

# Operations Support and Logistics (OSL)

Year in review, 2022



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**Cover photo.** A shipment containing 25 metric tonnes of WHO health supplies in Kabul, to support the Afghanistan earthquake response. The shipment included enough essential medicines, trauma and surgical supplies, and other critical health supplies for almost 400 000 people in need of health care services, including 1500 trauma patients and 2750 suspected cases of acute watery diarrhea.

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**Art direction and layout:** Last Mile

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## About this report

The Operations Support and Logistics (OSL) unit of the World Health Organization (WHO) Health Emergencies Programme plays a crucial role in providing countries and health partners with robust logistics and operational support. This support is essential for effectively responding to emergencies and strengthening global and regional emergency supply chains. OSL ensures the timely delivery of medical supplies and technical assistance, as well as the deployment and implementation of emergency strategies and structures. The aim is to enable the Health Emergencies Programme team and its partners to respond quickly and efficiently to crises.

This report highlights key achievements of OSL in supporting multiple health and humanitarian emergencies in 2022.



# Abbreviations

ALIMA	Alliance for International Medical Action
BCRN	biological, chemical, radiologic and nuclear threats
BiPAP	bilevel positive airway pressure
CERN	European Council for Nuclear Research
CTC	cholera treatment centre
CTU	cholera treatment unit
EPI	Expanded Programme on Immunization
ETC	Ebola treatment centre
EVD	Ebola virus disease
HEF	health emergency facility
HIM	Health Information Management
IEHK	interagency emergency health kits
IPC	infection prevention and control
MSF	Médecins Sans Frontières
NCDK	noncommunicable disease kits
NES	Northeast Syria
OPR	stock requests
OSL	Operations Support and Logistics
PED SAM	paediatric severe acute malnutrition
PPE	personal protective equipment
PSA plant O2	pressure swing adsorption oxygen plant
RDT	rapid diagnostic test
SARI	Severe Acute Respiratory Infection
SURGE	Strengthening and Utilizing Response Groups for Emergencies
Téchne	Technical Science for Health Network
TESK	trauma and emergency surgery kit
UNHRD	United Nations Humanitarian Response Depot
WASH	Water, Sanitation and Hygiene
WER	WHO Weekly Epidemiological Record
WFP	World Food Programme
WHE	WHO Health Emergencies Programme



Dubai, United Arab Emirates. WHO OSL Lead Mohamed Ahmed Helal (left) and a colleague at the WHO Logistics Hub in Dubai, prepare boxes for shipment on 4 April 2022. The Hub is currently maintaining 20 000 square metres of products destined for emergency response all over the world.

© WHO / Christopher Black

# Foreword

The year 2022 presented many challenges to health requiring prompt action to multiple emergencies. Coming on the heels of an unprecedented two-year pandemic of COVID-19, the world faced war in Ukraine, conflict and drought in Ethiopia, a humanitarian crisis in Afghanistan, severe flooding in Pakistan, as well as compounded disease outbreaks, including cholera in multiple countries, Ebola in Uganda and a global mpox outbreak.

The Operations Support and Logistics (OSL) unit of the WHO Strategic Health Operations Department ensured timely and efficient response to these and other complex emergencies, providing lifesaving healthcare supplies, logistics support and technical guidance for more than 50 graded health emergencies in 2022. The OSL team worked to support end-to-end supply operations, in coordination with country partners and partner agencies, to ensure equitable access to countermeasures in crisis-affected places across all WHO regions.

The unique expertise of our OSL team fills a critical role requested by Member States and partners in emergencies. With lessons learnt during the COVID-19 response, we are streamlining this role and collaboration with all of our partners.

The WHO Health Emergencies Programme is proud of the invaluable work of our OSL team in enabling WHO to demonstrate comparative advantage in operations support and logistics in the following key areas:

- Defining items needed for response to public health emergencies and liaising with technical expertise for specification and quality control to respond to country needs

- Forging and strengthening partnerships with suppliers to monitor critical items required to respond to public health threats, and ensuring market intelligence and prepositioning items for prompt initial response
- Providing health logistics expertise for health interventions (in treatment centers, field laboratories, cold-chain set-up, safe burials) and promoting innovative solutions in these areas, in collaboration with Téchne (Technical Science for Health Network), the World Food Program (WFP) and other humanitarian partners
- Coordinating partners involved in supply chain to ensure a coordinated approach in meeting country needs and filling gaps
- Supporting WHO and partner response operations (field EOC, fleet, telecommunication, accommodation) including in hard-to-reach areas

The WHO OSL team has been central to WHO's increasing operational role in emergencies, more critical than ever as the world faces ongoing health crises caused by conflict, climate change and outbreaks of deadly diseases. Working closely with governments and health partners, OSL has been vital to WHO's role as convener and lead coordinator to ensure a swift response and to forge international cooperation in the face of health and humanitarian emergencies across the world.

None of this would be possible without the invaluable support of our donors, who have strengthened the capacity of the WHO Health Emergencies Programme to enable us to support our Member States in building more resilient health systems

and preparing and responding to disease outbreaks and other health emergencies.

Going forward, continued commitment and energy will be required to strengthen partnerships to prioritise the coordination of country, regional and global health emergency preparedness and response, and to face the many complex challenges to health that the world is confronted with today.



**Dr. Michael J. Ryan**  
Executive Director  
WHO Health Emergencies  
Programme



# Major emergency responses



Kampala, Uganda. View of the Ebola Treatment Centre built by Médecins Sans Frontières in Kampala, based on design reviewed by Téchne led by WHO, November 2022.

© WHO / Miguel Ángel Morales Fagalde, MSF Paris



# Major emergency responses

## At a glance

In 2022, OSL HQ managed a total of 804 requests from countries for essential supplies to respond to health emergencies, procuring and delivering a total of US\$ 165.6 million in medical supplies, in response to health emergencies around the world.



### Conflict in Ukraine

1443 metric tonnes of emergency medical supplies and equipment, valued at US\$ 46.2 million, delivered.



### Global COVID-19 pandemic

US\$ 668.7 million of essential supplies such as personal protective equipment (PPE), diagnostics products and clinical care equipment to support the COVID-19 response in 188 countries.



### Humanitarian crisis in Afghanistan

5218 metric tonnes of medical supplies delivered.



### Conflict and drought in Ethiopia

669 metric tonnes of emergency supplies and equipment to 13 regions in Ethiopia, reaching 10.3 million people.



### Cholera outbreak

500 000 cholera rapid tests and US\$ 13.5 million of emergency cholera kits distributed, providing treatment to more than 432 000 people.



### Sudan Ebola virus disease outbreak in Uganda

15 isolation units set up in 15 high-risk areas for Ebola transmission.



### Flooding in Pakistan

US\$ 2.6 million of medical supplies, including water purification tablets, cholera treatment kits, malaria kits, emergency vehicles and equipment, procured for emergency response to flooding.

The Operations Support and Logistics (OSL) unit of the WHO Health Emergencies Programme serves a vital role as a first responder during health emergencies in all regions of the world. OSL leads and coordinates the swift delivery of medical supplies and health logistics services to support WHO Member States in managing acute emergencies and strengthening preparedness for public health crises caused by disease outbreaks, conflicts, extreme weather events and natural disasters.

OSL leadership within the emergency response community is based on an operational model of coordinating rapid procurement and allocation of medical supplies, logistics support and deployment of technical assistance for

emergency treatment centres and other field services. This approach integrates field expertise with technical guidance, consolidates procurement and allocation of supplies, and streamlines supply deliveries to ensure a rapid, flexible and efficient response that is essential for saving lives during emergencies.

In 2022, OSL supported 52 graded health emergencies across all WHO regions, including nine Grade 3 emergencies. Among these were health emergencies caused by: war in Ukraine; an Ebola outbreak in Uganda; conflict and drought in Ethiopia; the humanitarian crisis in Afghanistan; floods in Pakistan; outbreaks of cholera, mpox and the ongoing COVID-19 pandemic.

### OSL deployment capacity

OSL is equipped to rapidly respond to emergencies as requested by WHO regional offices or WHO country offices (WCO). This capacity allows OSL to deploy team members to the front lines of major emergencies to strengthen existing teams or establish emergency logistics capabilities. In 2022, the OSL HQ team was deployed 28 times, with deployments lasting between 2 to 5 weeks, to provide support and enhance emergency logistics capacity during significant crises of the year.

