



USAID
FROM THE AMERICAN PEOPLE

USAID GLOBAL HEALTH SUPPLY CHAIN PROGRAM
Procurement and Supply Management

Lessons Learned

Emergency Supply Chain Preparedness in Latin America and the Caribbean

MARCH 2020

The USAID Global Health Supply Chain Program-Procurement and Supply Management (GHSC-PSM) project is funded under USAID Contract No. AID-OAA-I-15-0004. GHSC-PSM connects technical solutions and proven commercial processes to promote efficient and cost-effective health supply chains worldwide. Our goal is to ensure uninterrupted supplies of health commodities to save lives and create a healthier future for all. The project purchases and delivers health commodities, offers comprehensive technical assistance to strengthen national supply chain systems, and provides global supply chain leadership.

GHSC-PSM is implemented by Chemonics International, in collaboration with Arbola Inc., Axios International Inc., IDA Foundation, IBM, IntraHealth International, Kuehne + Nagel Inc., McKinsey & Company, Panagora Group, Population Services International, SGS Nederland B.V., and University Research Co., LLC. To learn more, visit ghsupplychain.org

DISCLAIMER:

The views expressed in this publication do not necessarily reflect the views of the U.S. Agency for International Development or the U.S. government.

Contents

- Contents..... 1**
- Acronyms..... 2**
- Executive summary..... 3**
 - Context of effort..... 3
 - Activity methodology and appraisal 3
 - Report structure..... 4
- Lessons learned: Preparedness capacity building 8**
 - Scope and value..... 8
 - Stakeholder engagement..... 11
 - Implementing the ESC Playbook..... 15

Acronyms

CMO	Chief Medical Officer
COPECO	Permanent Contingency Commission (Honduras)
ESC	Emergency Supply Chain
ESCP	Emergency Supply Chain Preparedness
FOSALUD	<i>Fondo Solidario para la Salud</i>
IGSS	Guatemalan Social Security Institute
ISSS	El Salvador Institute for Social Security
GHSC-PSM	USAID Global Health Supply Chain Program-Procurement and Supply Management
LMIS	Logistics management information system
MINSAL	El Salvador Ministry of Health
MOH	Ministry of Health ¹
MSP	<i>Ministerio de Salud Pública y Asistencia Social</i> (Dominican Republic)
MSPAS	Guatemala's Ministry of Health
NGO	Non-governmental organization
OECS	Organisation of Eastern Caribbean States
PAHO	Pan American Health Organization
PROMESE/ CAL	<i>Programa de Medicamentos Esenciales / Central de Apoyo Logístico</i> (Dominican Republic)
SEN	<i>Secretariat Nacional de Emergencia</i> (Dominican Republic)
SNS	<i>Servicio Nacional de Salud</i> (Dominican Republic)
UNHRD	United Nations Humanitarian Response Depot
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development

¹ May be applied to any Ministry of Health regardless of country-specific names for equivalent entities

Executive summary

Context of effort

All countries need to be prepared for outbreaks of infectious diseases. Recent epidemics of Zika, Ebola, and COVID-19 demonstrate the human and financial impact that infectious diseases can impose. At the onset of the Zika outbreak, many countries in Latin America and the Caribbean were under-prepared. The spread of the disease unmasked serious issues with emergency supply chain in these countries, including lack of clear leadership and dedicated budgets, and challenges with procurement and monitoring of supplies. To date, most countries in the region do not stockpile essential commodities, and in some (e.g., Ecuador) this is explicitly forbidden by law.

Preparedness activities create the state of readiness to respond. One of the critical components of preparedness is ensuring the availability of a robust emergency supply chain (ESC). ESC preparedness (ESCP) training may also have collateral benefits for routine supply chains by building staff capacity and promoting a structured approach to supply chain management.

In the wake of the Zika outbreak in Latin America and the Caribbean, the USAID Global Health Supply Chain Program-Procurement and Supply Management (GHSC-PSM) project undertook an exercise to strengthen emergency supply chain preparedness across the region. This has been achieved by implementing a ten-module emergency supply chain preparedness playbook in six Latin American and five Caribbean nations², as well as one local and one regional organization, through a mixture of intensive in-country coaching and regional workshops.

