations Reference Digital Standard (SCOR-DS) model processes.

The SCOR-DS, an accepted industry standard supply chain model, provides methodology, and diagnostic and benchmarking tools to assist organizations in making dramatic and rapid improvements in supply chain processes. It describes the business activities in all stages of satisfying customer demand. Thousands of public and private organizations worldwide have used it to assess and improve their supply chains, resulting in improved operational performance.

The modified SCOR-DS model depicted in Figure 2 visually incorporates the findings from our work on pandemic-related challenges that impacted RH supply access, the impact on RH programs and supply chains, and the adaptations themselves. It is explained in greater detail below.



Figure 2: Strategic Adaptations Overlaid on the SCOR-DS Model





COVID-19 RELATED CHALLENGES

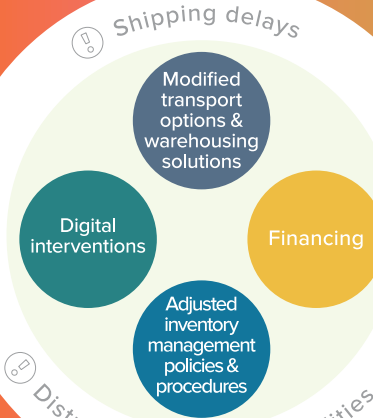
SOCIAL DISTANCING

RESTRICTED MOVEMENT

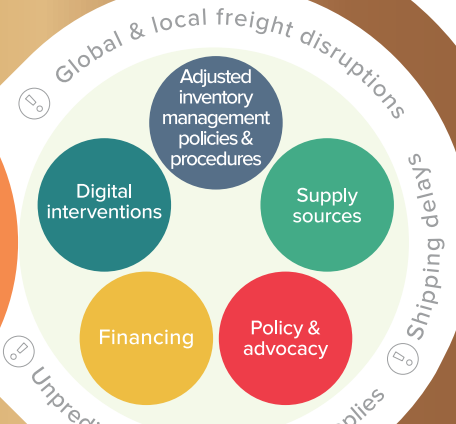
PLAN



ORDER



SOURCE



ORCHESTRATE



FULLFILL

RETURN

TRANSFORM

LIMITED HUMAN RESOURCES

CONSTRAINED BUDGET RESOURCES



Customer's customer

Customer

Your organization

Supplier

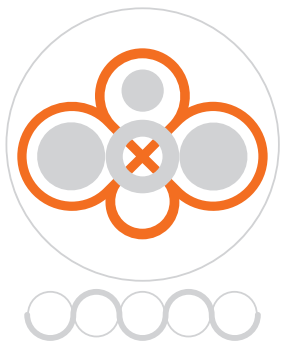
Supplier's supplier

MARKET DRIVERS, END-TO-END VISIBILITY AND COLLABORATION



The Outer-Ring

The outer ring of the framework visualizes the broad challenges to the delivery of health products and services across the globe caused by the COVID-19 pandemic. They include social distancing, restricted movement/travel, limited human resources, and constrained budgets.



The double-infinity loop

The double-infinity loop illustrates that a supply chain is an ever-moving series of activities, with no artificial starts or stops from process to process. The SCOR-DS model comprises seven key management processes: orchestrate, plan, source, transform, order, fulfill, and return.

Orchestrate: Describes the activities associated with the integration and enablement of supply chain strategies, including business rules and enterprise business planning, human resources, network design and technology, data analytics, contracts and agreements, regulations and compliance, risk mitigation, environment, social, and governance initiatives, circular supply chain activities, performance management, and more.

Plan: These are activities associated with developing road maps to operate the supply chain. The Order, Source, Transform, Fulfill, and Return processes have to be planned; this planning process includes determining requirements, gathering information about available resources, balancing needs and resources to assess planned capabilities and gaps in demand or resources, and identifying actions to close these gaps.

Source: Refers to the activities involved in the procurement, ordering, scheduling of orders, delivery, receipt, and transfer of goods and services from a supplier or manufacturer.

Transform: Refers to the activities associated with the manufacture or creation of products and services, such as production, assembly, disassembly, maintenance, repair, and overhaul.

Order: Includes activities associated with customers purchasing products and services, such as the customer's purchase of products and services, location, payment methods, pricing, order fulfillment status, and other data relevant to orders.

Fulfill: Refers to the activities involved in carrying out customer orders or providing services, such as scheduling order delivery, picking, packing, shipping, installing, commissioning, and invoicing.