## Conflict in Ukraine

Following the outbreak of war in Ukraine in February 2022, OSL responded promptly to assess, procure and deliver essential health supplies amidst severe access limitations and security concerns. Working closely with the WHO Dubai Logistics Hub, humanitarian partners and the Ukraine Ministry of Health, OSL procured 2087 metric tonnes of medical supplies. By December 2022, OSL had delivered 1443 metric tonnes of emergency medical supplies and equipment, valued at US\$ 46.2 million, for distribution to the most affected oblasts.

### Supplies support

Supplies delivered included: trauma and emergency surgery kits (TESK); interagency emergency health kits (IEHK); noncommunicable disease kits (NCDK); personal protective equipment (PPE); medical kits for infection prevention and control (IPC)/ communicable diseases; electric generators; ambulances; biomedical equipment for clinical care, including oxygen production plants, BiPAP and ECG machines; and ambulances and other vehicles to support patient transfer and the distribution of supplies to affected oblasts.

An estimated 1352 metric tonnes of essential supplies (total value US\$ 35.5 million) were distributed to 723 health facilities in 24 oblasts and the city of Kyiv. Supplies delivered included:

- 62 ambulances (total value US\$ 2.6 million) to support the provision of emergency medical care to war-affected populations.
- 79 generators to hospitals in 16 oblasts and the city of Kyiv to support the winterization of health facilities and response to frequent power cuts (an additional 57 generators are being procured for delivery to Ukraine).
- 7800 TESK modules (total value US\$ 4 million) – supported

an estimated 33 182 interventions for trauma and emergency surgery.

- 3400 IEHK modules (total value US\$ 1.5 million) – supported an estimated 1.9 million people with basic medical care.
- 1500 NCDK modules (total value US\$ 2.1 million) – supported an estimated 5.6 million people with medical care for noncommunicable diseases.
- 4899 cholera rapid diagnostic tests.

### Operations

The Ukraine emergency response faces unique challenges in terms of delivering and distributing supplies amidst severe security risks and access limitations. Effective logistics planning and coordination have been critical in managing various aspects of the response, including:

- Management of casualties
- Maintaining the primary and secondary health-care system
- Maintaining COVID-19 response capacity
- Dynamic/agile response: dynamic logistics support capacity, easily movable and positioned according to where and when most needed
- Scalable means and team: operations with the ability to absorb a rapid expansion of response activities volume and teams
- Sustainable capacity: emergency response plan designed for a long-term response, adaptable to a long-lasting conflict with evolving needs
- Managing and coordinating supply requests from Ukraine MoH and partners through a designated IT tool.

### Establishing emergency hub/warehouses

In February 2022, within five days of the outbreak of the outbreak of the Ukraine war, OSL established an emergency hub in L'viv, including a warehouse and office facilities. Over the following months, additional warehouses were set up in Odesa, Poltava and Dnipro, in addition to the existing WHO Ukraine warehouse in Kyiv, to ensure a fair distribution of supplies in the affected areas and rapid access to hospitals in need of urgent supplies. A temporary office and warehouse were also established in Rzeszow during the early stages of the crisis to aid in delivering supplies from Poland.

### Staff deployments

WHO/OSL deployed approximately 20 health logisticians from WHO Headquarters to implement emergency operations and supply management to support the Ukraine response in 2022. Along the course of the year, OSL organized more than 18 visits by technical health logisticians to support the Ukraine field team. By the end of 2022, the OSL Ukraine team comprised 46 staff and began recruitment to deploy an additional 30 staff.

### Ongoing challenges – the way forward

- Dynamic security conditions and working environment require constant monitoring of:
  - Access windows to new areas
  - BCRN (biological, chemical, radiologic and nuclear threats)
  - Continued attacks on health facilities and energy infrastructure
  - Continuity of emergency supply deliveries to affected areas
- Operational and security challenges, in particular for border crossings to transport supplies, and gaining access to hard-to-reach areas.



**Table 1. Supplies delivered to Ukraine, 2022**

Category	Shipped, quantity, pcs	Shipped, US\$	Delivered, quantity, pcs	Delivered, US\$
Ambulances	62	2 695 065	59	2 591 566
Biomedical / clinical management	154 654	3 822 486	118 608	4 106 315
Blood supplies	4 792 216	26 224	22 962	75 092
Chemical supplies	3 304 602	1 882 393	588 820	1 531 158
Cholera kits	16 000	37 740	1 157	216 923
Diagnostics / laboratory supplies	13 093 085	2 371 319	57 735	4 605 933
Energy & cold chain	6 280	1 614 509	3 772	2 654 763
Insulin	817 009	14 534 866	53 533	5 209 217
IPC/PPE	1 023 725	19 032	11 332 764	1 619 181
Trauma/ external fixators	520	1 958 416	265	931 847
Rehabilitation	49 650	376 556	25 114	180 160
NCD kits	2 300	67	6 980	2 195
Kits (TESK, IEHK)	24 227	11 345 028	19 169	10 033 385
Medical supplies (bulk)	5 304 208	2 004 031	1 227 909	2 817 025

### Ambulances for Ukraine amid ongoing attacks against health care

With support from partners, WHO has donated 62 ambulances to the Ministry of Health of Ukraine to enable the provision of emergency medical care to patients during the war.

The donation includes patient transport ambulances and mobile intensive care unit ambulances, equipped with oxygen tanks, defibrillators, transport ventilators and other medical devices, that will allow the transportation of seriously injured patients to health facilities.

*“Emergency health-care workers are the first ones to arrive at the scene of an accident and do everything they can to save people’s lives. Thanks to modern ambulances, health-care workers not only provide timely transport for people who are injured or in critical condition from the accident scene to a medical facility, but also stabilize their condition during transport.”*

*Dr Liashko, Minister of Health of Ukraine*

## Conflict and drought in Ethiopia

The eruption of conflict in northern Ethiopia in 2020, and the resulting blockade of the Tigray region, has left millions of people with little or no access to cash, fuel, electricity, humanitarian assistance and essential health supplies.

In addition, prolonged drought in the greater Horn of Africa region has devastated millions of lives. In southern Ethiopia, according to WHO AFRO estimates, around 24 million people<sup>1</sup> are grappling with severe food insecurity, malnutrition and loss of livelihoods following five straight seasons of failed rains.

The emphasis of OSL operations in 2022 was on distributing supplies and supporting the rehabilitation of medical facilities following the resumption of humanitarian access to the north-eastern regions in Tigray. OSL delivered 669 metric tonnes of emergency supplies equipment to 13 regions in Ethiopia, including the most critically affected regions of Tigray, Somali region, Oromo, Amhara and Afar, targeting 10.3 million beneficiaries across these regions. OSL also supported emergency medical supplies to international NGOs implementing health services in the Tigray region.

Over 250 metric tonnes of the supplies delivered comprised emergency kits and medicines for the health crisis caused by drought.

## Global COVID-19 pandemic

The outbreak of coronavirus disease (COVID-19) in January 2020 brought OSL to the forefront of the global response to this unprecedented health emergency. As one country after another reported rising numbers of COVID-19 cases and deaths, the soaring demand for PPE (medical masks, gloves,

gowns, and other supplies), diagnostic tests, oxygen and other biomedical equipment delivered the biggest shock to global trade since the Second World War.

OSL was called upon to lead, convene and coordinate health partners, humanitarian actors and UN agencies to address the global demand for medical supplies in a severely constrained market. The task was to aggregate demand across all six WHO regions, secure scarce resources amid fierce competition from countries, ensure fair allocation of available quantities, and secure transport routes to deliver essential medical supplies, hampered by closed borders and highly restricted cargo services.

Working with health partners, humanitarian actors and UN agencies, WHO created the COVID-19 Supply Chain System (CSCS) to procure and deliver essential health supplies for low- and middle-income countries with the least means to access the markets. The CSCS enabled the coordinated procurement of PPE, diagnostic tests and products, oxygen and other clinical care equipment, allowing WHO and partners to combine market power and collectively approach key suppliers and manufacturers to procure supplies for countries across all regions.

By the end of 2022, WHO had procured US\$ 668.7 million of essential supplies to support the COVID-19 response in 188 countries and territories. The total procurement of essential supplies by all partners in the COVID-19 Supply Chain System reached more than US\$ 2 billion to support 199 Member States and territories by the end of 2022.

