Update on the context and trends

Since the onset of the COVID-19 pandemic, an additional 100 million children have been plunged into multidimensional poverty, and an additional 9 million children are expected to suffer from wasting as a result of the pandemic. Without continued and sustained action, the world faces a lost decade for children in which access to healthcare services, immunization, nutrition, water and sanitation, education and protection are at grave risk.

In 2021, UNICEF Supply Division and the broader Supply Function worked to ensure that no child was left behind, supporting UNICEF’s ongoing programmatic activities, ensuring access to life-saving supplies for every child and playing a vital role in global equitable access to COVID-19 health supplies, including vaccines.

As COVID-19 vaccines were being developed, the COVID-19 Vaccines Global Access (COVAX) Facility began securing, financing, and negotiating with vaccine developers and manufacturers to support equitable access to COVID-19 vaccines and to roll out the largest and most complex immunization operation in history.

UNICEF, the single largest vaccine buyer in the world, was uniquely positioned to lead the procurement and delivery of COVID-19 vaccines on behalf of the COVAX Facility, with the first doses arriving in Accra, Ghana on 24 February 2021. By the end of year, the COVAX Facility had delivered 958 million vaccine doses to 144 countries.

While vaccine production increased at unprecedented rates, early vaccine procurement by high-income countries, delayed development and approval of promising vaccines and other production issues exacerbated inequalities in access to vaccines. Distribution in low-income countries was hindered by equipment shortages, political constraints, and social inequity. Many low-income countries faced additional hurdles including limited access to cold chain equipment for storing and transporting the vaccines, short notice periods for delivery of donated doses, soon-to-expire vaccine donations, difficulties reaching high-need areas and vaccine hesitancy.

Increased trade barriers and export bans severely impacted procurement, cross-border trade and access to markets, thereby constraining humanitarian responses. Ongoing air freight disruptions, COVID-19 restrictions and record high shipping rates continued to put access to lifesaving supplies for children at risk. In addition, port congestion, ocean carrier and container shortages and shipping backlogs at major ports increased transit times and shipping prices, significantly reducing the reliability of shipments.

With countries diverting already limited resources away from essential services, the ongoing COVID-19 pandemic also delayed or halted progress on health targets for children, adolescents and women, and compromised important gains in routine immunization. It is estimated that 23 million children missed out on basic childhood vaccines through routine health services in 2020, the highest number since 2009. Most of these – up to 17 million children – likely did not receive a single vaccine during that year, widening already immense inequities in vaccine access.

As countries work to recover from COVID-19 related disruptions, UNICEF and partners will continue to support efforts to strengthen health care systems and supply chains, to improve the efficiency and sustainability of global supply products and operations and to ensure equitable and inclusive access to essential supplies and services for every child.
Procurement overview

In 2021, despite unprecedented supply and logistics challenges, UNICEF procured $7.181 billion[1] in goods and services from nearly 11,150 suppliers. Reflecting an increase in procurement for the COVID-19 response, this figure represents the highest level in UNICEF’s history, and a 61 per cent increase from the record-breaking 2020 figure.

The total global value of goods procured was $5.657 billion. The highest value commodity groups were vaccines and biologicals at $4.120 billion and COVID-19 non-immunization supplies, such as syringes and safety boxes, at $355.5 million.

The total global value of services procured was $1.524 billion, including $257.1 million for construction services, of which half was dedicated to education facilities and WASH facilities in schools and $226.3 million for international freight services, the highest figure ever recorded by UNICEF and 71 per cent higher than in 2020.

In its role as Procurement Coordinator for the COVAX Facility, UNICEF led the procurement and delivery of COVID-19 vaccines, delivering 958 million doses (including donated doses) to 144 countries. Over 85 per cent of deliveries were to COVAX Advance Market Commitment (AMC) countries. In addition, UNICEF delivered 45.5 million doses of COVID-19 vaccines to 41 countries on behalf of the African Union’s African Vaccine Acquisition Trust (AVAT) initiative.

To support the distribution of COVID-19 vaccines, UNICEF procured and delivered 800 ultra-cold chain units to over 70 countries, providing storage capacity for 200 million mRNA vaccines requiring -80°C refrigeration. While developing standard cold chain capacity usually takes 12 to 18 months, UNICEF, through close coordination with partners and countries, completed 95 per cent of the first-round delivery targets of the more complex ultra-cold chain scale-up within four months.