“Responding now to the new epidemic, we are thinking about the 10 levers constantly – it feels like the ESCP work was designed to prepare us for [COVID-19].”
Zika emergency supply chain preparedness workshop participant

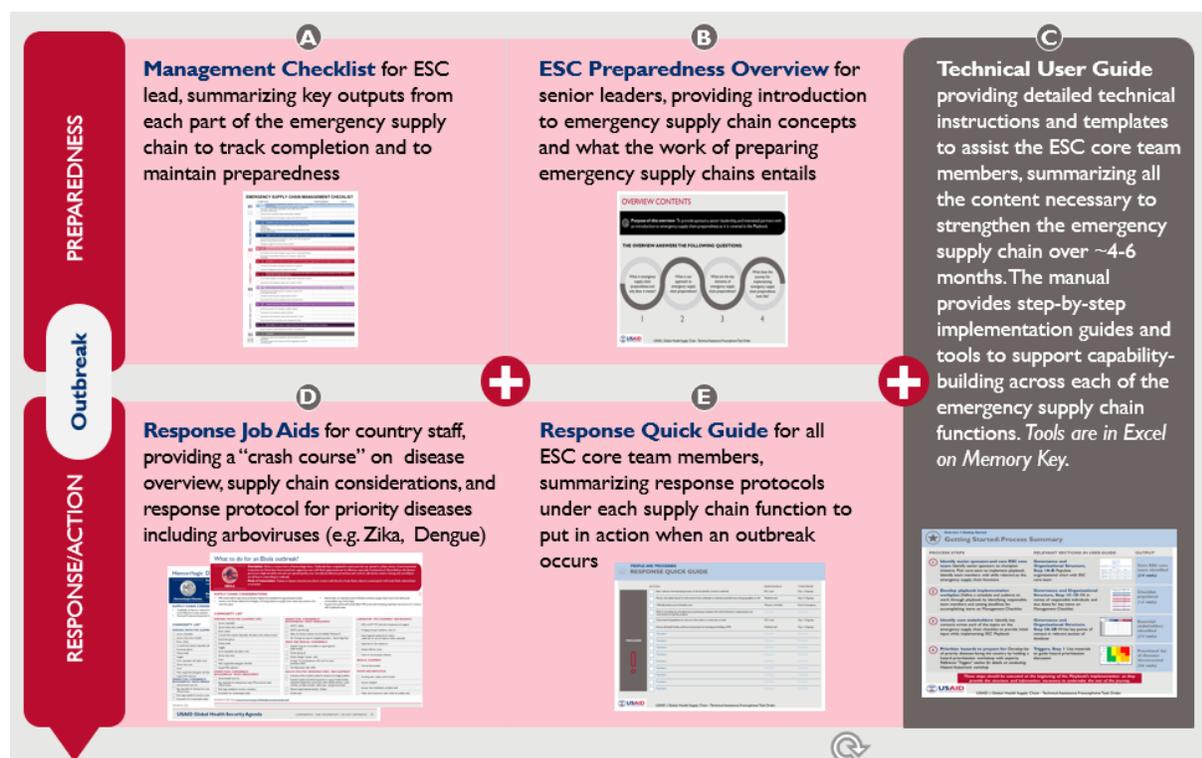
Activity methodology and appraisal

This activity was based on the implementation of the Emergency Supply Chain Playbook that includes the 10 key elements of ESC preparedness. The format was customized to accommodate country-specific working preferences, and varied from a focused one-week, workshop-based introduction to the topic, to intensive in-country implementation delivered over the course of two to five weeks. The playbook was supported by a set of tools, including a compilation of disease-specific job aids and an Excel forecasting tool. Implementation began by identifying senior sponsors within government and a working team able to dedicate a portion of their time to the activity.

Team members were selected based on the likelihood they would play a leading role in the ESC during a response to an outbreak. Participants were then taken through a series of one-on-one and group coaching sessions to implement the ESC. Activities concluded with a closing workshop and a series of simulations where the participants could practice their newly acquired knowledge and collaborate under simulated outbreak circumstances.

² The countries that received support from GHSC-PSM to conduct this preparedness work include: **Latin America:** Honduras, Guatemala, Paraguay, El Salvador, Ecuador, and Dominican Republic; **Caribbean:** St Lucia, St. Vincent and the Grenadines, St. Kitts and Nevis, Antigua and Barbuda, and Jamaica

Tools and materials included in the Emergency Supply Chain Playbook



The exercise has been well received, and increasingly so with the increased threat of COVID-19. Participants noted that “the teamwork [during the workshops], supported by the presentations, is increasing our knowledge and overall insights on ESC best practices. It also allows us to include our own ideas in the response plans,” that “very clear information is well integrated,” and that “this material came at the right time; we were grateful to learn this when we have to prepare for another imminent outbreak.” The implementing team noted a significant increase in participant knowledge and capabilities during the period of support, including during closing simulation activities, and after. A government official shared that “responding now to the new epidemic, we are thinking about the 10 levers constantly – it feels like this ESCP work was meant to prepare us for [COVID-19].” Participants also described increased knowledge that they could apply in their routine supply chain activities.

Report structure

This document includes twelve overarching lessons, each accompanied by a summary of lessons as they apply to the countries and regions where the playbook was implemented and specific solutions for implementing the lessons in emergency supply chain procedures. The primary intended audience is USAID, but we recognize that the lessons may be more broadly applicable.