1. <https://www.afro.who.int/photo-story/delivering-health-services-ethiopias-drought-affected-populations>



Um Rakuba Refugee Camp for refugees from Tigray in Ethiopia, Gedaref, Sudan. Lily brings her daughter for a follow-up appointment with Dr Mohamed. Hermela was born in the camp, which houses over 18 000 refugees, shortly after her mother's arrival at the end of 2021. The vitamin C that was prescribed to Hermela during the visit was provided by WHO.

© WHO / Ala Kheir



The creation of purchasing consortia combined the marketing power of UN agencies, health partners and humanitarian actors to collectively approach key suppliers and manufacturers to procure lifesaving supplies. This enabled consortium members to reduce competition for limited products in constrained markets, and contributed to integrating WHO technical standards in operations and markets across implementing partners.

Through the COVID-19 diagnostics procurement consortium, WHO and partner agencies procured by the end of 2022 about 239 million diagnostics products (total value US\$ 1.05 billion) for 188 countries and territories. Of these, WHO (including the Regional Offices of the Americas and Western Pacific) procured 108 million diagnostics products worth US\$ 402 million and delivered 66.5 million diagnostics tests (AgRDT and PCR) to 169 countries.

As global markets restabilized, countries increasingly regained access to essential supplies needed for the COVID-19 response. In December 2022, WHO closed the COVID-19 Supply Portal, harmonizing COVID-19 response efforts with other ongoing emergencies.

**Table 2: COVID-19 supply requests fulfilled by OSL Headquarters, 2022**

PPE	QUANTITY	US\$ VALUE
Examination gloves, nitrile	65 154 800	4 089 854
Medical masks	50 210 600	1 928 906
Respirators	23 710 910	6 898 629
Surgical gloves	6 108 600	1 461 375
Gown L2	5 313 400	7 984 696
Disposable aprons	3 726 340	615 230
Biohazard bags	1 514 500	266 978
Face shields	1 449 013	1 144 660
Goggles	448 400	974 597
<b>Biomedical</b>		
Nasal oxygen cannula	395 659	126 459
Oxygen masks	201 140	151 388
Ventury masks	186 162	218 782
Pulse oximeters	13 916	788 539
Oxygen concentrators	7 222	3 905 830
Patient monitors	1 172	3 235 202
BiPAP	320	1 458 129
Ventilators	279	7 865 429
High-flow nasal cannula machines (HFNC)	261	1 129 398
Pressure swing adsorption (PSA) plant 02	12	2 125 758
<b>Diagnostics</b>		
RDT COVID-19 antigen tests	473 400	1 254 612
Cepheid Xpert Xpress SARS-CoV-2 tests	198 330	2 940 647
Swabs 3ml	12 100	16 940
Cepheid Xpert system	62	1 418 100

## Cholera outbreak

In response to the cholera outbreaks in multiple countries in 2022, WHO/OSL delivered more than 500 000 cholera rapid diagnostic tests and US\$ 13.5 million of emergency cholera kits, providing treatment to more than 432 000 people, including 167 000 severe cases. WHO also procured a stock of essential medical items through bridge funds to support the treatment of 200 000 cholera patients. These items were prepositioned for rapid delivery in the WHO warehouse in Dubai, the United Nations Humanitarian Response Depot (UNHRD) in Brindisi, the WHO hub in Nairobi, and with a Netherlands-based freight forwarder.

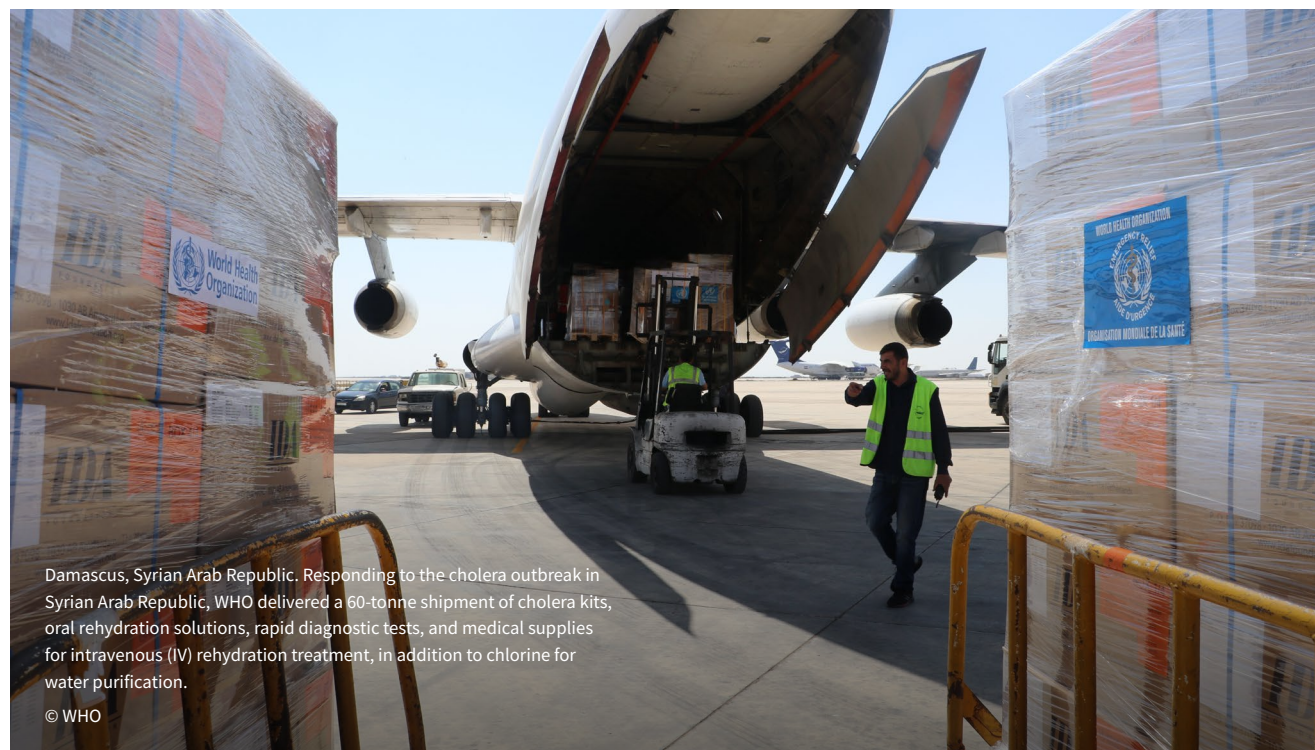
### Supply deliveries included:

- Bulk items to the Democratic Republic of the Congo, Malawi, Mozambique, Syrian Arab Republic and Türkiye (drugs and fluids for up to 20 000 cases in each country) to expand treatment coverage in these most severely affected countries;
- Two charter flights to Haiti, with the support of Airlink, delivered supplies of Ringer lactate and accessories (catheters, infusion sets);
- Delivered cholera kits and laboratory material to reinforce diagnosis and surveillance in Malawi, Mozambique, United Republic of Tanzania, Zambia and Zimbabwe;
- Replenished regional stocks of key cholera supplies in the Americas, the African and the Eastern Mediterranean Regions.

By December 2022, the cholera outbreak had spread to 22 countries, resulting in an unprecedented demand for cholera kits. This led to a depletion of the global supply, leaving suppliers struggling to meet the demand. WHO/OSL worked closely with suppliers and partners to secure cholera kits, source other WASH\* supplies, and establish a pipeline for bulk items. They also sought alternate sources of supply to meet the high demand.

To address the unprecedented global demand for cholera kits, WHO/OSL (Headquarters and regions) established a

supply coordination mechanism in partnership with the United Nations Children's Fund (UNICEF) and Médecins Sans Frontières (MSF), and is working with suppliers to aggregate, monitor and coordinate supply requests to ensure equitable allocation and distribution of available stocks in affected countries. WHO/OSL is also collaborating closely with regional and country partners to support cholera supply planning mechanisms and ensure alignment with supply capacities.



Damascus, Syrian Arab Republic. Responding to the cholera outbreak in Syrian Arab Republic, WHO delivered a 60-tonne shipment of cholera kits, oral rehydration solutions, rapid diagnostic tests, and medical supplies for intravenous (IV) rehydration treatment, in addition to chlorine for water purification.