Return: Refers to the activities associated with the reverse flow of goods and services, as well as any service components, from a customer through the network to diagnose the condition, evaluate entitlement, dispose back into Transform, or perform other circular activities.



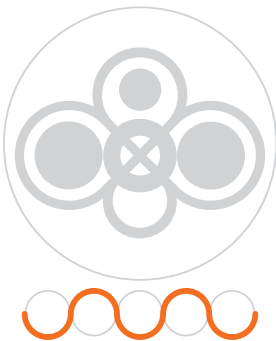
Gray text with exclamation marks

Specific challenges that have affected RH supplies access are listed in gray text with exclamation marks within the double-infinity loops. For example, the deprioritization of RH commodities had a direct impact on the orchestration process of RH supply chains.



The inner circles

The final element of the double infinity loop consists of the innermost circles, each of which represents an adaptation category. Each circle is placed in the respective supply chain management process that is relevant to the adaptation.



Lower chain

The lower section of the illustration depicts the foundations on which strong supply chains stand, namely market drivers, end-to-end visibility, and collaboration across the entire supply chain.

Relationship between Strategic Supply Chain Adaptations and the SCOR-DS Model

Orchestrate

Broad effects of the pandemic on health systems were seen in shifts in spending and policies, in order to redirect resources and create enabling environments to serve patients while protecting the health and safety of patients and providers. For RH, this sometimes translated into deprioritization of RH products and services relative to those products and services that were pandemic-related or deemed more critical for public health. The strategic adaptations responding to these deprioritization challenges were primarily in the form of financing decisions—access to and/or use of funds—and policy and advocacy activities that helped ensure continuity of access to RH products and services.

Plan

Unpredictability was a key characteristic throughout supply chains, especially during the early months of the pandemic. Patients, providers, procurers, and suppliers were facing new challenges and reacting in new ways, with limited visibility of both demand and supply. Demand for RH products and services was highly variable as it became difficult to know where and when patients could access them, and method preference seemed to shift toward LARCs in some geographies like Zimbabwe to mitigate the unpredictability of RH services given uncertainties of how long movement restriction and lockdowns would last. Furthermore, shipping delays threatened product availability at multiple levels of the supply chain. Organizations responded by leveraging new and existing digital platforms and tools. They were able to successfully collaborate among teams, with commercial partners, and between service providers and clients. They also engaged partners and tapped into existing networks to leverage each other's strengths and capabilities to increase visibility and limit risk.

Source & Transform

Freight disruptions were pervasive and persistent due to COVID-19 effects and other global issues, compounding already strained supply chains. Ensuring the flow of finished goods was made more challenging given that manufacturers faced challenges in receiving APIs or manufacturing components when they needed them, and buyers faced shortages of containers for transport, both scenarios that effectively magnified delays across supply chains. Existing RH commodities require the same raw materials as some pandemic-related commodities (e.g., condoms and PPE), which contributed further to delays.

A variety of adaptation approaches were used throughout supply chains to address challenges such as those listed above. Manufacturers lobbied for special status and waivers to ensure business continuity in the face of lockdowns and movement restrictions. They reevaluated investment policies related to operating capital and product pricing. They leveraged digital tools and platforms to speed the flow of information and decision-making. Buyers sought alternative sources of supply and leveraged partnerships to access products through other channels when supply became uncertain.

Order & Fulfill

With widespread shipping delays and an unreliable supply, buyers, commercial distributors, and other in-country supply chain actors applied several types of adaptations to attempt to address the challenges. Adoption and customization of a variety of digital tools were commonly done and helped to increase the visibility of inventories, flag potential shortages or overages, and speed the decision-making process. Like manufacturers and other upstream supply chain actors, in-country supply chain practitioners made practical decisions about inventory levels and cadence of logistics activities that supported early identification and resolution of issues. Alternate modes and routes of transport were explored to increase efficiency or circumvent a known bottleneck. New distribution channels and ways for clients to access products and services were designed and enabled.

Return

Neither the literature review nor the KIs identified challenges or adaptations related to the return process within supply chains. The return arm is generally one of the least prioritized aspects of public health supply chains. Prior to the pandemic, it was common to find significant stocks of expired products in health facilities taking up valuable storage space despite the existence of procedures that dictate disposal or return for expired products.

Looking Ahead

What COVID-19 adaptations can teach us for future emergencies

In this section we offer reflections and recommendations on how adaptations to RH supply chain operations used in the pandemic might help in increasing resilience of supply chains and in preparing for future emergencies. Many of the adaptations, lessons, and recommendations from this assessment are consistent with interventions and recommendations captured in the suite of FP High Impact Practices (HIPs) Briefs. Key practices from these briefs are highlighted below as a reminder for countries and programs to keep building on HIPs as part of preparedness for future pandemics or emergencies.



