STRENGTHENING HEALTH SECURITY
PUBLIC HEALTH EMERGENCY OPERATIONS CENTERS IN CAMBODIA, LAOS, AND MYANMAR

ANNUAL REPORT, APRIL 2020–MARCH 2021

PSI and our partners aim to improve the national capacity for timely and effective detection of, and response to, high priority infectious diseases.
PUBLIC HEALTH EMERGENCY OPERATIONS CENTERS IN SOUTH-EAST ASIA

OUR GOAL in strengthening Public Health Emergency Operations Centers (PHEOCs) is to improve national governments’ long-term capacity to monitor, prepare, and respond to disease outbreaks. We look to support PHEOCs with 1) enhanced disease surveillance and management information systems, 2) human resource development and training, 3) establishing their legal authority, and 4) developing standard operating procedures for emergency response planning.

OUR APPROACH is highly collaborative, involving key partners and relevant stakeholders in each country, such as the US Centers for Disease Control and Prevention (CDC), and the World Health Organization (WHO). The mix of local, regional, and international stakeholders ensures on-the-ground capacity and emergency operations expertise to create comprehensive work plans that are fully aligned with those of the Ministry of Health (MoH), and those of key partner organizations active in general Emergency Operations Center (EOC) strengthening.

KEY ACTIVITIES INCLUDE: facilitation of PHEOC planning at the national level; capacity building and training on the Incident Management System (IMS) structure; development and deployment of a range of plans and procedures; renovation and infrastructure upgrades of PHEOC facilities; practice of simulation exercises; and establishment of real-time surveillance and rapid response mechanisms. Training materials are created for both central and sub-national levels following the adoption of a PHEOC surveillance strengthening strategy by the Ministry of Health. Dedicated PHEOC staff are trained to build capacity and to provide supportive supervision on updated surveillance systems.

This annual report shares the results from our first project year, April 2020 – March 2021, regionally and within the context of each of the three individual countries. This three-year project runs from 2020 through 2022, with financial support provided by the Indo-Pacific Centre for Health Security (CHS) at the Australian Department of Foreign Affairs and Trade (DFAT).
PROJECT INTRODUCTION

The regular outbreak of notifiable diseases such as dengue, chikungunya, and measles, along with the ongoing COVID-19 pandemic and the unfolding health crisis within Myanmar’s complex emergency setting, all highlight ongoing threats to health security across the Greater Mekong Subregion and beyond. Improved national government capacity for timely and effective detection of, and response to, high priority health emergencies is needed to mitigate these threats and strengthen health security.

Population Services International (PSI) is working to increase national governments’ capacity to monitor, prepare, and respond to disease outbreaks by strengthening PHEOCs in Cambodia, Laos, and Myanmar. PSI supports PHEOCs, or simply EOCs with enhanced disease surveillance and management information systems, human resource development and training, and standard operating procedures for emergency response planning and management. This health systems strengthening approach relies on a strong collaboration with each country’s Ministry of Health and involves coordination and partnering with the WHO, the CDC, and other key technical partners.

In our goal to achieve improved national capacity for enhanced health security, we are working to accomplish the following:

• Develop an Incident Management System (IMS) structure, including a review of existing EOC laws and regulations to clarify and establish legal authority.
• Use global recommendations to assess gaps in capacity and create an EOC workplan in alignment with the WHO’s reference Framework for a Public Health Emergency Operations Centre.
• Develop a skilled and prepared EOC workforce, including identifying staffing needs and developing terms of reference for national and subnational EOC staff.
• Strengthen equipment, infrastructure, and surveillance systems at national and subnational levels.
• Establish standardized operating procedures, roles, and responsibilities between relevant government agencies and development/technical partners.

FIVE PILLARS OF HEALTH SECURITY STRENGTHENING

- Incident Management System
- EOC Workforce
- EOC Workplan
- Standard Operating Procedures
- Equipment, Infrastructure, and Surveillance Systems
PSI-supported activities are designed to yield results that will last for years beyond the completion of the project. Together, these interventions ensure a comprehensive emergency response capacity at all levels, grounded in a health system strengthening approach. In line with PSI’s global strategy, we are shifting policy and improving procedures, we are strengthening the capacity of the health workforce, and we are supporting mixed, more resilient health systems. In doing so, we are supporting governments in their efforts to move towards Universal Health Coverage (UHC) while actively contributing to global health security.