Through its procurement services mechanism, UNICEF procured goods and services worth $3.925 billion on behalf of governments and partners, with procurement on behalf of Gavi, the Vaccine Alliance (Gavi) representing 59 per cent of the total value.

In 2021, the value of goods delivered from Supply Division warehouses was $268.8 million, 25 per cent of which was dedicated to the COVID-19 response. A total of 141,315 kits were delivered to 77 countries from Supply Division warehouses, of which most (121,129 kits) were shipped from UNICEF’s global warehouse in Copenhagen. Warehouse operations were expanded in Dubai thanks to a private sector partnership, and in Copenhagen, to facilitate the COVID-19 response. Following the closure of the Shanghai hub due to inefficiencies and long lead times, interim storage in Guangzhou was provided at no cost to UNICEF.

[1] The procurement value excludes the values of donated goods and services

Major contributions and drivers of results

ACT-A and COVID-19 response[1]

The COVID-19 pandemic is the biggest global crisis for children of our time. Access to health supplies to combat the virus has been critical to the global effort to control the pandemic. The rising demand and ensuing scarcity of key commodities combined with a steep cost increase and unprecedented logistics challenges (also caused by the pandemic) have presented access challenges that are unparalleled in UNICEF’s history. To navigate the extremely complex supply and logistics issues on a global scale, Supply Division mobilized to support countries in their efforts to fight the pandemic as well as to continue programmes and respond to other emergencies.
The Access to COVID-19 Tools Accelerator (ACT-A) was convened in 2020 by CEPI, Gavi and WHO to ensure rapid development, scale-up and equitable access to COVID-19 vaccines, diagnostics and therapeutics and to support governments in strengthening their health systems to fight the pandemic.

As the lead procurement agency in the UN system, UNICEF was appointed by ACT-A as the Procurement Coordinator and agency for the COVAX Facility – the vaccine pillar of ACT-A. UNICEF also procures and delivers diagnostics and treatments (including oxygen therapy) within ACT-A, co-leads the health system connector group and works with countries on preparedness to manage COVID-19 tools – including increased cold chain capacity and access to personal protective equipment (PPE) for health workers.

UNICEF has also deployed its wide range of expertise in supply chain management for the pandemic response, including in product innovation, market shaping and partnerships, health systems strengthening and financing. Through its procurement services mechanism UNICEF also established the ACT-A Supplies Financing Facility (ACT-A SFF) to support self-financing countries to increase access to COVID-19 tools.

In 2021, to support the COVID-19 response, UNICEF Supply Division:

- Collaborated with the COVAX Facility to deliver 958 million doses of COVID-19 vaccines (including donated doses) to 144 countries
- Delivered 849.5 million syringes to 92 countries and 8.7 million safety boxes to 89 countries, through the COVAX Facility
- Doubled the annual procurement of cold boxes, vaccine carriers and cold rooms and delivered 800 ultra-cold chain units to over 70 countries
- Shipped over 434 million items of PPE to 115 countries to protect health-care workers and support the continuity of health services
- Developed the first COVID-19 vaccine market shaping strategy, as well as UNICEF’s strategic position on intellectual property rights to accelerate access to COVID-19 vaccines
- Executed a strategic market response to shortages in syringes for immunization
- Launched the COVID-19 Vaccine Market Dashboard, the go-to public resource for the latest data and information on the COVID-19 vaccine market
- Consulted with manufacturers to ensure pipeline and access to supplies for diagnostics and therapeutics
- Developed the complex oxygen plant system (Plant-in-a-Box), an innovative and sustainable oxygen response
- Procured 21,034 oxygen concentrators, advancing access to oxygen therapy and oxygen equipment for many low- and middle-income countries (LMICs)
- Secured significant price reductions on quality COVID-19 diagnostics, and shipped over 7 million rapid diagnostics tests
- Delivered over 17.4 million Dexamethasone tablets and ampoules to 37 countries
- Increased warehouse deliveries to respond to the COVID-19 pandemic, with 25 per cent of the $268.8 million worth of goods delivered dedicated to the COVID-19 response
- Rolled-out the ACT-A Supplies Financing Facility to support self-financing countries with vaccines and immunization supplies, diagnostics and therapeutics
- Leveraged support from the private sector for transport and warehousing and established the Humanitarian Airfreight Initiative with 16 carriers to ensure the transportation of COVAX supplies was prioritized

Products and markets
UNICEF achieved a total of $[TBD] million worth of savings for UNICEF donors and partners through strategic procurement across products and services, exceeding its target by $[TBD] million. This included the new Rotavirus tender, which resulted in an 84 per cent reduction of firm
commitment, a reduction of the tender period from 10 to 7 years and $2.6 million in savings.