CROSS-CUTTING

- ⇒ Successful adaptations were due to coordination and collaboration across partnering organizations. Government buy-in was a key factor in the successful implementation of adaptations. Commodity security meetings and technical working group meetings were convened by MOHs to make decisions and to discuss and adopt strategies. Collaboration among RH stakeholders yielded success, globally and locally. Coordination and alignment were needed across governments, NGOs, IPs, manufacturers, SMOs, and commercial distributors.
- ⇒ Mechanisms for coordination and leadership are critical in maintaining the continuity of all essential operations. A map of up-to-date information on all supply chain resources that can be mobilized in a disaster empowers in-country stakeholders to make decisions quickly. Fora that promote dialogue, coordination, and decision-making between various types of stakeholders must be created and implemented before a future crisis emerges. This allows the establishment of relationships and trust and supports resiliency.
- ⇒ Global program managers and national stakeholders should quickly adopt new learnings as they are shared within the RH community to inform the continued implementation and strengthening of HIPs.
- ⇒ Establishment of faster procedures for equipping and enabling healthcare workers in emergency situations (e.g., IPC supplies, IPC training, upskilling, and priority vaccination of healthcare providers) would alleviate the disruption of RH services and support access to RH supplies.
- ⇒ Ensuring availability, affordability, and end-user awareness of a full method mix at health facilities would enhance RH supplies access, even in emergencies. Partnership and collaboration among the private and public sectors would help to ensure the continuity of services across sectors, including by the use of client referral mechanisms. Newer RH products and technologies that can be self-administered, such as DMPA-SC,

offer greater access and choice to clients and might alleviate some disruptions to RH access. The availability of products from generic manufacturers also enables greater sourcing flexibility.

- ⇒ The FP High Impact Practices Supply Chain Management Brief identifies critical strategies to ensure reliable and resilient RH supply chains. These were consistent and aligned with most of the adaptation categories we identified, i.e., increasing data visibility and use, accelerating product flow, and capitalizing on private sector capacity. In regards to professionalizing the supply chain workforce, given the nature of the emergency response, this was not identified as an immediate adaptation adopted by any of the stakeholders and is recommended as a long-term strategy for more resilient people-centered supply chain systems.



POLICY AND ADVOCACY

- ⇒ Policies and procedures for emergency preparedness including in the health supply chain are largely lacking, leading to ad hoc and reactive policy revisions. Governments and organizations should develop risk management plans, including emergency preparedness activities, that can serve as a guide for key decisions and actions in the event of a future emergency. This should include the identification of priority or essential services, personnel, products, and industries.
- ⇒ Comprehensive policies to assure continuity in access to RH products and services should be enacted in advance of emergency situations, to include considerations for supply chains (product procurement and distribution), service delivery (client access to products and services), and regulatory actions (quality assurance and prequalification). During the pandemic, policies that prioritized RH products and services proved to be critical to facilitate the movement of essential personnel and RH supplies and to maintain client access to RH products and services.
- ⇒ Mechanisms that enabled coordination across stakeholders and countries were critically important for leveraging technical expertise and for linking to regional and global initiatives that support local programs, as demonstrated by WAHO and OP in West Africa. Strengthening the dialogues and coordination mechanisms that emerged during COVID-19 and ensuring these remain as ongoing mechanisms for advocacy, information sharing, and support, especially at country levels, will facilitate greater responsiveness and agility at the time of a future emergency. Mechanisms can be a combination of systems, tool and data sharing, innovations around financing, and sharing of emerging best practices, especially around agility and resilience, providing benefit even in non-crisis periods.
- ⇒ The Comprehensive Policy Processes HIPs Brief identifies the importance of all three stages of the policy process and corresponding actions for each stage. Impact is achieved through comprehensively developing, implementing, and monitoring policies that create an enabling environment to guide the provision of high-quality RH programs and services. The HIP underscores that policy is necessary for RH outcomes— improved service delivery and increased use of RH services. During the pandemic, policies were developed or revised and implemented, but comprehensive policy processes require time and planning. For all existing and new policies, there may be a need to plan for both regular updates and unanticipated changes to the policy. This document complements the HIP by sharing considerations and examples during the unanticipated change processes that can help with future planning.

