Update on the context and trends

In the span of a few weeks, COVID-19 escalated from a localized outbreak in China into a global pandemic. As the outbreak spread, demand for supplies to combat the virus sharply increased, leading to market constraints, pricing volatility, export bans and logistics barriers. Countries and markets became inaccessible due to lockdowns – not only for emergency supplies but also other essential supplies for children which were affected because they were wholly or in part produced in countries affected by lockdown measures and export restrictions. Freight capacity decreased drastically by the end of the first quarter before stabilizing and returning to a near normal state towards the end of the year. This means that, in some instances, expensive charters were the only option to reach countries.

To navigate these extremely complex supply and logistics challenges on a global scale, UNICEF mobilized its supply operations to support countries in their efforts to fight the pandemic as well as to continue programmes and respond to other emergencies. With the situation evolving rapidly, flexibility, innovation and adaptability were key components of the UNICEF response and of supply operations and strategic interventions in 2020.

Procurement and logistics

In 2020, UNICEF procured US$4.468 billion in goods and services from 10,844 businesses across 173 countries. This was a 17 per cent increase compared to 2019 and the highest level in UNICEF’s history, driven largely by the response to the COVID-19 pandemic.

Despite heavy disruptions caused by COVID-19, the Supply Division warehouse remained operational. Cumulative warehouse throughput for the year was US$260.8 million, more than doubling the figure for 2019 (US$126.75). Of the total throughput, supplies to respond to COVID-19 represented 57 per cent. Warehouse operations were expanded in Dubai and Copenhagen and two new global hubs were established in Shanghai and Accra to facilitate the COVID response. Over 180,000 kits including for WASH, education, recreation and health were shipped globally of which 162,826 were shipped from UNICEF’s global warehouse in Copenhagen.

The total global value of products procured was US$2.635 billion. The highest value commodity groups were vaccines at US$1.413 billion and medical supplies and equipment at US$830.6 million. The closing of borders, reduced freight capacity and export restrictions caused by the pandemic did not only affect the delivery of Personal Protective Equipment (PPE) and other COVID-19 related supplies but also had a major impact on access to essential supplies for children such as education and health products, including vaccines for routine immunization. One initiative to overcome these challenges, was innovative freight solutions such as consolidating vaccines for several countries in a multi-stop charter to countries that were otherwise unreachable due to pandemic-induced restrictions. Freight donations from governments and partners also helped overcome disruptions and enabled UNICEF to ship essential supplies. In the first few months following the global lockdown, planned vaccine shipments dropped by 70–80 per cent. However, towards the end of 2020, deliveries were all but back to pre-pandemic levels bringing the number of vaccine shipments to a total of 2,394 compared to the 2017–2019 yearly average of 2,510.

Over the course of the year, Supply Division arranged 42 charter flights to deliver vaccines to children and their families.

At the onset of the pandemic, UNICEF also took immediate steps to mitigate the impact on children
and families by **pre-positioning supplies** in regional hubs and encouraged local procurement of COVID-19 commodities such as PPE where possible.

The total global value of **services** procured was US$1.238 billion of which US$175.2 million was for construction services including construction for WASH, such as borehole drilling and water supply, construction activities in refugee camps and construction and rehabilitation of schools and learning facilities. Supply Division guidance on managing service contracts including during COVID-19 led to 37 Local Procurement Authorizations (LPA) issued for 24 country offices.

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**Major contributions and drivers of results**

**Products and markets**

The UNICEF supply function achieved a total of US$173 million worth of **savings** for UNICEF donors and partners through strategic procurement across programme products and services, exceeding its target by US$103 million. This included a negotiated Bacillus Calmette-Guérin (BCG) vaccine price adjustment, resulting in US$272,000 in savings.

Six **market notes** were published on key products highlighting critical market dynamics. Products covered in the notes included multiple micronutrient powder, therapeutic milk, pediatric antiretroviral, medicines, long-lasting insecticidal nets, HIV early infant diagnosis and viral load point of care and Rotavirus vaccine.