© WHO

\*WASH stands for Water, Sanitation, and Hygiene and refers to various products and equipment that are essential for ensuring access to clean water, proper sanitation facilities, and promoting good hygiene practices.



## Sudan Ebola virus disease outbreak in Uganda

Uganda declared an Ebola outbreak caused by Sudan Ebola virus (SUDV) on 20 September 2022, after a case at Mubende Regional Referral Hospital in Mubende district was confirmed. In total, 164 cases (142 confirmed, 22 probable) with 77 deaths (55 among confirmed cases and 22 among probable cases) and 87 recovered patients were reported.

### OSL contributions to the SUDV response:

- Set up 15 isolation units in 15 high-risk areas for Ebola transmission;
- Central cold-chain facility set up in Kampala – fully functioning, with three ULT -80 °C freezers, three -25 °C freezers, and three +2/+8 °C refrigerators, with 24/7 power supply;
- 20 international shipments (total value US\$ 296 333) delivered equipment and supplies to Solidarity Vaccine Trial implementing partner, Makerere University Lung Institute;
- 3 candidate vaccines, with 5256 total doses received, as follows:
  - 1096 from Sabin Vaccine Institute
  - 2160 from Merck
  - 2000 from Oxford University
- Prepared comprehensive logistics and supply chain report for Phase 1 of trial;
- Conducted workshop on lessons learned (part of post-emergency vaccines trial – phase 1);
- Ongoing: Supporting the decommissioning of Ebola treatment units, and improving preparedness for future outbreaks, including inventory of EVD supplies.



Entebbe, Uganda. Pharmacist Dr Kapende gathers supplies from a storage room in the Ebola Treatment Unit in Entebbe on 8 November 2022. WHO is working closely with the government-led response to the Ebola disease outbreak caused by the Sudan ebolavirus species, providing advice, supplies and specialists.

© WHO / Esther Ruth Mbabazi



# Emergency supply chain management

## OSL HQ – 2022



Ménaka, Mali. At Ménaka airstrip on 15 December 2022, vaccines are loaded on a vehicle to be used in a vaccination campaign against COVID-19 in the city of Ménaka and surrounding areas. Photo produced in collaboration with UNICEF.

© WHO / Fatoumata Diabaté



# Supply chain management OSL HQ – 2022

In 2022, OSL Headquarters managed a total of 804 requests from countries for essential supplies to respond to health emergencies in all WHO regions, procuring and delivering a total of US\$ 165.6 million in medical supplies, in response to the following health emergencies: the Ukraine conflict, Ebola in Uganda, conflict in Ethiopia, floods in Pakistan, drought and food insecurity in the Horn of Africa, and global outbreaks of cholera, mpox and the ongoing COVID-19 pandemic.

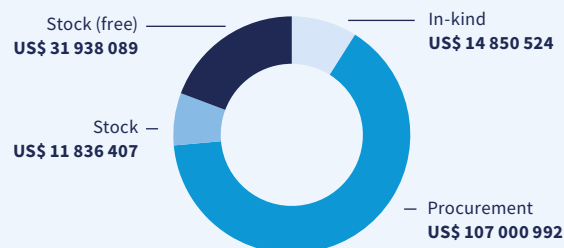
## Key numbers:

- Managed 804 requests
- Issued 800 Purchase Orders
- 487 OPR (stock requests)
- Total deliveries: 1408 shipments (3000 metric tonnes)
- Total value of supplies managed: US\$ 165.6 million

**Table 3. Distribution of goods value by emergency**

Emergencies	Goods value US\$
Ukraine conflict	81 076 708
COVID-19	66 648 904
Pakistan floods	3 754 494
Horn of Africa: Drought and food insecurity	5 952 366
Ebola – Uganda	1 918 839
Sri Lanka	1 688 402
Cholera	1 529 146
Stock replenishment - AFRO Nairobi	1 231 789
Ethiopia – Tigray	1 107 933
Others	717 431
<b>TOTAL</b>	<b>US\$ 165 626 012</b>

**Figure 1. Value and nature of supplies**

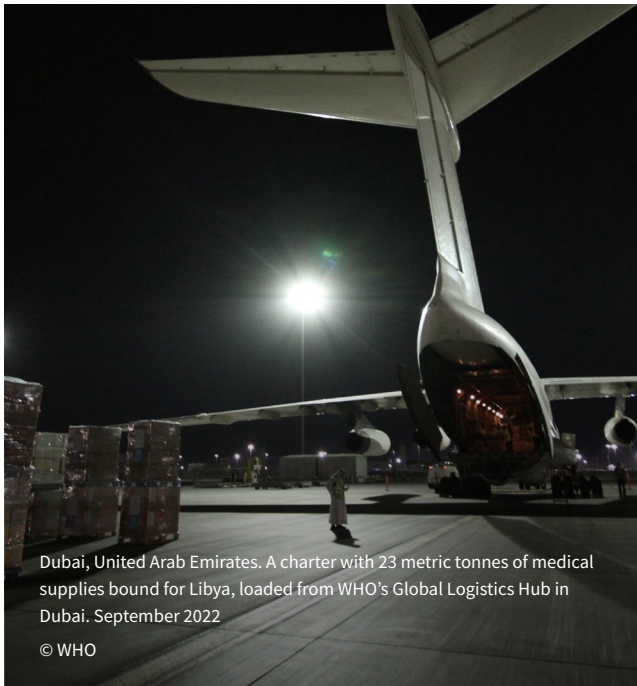


## WHO Logistics Hub - Dubai

In 2022, the Dubai Logistics Hub completed more than 575 emergency requests, marking its fourth consecutive year of growth. It delivered medical supplies worth US\$ 38 million to 91 countries across all six WHO regions in response to infectious disease outbreaks (including cholera, Ebola, and COVID-19), natural disasters such as floods and earthquakes, and humanitarian emergencies in conflict-affected countries.



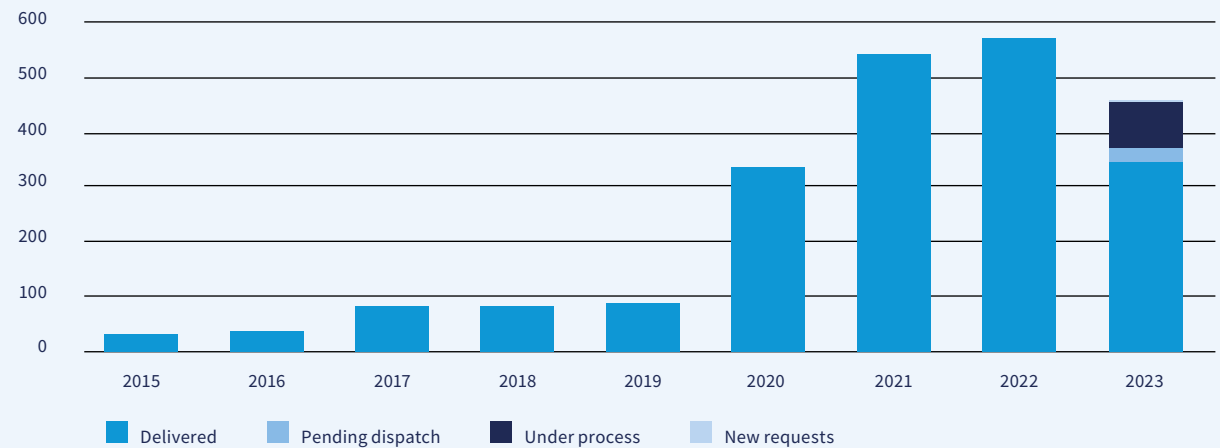
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Dubai, United Arab Emirates. A charter with 23 metric tonnes of medical supplies bound for Libya, loaded from WHO's Global Logistics Hub in Dubai. September 2022

© WHO

Figure 2. Dubai Logistics Hub Request status by year, 2015–2023<sup>†</sup>



<sup>†</sup>Dubai Hub operations in 2023 are already outpacing requests filled in 2022, with more than double the number of requests met compared to the same period last year.

### Supplies allocation

In April 2022, OSL Headquarters and the WHO procurement department (BOS/SUP) established a planning mechanism to manage the depletion of medical kits amid increasing demand to support the Ukraine emergency, and severe cholera outbreaks in several countries. To ensure the optimal use of the WHO emergency kit stockpile and supplier production capacity, requests for kits and access to stockpiles and suppliers from countries are now managed centrally at WHO Headquarters, to promote fair access to strategic resources for all Member States and donors. Prioritization is based on the urgency of the need.