UNICEF signed a long-term agreement (LTA) for the first WHO-validated Yellow Fever molecular diagnostic assays, supported the expansion of Gavi diagnostic programmes, and negotiated a 11.7 per cent price reduction for the procurement of malaria Rapid Diagnostic Tests (mRDT), resulting in savings of over $264,000.

UNICEF mitigated stockouts and missed vaccination opportunities, including for pneumococcal 13-valent conjugate vaccine (PCV-13) in 38 countries. Following an interruption in the supply of Pentavalent vaccine by Sanofi Health, Supply Division secured enough stock to cover the forecast demand by reallocating 2.5 million doses to other manufacturers. UNICEF also established a global oral polio vaccine type 2 (OPV2) stockpile and delivered 158 million doses to seven countries.

UNICEF delivered 30 million doses of measles-containing vaccine (MCV), Yellow Fever vaccine (YFV), oral cholera vaccine (OCV) and meningococcal vaccine to 17 outbreaks, and 250 million doses for preventive campaigns in 28 countries. In addition, additional human papillomavirus vaccine (HPV) supply for five middle-income countries (Equatorial Guinea, eSwatini, Gabon, Morocco and Namibia) was secured through protracted engagements with Merck.

Supply Division negotiated with suppliers to achieve significant price improvements for COVID-19 diagnostics, including the most affordable antigen rapid test for COVID-19 at $2.55 and the record low price of $2.80 for RT-PCR tests for manual use. UNICEF also mitigated the risk of an auto-disable syringe shortage by leading discussions with syringe suppliers on financing, funding challenges and ways to address challenges, including offers for accelerated payment.

The COVID-19 pandemic continued to disrupt markets for essential commodities across supply chains, from raw materials to finished products. To reduce the risk of significant cost increases for suppliers, UNICEF developed an adjusted price mechanism, also known as index pricing. In 2021, the mechanism was piloted for the procurement of long-lasting insecticidal nets (LLIN) and if successful will be rolled out to additional product groups to achieve the best pricing in both volatile and regular markets.

To share information on key products and highlight critical market dynamics, UNICEF issued 12 market notes, supply notes and updates on essential supplies, including ready-to-use therapeutic food (RUTF), micronutrient powder, rotavirus vaccine, Japanese encephalitis vaccine, Ebola viral disease, PPE and COVID-19 diagnostics. UNICEF also issued 21 COVID-19 Vaccine Market Newsletters, reaching nearly 2,000 subscribers.

Over the course of 2018-2021, to respond to the unmet needs of children, Supply Division engaged businesses to drive innovation bringing 10 novel products to scale in 126 countries, 7 of which in 2021. These included the ARIDA Multimodal Devices, Oxygen Plant-in-a-Box, Accessibility Add-on for Latrine, High Performance Tent, Uterine Balloon Tamponade, Non-pneumatic Anti-Shock Garment and Complementary Feeding Bowl. UNICEF delivered, installed and commissioned the first Oxygen Plant-in-a-Box in Uganda to help the Government meet oxygen needs and to establish a sustainable source of oxygen in health facilities.

UNICEF established new product innovation projects, including the bubble continuous positive airway pressure (CPAP) system, a non-invasive respiratory support system for normal, premature and low birth-weight newborns and low resource oxygen concentrators to improve the speed and efficiency of future responses to health emergencies.

To support access to tools and devices for children with disabilities, UNICEF launched 26 priority assistive products specifications (APS) with WHO, establishing minimum procurement standards, and
supported the first order of hearing aids to Rwanda through the Product Innovation Fund. UNICEF also engaged in the ATscale partnership including preparing its first major investments aimed at increasing access to assistive technology.