The lessons are grouped into three major categories:

1. Scope and value
2. Stakeholder engagement
3. ESC Playbook implementation

The first section, “Scope and value,” reflects the general lessons learned on emergency supply chain preparedness and the value of training on ESC. The second section focuses on the engagement of stakeholders, especially as it pertains to their roles and responsibilities. The third and final section reflects on tactical recommendations on the ESC Playbook implementation. The lessons are summarized below.

Scope and value



LESSON 1

ESC capability building has significant benefit, as suggested by feedback from participants, our own observations, and participants’ performance on the simulations. The baseline level of ESC preparedness varied substantially across the Latin American and Caribbean countries where we worked. This created a significant risk of supply chain failure during a response to an infectious disease threat. A dedicated ESC preparedness training was effective in systematically identifying areas of weakness and providing tactical support and tools to strengthen supply chain preparedness in the participating countries.



LESSON 2

ESC preparedness can reveal routine supply chain inefficiencies. Participants described seeing their routine challenges from a new perspective and appreciated having a set of skills and tools to address them, applying several ESC best practices to improve routine supply chain management.



LESSON 3

Preparedness is a state to maintain rather than a one-time activity to complete. While the “bolus” support model used for this activity was effective and efficient, it will have more sustainable impact if complemented by mechanisms to promote follow-up and accountability, such as institutionalized protocols and mechanisms and continuing sponsorship by a senior government leader (e.g., Minister or Vice Minister) working in close collaboration with the ESC lead, e.g. Chief Medical Officer (CMO), procurement lead.

Stakeholder engagement



LESSON 4

Although this activity added significantly to country ESC capacity, **partner organizations**, such as the Pan American Health Organization (PAHO) and the Organisation of Eastern Caribbean States (OECS), **will remain critical to supporting ESC response over the medium-term.** Partners should be

included in preparedness activities wherever possible and can help countries maintain a state of preparedness over time.



LESSON 5

Countries value peer learning and exchange of ideas with colleagues from other countries. This enables sharing of best practices, facilitates regional coordination, and increases accountability.



LESSON 6

Emergency supply chain preparedness typically requires participation across entities that may not naturally collaborate effectively. At a minimum, this includes representatives from different departments within the Ministry of Health (MOH) and the emergency management agency. Coordinating these stakeholders requires special attention and effort.

ESC Playbook implementation



LESSON 7

Preparedness activities may fall outside the core job responsibilities of relevant government personnel. Protecting time for this work often requires explicit authorization from and the close sponsorship of a senior government leader (e.g., Minister or Vice Minister).



LESSON 8

Preparedness training is highly technical and can seem dry for adult learners. Engagement can be increased through interactive and participative approaches where participants see a practical output, such as designing their own country's response plans.



LESSON 9

Diagnosing challenges within the emergency supply chain requires the triangulation of information from multiple sources, especially as stakeholders may not know “what good looks like” at baseline. A realistic view requires complementary data (e.g., inventory management systems metrics, perspectives from partner organizations, interviews with lower level staff, observations from site visits).



LESSON 10

An effective national preparedness plan should combine external best practices (e.g., playbook provided by training team) with existing protocols and structures. Customization to local realities should outweigh strict adherence to theoretical standards.



LESSON 11

The transition from emergency to routine supply chains is an especially important area of focus and challenges participants to think about the interface between different supply chain systems.



LESSON 12

Large displacements of the population can present additional challenges during both routine and emergency supply chains and should be carefully considered during preparedness activities.

Lessons learned: Preparedness capacity building

Scope and value



LESSON 1

ESC capability building has significant benefit, as suggested by feedback from participants, our own observations, and participants' performance on the simulations. The baseline level of ESC preparedness varied substantially across the Latin American and Caribbean countries where we worked. This created a significant risk of supply chain failure during a response to an infectious disease threat. A dedicated ESC preparedness training was effective in systematically identifying areas of weakness and providing tactical support and tools to strengthen supply chain preparedness in the participating countries.

While the countries involved in this implementation project had structures and protocols in place for responding to emergencies, there was very little ESC preparedness and limited internal technical expertise, as evidenced by a lack of robust forecasting, absence of national stockpiles, and gaps in inventory of supplies and storage capacity. Existing routine supply chain efforts were also challenged by several limitations (e.g., resources). Personnel turnover further threatened effort sustainability due to loss of continuity.

On many occasions, participants celebrated the opportunity to strengthen their work around emergency supply chains. Many of them also noted the additional benefit it may bring to their routine supply chain. The simulations were a great opportunity to witness all participants' level of comfort with the newly learned principles. Across the different simulations, participants rapidly formulated plans with greater ease and increased collegiality among themselves, even when they were from different organizations.

Solution identified

A comprehensive, practical, ESCP training helped develop adequate outbreak responses across Latin American and Caribbean countries where the team worked.



LESSON 2

ESC preparedness can reveal routine supply chain inefficiencies. Participants described seeing their routine challenges from a new perspective and appreciated having a set of skills and tools to address them, applying several ESC best practices to improve routine supply chain management.