Five **product innovations projects** progressed towards scale-up including oxygen therapy, a Non-Pneumatic Anti-shock Garment (NASG) to prevent post-partem hemorrhaging and the High-Performance Tent, for which bulk production was completed by suppliers. In addition, the Disability-friendly Add-on for Latrine Slab in Emergencies is now available in the UNICEF Supply Catalogue and the usability and operationalization of novel Zika diagnostics was assessed to provide recommendations for further scaling.

Supply Division expanded the range of products available for country offices to directly address the **disability needs** of children including the above-mentioned latrine superstructures with handrails and a hand-powered disability tricycle. Policy and guidance on disability inclusiveness and accessibility was also developed.

Market-based sanitation guidance was published as a practical guide to plan, design, implement and monitor interventions that build the **market for sanitation goods and services**. Guides on water treatment filters were published raising awareness about products that are available on the market and their specifications to empower local procurement and field testing of water filtration solutions at country and regional levels.

In support of the **Re-imagine Education** and Digital Learning Project, UNICEF Supply helped establish the functional requirements and specifications for devices.

In response to increased risk due to the pandemic, screening for **malnutrition and SAM** was scaled up. Print design files for Children’s Mid Upper Arm Circumference (MUAC) measuring tapes were developed for regional and country offices to have MUAC tapes produced locally and given to mothers and caregivers to maintain physical distancing. 46,836 metric tons of Ready-to-Use Therapeutic Food (RUTF) were delivered to 70 countries, some 71 per cent of which was sourced in programme countries.

Supply Division launched 16 **vaccine tenders** and developed a Vaccine Innovation Prioritizations Strategy (VIPS) with an initial roadmap and action plan for Vaccine Micro Array¿Patches (VMAPs). Seven vaccine market notes were published, and six vaccine industry consultations were held, including the largest online Vaccine Procurement Practitioners Exchange Forum (eVPPEF) event organized to date, with over 350 participants from 60 countries. UNICEF issued the last Advanced Market Commitment (AMC) tender, resulting in the lowest price offered to date, of US$2 per dose that translates to 30 per cent reduction of the current weighted average price (WAP) for the **pneumococcal conjugate vaccine** (PCV). Countries have the option to save up to 30 per cent of their PCV budget
with this offer and facilitate the introduction of the life-saving vaccine to help children under 5 around the world.

PCV prices for Middle-Income Countries (MICs) used to be five to ten times higher than the AMC’s tail price. Supply Division established contractual frameworks for PCV at discounted prices, in some instances only twice the AMC tail price, and secured an additional supplier of quality assured pneumococcal vaccine.

UNICEF actively worked on establishing the International Coordination Group (ICG) for Ebola with partners, as well as the Ebola vaccine stockpile with support from Gavi, the Vaccine Alliance. The objective is for the stockpile to reach 500,000 doses over the next two to three years. UNICEF manages the stockpile and the contractual relationships with the vaccine manufacturer on behalf of ICG. As recommendations on the use of the Ebola vaccine from the WHO’s Strategic Advisory Group of Experts (SAGE) on Immunization will continue to evolve with new epidemiological and programmatic evidence and data, UNICEF designed its procurement strategy and tender to ensure sufficient flexibility allowing new market entrants with additional WHO prequalified Ebola vaccines up until March 2025.

In addition, procurement strategies (for PCV, Rota, MCV, TCV and YF), market notes (for Rota, PCV, HPV, MCV and Rabies) including the first supply note on the Influenza and Typhoid vaccine global market study, and roadmaps for PCV, Rota and Gavi Penta / Hexa First Ebola vaccine and nOPV stockpile and replenishment of Mening stockpile, were developed. Eleven long-term arrangements (LTA) with WHO prequalified suppliers were established.

COVID-19 supply response

At the onset of COVID-19, UNICEF faced unprecedented challenges with significant market constraints, pricing volatility and export bans. In addition, global health measures to control COVID-19, including the closure of borders and travel restrictions, significantly hampered the movement of supplies both internationally and nationally. Global demand for PPE far outstripped availability and prices soared. In response to the market situation and to meet the demand, UNICEF worked with existing suppliers and connected with an additional 1,000 companies to obtain PPE at competitive prices and acceptable quality, while coordination efforts among partners also intensified.