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# OSL Health Tech

Kinshasa, Democratic Republic of the Congo.  
Simulation exercise as part of the Ebola advance  
training. July 2022.

© WHO/Dr Hans-Joerg Lang

# OSL Health Tech

The OSL Health Tech pillar supports Member States responding to health emergencies through technical assistance for designing infectious disease prevention strategies, setting up emergency treatment centres and mobile laboratories, providing technical guidance for emergency vaccination campaigns, ultra-cold chain set-up and training, and delivering field telecommunications equipment.

## Technical training support

In 2022, OSL Health Tech conducted 21 deployments for technical assistance to Member States, including:

- **10 mission deployments** to provide technical logistics support to Colombia, Democratic Republic of the Congo, Ghana, Hungary, Mali, Poland, Romania, Slovakia, Türkiye and Uganda.
- **13 training workshops:**
  - Cholera Readiness Capacity Training for: Ethiopia, Kenya, South Sudan, Uganda, Zimbabwe
  - EVD Preparedness and Readiness and Operational Readiness Training for Viral Haemorrhagic Fever – Kenya
  - GOARN Outbreak Response Training – India
  - Logistics Surge Capacity Training – Namibia
  - 3rd WHO Africa Regional Cholera Outbreak Preparedness & Readiness Training – Democratic Republic of the Congo, United Republic of Tanzania
  - 1st Regional Cholera Readiness Training – Togo
  - Cholera Preparedness – Ghana, Liberia, Nigeria, Sierra Leone

- Response Logistics for Viral Haemorrhagic Fever Outbreak - Democratic Republic of the Congo
- Regional Office for Africa Ebola training – Uganda
- Response for Viral Haemorrhagic Fever Outbreak – Democratic Republic of the Congo
- Operations and Logistics Training – Senegal.

## Ebola treatment centre in Uganda

In response to the outbreak of the SUDV in Uganda in September 2022, OSL Health Tech, in collaboration with the Technical Science for Health Network (Téchne), The Alliance for International Medical Action (ALIMA) and Médecins Sans Frontières (MSF), facilitated the standardization of the Ebola Treatment Centre (ETC) design across the country.

The standardization of the ETC design across stakeholders has promoted the construction of a safe care environment, increased set-up efficiency, and ensured that all patients consistently receive the same quality of care in all centres.

### Téchne implementation of ETC support in Uganda and neighbouring countries (Nov – Dec 2022):

- Reviewed the layout of a 64-bed Ebola Treatment Centre built by MSF near Mulago National Referral Hospital in Kampala, which has been used for case management trainings and will be used for trainings in the medium to long term
- Designed, in collaboration with WHO and MSF, the layout of a 20-bed treatment centre in Masaka, as requested by the Uganda Ministry of Health
- Designed and built a screening facility for the Masaka regional hospital, supported by ALIMA (Alliance for International Medical Action)
- Provided WHO and MSF with the technical layout for an Ebola Treatment Centre in Jinja's regional referral hospital
- Téchne provided the design for the construction of ETCs in Kenya, Rwanda, South Sudan and United Republic of Tanzania – as part of their emergency preparedness planning.



Kampala, Uganda. Simulation exercise part of the Ebola advance training. August 2022.

© WHO/Luca Fontana



## Téchne – technical science for health network

Téchne is a network of architects, engineers, designers and public health practitioners established by WHO to develop and design innovative solutions that strengthen emergency response operations. The aim is to support Member States and health partners in enhancing emergency preparedness and response by providing rapid and customized technical support. Téchne was established in early 2020 as part of the WHO response to the COVID-19 pandemic, and has grown to become a crucial logistics tool in WHO's health emergency response operations.

### Téchne country support

- Designed three permanent Infectious Disease Treatment Centres – each with a 40-bed capacity – in Bwera, Kisoro and Rwekubo, at the request of the Uganda Ministry of Health (with financing from the World Bank);
- Supported four countries – Bhutan, Chad, Guinea-Bissau, Liberia – to design five oxygen (PSA) plant shelters in collaboration with the Oxygen Scale-up Initiative;
- Supported the design of an infectious disease ward within an existing health facility in Tbilisi, Georgia;
- Supported the design of prefabricated primary health-care facilities in Ukraine;
- Supported the design of an infectious disease treatment centre in Kinkole, Democratic Republic of the Congo;
- Supported the design of a trauma centre in Moldova;
- Supported the development of the design brief for the construction of the three Centres of Excellence in the African Region.

### Health Emergency Facility Initiative

Téchne, in collaboration with UNICEF and Médecins Sans Frontières, has started the Health Emergency Facility (HEF) Initiative, which includes:

- A digital decision tool for inter-agency procurement planning and coordination during outbreaks of infectious diseases such as COVID-19, Ebola and Cholera;
- Detailed list of products, equipment, and structures needed for establishing and operating HEFs, including new and innovative products to support the response;
- Innovative products to ensure a safe care environment centred around patients, families, and community;
- Layouts with guidance for setting up family-friendly surge facilities that ensure safe case management.

In 2022, a field test in Uganda demonstrated how well the HEF performed in facilitating screening, isolation and treatment of patients during the country's worst Ebola virus disease outbreak in two decades.

The HEF digital tool is expected to be ready in late 2023 and will generate a suitable layout and a dynamic procurement list that includes all components needed to operationalize the facility. All items included in the list are selected across the WHO, UNICEF, and MSF supply catalogues.

### Technical guidance, tools and publications

- Updated the second version of the *Severe Acute Respiratory Infections treatment centre: A practical manual to set up and manage a SARI treatment centre and a SARI screening facility in health-care facilities*;
- Published *The hospital of tomorrow: A participative, holistic method to innovate health-care facilities during the COVID-19 pandemic* in the WHO Weekly Epidemiological Record (WER), 18 February 2022, Vol. 97, No. 7 (pp41-48). A WHO case study conducted in collaboration with the Sant'Orsola Hospital in Bologna, Italy;
- Collaborated with the European Council for Nuclear Research (CERN) to develop a new model to quantify the risk of airborne transmission of SARS-CoV-2 virus in indoor settings, in order to establish risk-based ventilation standards and to inform decisions regarding risk-reduction measures. The technical publication is accessible here: <https://partnersplatform.who.int/aria>
- Téchne, in collaboration with other WHO departments, coordinated the development of an online tool that provides an estimation of the essential items needed to set up and manage a treatment centre, including guidelines for number of beds and length of hospitalization period considered. The tool currently covers two diseases – Ebola Virus Disease and COVID-19 – and can be used online, offline and across different devices, including laptops and mobile phones. <https://partnersplatform.who.int/essentialitemsestimator>

### **INITIATE<sup>2</sup> - a partnership for health emergency response**

In 2022, INITIATE<sup>2</sup> launched its first project to develop an Infectious Disease Treatment Module (IDTM) that will be rapidly deployable, easily transportable, extendable, self-contained, and serve as a self-sufficient treatment centre for infectious diseases, such as Ebola, COVID-19, and other respiratory diseases. The treatment module is designed to function both as a stand-alone solution or integrated into an existing on-site health service or facility.

INITIATE<sup>2</sup> is based in the UNHRD facility in Brindisi, Italy, and managed by the WHO Emergency Response Programme and the WFP Supply Chain Division. WHO is in charge of overall project coordination and engagement, with in-house WHO experts including OSL Health Tech, as well as Téchne and other partners for the provision of technical services. WFP provides logistical oversight and project coordination support, with UNHRD overseeing the administrative and financial aspects of the project.

At the 2022 G20 Summit in Bali, Indonesia, INITIATE<sup>2</sup> was included in the list of G20 actionable projects annexed to the G20 Leaders' Declaration, a significant recognition for the project as a new model for interagency partnership.



Brindisi, Italy. INITIATE<sup>2</sup>. Simulation exercise within the Infectious Diseases Treatment Module (IDTM). June 2023.  
© WHO/Luca Fontana



# WHO OSL Regional Highlights



Lilongwe, Malawi. Cholera treatment centre WHO helped refurbish in one of Lilongwe's hotspots.