REGIONAL INSIGHTS AND KEY ACHIEVEMENTS

During the first twelve months of project implementation (April 2020 – March 2021), our project teams in Cambodia, Laos and Myanmar worked on many fronts, starting with initial desk reviews and assessments of the legal authority and policy frameworks required to operate EOCs. In Cambodia and Myanmar, where PSI was new to the EOC space, we rapidly became key partners to the Ministries of Health, and through our active engagement in technical working groups and other coordination mechanisms, we were able to refine and support national EOC work plans.

In collaboration with the Ministries of Health and key technical partners, we facilitated 33 capacity building events and trained more than 1,300 people on various topics from disease surveillance systems to communicable disease prevention and emergency response techniques. These training efforts all contribute to building a strong, resilient health workforce as one of the cornerstones of improved health security.

In all three countries, our project teams assessed existing notifiable disease surveillance systems to identify gaps and opportunities to improve case notification, surveillance, and tracking. In Laos and Myanmar, we tested and deployed private sector disease notification and surveillance chatbot solutions, thus also contributing to event-based surveillance (EBS) for notifiable diseases. Additionally, we assessed existing national and subnational EOC facilities and improved the infrastructure of 21 EOCs through the provision of critical emergency response and communications equipment and by improving the physical infrastructure of EOC facilities in priority provinces and regions.

PSI EOC teams in each country also actively engaged in supporting the national COVID-19 response, by assisting Ministries of Health and local health authorities with data management and by providing critical communications equipment and support, with contact tracing and disease surveillance.

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LAOS

In Laos, a rapid start-up was possible thanks to synergies with PSI’s existing EOC strengthening project, funded by the Bill & Melinda Gates Foundation. With the core PSI EOC team already in place and rapid recruitment of new positions under the CHS grant, it was possible to hit the ground running. Over the course of the year, we conducted provincial EOC and COVID-19 readiness assessments, provided equipment and refurbishment to improve the subnational EOC infrastructure, successfully rolled-out a nationwide DHIS2 notifiable disease module with corresponding trainings, and played a key supportive role in the nationwide response to COVID-19.

Within the first two months of the project, the PSI team joined a Ministry of Health/WHO-led activity on provincial-level COVID-19 preparedness, response, and reporting. We provided EOC and Incident Management System training to surveillance staff and leaders from the 18 provincial health offices. To complement and build on the basic training, we rolled out a more comprehensive Incident Management System training nationwide in March 2021, mainly supported by the Bill & Melinda Gates Foundation.

Using an adapted version of the standard equipment checklist as outlined in the WHO’s framework, we conducted provincial assessments to quantify the needs for essential equipment and infrastructure upgrades. Thus far, three Provincial Health Offices in Bolikhamxay, Champasak, and Khammouane received upgrades, enabling them to serve as fully functional, multi-purpose meeting and emergency coordination rooms and office space for provincial EOC teams. This grant has also enabled nine districts and the National Centre for Laboratory and Epidemiology (NCLE) to purchase screens and other video conferencing equipment, improving communication between the central, provincial, and district levels, thus fostering a more collaborative environment throughout the entire EOC network within Laos.

A key activity for strengthening disease surveillance in Laos was upgrading the country’s notifiable disease surveillance system and replacing an old outdated system (“Lao-EWARN”) with a much more powerful disease surveillance module fully integrated into the national DHIS2-based Health Management Information System (HMIS). Training materials and technical documentation were developed and
made available through a combination of platforms (Facebook, YouTube, and WhatsApp groups). A cascaded training approach was adopted, whereby provincial surveillance staff – trained by the NCLE with support from PSI and the WHO country office – were responsible for the technical training of district health office and hospital surveillance officers and other health workers. The move to DHIS2 has already resulted in higher quality data that can be easily analyzed to inform disease surveillance and emergency response activities. As a result of successful training, and following a 5-month transition period, all provinces in Laos are ready to use DHIS2 as the sole surveillance system. As part of the transition, PSI also supported the transfer of all historical data from the previous system into DHIS2 and provided support on various event-based surveillance activities including development of private sector surveillance.

