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UZBEKISTAN

End of Activity Report

2020-2022



LOCAL HEALTH SYSTEM SUSTAINABILITY PROJECT

Local Health System Sustainability Project

The Local Health System Sustainability Project (LHSS) under the USAID Integrated Health Systems IDIQ helps low- and middle-income countries transition to sustainable, self-financed health systems as a means to support access to universal health coverage. The project works with partner countries and local stakeholders to reduce financial barriers to care and treatment, ensure equitable access to essential health services for all people, and improve the quality of health services. Led by Abt Global, the five-year project will build local capacity to sustain strong health system performance, supporting countries on their journey to self-reliance and prosperity.

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Cover photos: Left: Facilitators train health personnel on the ZOLL Ventilator. Top: COVID-19 rapid tests. Bottom: National flags displayed during the End of Activity Dissemination Event. Photo Credit: LHSS Project

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ACRONYMS

AMELP	Activity's Monitoring, Evaluation, and Learning Plan
ASEW	Agency of Sanitary and Epidemiological Well-being
CDC	U.S. Centers for Disease Control and Prevention
FLA	Facility-Level Assessment
GoU	Government of Uzbekistan
ICU	Intensive Care Unit
IPC	Infection Prevention and Control
LHSS	Local Health System Sustainability
MEL	Monitoring, Evaluation, and Learning
MOH	Ministry of Health
PCR	Polymerase Chain Reaction
RT	Reverse Transcription
SCM	Supply Chain Management
SOP	Standard Operating Procedure
SSEW&PH	Service of Sanitary Epidemiologic Well-being and Public Health
WHO	World Health Organization

1. ACTIVITY OVERVIEW

LHSS IN UZBEKISTAN

From March 30, 2020, to June 30, 2022, the Local Health System Sustainability (LHSS) Activity in Uzbekistan led COVID-19 response activities with development partners and key government stakeholders. Tasks carried out under this Activity included:

- Procuring laboratory equipment and commodities
- Providing logistics and supply chain management (SCM) support
- Strengthening epi-surveillance and rapid-response systems
- Conducting facility-level assessments (FLAs) at medical facilities that received ventilators
- Supplying technical assistance on the appropriate use of ventilators and case management of severe COVID-19

A country director led LHSS in-country, with support from an administration and finance specialist and a regional laboratory specialist, based in Dushanbe, Tajikistan. Consultants supported activities related to distance learning, information technology, ventilator technical assistance, and SCM interventions, described in further detail below. An LHSS home office team provided technical, administrative, financial, and operational support.

COVID-19 OUTBREAK AND EMERGENCY RESPONSE

With a population of 32.9 million, Uzbekistan is Central Asia's most populous country. The country has a diverse economy and a relatively young population, with life expectancy of 73.8 for women and 67.1 for men. Approximately half the population lives in an urban area. While Uzbekistan has made progress in lowering maternal mortality rates and improving nutrition, both noncommunicable diseases and communicable diseases such as lower respiratory infections significantly impact public health. Based on data from a Global Burden of Diseases study, the 10 leading causes of death in Uzbekistan remain relatively unchanged over the last decade, despite mild improvements in tuberculosis management.¹ Uzbekistan's National Health Strategy acknowledges that the country needs investments to strengthen primary health care services, emergency medical services, access to essential commodities, digital health, the country's universal health insurance scheme, and SCM. Although the country established a well-developed emergency services structure over 20 years ago, limited resources and an inefficient management and referral system struggle to meet the population's needs, particularly in rural areas. Insufficient availability of primary health care, including prevention services, and late hospital admission of patients with chronic illnesses continue to burden emergency services, as patients present with urgent needs and severe complications.

COVID-19 BACKGROUND

The first case of COVID-19 in Uzbekistan was confirmed on March 15, 2020, with the first death reported on March 27, 2020. Shortly after the first case was confirmed, the government enacted a series of measures to mitigate the spread of COVID-19. As of July 2022, there have been almost 250,000 confirmed cases and over 1,600 deaths reported. On March 19, 2020, the World Health Organization

¹ GBD PROFILE: UZBEKISTAN:

https://www.healthdata.org/sites/default/files/files/country_profiles/GBD/ihme_gbd_country_report_uzbekistan.pdf

(WHO) presented the Strategic Preparedness and Response Plan to coordinate COVID-19 prevention activities. The WHO, the United Nations Development Program, and USAID are all key partners in implementing the plan. The plan identified 10 priority areas for Uzbekistan:

1. Country-level coordination
2. Risk communications
3. Community engagement
4. Surveillance
5. Points of entry
6. Case investigation and rapid response
7. The national laboratory system
8. Infection prevention and control (IPC) and case management
9. Multisectoral action to mitigate social and economic consequences
10. Logistics and SCM

LHSS interventions aligned with the Strategic Preparedness and Response Plan.

RESULTS FRAMEWORK

The logic model in Figure 1 (below) depicts the causal pathway of the LHSS Uzbekistan Activity from inputs to outputs, outcomes, and the end goal. LHSS used the logic model to build consensus on the Activity's objectives, develop performance indicators, and guide learning activities.