**Procurement services and financing**

In 2021, UNICEF procurement services continued to enable governments and partners to leverage UNICEF’s procurement scale and expertise to meet their supply needs. Over the course of the year, $3.925 billion worth of supplies and services were procured for 138 countries. In collaboration with ACT-A partners, UNICEF created the ACT-A SFF, a fund dedicated to supporting self-financing countries to secure access to key COVID-19 supplies. In 2021, the ACT-A SFF – operating via UNICEF procurement services – allocated $568.7 million to support 89 countries.

The Vaccine Independence Initiative (VII), which facilitated a total of $649 million in country pre-financing and special contracts, helped accelerate the procurement of vaccines, medicines, diagnostics and ancillaries for self-financing countries.

New partnerships were established with 14 self-financing countries and partners, and 25 COVAX self-financing participants chose to procure through UNICEF. Collaborations were also expanded with Global Fund Wambo to include additional oxygen and medical items, Vodacom South Africa to support cold chain procurement and the Government of El Salvador to equip children and teachers with laptops for distance learning through ‘Reimagine Education’, reflecting UNICEF’s commitment to education during the COVID-19 pandemic and beyond.

In 2021, successful mobilization efforts resulted in an additional $1 million for the Nutrition Match Fund and intense country engagement enabled the successful enrolment of Mauritania, Nigeria, Senegal and Uganda, who were awarded $3.5 million to match their domestic resources.

The number, value and complexity of special contracting skyrocketed, with 42 special contracts valued at $4.9 billion issued to secure access to COVID-19 vaccines and syringes.

A total of 1,962 Procurement Services cost estimates were issued in 2021, of which 971 COVID-19 related cost estimates worth $1,684 million were released to 129 countries, through an allocation process.

In 2021, Supply Division negotiated and concluded three new memoranda of understanding (MoUs) with Gavi, including MoU10 and MoU11 which cover its role as the Procurement Coordinator and one of the two procurement agencies of the COVAX Facility, and MoU9 which covers its role as the procurement agency for the Gavi Alliance for the procurement of vaccines, safety injection equipment, cold chain equipment and diagnostics until 2025.

**Systems strengthening**

The COVID-19 pandemic exposed the structural and operational limitations of existing health systems and underlying supply chain models in a number of countries. This called for increased investments to support governments’ efforts to build and manage resilient supply chain systems able to withstand shocks and to scale up delivery responses, particularly in health, education and WASH.

UNICEF scaled up efforts to support countries in identifying and addressing their supply chain bottlenecks to deploy improvement plans and fit-for-purpose technical support. The UNICEF Supply Chain Maturity Model was key to reviewing the performance of countries’ supply chains and to informing planning, coordination, and the targeted allocation of investment. Twenty-nine 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.

The COVID-19 pandemic triggered a shift in government priorities away from routine immunization to emergency life-saving response. UNICEF and WHO joined forces to develop a new module to assess the resiliency of national supply chains against sudden shocks, and particularly the preparedness capacity for health emergencies. The tool identifies supply chain investments to accelerate countries’ transition from emergency response towards resiliency building. In addition, UNICEF launched an online version of the Maturity Model (available in English, French, Spanish and Russian) and a new e-learning course to support governments in conducting remote assessments.

Emergency preparedness and response
In 2021, procurement for emergencies reached $687.4 million globally, with 96 per cent going to Level 2 and Level 3 emergencies, including the COVID-19 pandemic (but excluding procurement on behalf of the COVAX Facility). Supplies were provided to 139 countries and territories for emergency preparedness and response.

The largest component was medical supplies and equipment, for a value of $399 million. UNICEF shipped more than 434 million items of PPE to 115 countries, including 175.4 million face masks, 148.4 million pairs of gloves, 8.5 million N95 respirators and 4.2 million gowns.

Supply Division also provided direct support through 11 emergency deployments - with some as remote assignments - to emergency locations including the Central African Republic, Haiti, Somalia, the Bolivarian Republic of Venezuela and Yemen.

The wider UNICEF Supply Function also scaled up its response to health emergencies, including responding to the outbreak of the Ebola virus disease in the Democratic Republic of the Congo and neighboring countries.

UN collaboration
In 2021, 83 per cent of goods procurement was conducted in collaboration with other UN agencies and development partners, over 10 per cent more than in 2020.