- ⇒ The Galvanizing Commitment HIP Brief examines the process of commitment making, highlighting three forms of commitment — expressed, institutional, and financial — at the global, regional, country, and subnational levels. It notes that “Advocacy, evidence, and accountability are three interrelated components needed to affirm commitment to family planning programs,” which was consistent with some of our findings in this document. The HIP includes notes on the importance of timing, coordination of advocacy efforts, and policy champions.



FINANCING

- ⇒ Strengthening of governments’ ring-fencing of funds earmarked for RH products, despite emergencies or competing priorities, is vital; this can enhance public sector procurement, negotiating power, and increase suppliers’ service levels and responsiveness in LMIC markets when the supply of goods is limited. Civil society, donors, SMOs, and governments can hold each other accountable to increase equity in RH financing.
- ⇒ WAHO and the OP offered a strong, robust model in West Africa for regional collaboration and coordination to address urgent RH supply issues through access to alternative funding opportunities and procurement channels. Existing established economic blocks such as the East Africa Community (EAC), Intergovernmental Authority on Development (IGAD), and Southern African Development Community (SADC) might learn lessons from WAHO to facilitate their RH commodity security.
- ⇒ Emergencies necessarily impact finances. Pooling resources via organized regional partnerships and memberships, such as the Ouagadougou Partnership and WAHO is West African countries supported and enhanced programs’ access to funds and resources during the pandemic. Regional economic organizations, and specific program partners in this case RH stakeholders and IPs may have financial flexibilities that can help stabilize supply chain uncertainties through operational decisions e.g. RH commodity redistribution as cited in the report..
- ⇒ The use of co-financing incentives and alignment of co-financing strategies were effective in safeguarding resources for RH supplies in emergency situations, as demonstrated by the example involving the OP in West Africa and the Match fund developed by UNFPA which incentivizes domestic contribution and diversification of funding for RH commodities by governments. This mitigates the diversion of resources away from RH programming. This may also serve as an effective longer-term strategy to support governments increase their overall budgets for RH commodities
- ⇒ The Domestic Public Financing HIP Brief underpins the need to increase the allocation and efficient use of domestic public financing for voluntary RH services at national and sub-national levels. Two key issues identified are 1) insufficient resources, and 2) unpredictable changes in donor funding, which were emphasized and evident during the COVID-19 pandemic. The importance of “leveraging local sources of financing” was consistent with our findings in this report. Some efficiencies highlighted in the HIP and in this assessment e.g. procuring in bulk; using pooled or coordinated buying; and organizing service delivery to optimize the health workforce, were exemplified by the successful adaptations from early in the pandemic. While these were highlighted as opportunities to increase the efficiency of domestic funding, we saw these approaches being used to optimize global funding mechanisms through the matching fund mechanism by UNFPA and other donors.



SUPPLY SOURCES

- ⇒ The pandemic exposed vulnerabilities of global RH supply chains' current reliance on limited sourcing options. Ensuring that a country or program has a continuous supply of RH products also means that the supplier and their supply partners must have a continuous supply and alternative supply options when primary suppliers experience disruptions. Good working relationships and the ability to negotiate with suppliers, and sometimes their suppliers, on maintaining higher inventory levels can be an effective strategy to reduce the risk of shortages. Procurers across the RH supplies value chain can continuously review and work to diversify and strengthen their supplier base.
- ⇒ Limited numbers of regional RH manufacturers likely disadvantaged SSA as the vast majority of RH supplies are imported. Efforts and discussions to foster greater regional pharmaceutical manufacturing on the continent are already underway, especially for vaccines and essential medicines. While each product category has its own challenges and opportunities, it will be important for strategies and plans to incorporate RH products. Moreover, foundations are now being laid for the strengthening and harmonization of regulation across the continent, through the formation of the African Medicines Agency.



DIGITAL INTERVENTIONS

- ⇒ Access to real-time and near-real-time data, using a combination of existing and new tools and systems, enabled greater responsiveness, resilience, and agility throughout supply chains. Collection, aggregation, and sharing of timely data across subnational units, market sectors, partners, and countries were used to address supply imbalances and inform decision-making. Strengthening electronic LMIS usage across SSA will facilitate greater data visibility and enable stronger capacity and skills for the use of data for tactical and strategic supply chain and financing decisions. New tools and channels used for capturing and sharing data should be assessed for feasibility and scaling up.
- ⇒ Online engagements such as video calls that leveraged digital platforms and tools helped to ensure continuity of activities and yielded financial savings and reduced budget pressures. The funds that were saved could be repurposed for purchasing RH supplies and to ensure the continuity of RH services. Adapting and adopting digital tools, where appropriate, may yield further benefits for programs and communities.