LHSS also used the Activity Monitoring, Evaluation, and Learning Plan (AMELP) as a continuous performance management tool to ensure excellence, quality, integrity, and efficiency throughout implementation. LHSS shared activity progress and lessons learned with both internal and external stakeholders, including USAID Uzbekistan, the Ministry of Health (MOH), and other implementing partners involved in COVID-19 response activities, such as WHO and the U.S. Centers for Disease Control and Prevention (CDC). In line with the overarching project goal of locally sustainable health systems, the AMELP adopted a decentralized approach to monitoring, evaluation, and learning (MEL). This reinforced ownership of results and learning among Activity staff and country stakeholders.

WORK PLANS

The Activity implemented interventions through three work plans (Work Plan A, B, C) developed in response to evolving in-country needs and new funding from USAID. Work Plans A, B, and C were eventually consolidated into one work plan, which was approved on May 20, 2021, and extended to June 30, 2022.

Work Plan A: COVID-19 Emergency Response Activities

On March 9, 2020, LHSS responded to a regional request for COVID-19 surge support and prepared a six-month work plan for Uzbekistan in collaboration with USAID field offices throughout the Central Asia region and the CDC Regional Office. Through extensive discussions with these entities, the Activity identified key interventions for procurements, surveillance, rapid detection, and SCM.

Work Plan B: Technical Assistance to Strengthen Capacity to Safely and Appropriately Use Ventilators

In May 2020, USAID asked LHSS to expand COVID-19 emergency activities, providing additional funding for this work. In July 2020, LHSS received funding to provide technical assistance for the use of mechanical ventilators, with the aim to improve treatment outcomes and survival among severely ill patients on mechanical ventilation and optimize the use of USAID-procured ventilators. LHSS worked with key partners to ensure that interventions were consistent with broader agreements between the U.S. Government and the Government of Uzbekistan (GoU), and U.S. Government agreements with ventilator developer ZOLL. LHSS worked closely with the USAID mission and Reliance Group, ZOLL's proprietary distributor in Uzbekistan, to ensure that services and products delivered under various service agreements and this work plan were well coordinated.

Work Plan C: Technical Assistance to Strengthen Capacity and Knowledge of Health Care Providers on Case Management of COVID-19 Cases and Supply Chain (\$600,000)

In March 2021, LHSS received additional funding to strengthen the capacity of health care providers on COVID-19 case management. Interventions under this work plan expanded training and capacity development for health care providers to engage in case management of critically ill patients (including mechanical ventilation). These interventions complemented distance learning activities that the MOH was implementing.