© WHO/Moving Minds



# WHO OSL Regional Highlights

## OSL AFRO (WHO Regional Office for Africa)

### Cholera

#### OSL African Region response strategy

- Ensured an efficient and timely end-to-end supply chain in all cholera treatment centres (CTC), cholera treatment units (CTU), and Oral Rehydration Points (ORP) in terms of structure, materials and supplies in epidemic countries;
- Ensured delivery of readiness, detection and response supplies to countries bordering epidemic countries for the first month, as per the EPI (Expanded Programme on Immunization) team's advice;
- Supported the establishment of treatment facilities, according to WHO standards, to ensure adequate management of cases (provision of required equipment, guidance and technical support);
- Supported capacity building for country teams;
- Delivered 268 cholera emergency kits (including rapid tests), 13 200 pool testers, 14 tents and PPE were supplied to 11 countries;
- Six countries under response mode: Benin, Cameroon, Malawi, South Sudan, Zambia, and Zimbabwe;
- Five countries are under preparedness mode: Democratic Republic of the Congo, Ghana, Kenya, Mali, and the United Republic of Tanzania.

### Sahel Region<sup>†</sup>



#### 6 countries supported

Burkina Faso, Cameroon, Chad, Mali, Niger, Nigeria



#### 10.6 million

total target population for the 6 countries



#### 83%

of the targeted population reached (8.8 million reached)

### Technical/Logistics support



#### 1 warehouse built

in Mali, with 300 square metres of storage capacity



#### 6 countries

supported with webinars on WHO health emergency kits

### Supplies delivered (modules/kits)

#### 873

Interagency Emergency Health Kits (IEHK)

#### 175

cholera kits

#### 100

measles kits

#### 113

Trauma and emergency surgery kits (TESK)

#### 5

NCD kits

#### 568

Paediatric severe acute malnutrition (PED SAM) kits

<sup>†</sup>The Sahel region is a semi-arid belt of land in Africa that lies between the Sahara Desert to the north and the savannahs of central Africa to the south. It is characterized by a dry climate, low rainfall, and fragile ecosystems. The region faces challenges such as desertification, poverty, food insecurity, and political instability. Efforts are being made to promote sustainable development and improve livelihoods in the Sahel.



## Ebola Virus Disease

Three emergency responses were initiated in 2022:

- Democratic Republic of the Congo (Mbandaka and North Kivu provinces)
- Uganda

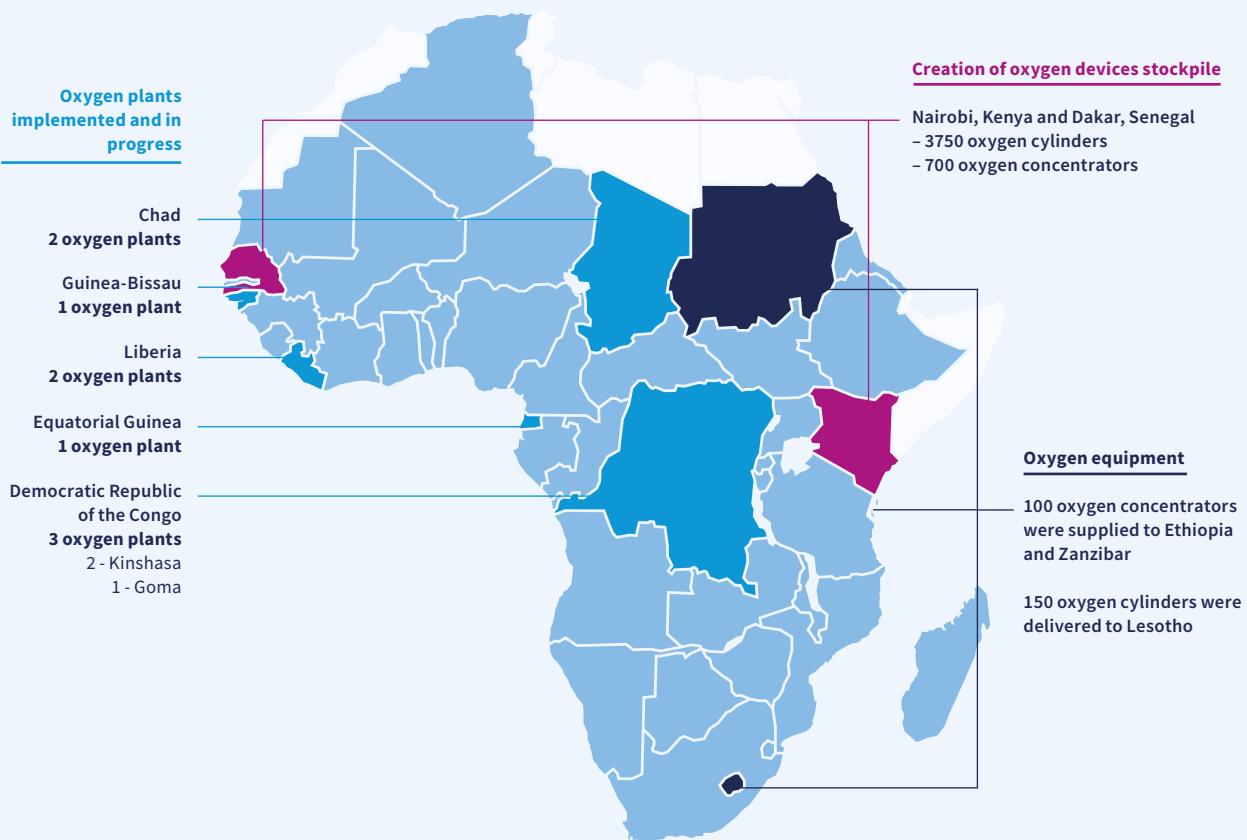
Supplies delivered had a total value of US\$ 2.9 million and included PPE; biomedical equipment; drugs; cold-chain equipment; tents; laboratory items; IT and telecommunication equipment.

- PPE and Ebola test kits (total value US\$ 107 000) were supplied from the Regional Office for Africa regional warehouse.
- Six countries in preparedness mode: Burundi, Democratic Republic of the Congo, Kenya, Rwanda, South Sudan and United Republic of Tanzania.

## COVID-19

- COVID-19 RDTs - 68 320 kits (25 tests each)
- Supplied from the WHO Regional Office for Africa warehouse to 25 countries: Botswana, Burundi, Cabo Verde, Cameroon, Chad, Comoros, Congo, WHO African Regional Office (Congo), Equatorial Guinea, Eswatini, Ethiopia, Gabon, Guinea, Guinea-Bissau, Liberia, Madagascar, Mali, Mauritius, Niger, Sao Tomé and Principe, Senegal, Sierra Leone, Togo, Zambia, Zimbabwe.

**Figure 3. Oxygen plants, equipment and devices stockpile**



### Greater Horn of Africa



#### 3 countries supported

Ethiopia, Kenya and Uganda



#### US\$ 5.8 million

total value of requisition of supplies submitted to support drought and food insecurity

#### Supplies delivered (modules/kits)

<b>1860</b> IEHK	<b>150</b> Pneumonia kits
<b>1370</b> PED SAM kits	<b>20</b> Meningitis kits
<b>163</b> TESK	<b>96 000</b> tonnes of therapeutics milk
<b>555</b> Cholera kits	<b>9704</b> rapid test kits (malaria, HIV, syphilis, chikungunya)
<b>110</b> NCD kits	
<b>238</b> Measles kits	

### Cabo Delgado Crisis, Mozambique



#### US\$ 69 000

value of emergency medical items supplied from WHO Regional Office for Africa warehouse

#### Supplies delivered (modules/kits)

<b>36</b> TESK	<b>31</b> Cholera kits
<b>35</b> IEHK	



Chifra, Ethiopia. Temira is pictured with her 12-month-old daughter Zahara in front of the Eltomale Site Mobile Health and Nutrition Team. "This clinic is located near my home, so I can bring Zahara here easily," she said. "Zahara received a check-up and vaccination today." The pictured mobile health team is one of five teams that WHO directly supports by covering operational costs, providing medical supplies and training.