Although not intended as a main objective, work and planning involved in ESC preparedness offered insights into routine supply chain resources. A baseline supply chain capability assessment was needed to build ESC preparedness capabilities because ESC preparedness taps into existing supply chain resources. Many stakeholders also overlap; participants in charge of ESC efforts are also in charge of the routine supply chains. Participants welcomed insights into their routine supply chain capabilities, especially because many did not have a baseline for comparison.

For example, in Paraguay, designing purchasing models for the ESC provided insights into current supplier payment delays. In response, the Paraguay participants developed a strategic plan to leverage “direct purchasing processes” that involved immediate payment. Similarly, in Guatemala, participants identified the existing resource constraints in the MOH that inhibited stockpiling and plan to create an open contract database to allow rapid procurement of supplies. The Dominican Ministry of Health explicitly asked for feedback on areas of opportunity for its routine supply chain. Additional reflections on the routine supply chain included e.g. suboptimal capacity and security of warehousing facilities in St. Kitts and Nevis, and over-reliance on procurement through OECS.

Solutions identified

- A high-level ESC preparedness diagnosis can help identify routine supply chain limitations. Flagging those to sponsors can help strengthen routine efforts.
- Bridging the ESC and routine supply chain in preparedness training can further enable participants to apply learnings and raise awareness of key considerations.
- A frank conversation on witnessed routine supply chain deficiencies can increase transparency around ESC preparedness capabilities and lead to tactical adjustments for ESC preparedness capability building.



LESSON 3

Preparedness is a state to maintain rather than a one-time activity to complete. While the “bolus” support model used for this activity was effective and efficient, it will have more sustainable impact if complemented by mechanisms to promote follow-up and accountability, such as institutionalized protocols and mechanisms and continuing sponsorship by a senior government leader (e.g., Minister or Vice Minister) working in close collaboration with the ESC lead (e.g., CMO, procurement lead).

Preparedness requires an ongoing effort and changing the status quo, which is difficult. Participants must deal with several competing priorities, many of which involve important, routine supply chain issues that require immediate attention. Projects like this one, with intense in-country engagement, may be perceived as done once training is completed. Ensuring that preparedness continues demands institutionalized processes, not just individual champions.

Countries that were aware of this risk made several suggestions to mitigate it. Honduras decided it would create an official operative manual to strengthen its response efficiency, with approval from the *Dirección de normalización*. Both the Dominican Republic and Paraguay are working on a ministerial endorsement of newly created protocols. In St. Vincent and the Grenadines, the ESC team was established and endorsed by the Permanent Secretary and Minister of Health, while the Federation of St. Kitts and Nevis aligned its ESC team with the existing structures for emergency response and incorporated the use of the ESCP Excel tool into its commodity forecasting while the implementation was still ongoing. The OECS has resolved to organize regular ESCP refresher trainings and simulations among its member states to maintain awareness of best practices and ESC capabilities. Informal processes, such as ongoing communication through WhatsApp groups, pre-planned follow-up meetings, and video conferences with the training team were also implemented to further sustain momentum.

Solutions identified

- Engage the project sponsor early on and obtain their buy-in in order to institutionalize materials/processes going forward and formalize key ongoing collaborations (e.g. institutional agreements).
- Designate the ESC lead early on to build ownership of the preparedness activity and corresponding deliverables, and provide coaching on stakeholder management and problem-solving capabilities, especially where there is no previous experience in a similar role or lack of familiarity with participants or entities.
- In cases where the ESC leaders are stakeholders with more technical roles, engage senior leadership to ratify and formally kick-off the initiative, empowering owners to take on the leadership responsibilities required of the ESC team.
- Integrate regular monitoring and management into institutional processes to facilitate incorporation of preparedness activities into 'routine work'.
- Develop a tactical follow-up plan document with teams that considers short-, medium-, and long-term goals for respectively the next 3, 6 and 12 months. Include dedicated owners and timeline. Share the document widely to create accountability.
- Formalize a cadence of future meetings, to ensure regularity of meetings – e.g. subteams to meet once monthly, with bimonthly meetings between the ESC lead and the subteam leads. Provide guidance on ongoing preparedness meetings (e.g. agenda, items on follow-up plans to review). Share information widely to create accountability.
- Consider follow-up meetings after the intensive preparation phase to review progress and sustain accountability. These can include a videoconference and/or WhatsApp texts.
- Encourage ESC leaderships to organize refresher trainings and simulations using the materials and tools provided during the implementation.

Stakeholder engagement



LESSON 4

Although this activity added significantly to country ESC capacity, **partner organizations**, such as the Pan American Health Organization (PAHO) and the Organisation of Eastern Caribbean States (OECS), **will remain critical to supporting ESC response over the medium-term**. Partners should be included in preparedness activities wherever possible and can help countries maintain a state of preparedness over time.