To support countries with limited buying power to access essential supplies, UNICEF worked with governments to consolidate demand and used its procurement expertise and capacity to work with manufacturers to negotiate acceptable pricing, secure supplies and ensure equal access for countries. To mitigate the future risk of supply stock-outs, UNICEF built relationships with large manufacturers and suppliers of PPE and established long-term arrangements to secure production capacities as well as to geographically diversify the supplier base.

Despite unprecedented supply and logistics challenges, UNICEF shipped PPE to 130 countries including more than 200 million face masks, 200 million gloves, 5.6 million gowns and 4 million coveralls.

Soaring demand and buyers’ competition also resulted in critical shortages of COVID-19 diagnostics, especially PCR tests for automated use, and limited opportunities to drive the prices down. Diagnostic manufacturers were first to develop and market COVID-19 diagnostics of assured quality. While the global market leaders did commit to support the low- and middle-income countries affected by the epidemic, only small quantities of tests were made available for developing markets. To address the situation, Supply Division leveraged its existing relationships with major diagnostic manufacturers and reached out to the wider diagnostics industry via a dynamic tender aiming to secure availability of novel COVID-19 diagnostics. In 2020, UNICEF procured and shipped over 3 million Molecular Diagnostics to 63 countries.

Once antigen-detecting rapid diagnostic tests (RDTs) for COVID-19 became available in October-November 2020, UNICEF secured availability of 3 million RDTs for immediate deliveries to low-
income countries. To ensure fair and equitable distribution of essential COVID-19 diagnostics, UNICEF has been collaborating and aligning in terms of allocation principles and global allocations with the global procurement partners within the COVID-19 Diagnostics Consortium.

With the announcement in June 2020 that dexamethasone could save lives of patients with severe or critical symptoms of COVID-19 that are on ventilators or receiving oxygen therapy, Supply Division quickly secured approximately 3 million treatment courses of dexamethasone tablets and injection for the next 3-6 months, worth approximately US$8 million co-funded jointly by UNITAID and UNICEF (VII).

In 2020, with high rates of childhood pneumonia and COVID-19 spreading worldwide, health facilities were faced with the risk of an inadequate supply of oxygen. Every year, 4.2 million children suffering from severe pneumonia in low and middle-income countries urgently need oxygen therapy to survive. A key part of UNICEF’s COVID-19 response was delivering oxygen concentrators, devices that take in air from the environment, remove nitrogen, and produce a continuous source of oxygen. In 2020, UNICEF delivered more than 16 thousand oxygen concentrators to 94 countries.

As a result of the groundwork made through the Oxygen Therapy Project prior to the pandemic, UNICEF was uniquely positioned to propel an extensive global oxygen response to meet both the imminent need caused by COVID-19, and, moreover, to address the 800,000 children’s lives that pneumonia takes every year.

UNICEF actively engaged in the Access to COVID-19 Tools (ACT) accelerator convened by CEPI, GAVI and WHO to ensure global equitable access to vaccines, therapeutics and diagnostics to fight COVID-19. UNICEF was co-leading the working group on vaccine partnerships as well as the cross-cutting working group on health system strengthening and procured therapeutics (Dexamethasone and Remdesivir) and diagnostics (molecular tests and rapid diagnostics tests) to support the response.

As part of the ACT Accelerator platform, the COVAX Facility – led by Gavi, the Vaccine Alliance, WHO and CEPI – was launched to assure equitable access to COVID-19 vaccines, with the goal of securing 2 billion doses for low- and lower middle-income countries by end 2021. UNICEF was appointed as the procurement coordinator and agency for COVAX, and to prepare for the roll-out in 2021 Supply Division worked with manufacturers and partners on the procurement of vaccine doses, as well as freight, logistics and storage. Towards the year end the Division initiated a rolling vaccine tender.

Supply Division also issued an LTA tender for ultra-low Cold Chain Equipment, and supported GAVI’s cold chain equipment (CCE) support portfolio beyond vaccines to include PPE, diagnostics, therapeutics and broader primary health care in the context of COVID-19. By the end of 2020, nearly 54,000 ice-lined refrigerators (ILR) and solar direct drives (SDD) were purchased for the Cold Chain Equipment Optimization Platform (CCEOP), out of which 36,000 were installed in health facilities in 42 eligible countries.