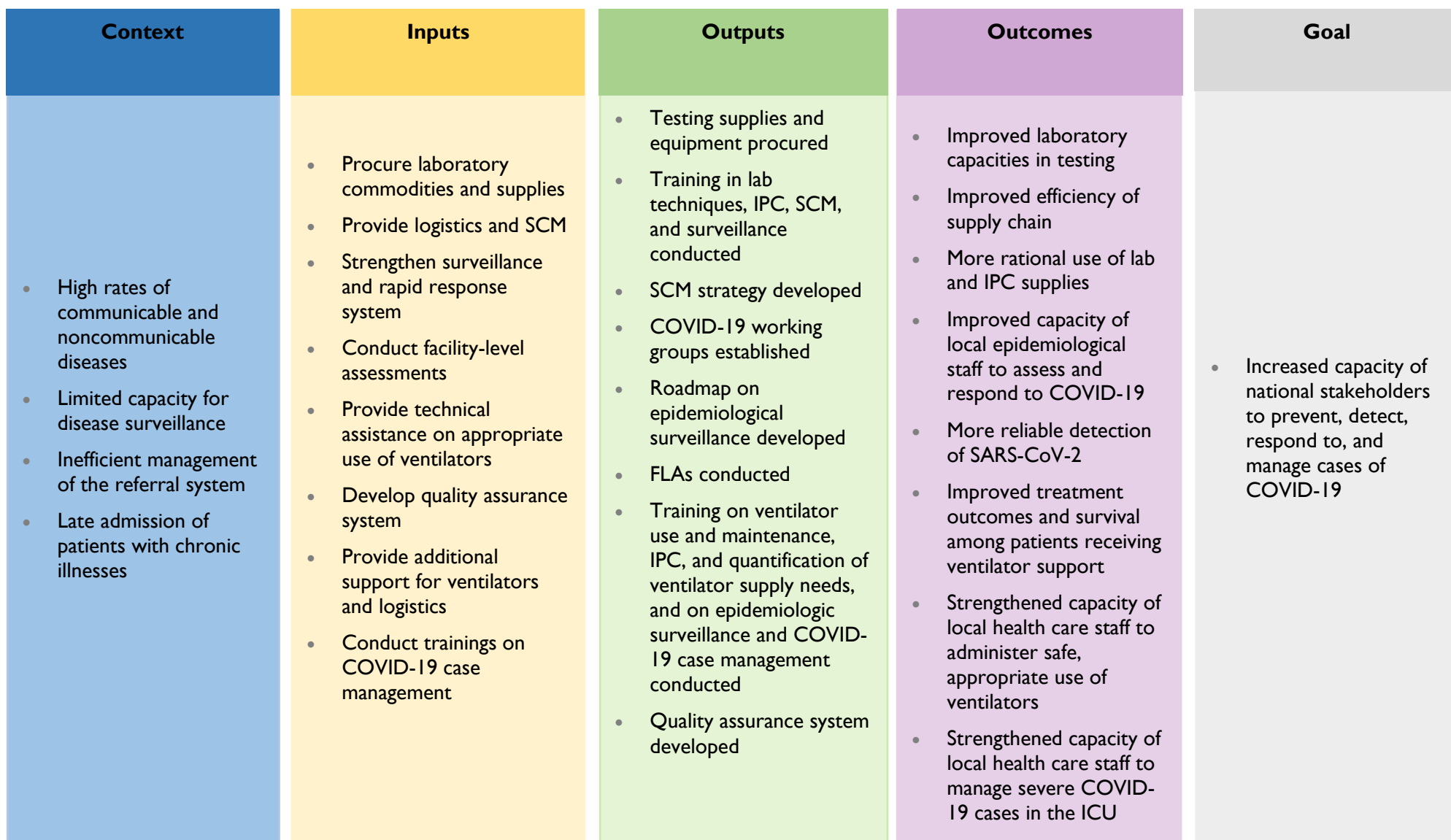
GENDER EQUALITY AND SOCIAL INCLUSION

As this activity adapted to meet the rapidly changing COVID-19 epidemic in Uzbekistan, LHSS applied a gender lens, where applicable, to address the specific risk factors from exposure to COVID-19 and constraints on health care access faced by women, men, and other key groups such as rural or disabled populations. Gender, equality, and social inclusion elements were addressed in trainings with health care workers, SCM, and other related activities, when feasible and appropriate. The AMELP indicators captured disaggregated training data, counting male and female health care workers.

WASTE AND CLIMATE RISK MANAGEMENT

Interventions under LHSS Uzbekistan qualified for categorical exclusion according to the LHSS IDIQ Initial Environmental Examination. This exclusion means an Environmental Mitigation and Monitoring Plan and accompanying reports (Climate Risk Management, Waste Management plans) were not required.

Figure 1: LHSS Uzbekistan Activity Logic Model



2. RESULTS AND KEY ACHIEVEMENTS

PROCUREMENT

From April 2020 to June 2022, LHSS facilitated the procurement of approximately \$2.55 million in priority medical equipment and single-use commodities to support the GoU's pandemic response efforts. The Activity undertook three rounds of procurement:

1. **Round I:** Single-use SARS-CoV-2 specimen collection and safe handling materials
2. **Round II:** Laboratory support materials
3. **Round III:** Single-use consumables to support scale-up of mechanical ventilation

Each round of procurement included numerous tranches of essential laboratory equipment and other commodities required for the COVID-19 response as it evolved. In the early stages of the epidemic, this included single-use materials for specimen collection and transport. **Round I** was delivered in June 2020 and consisted of single-use SARS-CoV-2 specimen collection and safe handling materials.

As the epidemic evolved, LHSS focused more on permanent diagnostic equipment and related consumables for Reverse Transcription (RT)-polymerase chain reaction (PCR), inputs for IPC, and other medical and laboratory supportive equipment. **Round II** consisted of QIAGEN viral mini-kits for COVID-19; Rotor-Gene X PCR platforms to scale up capabilities for RT-PCR processing; and PCR strip tubes, PCR racks, and other consumable materials required for processing SARS-CoV-2 specimens and detection of COVID-19. It also included more than 500 pieces of supporting laboratory equipment, including vacuum pumps, centrifuges, vortex shakers, and other equipment necessary to support analytic capacities. An additional 100,000 boxes consisting of roughly 500,000 individual, single-use consumables for RT-PCR including filter tips, strip vials, and other consumed materials used in the processing of COVID-19 specimens were also procured.

Round III focused on procuring single-use commodities for mechanical ventilation (both ZOLL brand and non-ZOLL brand) as noted the ventilator assistance work plan. The first tranche of (non-ZOLL brand) mechanical ventilation commodities was delivered in early January 2021 and distributed by the MOH approximately six weeks later.

Last-mile distribution support: In early 2022 LHSS was asked to support Global Health Supply Chain Program – Procurement Supply Management (GHSC-PSM) project in the import and last-mile delivery of an additional USAID-funded tranche of ZOLL consumables including circuits and filters for the ZOLL EMV+ units placed throughout the country. LHSS supported this effort by liaising with Reliance Group and the MOH to create a distribution list for the GHSC-PSM goods and supporting contract signatures between MOH and Reliance Group for transparent and legally appropriate handover of goods between GHSC-PSM, MOH, and Reliance Group. The goods cleared customs in early June 2022 and were distributed to facilities in four regions throughout late June. LHSS also contracted Reliance Group to print Russian-language user's guides and warranty information for distribution to all sites during their next quarterly maintenance visits. This will ensure that all sites with U.S. government provided EMV+ ZOLL ventilators have a connection to Reliance Group moving forward per their contract with the MOH.

Results

- Successfully procured and delivered \$2.55 million worth of equipment and commodities, which was then delivered to the last mile end users with support from the MOH and Reliance Group. The equipment and commodities are crucial to supporting the GoU's emergency COVID-19 response across multiple technical areas.