ADJUSTED INVENTORY MANAGEMENT POLICIES AND PROCEDURES

- ⇒ The adaptations to inventory management policies and procedures adopted across and within countries – including adjusting inventory levels and reorder periods and the redistribution of products – illustrated that a more agile approach to inventory management could help to counter global supply disruptions. In the short term, redistribution of products could help to address shortfalls; however, given its cost, it's unlikely to be a sustainable measure. Additionally, real-time adjustments of inventory levels and reorder periods can help to ensure responsiveness within supply chains, regardless of the context. Investing in access to tools

that enable greater data visibility for RH supply chains will be valuable. Also, training for supply chain staff and managers to use the data for decision-making is necessary.

- ⇒ The review and strengthening of key inventory management policies and procedures by MOHs will be key to ensuring supply chain responsiveness during the next emergency. At the national level, streamlining public procurement processes may be needed; this can include aligning the budget process between the Ministry of Finance and the MOH. The pandemic also highlighted the need to streamline the customs clearance processes in both normal operations and emergency situations for health commodities, including RH. RH commodities need to be treated as essential health supplies and to be processed efficiently through customs clearance, to support availability with adequate shelf-life remaining.
- ⇒ While many adaptations in this category, such as increased inventory levels and redistribution, were implemented widely across countries and organizations, the effectiveness of each application was driven by the contextualization of these approaches, based on country-specific needs, situations, available stakeholders, capabilities, and resources. In future emergencies, the development of procedures and/or task forces that take into account country and local contexts will be very important.



MODIFIED TRANSPORT OPTIONS & WAREHOUSING SOLUTIONS

- ⇒ Community health services and last-mile distribution should be strengthened and scaled up, building on evidence demonstrating the cost-benefit analysis of investing in CHWs to provide RH services and supplies door-to-door. The use of CHVs for CBD increased service delivery in some settings during the pandemic and is considered a long-term strategy that can help to fill large market gaps. Successful scale-up and sustainability require significant investments of financial resources.
- ⇒ Provision should be expanded of quality RH services and supplies through CBD and mobile outreach programs; these services and activities should be integrated with other healthcare services, as appropriate (e.g., postpartum care, malaria, and nutrition). The inclusion of mass media awareness and CBD into routine RH programming, beyond emergency situations, may further enhance gender equity and social inclusion for marginalized groups such as youth and people with disabilities.
- ⇒ During emergency responses, supply chain managers within central and national stores should be empowered to take immediate actions to move available stock from central warehouses to as close to the last mile as possible, (i.e., to the service delivery points that serve patients directly), by leveraging existing supply chain resources.

Appendix 1: Literature Review Tool

FIELD	DATA
Name of Reviewer	
Main author	
Document Name(Link)	
Country	
Organization Type	
Context	
Problem statement/ What challenge is being addressed?	
Implementation Method/Adaptation	
Brief description of the strategy enacted/recommended	
Program Area being addressed	
Specific RH Product	
Supply Chain function/Product flow challenge being addressed	
Implementation Period	
Key Insights	
Outcome	
Reasons for Outcome	

Appendix 2: Key Informant Interview Tool

Key Informant Interview Guide for Strategic Informants

Interviewer: _____ Date of interview: _____

Start Time: _____ End Time: _____

Introduction

The study aims to identify family planning supply chain adaptations implemented during the COVID-19 pandemic to support SRH supply chain operations, healthy markets, and service delivery in Sub-Saharan Africa, as well as to investigate why some adaptations were implemented and successful while others were neither implemented nor successful. Our conversations with you as an implementing partner/MOH representative will be crucial in providing critical insights into understanding the feasibility of strategies you have tried or considered trying and other important implementation matters such as sustainability, challenges, and opportunities you see going forward. As a start:

1. Please begin by sharing with us the goal or primary outcomes of the family planning work that your organization is tasked with carrying out, with a specific focus on Family Planning (FP) supplies and supply chains.

2. What specific challenges, if any, did you face accessing/ importing/ exporting/ marketing/selling/ administering FP supplies and commodities due to COVID-19?

a. Which commodities, if any, were impacted?

b. How, if at all, did the effects of covid-19 impact your ability to carry out the work as planned? [focus on supply availability, and supply chain barriers from Mar 2020 to the present time]

c. How, if at all, did changes to financing (e.g. budget uncertainties, increase in prices both purchase & shipping costs) for FP commodities impact your ability to carry out the work as planned?

d. How, if at all, did changes in FP commodity availability, supply, or supply chains impact your ability to carry out the work as planned?