Supply Division engaged with WHO to support different infection prevention and control measures, including active engagement in the WHO COVID-19 Infection Prevention and Control (IPC) Technical Advisory Group for Personal Protective Equipment (TAG). In collaboration with WHO, UNICEF also developed a guidance note for manufacturers on mandatory barcoding requirements, issued joint interim guidance on the acceptance of vaccine supply with reduced shelf-life and facilitated a webinar on the Malaria Vaccine Implementation Programme.

In close collaboration with UNFPA, UNICEF is shaping market regulations for menstrual hygiene materials and supporting access to these materials by leading the technical specifications and sample evaluation for the joint tender for menstrual cups.

Private sector engagement
To ensure equitable access to essential COVID-19 supplies, particularly in LMICs, UNICEF worked closely with partners, industry and governments to ship key supplies globally, including vaccines, diagnostics, therapeutics, PPE, syringes, cold chain equipment and oxygen products.

In addition, to facilitate the COVAX rollout, address supply chain bottlenecks and build resilience, UNICEF operationalized the World Economic Forum COVAX Charter and the Humanitarian Air Initiative, and formalized new partnerships with DHL, Hope Consortium and Iberia. Support included prioritization of COVAX shipments, donated freight capacity and secondments of staff. A flagship partnership with Dubai Ports World led to the establishment of a storage hub in Dubai which was key
for pre-positioning and distributing COVID-19 supplies.

Supply Division also received 96 contributions-in-kind (CIK) worth over $59.2 million, including transport CIKs that facilitated access to hard-to-reach areas. In Afghanistan, with support from ECHO and the German Federal Foreign Office, UNICEF quickly delivered lifesaving medical supplies to health facilities facing serious shortages. In Chad, the UPS Foundation supported the delivery of 45 metric tons of nutrition supplies, ensuring 3,000 children gained access to life-saving support and in India, it delivered 3,000 oxygen concentrators to strengthen health systems coping with a deadly second wave of COVID-19.

**Communications**

Supply Division increased its visibility and engagement, attracting nearly 2.6 million unique page views to its official website, a four-fold increase compared to 2020. The Division covered over 20 themes with 1,405 social media posts across six channels, its highest-ever social media output. Combined, these posts garnered 117,349 reactions.

Supply Division also responded to over 100 media requests from outlets including ABC Australia, AP, BBC, Deutsche Welle, The Economist, Financial Times, Le Monde, The New York Times, and The Wall Street Journal and Supply Division experts were interviewed by top-tier media outlets, including BBC, CBC, CNN, De Volkskrant, and The Economist.

**Optimizing and monitoring the UNICEF supply chain**

Through its continuous improvement of processes, practices and systems, Supply Division further increased the efficiency and effectiveness of the UNICEF supply chain; 80 per cent of continuous improvement initiatives were reported on track to achieve their set objective.

Committed to transparency and continuous improvement, UNICEF also facilitated the flow of data by generating evidence, measuring performance, and monitoring the supply chain with tools like the COVID-19 Vaccine Market Dashboard which provides daily updates on the COVAX Facility’s vaccine deliveries and planned shipments. By December 2021, the Dashboard attracted over 550,000 views.

**People, management and culture**

With the evolving nature of the COVID-19 pandemic, weekly communications from the Supply Division Director kept staff informed, highlighting divisional achievements, news and special events, with spotlights on key dates such as mental health month and ethics month. To combat emergency fatigue, new initiatives focused on staff well-being were launched, including Lucky Lunch discussions during Mental Health month and an Office Chat mini-series with the staff counsellor.

Strengths-based performance management was further reinforced through workshops with 418 staff members, 68 individual and 7 team coaching sessions. Supply Division also hosted 43 live learning events for over 1,138 staff members and 10 live webinars for nearly 700 staff members. In addition, 401 staff completed core supply e-learning programmes, achieving a record of nearly 100 per cent completion rate on mandatory courses for Supply Division staff.

The UNICEF Supply Function increased online collaboration and support to deliver results for children. A total of 1,265 staff, of which 44 per cent identify as women and 56 per cent identify as men, from 145 countries (28 donor countries and 117 programme countries) serve in the Supply Function across the globe. In Supply Division, of the 497 staff members, 57 per cent identify as women and 43 per cent identify as men. In 2021, Supply Division reached parity in geographic diversity among international professional staff.