SUPPLY CHAIN MANAGEMENT

LHSS helped strengthen the government's SCM system for laboratories and IPC-related measures and logistics. An SCM working group comprised of key MOH members and championed by a SCM specialist in the MOH's Service of Sanitary Epidemiologic Well-being and Public Health (SSEW&PH), was established with support from LHSS in December 2020. The working group met on a regular basis and remained operational until December 2021. As requested by the GoU and as agreed with USAID, LHSS SCM consultants and the SCM working group collaborated on the following activities:

1. An assessment of the current SCM ecosystem to identify needs for human resource-related IPC, analytics for PCR testing, and other commodities such as ZOLL ventilators
2. Development of recommendations for SCM improvements to address the gaps identified in the assessment
3. Development of a draft strategic roadmap along with operational guidelines

In Spring 2021, LHSS assessed the SCM system and identified decision makers in the MOH and its sub-departments responsible for procurement, logistics, laboratories, and hospitals and COVID-19 centers with ZOLL ventilators. The assessment found systemic challenges with forecasting, quantifying, and monitoring commodities, as well as insufficient skills among MOH staff involved in these processes. LHSS developed recommendations based on the issues identified and drafted guidelines for Standard Operating Procedures (SOP) to help the GoU and its partners create a strong set of operating processes that are both based on sound general technical principles and grounded in the needs of the Uzbek health system. The assessment, recommendations, and guidelines provide the foundation for the MoH to develop and finalize a strategic roadmap on SCM. The assessment report and the SOPs materials were translated into Uzbek and shared with the MoH to assist in this endeavor.

As the final recommendations were being tailored to the Uzbek system, LHSS discussed practical interventions for current MOH supply chain specialists, including improving mapping of inventory management and providing examples of SOPs. LHSS also developed the following for the GoU:

- Excel-based forecasting software tools that are based on time-series analysis and international guidelines, and are available offline with manuals in Uzbek and Russian
- A practical online course for future trainers
- Educational videos in Uzbek and Russian to support continued asynchronous learning

In addition, LHSS worked with key partners, including the Procurement and Logistics Departments of the SSEW&PH, to develop a distance learning course and resources to support self-guided learning for staff. The distance learning modules were piloted in October 2021, with participants providing feedback about the course. The distance learning courses are available via a mobile training application, DL Med, which can be downloaded on Google Play.

Results

- Established SCM working group with representatives from the MOH and other partners to build ownership of the supply chain-related activities.
- Identified a SCM working group champion (a head SCM specialist in the MOH) to help build and maintain ownership of the SCM strategy.
- Conducted SCM assessment and drafted guidelines and SOPs for MOH's future SCM strategy.
- Trained 32 SCM specialists from national and regional government procurement divisions.

EPIDEMIOLOGICAL SURVEILLANCE

To identify gaps in the existing surveillance and rapid-response system, LHSS conducted a desk review and interviews with leading specialists from the SSEW&PH's headquarters and prepared an online survey for frontline epidemiologists. LHSS conducted a strengths, weaknesses, opportunities, and threats (SWOT) analysis of Uzbekistan's current COVID-19 surveillance systems from December 2020 to February 2021. This combined analysis revealed that the SSEW&PH faced challenges that were exacerbated by the COVID-19 pandemic and multiple, consecutive reorganizations of the MOH and SSEW&PH. Some challenges identified included:

- Lack of clear guidance regarding the most recent guidelines and recommendations for COVID-19.
- Absence of a national-level, unified surveillance mechanism for collecting data on infectious diseases, which impacted COVID-19 surveillance and meant that SSEW&PH laboratories are not linked to the wider surveillance system.
- Understaffing, poor staff morale, and difficulty in attracting and retaining staff due to increased workload and lack of competitive wages, which in turn impacted the quality of laboratory operations.

Based on the SWOT analysis, LHSS identified the following key areas of improvement for the MOH:

- **Develop clear guidance documents.** MOH should develop clear guidance documents, including SOPs for epidemiological data collection and analysis. The guidance documents would replace confusing directives issued by multiple government entities throughout the course of the pandemic.
- **Recruit and/or train specialists with knowledge of epidemiological analysis, forecasting, and risk management.** Health care workers and MOH staff who are engaged in epi-surveillance need additional workplace training and education. Initiatives should focus on strengthening the capacity of the SSEW&PH, including organizing the department and providing equipment and training on epidemiological diagnostics, forecasting, and prescriptive analytics.

LHSS identified several areas where it could provide immediate strategic support to the MOH. The Activity drafted a report on the state of surveillance for COVID-19 in Uzbekistan, which formed the conceptual framework for an epidemiological surveillance strategy and roadmap. The draft national surveillance strategy and a three-year roadmap, which included a COVID-19 epidemiological surveillance plan that can also be used to surveil influenza and other acute respiratory illnesses was submitted to the MOH in June 2022. The strategy contained 10 approaches for identifying and registering COVID-19 cases, contact tracing, preventive measures, health care facility readiness, human resource needs, laboratory diagnostics, and data collection.

LHSS piloted a training for 27 health care workers on how to conduct epidemiological investigations of COVID-19, using an Excel-based tool for data collection and analysis. This tool is equipped with preset values and dropdown lists that can be sent to a pivot table and links to a database. Following validation, the tool was presented to the SSEW&PH, whose regional and central staff can use it to identify COVID-19 cases and map the spread of the virus. Manuals to support use of the tool are available to SSEW&PH staff in both Uzbek and Russian. LHSS also led the development of a distance learning program for epidemiologists on COVID-19 epi-surveillance and other emerging respiratory illnesses. The distance learning modules are available on DL Med. LHSS coordinated closely with all key partners including the U.S. CDC division in Uzbekistan to avoid duplication of efforts. LHSS delivered concrete results, increasing the capacity of both medical personnel and the government to better respond to both COVID-19 and future pandemics.