Partnerships remain crucial. Ministries of Health had already been working, often for long-standing periods, with many partner organizations such as PAHO, OECS, Direct Relief, the United Nations Children's Fund (UNICEF), and other international non-governmental organizations (NGOs). The nature of these relationships ranged from technical expertise to operational support, including donations and pooled procurement. In many instances, organizations also provided some emergency response support. The long-standing nature of those relationships often meant they had survived numerous government transitions.

For example, in Guatemala, collaboration with UNICEF helped develop a list of commodities for the congenital Zika syndrome. In Paraguay, sponsors identified key organizations they wanted the team to work with. They invited PAHO to attend a medical team meeting and share their existing work. During the Caribbean workshop, the presence of PAHO and OECS allowed the participants to identify potential warehousing options and support for procurement processes. Further participation of the OECS in the implementation workshops in St. Lucia as well as an OECS-specific, regionally focused implementation, further highlighted critical ways in which the OECS can support its member states, e.g. through regional stockpiling and implementation of logistics management information system (LMIS). In addition, information from PAHO was used to develop the response job aid for COVID-19, which was shared with all countries where the implementation was ongoing or had been completed.

Solutions identified

Early in the process:

- Discuss with sponsors and the local USAID mission on the key external organizations they partner with effectively. This should be done when identifying the baseline.
- Facilitate partner organization connections through local staff and USAID mission introductions. Use these to initiate conversations on the project and its potential requirements.
- Involve partner organizations in training and material reviews, if possible. This will highlight the partners' value and leverage their technical expertise.



LESSON 5

Countries value peer learning and exchange of ideas with colleagues from other countries. This enables sharing of best practices, facilitates regional coordination, and increases accountability.

The opportunities to observe preparedness best practices are limited, especially in an underperforming system. Participants in the countries were often overwhelmed by daily challenges and had few contacts with peers in similar roles. In addition, regional bodies often interacted only with high-level officials, further limiting exposure for participants at lower levels. Personnel turnover further exacerbated this issue, making it difficult to develop and maintain relationships with peers in other countries.

In-country implementation participants (e.g., Ecuador, El Salvador) frequently celebrated the opportunity to learn about the experience of other countries. They particularly enjoyed the case studies on how each country dealt with different situations. During the Caribbean implementation, participants appreciated the opportunity to interact and share best practices. The presence of regional partners (PAHO and OECS) also helped to strengthen existing relationships.

Solutions identified

- Plan and conduct a multi-country workshop to allow countries to share best practices. Including geographically proximate countries can strengthen regional coordination.
- Invite regional partners and representatives from neighboring countries to attend in-country workshops, facilitating the exchange of technical expertise.
- Include country-specific debriefs in training so country teams can present their individual work, approaches, and ways of working to other groups.
- Use case study examples from other countries' experiences to bring material to life (e.g., Haiti's response to its cholera outbreak after the hurricane).
- Identify opportunities for increased collaboration going forward, especially regarding regional coordination (e.g., United Nations Humanitarian Response Depot (UNHRD) emergency stockpiles in Panama).



LESSON 6

Emergency supply chain preparedness typically requires participation across entities that may not naturally collaborate effectively. At a minimum, this includes representatives from different departments within the Ministry of Health (MOH) and the Emergency Management agency. Coordinating these stakeholders requires special attention and effort.

Effective supply chain preparedness requires that multiple parts of government collaborate. Although Ministries of Health led the initiative in all countries, social security organizations (which are large providers of care in many Latin American countries), emergency response organizations, and sub-national representatives often needed to be involved. Coordination was more challenging when participants reported up through different structures. The problem was compounded because the health systems of some countries had been in flux over the last few years, with high personnel turnover or restructuring.

Coordination across entities was required in all countries where we implemented this work, with up to five parts of government involved in emergency supply chains. Many of these groups hadn't previously worked together or did not do so routinely. For example, in the Dominican Republic the *Ministerio de Salud Pública y Asistencia Social* (MSP), *Servicio Nacional de Salud* (SNS), and *Programa de Medicamentos Esenciales/Central de Apoyo Logístico* (PROMESE/CAL) welcomed the opportunity to collaborate, something they had not done since a large restructuring effort in 2015.

A similar situation occurred in Paraguay and officials expressed concerns about staff turnover affecting “the connections that we are developing and may be at risk of losing again.” Honduras recently created the Permanent Contingency Commission (COPECO), which was seen as an opportunity to share the fairly new organization's role more widely. In El Salvador, 3 organizations which normally work in parallel – the Ministry of Health (MINSAL), the Institute for Social Security (ISSS), and the *Fondo Solidario para la Salud* (FOSALUD) – repeatedly hailed the opportunity to break through existing silos and align on a more efficient ESC response in the future.