Thirteen market updates on essential products and several pandemic-related notes, including one of the first UN publications on COVID-19 were published. The COVID-19 Vaccine Market Dashboard was launched to adhere to the principle of transparency.

**Procurement services and financing**

UNICEF procurement services enabled governments and partners to leverage UNICEF’s procurement scale and expertise to meet supply needs. The number and complexity of contracts increased, with special contracting projects worth over US$500 million yielding 10 times more value in 2020 when compared to 2014-2019. Despite COVID-19, operating performance for “high” value special contracts was not impacted, with
Ebola/IPV stockpiling and commitments yielding contracts valued at US$135 million and non-COVID-19 special contracts approaching US$200 million. A total of 753 cost estimates were issued for the COVID-19 response, out of which US$239 million worth of COVID-19 related cost estimates (supply value) were released to 89 countries, through a complex allocation process. There were 41 per cent more cost estimate requests screened and logged compared to 2019, with 90 per cent screened and logged within 2 days.

A pricing tool was established for PPE items to manage the extremely volatile pricing environment and to avoid cost overruns for partners. For the first time, procurement services PPE support was provided to UNICEF National Committees in Europe.

Supply Division facilitated US$205 million worth of World Bank Procurement Services MoUs. A record 109 MoUs and amendments were signed in 2020, with the largest increase being in third party funded MoUs, such as the World Bank and the Islamic Development Bank. Significant progress was made working with partners using their ordering portals as additional entry points, including Wambo – the external Global Fund ordering portal for countries to access an agreed set of UNICEF catalogue products and pricing, resulting in total throughput of US$80 million. Another MoU was signed with the African Union for access to procurement services through the portal facilitating US$25 million for PPE, oxygen therapy and diagnostics.

The Executive Board approved the extension of the Vaccine Independence Initiative (VII) and its revolving fund for five years. Additional resources were mobilized for VII (US$111.7 million), increasing VII capital to nearly US$150 million, to support country pre-financing and special contracting worth over US$308 million, accelerating supply of PPE, diagnostics, and other goods.

Systems strengthening

The unfolding COVID-19 pandemic exposed the structural and operational limitations of existing health systems and underlying supply chain models and called for increasing investments to support governments in their efforts to build and manage resilient systems able to withstand shocks and to scale up delivery responses.

Supply Division developed a wide range of new and upgraded supply chain strengthening tools, including the Supply Chain Analysis and Intelligence Tool, the Online Maturity Model, and the End-User Monitoring, that were deployed in over 15 countries. 29 countries assessed their national supply chains to develop evidence-driven strengthening roadmaps. Out of these, nine countries increased their maturity in at least one area of their supply chain.

In Mali, Mauritania, Niger and Senegal, the Maturity Model supported government-led nutrition strengthening plans and the integration of supply chains across health commodities.

Emergency preparedness and response

In 2020, UNICEF procurement for emergencies reached US$682.5 million globally, of which 65 per cent (US$442.6 million) was dedicated to the COVID-19 response. Level 2 and Level 3 emergencies accounted for 94 per cent (US$640.6 million) of procurement for emergencies. Supplies were provided to 143 countries and territories preparing for and/or responding to emergencies.

Supply Division also provided direct support through 25 staff deployments to emergency locations, including to the Democratic Republic of the Congo, Liberia, Sierra Leone, Venezuela and Yemen. The largest component of UNICEF emergency supplies by value was for medical renewable devices, including PPE, worth US$197.22 million. To alleviate the impact of humanitarian crises on children and families, UNICEF provided targeted support to seven large-scale emergencies.

The UNICEF supply function also scaled up its response to health emergencies, including the outbreak
of the Ebola virus disease in the Democratic Republic of the Congo and neighboring countries. Globally, Supply Division sent 120 vaccine shipments, delivering more than 65.9 million doses of vaccines for emergencies to 16 countries including Bangladesh, Syrian Arab Republic, Venezuela and Yemen.

**UN collaboration**

Three quarters of goods procurement was conducted in collaboration with other UN agencies and development partners. The dollar value of goods procured in collaboration with other agencies increased by 19 per cent compared to 2019.

A UNICEF supply cell (housed at WHO in Geneva) was set up to support the newly established COVID-19 Supply Chain System (CSCS) and work closely within the procurement consortium to ensure alignment and coordination on the procurement and supply of essential supplies and provide solutions to address the market failure for COVID supplies observed.