Results

- Developed distance learning modules and tools to aid the MOH in future trainings for epidemiologists.
- Increased ability of the national government to use best practices and high-quality surveillance strategies for infectious diseases through the development of a draft national epi-surveillance strategic plan and three-year roadmap that outlines recommendations for epidemiological surveillance of COVID-19.

VENTILATOR TECHNICAL ASSISTANCE

In July 2020, the U.S. government donated 200 ZOLL EMV+ mechanical ventilators to the GoU. In September 2020, about half of these were allocated and delivered to medical facilities, with the other half held in reserve by Reliance Group (for future deployment and maintenance). Ventilators were initially deployed to 40 public health facilities across six regions, but as the pandemic progressed, ventilators were re-deployed to different facilities, districts, and locations.

LHSS conducted 25 FLAs in 19 facilities to identify technical assistance needs. The assessments revealed that sites receiving ZOLL ventilators had diverse operational and staffing profiles and varied competence in using COVID-19 protocols. Many ventilators had not yet been installed (particularly in the Zangiota COVID Center), some had been deployed to unknown locations, and many were not in use due to a lack of ZOLL brand circuits, bacterial/viral filters, and other commodities. The assessments also found that the high level of demand for ventilators exacerbated wear and tear on the machines; that access to the appropriate ventilator commodities is challenging and is a barrier to the sustainable use of ventilators; and that there is a shortage of staff trained specifically on ZOLL ventilator maintenance. The FLAs helped inform the MOH's long-term planning for the ZOLL ventilator program. To inform facility-level and MOH operational recommendations, the FLA consultant discussed the findings with facility personnel during and after the assessments.

As ZOLL ventilators and technology were new to the country, health care providers needed to be trained on their use. LHSS worked in partnership with Reliance Group to train approximately 200 anesthesiologists and biomedical engineers on the use of the ZOLL ventilator. The joint training sessions, led by Reliance Group's engineers, educated health care providers on how to operate and maintain the ventilators and LHSS provided clinical guidelines and guidance on how to use the ventilators specifically for care of COVID-19 patients.

Due to COVID-19 restrictions, the training sessions were held over Zoom. Trainers and participants were able to connect using Telegram, which is a freeware, cross-platform, cloud-based instant messaging service similar to WhatsApp. Although the Reliance Group and LHSS trainings were able to cover health providers with the initial post-deployment training, due to shifting response needs and workforce

deployment by the MOH, some were rotated out of COVID-19 centers, which potentially left facilities without sufficiently trained staff.

LHSS, in partnership with the manufacturer of the ZOLL ventilator and the National Chamber of Innovative Health hosted two training webinars on the appropriate use of mechanical ventilators for 45 additional health care providers. Trainings included information on IPC and COVID-19 case management.

All training modules, guidelines, and videos were uploaded to the National Educational Platform (Ziyonet) in March 2022 and are available via DL Med. Training modules contain information about training using simulators, including mannequins for intubation, and addressing management of respiratory failure.

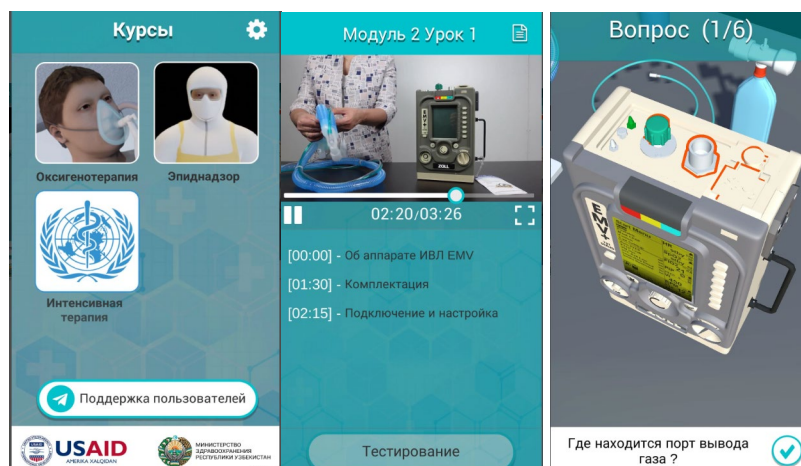
Results

- Conducted 25 FLAs in 19 facilities.
- Trained nearly 200 anesthesiologists and biomedical engineers across six regions on the appropriate use of ZOLL ventilators and oxygen therapy.
- Trained 45 health care providers in the use of ZOLL ventilators.

INTENSIVE CARE TRAINING AND DISTANCE LEARNING

The first surges of COVID-19 in 2020 and 2021 featured significant incidence of severe illness requiring hospitalization. To address this, LHSS worked with the MOH and local training institutes to provide surge training on intensive care case management. Due to lockdowns and other social distancing regulations in the first two years of the epidemic, there was a need to deliver training and post-training materials remotely. LHSS addressed the need for surge capacity training with a lens toward long-term health system resilience. In addition to providing intensive care unit (ICU) clinical trainings as part of the ZOLL ventilators rollout, LHSS, Reliance Group, and the MOH devised an “ICU mentors” approach that identified high-performing clinicians to serve as expert clinical mentors who could lead knowledge exchange and dissemination of materials to health care workers focused on intensive care case management. In addition to identifying the mentors, LHSS connected mentors to each other to create an informal network who could share lessons between regions and/or transfer knowledge to other in-service or pre-service clinicians.