Spending time with senior sponsors to define the right participants was valuable, especially when done early (ideally before implementation begins), e.g. in El Salvador. Including a session where the different organizations presented their respective roles, as was done in Honduras, increased awareness of the different capabilities available for supply chain preparedness. Despite initial resistance, the collaboration of certain organizations, like Guatemala's Ministry of Health (MSPAS) and the Guatemalan Social Security Institute (IGSS), proved successful. Proper coordination also helped identify new collaboration opportunities, such as the stronger engagement of PROMESE/CAL in emergency preparedness in the Dominican Republic. In St. Kitts and Nevis, a kick-off debrief with senior sponsors was instrumental in adopting ESC team member's suggestions for incorporation of representatives across other relevant institutions.

In two countries supported by this work, El Salvador and Paraguay, local regulations designate a government agency other than the Ministry of Health to oversee and coordinate the national emergency response, even for health-related events. This underlines the importance of ensuring the right mix of agencies partake in the preparedness activities.

Solutions identified

- Meet with sponsors before the kickoff to identify the right set of participants and to define coordination mechanisms across parts of government. Alternatively, meet with sponsors after the kickoff to align on the ESC team composition and invite officials from other relevant institutions.
- Understand existing emergency response regulatory frameworks and the corresponding stakeholder layout, and ensure all important stakeholders are adequately represented. This is an opportunity to break silos and foster increased collaboration. Our experience was that there was initial resistance but that stakeholders were ultimately positive about the opportunity to collaborate, and when given a chance, participants tend to be very vocal about missing key stakeholders.
- Ensure the right mix of roles in the ESC team to safeguard maintenance of preparedness capabilities in the medium and long term. This includes operational expertise in ESC-related topics, but also, importantly, the team should include participants with sufficient political capital to become agents of change, able to mobilize entire departments or offices within their respective institutions.
- Consider the involvement of sub-national representatives (e.g., the head of regional supply chain services) in the training. This increases visibility among personnel who will be responsible for delivery during an emergency.

- Engage officials in a working session to map all relevant non-governmental organizations and stakeholders that should be consulted in the initial implementation. This can increase the effort's sustainability.
- Assign an in-country focal point from USAID, or specifically GHSC-PSM, who knows the stakeholder landscape and can hasten access to strategic partners and personnel. They offer important context and can help navigate between the different stakeholders.
- Create a vision of the shared mission and the importance of collaborative work to increase collaboration, create urgency, and minimize potential existing frictions; sourcing local examples can help, for example: "When you were dealing with the yellow fever epidemic in 2015, having this group support logistics increased access to vaccines and limited population unrest."
- Dedicate time in coaching sessions and (potentially) weekly sessions to discuss roles, responsibilities, and historical responses to emergencies. This is especially relevant if stakeholders aren't used to working together.

Implementing the ESC Playbook



LESSON 7

Preparedness activities may fall outside the core job responsibilities of relevant government personnel. Protecting time for this work often requires explicit authorization from and the close sponsorship of a senior government leader (e.g., Minister or Vice Minister).

Almost all of the supply chain personnel with whom we worked across countries were primarily focused on routine supply chains, with little to no time protected for ESCs in their job descriptions. Even if government leaders and staff agreed that this work was valuable, dedicating time proved challenging. The explicit support and oversight of a relatively senior leader is needed to overcome this status quo. The participation of senior leaders is also required to make major changes to supply chain architecture or financing. Staff motivation was also increased through non-financial incentives and making the activity as convenient as possible.

For example, in Honduras, supply chain staff were interested in the project, but their fully booked agendas required additional efforts to schedule follow-up meetings dedicated to ESCP. In Paraguay, MOH officers tended to cancel meetings due to competing priorities. Having direct communication with the Vice-Minister, who asked us specifically “Is it important for us to meet now?”, created accountability and reinforced the importance of this work to his team. Similarly, in St. Lucia and St. Vincent and the Grenadines, attendance of the CMO reinforced the importance and timeliness of the workshops and the need for immediately actionable outcomes.

Because the work involved different organizations, it was important to have sponsors from all key organizations holding the relevant technical staff accountable. In Paraguay, both the key stakeholders, the MOH and *Secretariat Nacional de Emergencia* (SEN) sponsored the effort. Element-specific champions further increased accountability. For example, in the Dominican Republic, the finance leader was from SNS, and the logistics leader from PROMESE/CAL held personnel in these respective organizations accountable. This also fostered the various organizations’ collaboration, as they had often just started working together. In El Salvador, ESC subteams (e.g., Finance, and Procurement) had representation across all 5 entities involved (namely, MINSAL, ISSS, FOSALUD, the National Drug Registry and *Dirección de Protección Civil*). Having broader representation also increased alignment on the scope of work.

Solutions identified

- Identify and secure the support of senior sponsors before starting implementation and schedule follow-up touchpoints at the mid-point and end of the intensive phase. The sponsors should also participate in the kickoff and closing (even if briefly).
- Foster accountability from all key organizations by naming sponsors for each major organization (e.g., sponsor from MOH, sponsor from emergency response group); try to secure a high-level sponsor (e.g., Minister or Vice-Minister) with name recognition across the entities.
- Define scope and goals with stakeholders clearly and repeatedly during check-ins, but remain open to finding solutions and other opportunities to offer support as issues arise.
- Define ways of staying in touch with sponsors, especially regarding the best modes of communication; WhatsApp was very popular across all countries.
- Identify and address potential bureaucratic barriers to participation in the activity (e.g., “*carta de oficios*”). Meet participant preferences (e.g., meeting venue) wherever possible.