151 new colleagues were onboarded in Supply Division and 85 COVID-19 related assignments were
created across the wider Supply Community to aid the pandemic response, including surge support and stretch assignments.

To provide enhanced and more efficient information and knowledge management, and to strengthen capacity-building across the Supply Function, Supply Division launched the Supply Knowledge Base for Country Offices, one of the most visited pages on the Supply intranet, providing centralized access to key supply resources, including solutions, guidance and best practices.

In 2021, the Supply Community logged over 9,875 exchanges on Yammer, UNICEF’s online community platform.

[1] Content in this section includes data with analysis from UNICEF ToC 2022 – 2025 and the ”Preventing a lost decade” 75th anniversary report and EMOPS write-up on COVID’s effect on children

Lessons Learned and Innovations

In 2021, Supply Division identified the following lessons learned:

Demand forecasting
COVID-19 created a massive spike in global demand for a narrow set of products such as PPE and immunization devices, and the scale of demand from a large number of countries posed a challenge for demand forecasting. Existing processes were complicated by a lack of procurement history between Supply Division and some countries and insufficient staff to adequately engage with the increasing number of countries on estimating procedures. The combination of Excel templates on a cloud platform and email communication for demand planning proved challenging for scale-up, considering that some countries were new to the process and some products may not have been forecasted previously. Modest enhancements, including creating a macro to compile data from all Excel files into a flat file database, improved efficiencies. An updated contact list would have shortened the lead time for engaging countries and secured more complete and valid data.

Contributions-in-kind
Guidance on priority CIKs, developed through cross-divisional collaboration, significantly reduced the number of smaller value CIKs, which are process heavy. This relieved some of the burden on Supply Division. Proactive outreach on needed CIKs and templates for legal frameworks have helped make the CIK process more effective and has contributed to mitigating risks. Moving forward, it will be important to ensure that CIKs contribute towards UNICEF’s strategic objectives.

Private sector partnerships
In many instances, contributions and collaboration with private sector partners helped shield UNICEF from the effects of the supply chain disruptions and were key to reducing costs and optimizing deliveries. However, UNICEF was not sufficiently prepared for scaled-up engagement with the private sector. Some new partnerships required extensive partner management and many agreements required significant technical and legal inputs which slowed UNICEF’s ability to translate engagements into longer-term opportunities. It will be critical, moving forward, that supply-related needs assessments and solid investment cases be developed in advance to adequately define needs and determine where partner contributions can add the most value.

Price adjustment mechanism
The price adjustment mechanism allowed suppliers to better position themselves against market
volatility and reduce exposure to fluctuations in the cost of raw materials, while allowing UNICEF to benefit from lower prices on products in the event raw material costs decrease beyond 5 per cent. The price adjustment mechanism allowed for better management of price volatility to achieve cost savings in the present and the long term. If this model proves successful, it could be applied to other supplies that meet the relevant criteria.

**Building resilience**
The COVID-19 pandemic has highlighted the need to invest in strengthening public systems and increasing resiliency to better address future emergencies. This situation has resulted in renewed and increased efforts from partners (WHO, WFP, UNDP, UNOPS and others) to enter the supply chain strengthening field in the hopes of seizing momentum and resources being made available to support this work. To address this, UNICEF will need to continue elevating its profile in value-adding work at strategic and operational levels and bring partners together under UNICEF-led initiatives.

**Staff well-being**
In UNICEF’s latest Pulse Check on Workplace Culture, Supply Division scored 67.4 per cent overall, compared to the global headquarters average of 69.6 per cent. Work-life harmony, empowerment and internal communications were rated highly by staff, while performance management and psychological safety and trust received lower ratings. With increased emergency fatigue, it will be important to prioritize staff mental health, work-life balance and performance management as UNICEF continues to address an increasing number of protracted and global emergencies.

**Risk management**
The no-regret policy applied for the pandemic resulted in high levels of PPE stocks which posed a risk of financial losses. To reinforce the PPE strategy moving forward, focus must remain on stocks expiring in 2023 to protect the organization’s investments. Manual warehouse and inventory management systems across the hubs and physical inventory counts in hubs without UNICEF presence also represent a risk. With significant resources spent, it is recommended that bi-yearly counts are initiated given the high inventory value and the risk represented by outsourcing.