Supply Division leveraged existing country data collection processes and established relationships with other UN agencies to generate a multiagency PPE forecast and a collaborative joint tender process. UNICEF also established inter-agency guidance on collaborative procurement for cash transfers and issued the first joint tender with UNFPA for the supply of pharmaceutical products to prevent and treat eclampsia, postpartum hemorrhage (uterotonics, antifibrinolytics) and augmentation of labour.

**Private sector engagement and communications**

In preparation for COVID-19 vaccine deliveries, UNICEF secured support from the airlines, transport and logistics industries through collaboration with the World Economic Forum (including publication of an Industry Charter in support of the COVAX Facility) and the International Air Transport Association (IATA).

Supply Division received 172 Contributions-in-Kind with a total value of US$72 million including unprecedented multi-country contributions from Unilever (US$6.5 million) and Colgate-Palmolive (US$1.2 million) to provide hygiene products (soap and hand sanitizer) to 35 countries.

Supply Division provided content for external communication packages to support global advocacy and fundraising including content for ten press releases and news notes that helped position UNICEF as the go-to organization on COVID-19 vaccines. The new Supply website was launched, and website traffic measured in number of visitors increased by 130 per cent compared to 2019. An increased engagement on all online platforms including social media garnered a record 1.6 million impressions.

**Optimizing the UNICEF supply chain**

A number of business improvement initiatives were progressed to increase efficiency and effectiveness of the UNICEF supply chain through continuous improvement of processes, practices, technology and systems, with 80 per cent of these initiatives on track.

The Nutridash system was refined ensuring collection of additional supply-relevant data points from countries and their inclusion on the country forecast submissions and an assessment to determine the need for a digitized forecasting system to strengthen the demand planning process was conducted. The Supply Chain Dashboard was launched in March to enable close monitoring of the supply response to the COVID-19 pandemic. The dashboard allowed transparency and improved efficiency for the emergency response.

Significant efficiency was gained in the area of contracting from the roll-out of improvement initiatives. The eSubmissions platform processed 1,400 tenders and was made available to all UNICEF offices in 2020. Over 50,000 documents were electronically signed using DocuSign. Over 3,500 submissions for the Contracts Review Committee were finalized through eCRC, which was rolled out globally during the year, and contracts were finalized in the system across more than 115 offices.
People, management and culture

In March, Supply Division activated its **Business Continuity Plan**. Effective planning and management of the COVID-19 response meant no cross-transmission of the virus on site. Several initiatives were launched to maintain a **sense of professional belonging and togetherness** among staff including the Director’s daily updates, increase in news on the intranet, virtual all-staff meetings, the staff well-being pulse survey and the offer of ongoing virtual training sessions. The global UNICEF Supply Function increased online collaboration and support. A total of 619 men and 436 women representing 136 countries work in Supply Function.

Supply Division onboarded 149 new colleagues despite COVID disruptions and 53 COVID-related assignments including inter-unit movements were completed to effectively respond to the pandemic. Regular supply updates, webinars, and publications of online FAQs, guidance and tools and the launch of a new online Help Desk supported knowledge management across the Supply Function to coordinate and deliver results for children.

Supply Division continued to support the **culture change journey** through staff engagement, online information and communication and through the recruitment of a staff counsellor to provide staff and teams with counselling and wellbeing support during and beyond the pandemic.

**Lessons Learned and Innovations**

2020 was a year marked by the COVID-19 response. Supply Division undertook a lessons-learned exercise and identified a number of key learnings and opportunities:

**Reliance on a single country**

Having the bulk of large PPE suppliers (including manufacturers) in a single country presented a considerable risk to the global pandemic response. This limited ecosystem contributed to both cost and lead-time challenges. Mitigating the disproportionate reliance on a single country may require UNICEF to scenario plan for different emergency types and their demand for commodities which may have few suppliers or supplier networks concentrated in a single or small number of countries.

**Demand forecasting**

There were significant shortages in the global market for PPE and other COVID-19 products. As there was much uncertainty in UNICEF’s ability to replenish its own stocks to meet forecasted demand, Supply Division was challenged to commit firmly to prices, quantities, or timelines for country orders. This in turn trickled down to country office forecasting challenges.