- Consider integrating non-financial participation incentives for staff, such as completion certificates. A dedicated closing ceremony with high-profile officials also creates additional incentives.
- Identify and engage on content areas where senior input will be required early on, e.g. financing questions, major changes to supply chain architecture.



LESSON 8

Preparedness training is highly technical and can seem dry for adult learners. Engagement can be increased through interactive and participative approaches for which participants see a practical output, such as designing their own country’s response plans.

Supply chain preparedness best practices can appear theoretical to individuals who are unfamiliar with the topic. Often participants relate to it better when they see it “live in action,” especially given the topic’s operational nature. ESC training also needs to consider potential “exercise fatigue” from several working sessions; many participants in the countries where implementation occurred engaged in multiple learning activities during the year.

Formal and informal feedback consistently reinforced participants’ desire to repeat and increase team-based learning activities. Doing so deepened their familiarity and comfort with materials and encouraged ownership. The ESC simulations were very effective and successful in engaging participants across all countries. Dedicating more time to crafting tools in teams, such as the Quick Response Guide, effectively enhanced participants’ application of materials. In Honduras, participants reacted very positively when they saw their input incorporated in the materials because they were then able to drive the content. In Guatemala, the ESC lead led the final demonstration of the Excel, helping the team see the usefulness of the tool and the results of their efforts. In the Caribbean workshop and in Paraguay, participants requested additional one-on-one coaching time to navigate Excel and apply their classroom learnings. Feedback during the implementation in St. Lucia, and St. Vincent and the Grenadines consistently highlighted the value of group activities, and in El Salvador ESC subteams took the initiative to organize multiple sessions outside the full-team workshops to engage with the materials and develop ESC tools.

Solutions identified

- Share learnings and customize tools during group training sessions (e.g., create response plans and map actors). A few key knowledge slides followed by an exercise with a facilitator for each team worked best.
- Use informal and formal feedback (e.g., debrief with leadership, feedback forms) from each session to adapt training materials. For instance, some groups prefer additional team-based work.
- Transition tools to participants early on to increase ownership, such as completing their tabs in Excel, uploading key documents to a shared drive, etc. This increases their familiarity with the tools and empowers them to drive more of the individual coaching session.
- Add guest speakers to one or two group sessions to leverage local expertise. It can increase team morale and foster commitment. Send invitations to these speakers as early as possible, since some briefing is needed, and scheduling may prove complex.
- Assess ESC leadership’s capabilities informally, especially on project management and participant coaching. Materials, including role-modeling exercises, can then be adapted and become more effective.

- Include short demonstration sessions of the ESCP Excel tool during the working sessions. Participants can visualize the tools' usefulness and access technical content more easily (e.g., the process for identifying financing sources, the model for number of supplies needed based on expected cases).
- Plan for additional one-on-one time outside the scheduled working sessions to support participants and increase their ability to use the tools. Prioritize the key team members that will own the tools going forward.



LESSON 9

Diagnosing challenges within the emergency supply chain requires the triangulation of information from multiple sources, especially as stakeholders may not know “what good looks like” at baseline. A realistic view requires complementary data (e.g., inventory management systems metrics, perspectives from partner organizations, interviews with lower level staff, observations from site visits).

ESCs are complex systems with frequently fragmented ownership. All of this makes accountability more challenging. In addition, many participants had never seen a well-performing system, limiting their ability to identify potential system opportunities. General national pride further motivated participants to give initial answers such as “Relationships with suppliers are excellent, with deliveries within two weeks of the order.” Unfortunately, we would later learn that deliveries were uneven and payment delays to suppliers could average four to five years.

Acknowledging these realities provided more transparent, candid conversations but required that the different entities learn to trust one another. In Honduras, the different stakeholders overcame these challenges by presenting their different perspectives to each other and discussing them. The Dominican Republic also engaged sub-national representatives, who offered an additional perspective. In Paraguay, site visits to central warehouses and one regional warehouse sparked observations and conversations that created a clearer, more realistic picture. In El Salvador and St. Kitts and Nevis, completion of the Warehousing capacity tab in the ESCP Excel tool led participants to admit they lacked a clear overview of available storage. Through participation in the St. Lucia workshops, OECS procurement officers learned the impact of shipment delays, and conversely, St. Lucia MOH officials understood the mechanisms behind OECS's pooled procurement and what the member states can do to avoid delays. In St. Vincent and the Grenadines, we used the recent Zika outbreak as a starting point for assessing the emergency supply chain and identifying areas of opportunity.