Figure 2: Screen Shots from the DL Med App available through Google Play



LHSS worked with Yronica, a local technology firm, to develop the DL Med mobile application, which can also be accessed by clinicians offline. The remote training program contains a training course for ICU case management. Users who complete the course receive a certificate. While distance learning cannot replace in-person clinical training, it can supplement face-to-face learning, train clinicians located in remote areas, act as a pocket resource guide, and is a resource that can be used to train surge personnel during health emergencies. Link to the [DL Med application in Google Play](#)

Results

- Identified and trained 24 mentors across 13 regions.
- Developed and launched mobile application for ICU case management and ventilator support.
- Trained over 300 health care providers on WHO guidelines on intensive care case management related to COVID-19.

LOCAL CAPACITY STRENGTHENING AND TRANSITION

Given the unprecedented nature of the COVID-19 pandemic and its ongoing evolution, LHSS sought to work in close collaboration with the GoU and local partners. This was done to ensure that the Activity's contributions supported the GoU's emergency response and other urgent needs while also contributing to overall health systems strengthening and building resiliency. By participating in national health Strategic Preparedness and Response Plan coordination efforts, liaising with government counterparts regularly, and creating new working groups, LHSS sought to promote country-led ownership of deliverables from the outset and during program implementation.



LHSS Uzbekistan End-of-project conference presenters and participants, December 17, 2021

An end-of-project event was held on December 17, 2021, in Tashkent. The event was mostly virtual, with key presenters and stakeholders present at the International Hotel Tashkent to livestream the event. On behalf of the MOH, Deputy Minister, Dr. Basitkhanova, delivered opening remarks. Ms. Mikaela Meredith, the USAID Uzbekistan Mission Director, gave a speech on behalf of USAID. Ms. Cherry Gumapas, the Head of Medical Programs in Uzbekistan, and Ms. Flora Salikhova, Health Project Management Specialist, USAID/Uzbekistan, both participated as well. About 100 participants from national organizations, development partners, and other stakeholders connected virtually to the event. LHSS staff and consultants delivered presentations about the project's main activities and achievements, as well as lessons learned and recommendations.

Sustainability Challenges

Implementing an emergency response program presents unique challenges, especially for sustainability considerations. The Activity experienced challenges due to political instability that impacted the MOH and other partners; the changing nature of the epidemic; and the need to frequently re-define partner roles and promote rapid use of information. Below are challenges and responses that could be applicable in other emergency response interventions and settings:

- Frequent and close collaboration with government and key partners was critical but was a challenge due to the limited capacity of MOH staff and the significant demands placed on individuals in key government roles due to the pandemic. In communicating with these partners, LHSS sought to both support them in the short term and start discussions early about the financial and technical scope of the transition of activities in the long term.
- Political instability impacted LHSS's ability to build relationships with key government stakeholders due to turnover and frequent reorganization of MOH departments. This caused delays in implementation and affected the ability of the Activity to transition ownership to counterparts. To overcome this, LHSS focused on identifying and working with champions where possible and preparing a jointly defined transition plan that acknowledged the political environment, internal shocks, and changes in counterparts.
- Leveraging all available personnel and resources is critical for Uzbekistan in responding to COVID-19. However, the surge demand for specialist knowledge and frontline personnel could not be fully met, as has been seen all over the globe. Increased demand for local expertise among partners and government made it difficult to quickly locate appropriate consultancy personnel. LHSS overcame this, and sought to promote sustainability, by working with consultants connected to local training institutions and/or the government, and by developing relationships with other local institutions where expertise could be shared and leveraged after the Activity ends.
- Ensuring the timely and rapid flow of information (in particular, epi-surveillance data) is essential to Uzbekistan's health system's resilience. Correlating MEL indicators, aligning MEL strategies with existing mechanisms, and providing realistic input to government on how to maintain LHSS activities were all challenges. LHSS overcame them by working with SSEW&PH on MEL indicators and MEL strategies, focusing on tracking epi-surveillance for new and existing COVID-19 cases as well as on contact tracing. This helped make real-time data available for decision-making and tracking the evolution of the epidemic.

Sustainability Successes

- Procurements focused on short-term inputs (i.e., specimen handling) that would support the immediate response, but also emphasized the placement and long-term warranty protection of RT-PCR, laboratory, and medical equipment. Much of the investment USAID made in emergency procurements will serve the health system in the long run.

- To promote the operation of the SCM working group, it was championed from the outset by an SSEW&PH Representative and SCM Management Specialist, who will take the working group's efforts forward. This representative will work internally within SSEW&PH to advocate for the implementation of recommendations, when feasible. Through the epi-surveillance working group, LHSS helped create links between epi-surveillance staff who will continue to coordinate with each other on an as-needed basis.
- To ensure our training activities had greater impact than the immediate training program, LHSS identified 24 ICU mentors to participate in an ICU mentor's network to improve future quality of care among ICU personnel. LHSS trained the mentors on case management of severe COVID-19 patients in the ICU and appropriate oxygen therapy and ventilator use. Trained mentors will support and consult with anesthesiologists across the country. LHSS also created a group on Telegram so that mentors would still be able to connect.
- LHSS co-created and generated a broad range of guidance documents, learning modules, and training videos on ICU case management, SCM, and epi-surveillance. Training videos are uploaded onto the National Educational Platform (Ziyonet), and training modules are available on DL Med. Participant feedback on DL Med has been positive and materials are available in both Russian and Uzbek. The Vronica group will provide technical support for six months following closeout. As agreed with the MOH, key stakeholders including the National Center for Professional Development of Medical Workers, Tashkent Medical Academy, and National Chamber of Innovative Health, and its COVID-19 centers, will take ownership of DL Med once Vronica's technical support period ends.
- A former LHSS epi-surveillance consultant supported the inclusion of LHSS's ICU modules in the training curriculum for the Tashkent Medical Academy. The SSEW&PH formally accepted and agreed to host materials related to epi-surveillance.