3. In the course of addressing the stated difficulties, are there any FP commodities supply or supply chain adaptation strategies that you adopted?

- a. Please describe your organization's adaptations (i.e. supply and/or supply chain, market actors, and/or service delivery). Could you share, what did you do, how long did it take to roll out, how long did you roll it out, and who were the key stakeholders?
- b. What was the specific challenge, or challenges, you were addressing with the adaptation? (one adaptation per challenge or multiple challenges with an adaptation?)
- c. Would you consider the adaptation strategies successful?
- d. i. If so, what was the result or outcome you used to determine this?
- e. ii. If not successful, why do you think it did not work?

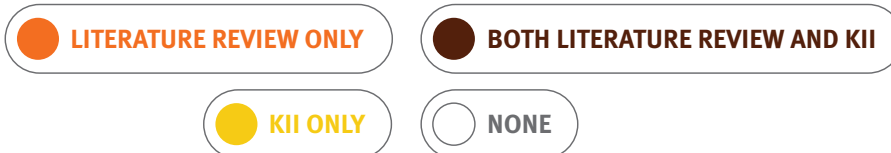
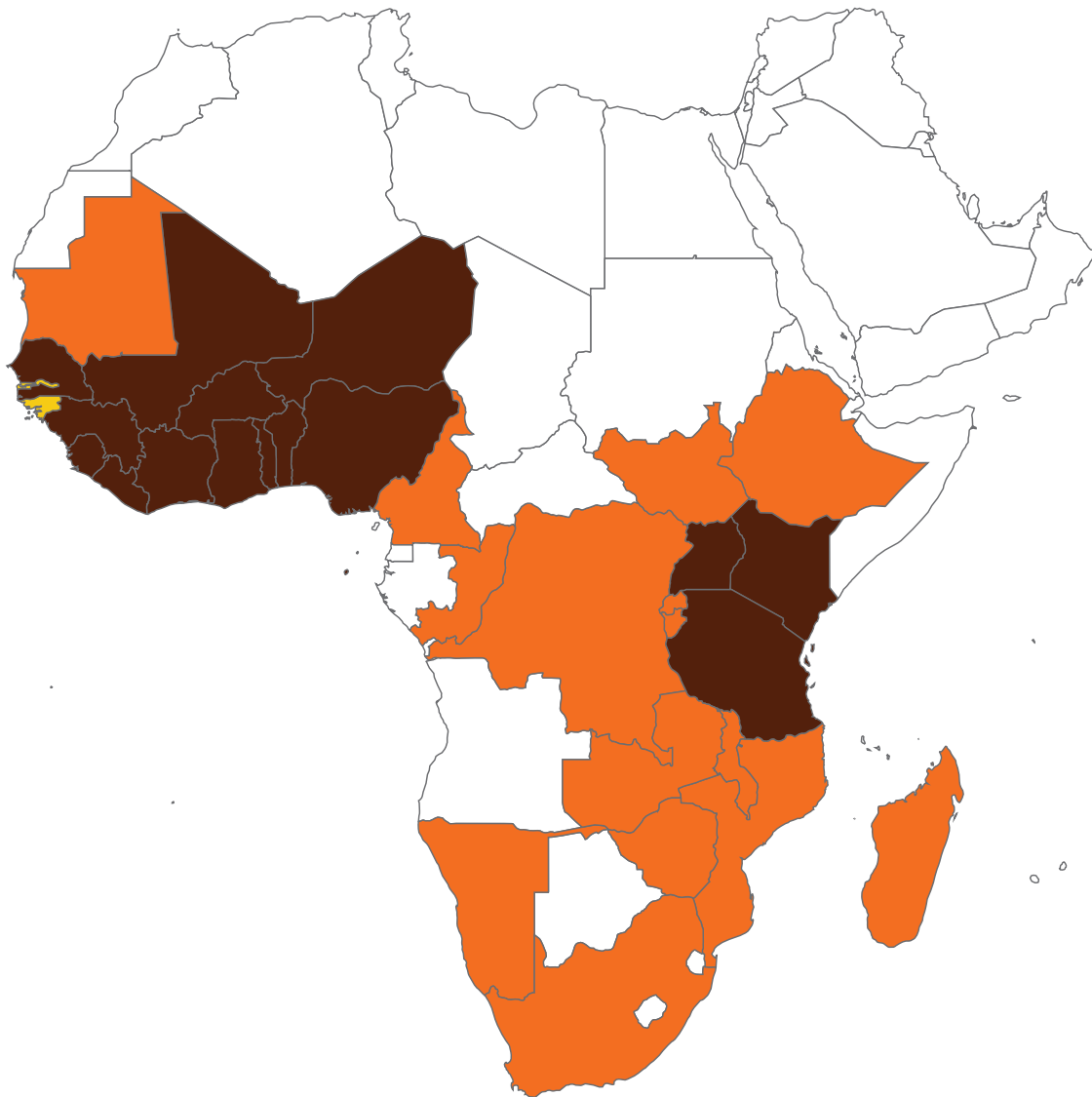
4. Please describe any additional challenges/barriers you discovered while implementing the adaptation strategies