**Contributions-in-kind**

The number of CIKs finalized in 2020 represented a 400 per cent increase from the 35 CIKs finalized in 2019. One of the key lessons observed is the diverging interests in CIKs across UNICEF. Some stakeholders have clear incentives to secure CIKs as they contribute to fundraising targets. However, there are considerable risks and burden placed on other areas of UNICEF, not least Supply Division.

**Joint tender**

Given the largely praised processes of the interagency collaboration on the joint tender (JT), Supply Division and its UN agency partners may consider how the JT/COVAX Procurement Reference Group (PRG) could be sustained and utilized for future needs across both development and humanitarian
programming. Some form of the PRG could perhaps be institutionalized so that lead times are significantly reduced in future instances, under a rotating chair to reduce burden.

Special contracting

There were three key success factors for special contracts during the COVID-19 response. First, UNICEF provided access to capital for the special terms required by these contracts. Second, business units rapidly explored and secured access to market suppliers for PPE. Third, UNICEF policy interpretations enabled Supply Division the flexibility to enter contracts with non-traditional terms. Stakeholders mentioned other UN agencies not having the flexibility to utilize special contract terms, thus limiting their access to suppliers in the early phases of the pandemic.

Allocation

The allocation approach sought to maximize the number of countries receiving supplies in each round rather than sending more supplies to a shorter list of countries in phases. While this approach reflected principles of equality within each round, it likely reduced efficiencies. Supply Division may consider conducting a review of the advantages and disadvantages of alternatives to the per-round maximization of the number of countries receiving supplies to inform future allocation processes.

Staff welfare

Supply Division staff overall were very satisfied with measures taken to protect personnel and maintain operations during the early phases of the COVID-19 response; 89 per cent of respondents to an August staff survey considered Supply Division’s performance on this front to be excellent or good. This is a remarkable achievement that touches all parts of the Division, from leadership to the individual commitment of staff members to adapt and overcome a very challenging and unexpected situation. This demonstrates that a combination of both technical skills and the less tangible values such as caring and wellbeing was crucial during the situation. In the words of one informant, “compassionate leadership trickles down and allows all to perform better”.

Data and communications

Before the COVID-19 response, country and regional offices mentioned they would regularly request supply chain data from Supply Division manually although those same data were often available through the different iterations of the Insight supply dashboard. Providing more user-friendly access to supply chain data via the current version of the dashboards democratizes visibility into the end-to-end supply chain, creating a single source of truth for all stakeholders. The potential efficiencies to be gained are significant.

Risk management

With the exception of fiscal risks related to pre-positioning large stocks of PPE, financial risks were mitigated well. At the transactional level, Supply Division secured approvals from numerous stakeholders (e.g., donors of financing facilities, UNICEF Comptroller, etc.) when taking on atypical contract terms or in taking financial risks. According to stakeholders, there were no financial losses due to the strategic risk taken by Supply Division to secure access to PPE such as pre-payments or full commitments (i.e., all supplies paid for were delivered by suppliers). Given the sheer quantity of new suppliers and the disequilibrium in the market to the benefit of suppliers, it is a strong tribute to the infrastructure and diligence of Supply Division that no financial losses occurred for UNICEF or its donor partners. However, a greater challenge was mitigating the risk of large over-supply. Financial risk mitigation is very well described in policy and there is clear governance around it. The latter is more nuanced and complex to mitigate through policy and procedure. Senior stakeholders mentioned
that risk of under-supply of PPE had a greater potential for negative impact than did risk of over-supply. As a result of this position, Supply Division and colleagues from EMOPS determined that the most appropriate strategy was to pre-position considerable stocks of PPE in response to forecasted demand and the significant uncertainties about the trajectory of the pandemic.

**Building resilience**

Leveraging UNICEF emergency systems and humanitarian-development linkages proved very useful in the pandemic response. UNICEF worked with government counterparts during the response to ensure that the impacts of the pandemic on financial investments for children were taken into consideration in national plans, policies and programmes to support stronger routine services going forward. The pandemic response involved a very close link between humanitarian and development programmes which has brought about more sustainability for services and wellbeing of children over the long-term.