3. LESSONS FOR FUTURE PROGRAMMING

Uzbekistan's SCM system is fragmented and faces numerous challenges. Challenges for epi-surveillance are similar to those for SCM and include a lack of dedicated specialists with sufficient analytical skills, a fragmented tracking system, and limited capacity for the SSEW&PH to lead strategy development. Per recommendations in LHSS's SCM assessment report, key actions such as updating SOPs, conducting performance reviews including data on stockouts of essential commodities at health care facilities, and holding health care worker trainings are a pathway to building the capacity of the system and addressing human resource constraints. SCM and epi-surveillance specialists could potentially be identified among incoming public health and medical students. If identified at this early stage, curriculum and training opportunities should be appropriately tailored to capture specialist cohorts and ensure they receive comprehensive education and access to training opportunities from the start.

Shortly after initiating procurement activities, LHSS identified and worked with Reliance Group, a dedicated procurement partner. Reliance Group played an invaluable role in the successful procurement and last mile delivery of equipment and commodities, as their deep knowledge of Uzbekistan enabled the Activity to successfully manage a complex supply chain environment. As such, Reliance Group is a valuable and strategic partner that should be engaged in future procurement activities.

Shifting to distance learning via mobile application was the most feasible option for managing time and resource restraints stemming from the pandemic. Distance learning offers various benefits, including allowing materials to be accessed regardless of location and time, personalization of training, ease of communication between teachers and students, and the ability to access a wide variety of materials. While distance learning is not without its drawbacks, the Activity found many strengths in this approach. Training of teachers and mentors is essential for the successful implementation of distance learning and improvement in the quality of content. In particular, distance learning educators need access to specialized training of trainers opportunities to ensure that they can effectively lead both theory-based and practical trainings. Ideally, distance learning modules should be accompanied by an “open” library with protocols, curriculum, guides, and references, to ensure the accessibility of information and strengthen course learnings.

To ensure that distance learning continues to be a means to access information and trainings, learning courses should be approved by the MOH’s Department of Science and Education and be available through DL Med and the National Education Network (Ziyonet). Distance learning would be strengthened by integration of distance learning courses with corresponding courses in medical universities, including the Tashkent Medical Academy, AndMI University, Bukhara Medical Institute, Samarkand State Medical Institute, Tashkent Pediatric Medical Institute, and the Center for the Development of Professional Education of Medical Workers.

Distance learning also needs representative bodies to drive progress. Developing a mentoring network through a national structure, such as the National Chamber of Innovative Health or the National Society of Physicians is an option, as is the creation of a national society of medical teachers, who would spearhead the development and implementation of distance learning courses.

ANNEX I: PROGRESS ON PERFORMANCE INDICATORS

ID	Indicator	Type	Baseline (2020)	Actual FY20	Target FY21	Actual FY21	Actual FY22	Cumulative Activity Achievement	Data Source	Comments and Brief Description of Achievements
1	Number of COVID-19 working groups established	Output	0	1	2	4	0	4	LHSS Activity records	SCM, Epi-surveillance working groups were established in Q2 and the IT & ICU working groups were established in Q4.
2	Number of units or preparations of specimen transport materials, diagnostic equipment, and consumable laboratory materials procured and delivered	Output	0	100	Not Available	102,958	4,900	107,958**	LHSS Activity procurement records	There were no targets set. Note: some small items were counted in cases rather than individual units.
3	Number and percent of pulse oximeters for case management of COVID-19 patients donated by USAID that were delivered (USAID OFDA 5.6)	Output	0	0	Not Available	100 (100%)	0	100 (100%)	LHSS Activity procurement records	
4	Number of MOH/ASEW Agency for Sanitation, Epidemiology, and Well-being staff trained in SCM	Output	0	0	32	0	32	32	LHSS Activity records & Training register	As per USAID request, materials for epi-surveillance were developed and videos finalized.

ID	Indicator	Type	Baseline (2020)	Actual FY20	Target FY21	Actual FY21	Actual FY22	Cumulative Activity Achievement	Data Source	Comments and Brief Description of Achievements
5	Number of people trained on surveillance and rapid response (case investigation, contact tracing, and case finding) for COVID-19 (USAID OFDA 2.2)	Output	0	0	27	0	27	27	LHSS Activity records & Training register	
6	Number of facilities receiving technical assistance for case management such as FLAs, guidance and/or training (USAID OFDA 5.1)	Output	0	0	20	11	14	25	LHSS Records and FLA Reports	There were 23 FLAs completed and 2 observational visits at 19 facilities (6 participated in FLAs twice).
7	Number of health workers trained in COVID-19 case management (USAID OFDA 5.2)	Output	0	0	74	0	356	356	LHSS Activity records & Training register	Training participants in the activities for indicators 7 and 8 were drawn from the same pool of participants.
8	Number of trained health workers deployed as mentors for COVID-19 ICU Specialists	Output	0	0	12	0	250	347	LHSS Activity records & Training register	Training participants in the activities for indicators 7 and 8 were drawn from the same pool of participants. This includes ICU mentors

**The figure of 107,958 is based on counting large individual items and boxes of single use consumables as per delivery notes. Units of single use consumable are around 500,000.