- a. How did you respond to these challenges? Please describe what you did in response.
- b. Were there any additional lessons or unintended benefits of your adaptation strategies that you picked along the course of implementation? If yes, please elaborate
- c. Did you learn of any unintended negative consequences of your adaptation? If yes, please elaborate.
- d. What additional actions, if any, were needed to sustain the adaptation strategies

5. From your experience, attempting to implement the adaptation strategies, could you speak about how any of these strategies might be implemented outside of a pandemic or emergency situation?

- a. What were the barriers, if any, to sustainability?
- b. where applicable Probe: was there any long-term effect on the supply chain of the adaptation? Probe: do you think the adaptation led to more resilience? Preparedness for future shocks?
- c. Were there any protocols or policies adapted or revised to support the adaptation strategies

Appendix 3: Countries Covered by the Literature Review and KIIs



COUNTRIES COVERED BY LITERATURE REVIEWS	COUNTRIES COVERED BY KIIS
1. Benin	1. Benin
2. Burkina Faso	2. Burkina Faso
3. Burundi	3. Cape Verde
4. Cape Verde	4. Côte d'Ivoire
5. Côte d'Ivoire	5. Gambia (The)
6. Gambia (The)	6. Ghana
7. Ghana	7. Guinee
8. Guinée	8. Guinee-Bissau
9. Guinea-Bissau	9. Kenya
10. Kenya	10. Liberia
11. Liberia	11. Mali
12. Mali	12. Niger
13. Niger	13. Nigeria
14. Nigeria	14. Senegal
15. Senegal	15. Sierra Leone
16. Sierra Leone	16. Tanzania
17. Tanzania	17. Togo
18. Togo	18. Uganda
19. Uganda	19. Zimbabwe
20. Rwanda	
21. South Africa	
22. South Sudan	
23. Zambia	
24. Zimbabwe	

Appendix 4: Organizations Covered by the Literature Review and KIIs

ORGANIZATIONS COVERED UNDER LITERATURE REVIEW	ORGANIZATIONS COVERED BY KIIS
Access Collaborative	ADEMAS Senegal
Africa Center for Strategic Studies	Bayer
Africa Health Business	Centre for Infectious Disease, Zambia
Atlas Logistique	Clinton Health Access Initiative (CHAI), Kenya
Bayer	DKT Kenya & Uganda
Bill and Melinda Gates Foundation	Family Health International (FHI360), Zimbabwe, Kenya
Breakthrough ACTION	Global Health Supply Chain Program - Procurement and Supply Management (GHSC-PSM), Liberia, Nigeria, Ghana
Centre for Girls and Interaction (CEGI)	Johns Hopkins Program for International Education in Gynecology and Obstetrics, Jhpiego, Mali
Centre for Global Development	Marie Stopes Kenya
Centre for Infectious Disease Research in Zambia	Ouagadougou Partnership
Chemonics	Pfizer
Children's Investment Fund Foundation (CIFF)	Pregna, India
Conseils et Appui pour l'Education à la Base	PT Tunggal, Indonesia
Dalberg	Population Services International - US, Kenya
Delivering Equitable and sustainable increases in family planning in Kenya (DESIP) a USAID project	Save the Children Mali
DHL	Tanzania Results For Development, R4D