Building on experience using a Facebook Messenger chatbot for malaria reporting, PSI expanded its use to accommodate for additional diseases using a symptoms-based approach which complements existing efforts to develop a multi-source surveillance system in Laos. This chatbot pilot for expanded disease surveillance was initiated in March 2021 within PSI’s network of Public Private Mix (PPM) outlets where the malaria reporting chatbot has been in use since the start of 2020. Pending a positive outcome, a plan for scaling up to other areas will be developed.

The benefits of these system strengthening activities are expected to be long-lasting and aimed at improving the skills of PHEOC staff as well as the physical and technological infrastructure. For example, the training that has been provided to execute the daily tasks required to respond to current outbreaks will also be useful in the future for any health emergency. The DHIS2 surveillance standard operating procedures and instructional videos serve as evergreen materials that new and existing staff can always refer to for critical operational instructions.

**DISEASE SURVEILLANCE SYSTEMS: INDICATOR AND EVENT-BASED SURVEILLANCE**

In Laos, we focused on migrating from Lao-EWARN, an outdated indicator-based surveillance system, to a more powerful and comprehensive solution fully integrated in the Health Management Information System (HMIS). In Myanmar and Cambodia, we assessed existing notifiable disease surveillance systems to identify gaps and opportunities for improvement. Private sector disease notification and surveillance chatbot solutions were tested and deployed in Laos and Myanmar, contributing to multi-source and event-based surveillance. In Cambodia, PSI initiated the development of a module for EOC resource mapping within the CamEWARN DHIS2 instance.
In Myanmar, a wide range of different fronts saw progress during the first project year, following a rapid start-up phase which included conducting an initial review of the legal authority and surveillance systems required to operate an EOC. PSI also conducted initial needs assessments and identified plans and procedures to further improve EOC functions, such as the EOC handbook and specific guidelines and terms of reference.

Improving existing national and subnational EOCs through infrastructural and equipment support is a key element of enabling a stronger response to health emergencies. Following an assessment of support needs, PSI completed the first phase of renovations in January 2021 which included basic infrastructure improvements and the installation of essential communication and electronic equipment at the national EOC facility in Naypyitaw and two subnational EOC facilities in Yangon and Mandalay. Additionally, prior to the coup in February 2021, the project supported four additional states (Bago, Hakha, Monywa, Magway) and the Mandalay Regional Health Department with the procurement and installation of new video conferencing systems which have been essential in improving communication for timely and effective public health emergency response.

By strengthening existing EOC surveillance capacity, this project will contribute to the National Action Plan for Health Security goal of ensuring a comprehensive notifiable disease surveillance and reporting system. During the first project year, we started building disease surveillance capacity, initiated the development of a disease surveillance road map, and developed a private sector disease notification and surveillance system using social media chatbots. In July 2020, PSI developed and piloted a malaria case notification chatbot flow in Facebook Messenger, identifying and integrating reporting requirements from each state and region. Following the pilot and subsequent improvements, 265 providers across Myanmar received training and access to use the chatbot. In 2021, PSI began preparations to expand the chatbot with more programs and options such as case notification for additional notifiable diseases including tuberculosis (TB), fever with rash (dengue, measles, chikungunya, etc.). As part of expanded private sector surveillance and notification, a DHIS2 reporting module was also developed to more efficiently capture TB case notification and treatment data from the private sector clinic network managed by PSI. Following a pilot and update phase, this tool was deployed in March 2021.

These efforts in the private sector have allowed PSI to establish a close technical relationship and develop a channel of strategic communication within the Ministry of Health and Sports and between other local health authorities. After continuous advocacy to push notifiable diseases surveillance system strengthening last year, our PSI EOC team plans to assess the existing surveillance capabilities across all notifiable diseases and develop a surveillance system road map for notifiable diseases after organizing a newly formed Surveillance Technical Working Group meeting in
2021, pending a return to stable governance and our ability to provide direct development assistance to the public sector. This process will require collaboration across multiple departments within the Ministry of Health and Sports including the HMIS Division, who formally requested PSI conduct a technical evaluation of the Ministry of Health and Sports DHIS2-based health information systems. However, following the military coup in February 2021, all project activities in direct support of the Ministry of Health and Sport had to be put on hold.