© WHO / Martha Tadesse



### Nairobi Logistics Hub

The Government of Kenya has allocated 30 acres of land valued at US\$ 25.4 million, and US\$ 5 million towards the construction of the Nairobi Logistics Hub. An agreement has been reached to provide rent-free office space to accommodate up to 150 people and support regional responses. The Nairobi Hub has obtained blanket customs clearance to facilitate speedy inbound and outbound of supplies, which is a first for any UN entity in Kenya. Additionally, a regional warehouse has been established at the Nairobi Hub with a stockpile of materials, equipment, emergency kits and essential medicines, totalling US\$ 8.4 million.

The pre-positioning of stocks, now readily available in Nairobi, has significantly strengthened WHO's ability to respond to emergencies in the Africa region. Since beginning operations in July 2022, the Nairobi Hub has responded to several health emergencies, including:

- Greater Horn of Africa, starting with Kenya;
- Ebola response and preparedness in Burundi, Democratic Republic of the Congo, Kenya, Rwanda, South Sudan, Uganda and United Republic of Tanzania
- Gambia acute kidney injuries.

### Dakar Logistics Hub

The Government of Senegal allocated 5 hectares for the construction of the Hub, and agreed to provide rent-free office space for up to five years.

### Regional Office for Africa initiative for Strengthening and Utilizing Response Groups for Emergencies (SURGE) Scoping Missions

In 2022, OSL African Region undertook 17 SURGE scoping missions in various countries, including: Botswana, Central African Republic, Chad, Congo, Democratic Republic of the Congo, Ethiopia, Kenya, Mauritania, Namibia, Niger, Nigeria, Rwanda, Senegal, Togo, Uganda, United Republic of Tanzania Mainland and Zanzibar. OSL African Region played a significant role in identifying gaps, and proposing a roadmap for each country to strengthen emergency logistic capacities. Additionally, 136 vehicles (valued at US\$ 4.5 million), including 17 ambulances, were delivered to 17 countries. Each of the 17 national intervention teams is equipped with 8 vehicles (1 land cruiser ambulance, 2 land cruiser pickups, 2 land cruiser 10-seats and 3 land cruiser 14-seats) for transporting laboratory equipment and consumables. These vehicles are exclusively dedicated to the SURGE project and will enable them to respond to emergencies within less than 24 hours.

To support the African Region SURGE project implementation, 40 participants/experts with diverse profiles and from different ministries participated in a 6-day training in Senegal (20 from Senegal, 10 from Togo, and 10 from Mauritania). Seven OSL experts, including two from Headquarters, were assigned to facilitate OSL technical modules, including supply-chain management, health logistics, and operations support.

### OSL AFRO international support

- COVID-19: Dispatch of PPE, biomedical equipment and laboratory consumables to more than 30 countries
- Mpox: Dispatch of kits to Western Pacific Region countries and Ukraine (inter-regional support)

- Other public health emergencies: Cholera RDTs to the Philippines Avian Influenza; Tamiflu to Western Pacific Region (WPR) countries
- Earthquake: WASH supplies and PPE to Pacific Island countries and the Philippines
- Typhoon/Cyclone: WASH supplies and PPE to Pacific Island countries and the Philippines
- Oxygen: Pressure Swing Adsorption (PSA) plants to 15 health facilities in Cambodia, Lao People's Democratic Republic, Pacific Island Countries and Papua New Guinea.



Kampala, Uganda. Dr Umar, Head of the Ebola Task Force, enters the Ebola isolation ward at Lubaga Hospital on 1 November 2022. Dr Umar says the hospital is well-equipped to handle Ebola cases after receiving training from the Ministry of Health and WHO.

© WHO / Katumba Badru

## OSL EMRO (WHO Regional Office for Eastern Mediterranean Region)

### Humanitarian crisis in Afghanistan

Following the power shift in Afghanistan in August 2021, WHO was compelled to adapt its emergency response strategy due to increasing political and socioeconomic instability. As a result, the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) had to re-evaluate its logistics and supply chain strategy. In January 2022, a mission was conducted to assess the situation and develop a new Procurement & Logistics strategy for 2022–2023.

To support the implementation of the new strategy, OSL deployed two additional international logisticians, namely an OSL Health Logistician and an OSL Warehouse Manager, to reinforce the country team. Additionally, three strategic logistics hubs were established in Kabul, Herat and Mazar. The warehouse storage capacity in Kabul was expanded to 2400 square metres, while Herat's capacity increased to 600 square metres.

Throughout 2022, Afghanistan faced various outbreaks of infectious diseases, including measles, acute watery diarrhoea and dengue, as well as extreme flooding and a 5.9 magnitude earthquake. In response to these emergencies, OSL delivered 5218 metric tonnes of medical supplies to provide health-care assistance to approximately 26.4 million people. Mainly, 34 metric tonnes of emergency supplies were distributed within 24 hours of the earthquake. Furthermore, supplies were prepositioned to ensure coverage during the winter season and to support health facilities in hard-to-reach areas.

### Flooding in Pakistan

Unprecedented heavy rainfall during the monsoon season, spanning from June to August 2022, led to extensive flooding

and landslides throughout Pakistan, impacting the life of millions of people. By early September, widespread flooding had affected 33 million individuals, resulting in more than 1500 fatalities and at least 15 000 injuries. The floods left countless communities without access to essential resources such as food, shelter and basic health-care services, exacerbating existing health emergencies.

With approximately one third of the country submerged, the damage caused by the floods also impacted the health-care infrastructure. It was reported that 10 percent of health facilities were compromised, hindering the provision of health-care services. Furthermore, more than 500 000 individuals were living in relief camps, facing challenges in accessing adequate health-care support. The floods significantly disrupted surveillance and routine immunization programmes, impacting the overall functionality of public health systems in the affected districts.

WHO promptly initiated a health emergency response to provide medical treatment to the injured, deliver life-saving supplies to health-care facilities and deploy mobile health teams to prevent the outbreak and spread of infectious diseases. Additionally, WHO established an emergency operations centre in Rajanpur to support flood response operations, as well as medical camps within the affected populations. Different items were delivered by WHO/OSL.



Mirbachakot, Afghanistan. Women and children wait outside of the paediatric section of Mirbachakot Hospital on 24 November 2022. WHO provides medical supplies and support to this hospital.

© WHO / Kiana Hayeri



## Flood situation in Pakistan - OSL supply

Table 5. Distributed in field

Type of items	Value in US\$
Consumables	77
IT equipment	1 367
IV fluid	2 316
Laboratory testing supplies	49 721
Medical equipment	357
Medical kits	5 628
Medicine Drugs	93 973
Miscellaneous	11 666
Office supplies	4 896
PPE	42 160
Shelter	86 371
Surgical	2 195
Therapeutic milk	4 977
Vehicles	6 818
Water purification tablets	56 238
<b>GRAND TOTAL</b>	<b>368 758</b>

Table 6. Validated in the pipeline

Type	Value in US\$
Diagnostics	240 000
Malaria	435 952
Medicine	1 193 115
Nutrition	145 730
WASH	89 000
<b>GRAND TOTAL</b>	<b>2 103 797</b>

Table 7. Delivered, to be distributed

Type	Value in US\$
Tents	30 502
Water supply and cholera kits	144 313
<b>GRAND TOTAL</b>	<b>174 815</b>

**2 treatment stations**

for water installed, treating 4000 litres of water per hour

**1000 sets of filters**

for water distributed to health facilities



Swat Valley, Pakistan. A resident in the village of Madyan takes relief supplies back to his family on 1 September 2022.

© WHO / Mobeen Ansari

## Supplies delivered in Eastern Mediterranean Region, 2022

Figure 4. Total item cost of supplies delivered to region



**\*Other:**

**Tunisia** US\$ 139 910

**Egypt** US\$ 47 856

**United Arab Emirates** US\$ 30 698

**Oman** US\$ 26 292

**Morocco** US\$ 62 58

**Djibouti** US\$ 1229

Table 8. Weight of supplies delivered to region

Type	Weight in kg
Yemen	13 412 906.10
Sudan	498 970.30
Iraq	470 501.64
Afghanistan	269 131.90
Syrian Arab Republic	168 610.30
Türkiye	151 729.00
Somalia	124 962.90
State of Libya	64 787.30
Pakistan	50 714.30
Lebanon	40 660.00
Tunisia	19 702.03
Egypt	1 329.30
Oman	1 009.00
Morocco	251.00
United Arab Emirates	155.80
Djibouti	0.30
<b>GRAND TOTAL</b>	<b>15 275 421.17</b>



## OSL EURO (WHO Regional Office for Europe)

### Conflict in Ukraine: support to refugee-hosting countries

- OSL EURO organised 77 shipments of biomedical equipment, diagnostics and laboratory supplies (total value of goods US\$ 5.27 million from regional stocks to 4 countries.
- Conducted two assessment missions to Hungary and Poland to define procedures on goods importation, tax exemption, temporary storage and in-country distribution; one assessment mission to Ukraine to define potential warehouse facilities for emergency stockpiles in southern Ukraine.
- OSL Headquarters supported the regional office with visits to the Republic of Moldova to support establishing a contingency plan for an emergency response to the possible extension of the conflict beyond Ukraine.