ORGANIZATIONS COVERED UNDER LITERATURE REVIEW	ORGANIZATIONS COVERED BY KIIS
Engender Health	Tanzania Marketing and Communications for AIDS, Reproductive Health, Child Survival and Infectious Diseases (T-MARC) project, TMARC-USAID
Estonian Sexual Health Association (ESHA)	Reproductive Health Supplies Coalition, RHSC
Family Health International- FHI 360	Ouagadougou Partnership Coordination Unit, UCPO / Intrahealth
Family Planning, FP 2020	United Nations Population Fund, UNFPA - Tanzania
Global Health Supply Chain Program - Procurement and Supply Management, GHSC-PSM	West African Health Organisation, WAHO
Global Health: Science and Practice, GHSP	
inSupply Health Ltd	
international Decision Support Initiative (iDSI)	
The International Planned Parenthood Federation, IPPF	
IQVIA	
Jhpiego Guinea	
JSI Research & Training Institute, Inc.	
Kenya Medical Supplies Authority, KEMSA	
Knowledge Success	
Maisha Meds	
Ministries of Health in Sub-Saharan Africa	
Options Consultancy Services Ltd.	
Ouagadougou Partnership	
Parker's Mobile Clinic	
PSI (Kenya, Burundi, Mali, Uganda, Cameroon, Benin)	
Research for Scalable Solutions (R4S)	
Reproductive Health Supplies Coalition, RHSC	
Save the Children	

ORGANIZATIONS COVERED UNDER LITERATURE REVIEW	ORGANIZATIONS COVERED BY KIIS
Society Family Health	
The Challenge Initiative, TCI	
The Wilson Quarterly	
United Nations International Children's Emergency Fund, UNICEF	

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2. Addressing contraceptive needs exacerbated by COVID-19: A call for increasing choice and access to self-managed methods doi: 10.1016/j.contraception.2021.03.023.
3. Contraception access during the COVID-19 pandemic <https://doi.org/10.1186/s40834-020-00114-9>
4. COVID-19 and indirect health implications in Africa: Impact, mitigation measures, and lessons learned for improved disease control <https://doi.org/10.1371/journal.pmed.100366>
5. Did COVID-19 Impact Contraceptive Uptake? Evidence from Senegal doi: [10.1111/sifp.12195](https://doi.org/10.1111/sifp.12195)
6. Effect of COVID-19 pandemic on provision of sexual and reproductive health services in primary health facilities in Nigeria: a cross-sectional study doi: [10.1186/s12978-021-01217-5](https://doi.org/10.1186/s12978-021-01217-5)
7. Health system resilience during COVID-19 understanding SRH service adaptation in North Kivu doi: [10.1186/s12978-022-01443-5](https://doi.org/10.1186/s12978-022-01443-5)
8. Impact of the COVID-19 pandemic on access to and utilization of services for sexual and reproductive health: a scoping review doi: [10.1136/bmjgh-2022-009594](https://doi.org/10.1136/bmjgh-2022-009594)
9. Impacts of COVID-19 on contraceptive and abortion services in low- and middle-income countries: a scoping review doi: [10.1080/26410397.2022.2098557](https://doi.org/10.1080/26410397.2022.2098557)
10. Keeping essential reproductive, maternal and child health services available during COVID-19 in Kenya, Mozambique, Uganda, and Zimbabwe: analysis of early-pandemic policy guidelines <https://doi.org/10.1186/s12889-022-12851-4>
11. Local manufacturing, local supply chains, and health security in Africa: lessons from COVID-19 <http://dx.doi.org/10.1136/bmjgh-2021-006362>
12. Reproductive justice in the time of COVID-19: a systematic review of the indirect impacts of COVID-19 on sexual and reproductive health doi: [10.1186/s12978-021-01286-6](https://doi.org/10.1186/s12978-021-01286-6)
13. Sexual and reproductive health services during outbreaks, epidemics, and pandemics in sub-Saharan Africa: a literature scoping review. doi: [10.1186/s13643-022-02035-x](https://doi.org/10.1186/s13643-022-02035-x)
14. The challenges of COVID-19 for community pharmacists and opportunities for the future doi: [10.1017/ipm.2020.52](https://doi.org/10.1017/ipm.2020.52)
15. The COVID-19 pandemic in francophone West Africa: from the first cases to responses in seven countries doi: [10.1186/s12889-021-11529-7](https://doi.org/10.1186/s12889-021-11529-7)
16. HIV self-testing: lessons learnt and priorities for adaptation in a shifting landscape doi: [10.1136/bmjgh-2020-004418](https://doi.org/10.1136/bmjgh-2020-004418)

17. Women's Experiences With Family Planning Under COVID-19: A Cross-Sectional, Interactive Voice Response Survey in Malawi, Nepal, Niger, and Uganda <https://doi.org/10.9745/GHSP-D-22-00063>

Important Websites

1. Africa Center for Strategic Studies website. <https://africacenter.org/>
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