ANNEX II: SUCCESS STORY

The United States Supports Uzbekistan's Efforts to Combat COVID-19

June 8, 2020, Tashkent, Uzbekistan — On June 5, the U.S. Embassy handed over essential reagents for COVID-19 testing to the Uzbekistan’s Agency of Sanitary and Epidemiological Well-being (ASEW) as part of the United States’ assistance to Uzbekistan to combat COVID-19.

“Working together with our partners in the Ministry of Health, we will improve detection, reduce the toll of this dangerous virus, and save lives in Uzbekistan,” said U.S. Ambassador Daniel Rosenblum.

This is the first set of testing supplies being donated by the U.S. Agency for International Development (USAID). The donation includes 60 boxes of QIAGEN RNA reagent, enough to conduct 15,000 tests. A second shipment consisting of 40 boxes of QIAGEN RNA kits, enough for 10,000 tests, will arrive in Uzbekistan within a few weeks.

“On behalf of the Ministry of Health and ASEW, we express our gratitude to the United States for providing this assistance. These reagents will support our fight against COVID-19 and improve the health and well-being of our citizens,” said Ministry of Health ASEW Director Bahodir Yusupaliev.

USAID is providing \$3.9 million to help Uzbekistan respond to the COVID-19 outbreak. This assistance is preparing laboratory systems for large-scale testing, preventing, and controlling infections in health care facilities, improving COVID-19 surveillance and rapid response, enhancing case management of the infected, combatting disinformation about the virus, and engaging communities to work together.

Since the beginning of the COVID-19 outbreak, the U.S. government has committed more than \$1 billion in international assistance specifically aimed at fighting the pandemic. This funding will save lives by providing state-of-the-art ventilators, improving public health education, protecting health care workers, strengthening laboratory systems, supporting disease surveillance, and boosting rapid-response capacity in more than 120 countries around the world.



Photo: U.S. Ambassador Daniel Rosenblum, right, participates in the handover event on June 5, 2020. (Photo: U.S. Embassy Tashkent).

ANNEX III: DELIVERABLES

- Uzbekistan ZOLL™ Ventilator Program Facility-Level Assessment Round 2: Findings and Recommendations
- Summary of Draft National Strategy for Epidemiological Surveillance, Control, and Prevention of COVID-19 – Uzbekistan
- Supply Chain Management for COVID-19 in Uzbekistan: Assessment and Recommendations

ANNEX IV: END-OF-ACTIVITY PRESS RELEASE



PRESS RELEASE

USAID Successfully Completes COVID-19 Emergency Response Activity in Uzbekistan

December 17, 2021, Tashkent, Uzbekistan - Today, the U.S. Agency for International Development (USAID) held a virtual conference for its Local Health System Sustainability COVID-19 Response Activity (LHSS), which was launched at the beginning of the COVID-19 pandemic in April 2020. The LHSS activity supported a coordinated national emergency response led by the Ministry of Health and helped build the resilience of the health system against future shocks.

Through the LHSS activity, USAID provided \$2.22 million in assistance to the Government of Uzbekistan in the areas of testing and diagnostics for COVID-19, capacity building of health care workers, strengthening epidemiological surveillance, supply chain management, and intensive care case management of COVID-19 patients. The U.S. Government provided an additional \$2.23 million in supplies delivered to support the COVID-19 emergency response. These included health care consumables and Rapid Testing-PCR machines for COVID-19 testing that were extremely critical in the early days of the pandemic in Uzbekistan.

Representatives of the USAID Mission to Uzbekistan, the Ministry of Health, national counterparts, and international organizations, including the U.S. Centers for Disease Control, the German Agency for International Cooperation (GIZ), the World Bank, United Nations Development Program, World Health Organization, Japan International Cooperation Agency, and the Asian Development Bank attended the event.

The participants discussed the findings, achievements, and lessons learned from USAID's LHSS activity in Uzbekistan. One important achievement of the last 18 months has been the development of a COVID-19 case management distance learning program for health professionals. This comprehensive package includes a mobile application with teaching aids, including videos. Nearly 500 anesthesiologists were trained in intensive care case management of COVID-19 and on the appropriate use of ventilators and oxygen therapy. These resources are being transitioned to the Ministry of Health so that more health care providers can benefit from this training.

“We are so proud of the partnership between USAID and the Government of Uzbekistan that was forged in early 2020 to combat COVID-19, an unprecedented global pandemic. I would like to give credit to the Government of Uzbekistan and the Ministry of Health for their vision, dedication, and hardworking staff to lead the entire country's response to mitigating COVID-19 in Uzbekistan,” said USAID Uzbekistan Mission Director, Mikaela Meredith.

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USAID partners with the Government of Uzbekistan to diversify the country's economy, increase regional trade, address serious health threats – including COVID-19 – and build the government's capacity to respond to the population's needs. For more information, please visit:

<https://www.usaid.gov/uzbekistan>