**Table 9. Top 10 emergency supplies dispatched, US\$**

#	Category	Goods value, US\$
1	Diagnostics / laboratory supplies	1 889 020
2	IPC/PPE	1 252 841
3	Kits	672 856
4	Energy & cold chain	382 131
5	Equipment, vehicles and furniture	369 519
6	Hospital equipment	326 338
7	HIV/TB	201 167
8	Medical supplies (Bulk)	162 196
9	Biomedical supplies	43 951
10	Laboratory supplies	43 044

### Supplies delivered to refugee-hosting countries



**112**  
tonnes of supplies delivered



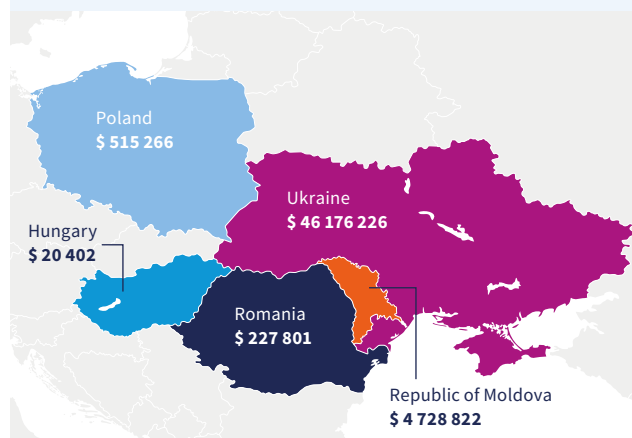
**US\$ 5.49 million**  
in total value of supplies



**10.63 million**  
supply items delivered

### Figure 5. Supplies dispatched to Ukraine and neighbouring countries, US\$

Delivered between 24 February 2022 and 1 January 2023



### COVID-19 response

In 2022, over 403.5 tons of supplies worth US\$ 13 million were delivered to 19 Member States. Overall these 95 shipments provided over 20 million items. Top supplies delivered (by US\$) include RDT COVID-19 antigen tests, gowns, monitors, BiPAP, and respirators.

### COVID-19 Emergency response supplies



**403 500kg**  
weight of supplies received



**US\$ 13.07 million**  
in total value of supplies



**20.01 million**  
items received



**95**  
shipments received

### Mpox response

In 2022, 32kg of supplies worth US\$ 239 000 were delivered to 19 member states. Overall these 36 shipments provided over 190 000 items. All supplies delivered were laboratory supplies.

## OSL SEARO (WHO Regional Office for South-East Asia)

In coordination with OSL Headquarters and the Dubai team, OSL South-East Asia Region contributed US\$ 96 000 of emergency supplies of PPE gloves, tents, NCD kits for Ebola response in Uganda, Pakistan Grade 3 emergency, Northeast Syria (NES) and a cholera outbreak in Malawi.

### Mpox

- Procured and distributed mpox virus kits and 1-Step RT qPCR 100rxns to ten countries in the South-East Asia Region – Bangladesh, Bhutan, India, Indonesia, Myanmar, Maldives, Nepal, Sri Lanka, Thailand and Timor Leste.
- Shipped inactivated and fragmented mpox DNA for positive control to three locations (India, Thailand and Timor Leste) from VIDRL Australia.
- A readiness assessment conducted for mpox in the region indicated a limited capacity for laboratory testing in the South-East Asia region. With the timely provision of technical, operations, and logistics support 10 Member States out of 11 in the South-East Asia Region were equipped with diagnostic capacity for mpox virus (approximate cost US\$ 39 000) within 3 months of the declaration of mpox as a Public Health Emergency of International Concern.

### Sri Lanka - Influenza readiness

- PPE donation of US\$ 55 000 allocated by WHO Headquarters for influenza readiness
- Procurement of US\$ 2.7 million in essential medical supplies facilitated by WHO Headquarters
- Stockpile of Oseltamivir from the warehouse to facilitate timely supply.

### Hospitals Support – Nepal, Maldives

In coordination with WHO country offices, the OSL South-East Asia team facilitated the distribution of fire extinguishers (74 ABC dry chemical fire extinguisher (4kg) units) for installation in hospitals in Nepal and Maldives for fire safety.

### Technical support

The WHO Health Emergencies Programme (WHE) Health Information Management (HIM) Team facilitated the publication of *Learning from the COVID-19 response to strengthen health security and health systems resilience in WHO South-East Asia Region*.

## OSL WPRO (WHO Regional Office for the Western Pacific)

The Western Pacific WHE OSL team has been supporting the Member States of the Region by distributing critical supplies and training to augment response and preparedness capacities. The support was provided with operations from WHO Headquarters, the Dubai hub and the Regional Emergency Stockpile based in Manila.

The following are operations completed over 2022:

### COVID-19 operations

- The Regional OSL team has dispatched supplies from the Regional Emergency Stockpile in Manila to 18 destinations. The supplies dispatched for response and preparedness include PPE, biomedical equipment and laboratory consumables. Over the reporting period, supplies with a value of US\$ 3 million have been received by Member States in the Region and beyond.
- Full range of PPE dispatched to five countries with a value of

US\$ 1.1 million. A cargo of 16 tonnes valued at US\$ 408 000 was dispatched by charter plane from Manila to Ulaanbaatar, Mongolia, in December 2022.

- Biomedical equipment, including oxygen concentrators; patient monitors; pulse oximeters; high flow nasal cannula; ventilators; and auto-disposable syringes, among others, have been distributed from the Regional Emergency Stockpile in Manila with a value of US\$ 2.75 million.
- SARS-CoV RDTs, swabs and other laboratory consumables, including reagents, have been received by 18 Member States with a value of US\$ 1.84 million.

### Mpox operations

In response to the mpox outbreak, the Regional Emergency Stockpile in Manila distributed qPCR kits to the Philippines and Ukraine as inter-regional support.

### Regional Oxygen Scale-up initiative

Following a survey of Member States on the domestic capacity for medical oxygen production, several Member States reported being unable to produce medical oxygen. They relied on importing this critical medicine, often at very high costs. The Regional Oxygen Scale-up initiative was established, and identified 15 health-care facilities that require this capacity. These hospitals are located in 12 countries: Cambodia, Cook Islands, Fiji, Kiribati, Lao People's Democratic Republic, Micronesia, Niue, Papua New Guinea, Samoa, Solomon Islands, Tonga, and Vanuatu. The delivery of these containerized plants included 200 cylinders and spare parts for a period of 3 years. After the civil works have been completed, a team of professional engineers is deployed to each site for training, commissioning, and official handover. Each plant is built to suit the country's context and is equipped with additional



filters, seals, valves, and built-in air conditioners as necessary. The total value of the initiative is US\$ 8.4 million.

### Other Public Health Emergency responses

In a region prone to natural disasters and disease outbreaks, the Regional OSL team has supported Member States in rapidly delivering critical supplies in response to 17 operations, including responses to typhoons, cyclones and earthquakes in the Western Pacific Region.

Rapid Diagnostic Tests (RDTs) for cholera and cholera response kits were dispatched to the Philippines in response to the cholera outbreak.

In response to Avian Influenza outbreaks, the Regional Emergency Stockpile deployed over 15 000 courses of Oseltamivir (Tamiflu) to Cambodia, Mongolia, Myanmar and Sri Lanka (inter-regional).

Throughout 2022, the OSL Regional team supported Member States in the region and beyond with a wide range of critical and life-saving supplies, totalling US\$ 14 million.



Emergency dispatch of supplies to Ulaanbaatar, Mongolia

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**Operations Support and Logistics**  
**WHO Health Emergencies Programme**

World Health Organization

20 Avenue Appia

1211 Geneva 27

Switzerland

[who.int](http://who.int)