In Myanmar, Public Health England has been a particularly important partner; the organization has been working in the country on improving health security, under its International Health Regulations (IHR) project. Areas of collaboration include:

- The EOC and surveillance workplan and implementation
- Regular bilateral meetings to share mutual project updates and coordinate workplans
- A needs assessment workshop with the Central Epidemiological Unit, Regional Health Departments from different states, and the Department of Medical Services
- A basic Geographic Information Systems (GIS) training for Central Epidemiological Unit staff

Many of these activities, such as the needs assessment and EOC workplan development, were conducted in close collaboration and with technical support from the WHO country office.

The PSI EOC team also actively supported the national COVID-19 response by providing human resources and material support for case surveillance, data management, and contact tracing. Using PSI’s “Happy Healthy Myanmar” Facebook page with over 360,000 followers, a new campaign disseminated COVID-19 specific behaviour change messaging and supportive resources for the public during the lockdown (July – December 2020). The target audience for this campaign included formal workers, cross-border migrant returnees and recently unemployed people who may otherwise be left out of nationwide campaigns. In responding to the rapidly changing COVID-19 context, digital media messaging target areas were expanded to additional cities which became more populated with migrant and factory workers. PSI gathered insights from our target audiences’ responses and adapted to focus on psychosocial support, misinformation, and victimization of specific audiences.

RESPONDING TO A COMPLEX CRISIS
The crisis unfolding in Myanmar since the military took control of the country’s governance and parliament on February 1, 2021, is of a dual nature. The political crisis is resulting in a volatile and unstable situation with security concerns regarding citizens’ safety, upsurges in armed conflict, and collapse of the economy. The ongoing COVID-19 health emergency is further exacerbated by the political instability; testing all but stopped after February 1st, treatment options are more limited than before, vaccination roll-out plans were significantly delayed, and the availability and quality of routine health services have been further reduced. The ongoing state of emergency is severely affecting our ability to implement the activities in support of the Ministry of Health and Sports as per the original work plan, leading us to shift project activities towards a greater emphasis on private sector involvement in the COVID-19 response and disease surveillance.
CAMBODIA

In Cambodia, active implementation kicked off in September 2020. During the first year, PSI conducted an initial EOC needs assessment, reviewed surveillance systems, and provided vital support in the dissemination of new national EOC standard operating procedures. Some of the initial activities were modified based on the current context of an ongoing COVID-19 outbreak and following specific needs expressed by the Ministry of Health Communicable Disease Control Department (CDC), particularly resulting from a project design workshop conducted in January 2021.

The Cambodia EOC Incident Management System and Standard Operating Procedures (EOC-IMS/SOP) were developed and approved in August 2019. With support from PSI and development partners, the Ministry of Health CDC organized a one-day national EOC-IMS/SOP dissemination workshop in October 2020 to clarify the role of the EOC and the Incident Management System in strengthening the coordination of the public health emergency management system. Following the workshop, the national standard operating procedures were officially released for nationwide dissemination and use.

PSI initiated activities in three provinces that were identified for specific support on 1) the establishment of functioning EOC rooms and 2) capacity building for district and provincial Rapid Response Teams, which are comprised of local health workers who conduct onsite outbreak investigation and response activities. Since October 2020, subnational level EOC rooms in all 25 provinces have been established and equipped with funding from the World Bank and technical support from PSI via the CHS grant. Procurement of subnational EOC equipment related to surveillance, communications, and emergency response was initiated early on in 2021, and on March 31, 2021, the PSI EOC team handed over an initial set of materials to the Battambang and Banteay Mean Chey Provincial Health Departments.

PSI’s review of PHEOC information systems showed that there are many different surveillance, monitoring, and information systems being used in Cambodia, resulting in a scattered and complex “ecosystem” for disease surveillance that lacks interoperability and sustainability. These systems store data on different servers and are supported by different donors. To address the issue of disparate stand-alone systems, the CHS grant supports the development of a surveillance systems improvement plan and will support systems integration and improvements for disease surveillance and emergency resource management.

PSI seconded one staff member to support the CDC department to provide technical support on
surveillance, including response to the COVID-19 community outbreak and two others to support information technology operations at the Sihanouk, Battambang and Banteay Mean Chey Provincial Health Department.