Solutions identified

- Identify a few data sources to diagnose the current state of the ESC (e.g., reports from inventory management systems, interviews with government staff, interviews with other partner organizations, and site visits). The country's response to historical outbreaks is a good starting point. Make time to review the data and ensure it provides new, relevant information.
- Engage in a careful manner (e.g., right individuals, right setting, and right tone) on more politically charged or sensitive subjects (e.g., payment delays, and inter-agency conflicts).
- Prepare to hold multiple individual sessions to build trust and obtain more transparent information, especially with more skeptical personnel.

- Plan to have sponsors and/or ESC leadership lead conversations that are potentially more sensitive. This helps foster a transparent and supportive environment while building their capabilities to handle these types of situations.



LESSON 10

An effective national preparedness plan should combine external best practices (e.g., playbook provided by training team) with existing protocols and structures. Customization to local realities should outweigh strict adherence to theoretical standards.

In-country ESC technical expertise varied widely among the nations involved in the project. Their baselines ranged from minimal to relatively well-developed emergency operation center responses to natural disasters (e.g., Paraguay and the Caribbean). Recent efforts in preparedness and surveillance work have produced many national guidelines. Most participants were aware of the guidelines within their organizations but limited inter-agency collaboration occurred. Leveraging the existing work can not only increase awareness of the entities' ways of working but simplify the work.

Participants gladly welcomed the opportunity to learn about best practices in their own and other countries. Many carried and read their playbook carefully. Interest went beyond ESCP, with officials frequently requesting additional support. Based on these requests, we incorporated:

- Broader, non-ESC considerations on emergency preparedness
- An all-hazard approach (e.g., addressing natural disasters)
- Increased links between routine and emergency supply chains

Solutions identified

- Identify relevant national protocols early on and ensure teams integrate their content into the adapted materials. Review materials when new protocols are developed, especially new clinical guidelines that may cause changes in suppliers.
- Schedule additional, dedicated working sessions to identify unique solutions to key issues that require resolution (e.g., absence of stockpiles or the need for a new procurement process). These dedicated brainstorming sessions can make the materials more relevant and can provide unique breakthroughs to solve problems. Choose topics wisely and be mindful of staff's time.
- Conduct, if possible, an exercise to identify funding flows that could be delayed or partially eliminated during an emergency response. If no dedicated emergency resources exist, teams may need to review resource allocation before re-programming resources.
- Consider the addition of complementary training in cross-functional capabilities such as financial and resource management. This could strengthen the country's ESC and would probably involve other key stakeholders, such as the Ministry of Finance.



LESSON 11

The transition from emergency to routine supply chains is an especially important area of focus and challenges participants to think about the interface between different supply chain systems.

For many countries, the ESC will facilitate a surge in routine supply chain capabilities. It is important to understand how the routine and emergency supply chains interact. For example, personnel for the routine supply chain and ESC may or may not overlap. Understanding personnel and roles involved in both efforts enables better coordination.

Transition training helps solidify when an emergency ends. It also highlights key considerations post-transition that may need to be accounted for on an ongoing basis. Such considerations include increased costs of ongoing medical care post-emergency, such as providing supplies for children born with congenital Zika syndrome and providing dialysis after yellow fever complications. Many ongoing considerations will involve stocking and procuring supplies on a continued basis.

A key challenge of transition is anticipating all the elements that may need to be accounted for. While one cannot fully understand costs until an outbreak is occurring, participants can be trained on what is relevant to consider. Training helps make sure considerations do not slip through the cracks.

Solutions identified

- Ensure the importance of transition planning is conveyed in preparedness training.
- Identify relevant national protocols early in an emergency to help identify all potential additional supplies in the routine supply chain that may need to be considered post-emergency.



LESSON 12

Large displacements of the population can present additional challenges during both routine and emergency supply chains and should be carefully considered during preparedness activities.

Displaced populations are defined as groups of people forced to leave their home, either crossing an international border (refugees) or within a nation (internally displaced), usually because of an unexpected event (e.g., war, persecution, natural disaster). In recent years, this has become a regional phenomenon in Latin America, with for example, roughly five thousand people leaving Venezuela daily since 2018 to settle in neighboring countries.

The rapid movement of displaced populations creates additional challenges to emergency supply chain operations: it makes the demand volatile and unpredictable, increases the risk of epidemics that can spread to host populations, and involves additional stakeholders and political considerations. In this context, preparing in advance can help mitigate the heightened risk of destabilizing herd immunity for host and/or displaced population. In Ecuador, for example, refugees can register with the public health services to complete vaccination schedules.

Solutions identified

- Understand the characteristics of displaced populations in order to inform an effective ESC response, taking into consideration (dis)similarity in disease profiles and the relative spread of displaced populations.
- Re-assess each of the 10 elements of the ESC, considering the needs of displaced populations, particularly as it relates to Governance, Triggers, Commodity Forecasting, Data Visibility, and Transition from emergency to routine.