In addition to regular project activities, the PSI EOC team directly supported the Ministry of Health in its fight against the successive COVID-19 outbreaks in the country. For example, we provided technical and financial resources to better monitor and strengthen the rapid response team through essential data management, contact tracing, and surveillance practices. There was also a specific need for clarifying the Rapid Response Team’s role in the COVID-19 response in Banteay Mean Chey, Battambang, and Sihanoukville provinces. Additionally, PSI co-facilitated a two-day training on COVID-19 contact tracing and data management, attended an online workshop organized by the Ministry of Health during which the draft Provincial Preparedness and Response Plan for COVID-19 2021 was shared, and supported the Battambang Provincial Health Department with the organization of a one-day multi-sectoral workshop focused on preventing the spread of communicable diseases.

DISEASE SURVEILLANCE CAPACITY BUILDING

In Cambodia, Rapid Response Teams received a basic orientation on surveillance systems to strengthen their response to COVID-19 and other outbreaks; further capacity building is planned for 2021 and 2022.

In Laos, a decentralized approach through the Training of Trainers method was used to conduct DHIS2 training. Provincial “champions” became proficient in using DHIS2 then taught users at the district level. Training workshops were successfully conducted in all provinces with subsequent efforts focused on data quality assurance, supervision, and data use.

In Myanmar, PSI conducted online capacity building trainings which included two 4-day basic data analytics trainings, each delivered to a group of 12 health staffers from the Central Epidemiological Unit.
EARLY LESSONS LEARNED

Building on the experience from implementing our initial EOC strengthening project in Laos, PSI designed unique strategies tailored to the context of each country. More specifically, some of the early lessons learned are the following:

• In new EOC strengthening projects, the first year typically comprises assessments and reviews of the EOC function and facilities. This includes overall authority and policies, disease surveillance systems, human resources, capacity, funding, and equipment. The implementation of activities around plans and procedures, capacity building, infrastructure and surveillance systems takes place after these initial assessments.

• Active collaboration between partners to combine unique strengths in a coordinated manner has enabled substantial progress to be made in further improving the Ministry of Health’s capacity for early detection and rapid response to health hazards. This has proven to be particularly necessary during the response to the COVID-19 pandemic, which has brought renewed donor interest in health security and in improving EOC capacity, leading to increased funding and technical assistance – but also requiring improved coordination and collaboration.

• Strong commitment and ownership from senior Ministry of Health leadership has been instrumental in effecting change (such as the switch to DHIS2 in Laos) and is vital for the overall success of this project.

• Health security strengthening projects should consider adopting a dual approach, with tailored interventions at both the central and local (province/district) levels. Policies, plans & procedures, disease surveillance & other information systems, and management of EOC core functions are enhanced at the central level, while local capacity building combined with improved infrastructure and equipment enable early detection and rapid emergency response guided by standard incident management systems.

• Despite operating through distinct country teams, a common PHEOC strengthening framework guides project interventions in all three countries, ensuring a cohesive approach. Regional coordination combined with regular sharing and exchange events fosters mutual learning and cross-pollination of ideas and strategies.

• PSI’s existing relationships with national Ministries of Health and our extensive global footprint allowed PSI to quickly become a valued partner in countries where our teams had not yet implemented any EOC strengthening activities. PSI’s ability to provide adequate support to the Ministry of Health in a timely manner has greatly driven this process forward.

• Flexibility in project design and using an agile approach for program implementation, is crucial when faced with an ever-changing context such as the conditions brought on by the COVID-19 pandemic throughout the region, and by the political crisis in Myanmar.

KEY PARTNERS

In addition to CHS-funded partners, PSI actively coordinates activities with other stakeholders. These include: the US Centers for Disease Control and Prevention and the World Health Organization’s headquarters, regional offices, and country offices; the Korea International Cooperation Agency (KOICA), Korea Financial Investment Association (KOFIH), the World Bank, the Asian Development Bank, relevant international NGOs such as the Clinton Health Access Initiative (CHAI) in Laos and FHI360 in Cambodia, and Public Health England in Myanmar. Beyond our three project countries, PSI regularly engages to share with, and learn from, other CHS partners throughout the region on the regular scheduled partner call series and is actively engaging with other organisations in the global EOC space.
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• Partnering To Expand Public Health Emergency Operations Centers
• Forecasting The Next Outbreak: Making PHEOCs More Efficient Using Predictive Analytics
• How Can Governments Respond Quickly To The Spread Of Covid-19?