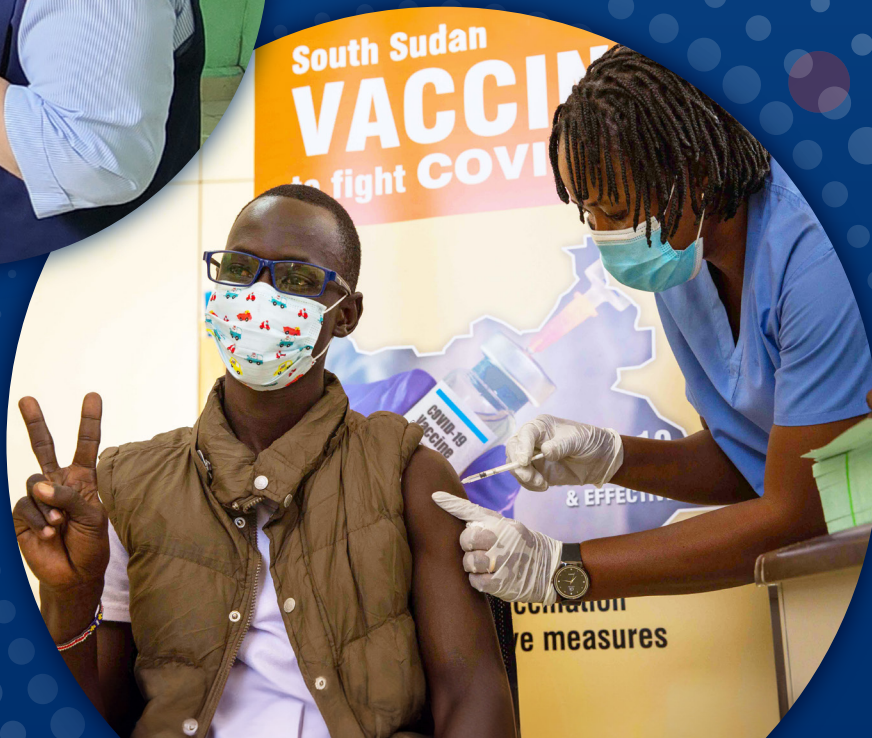


**THEMATIC EVALUATION STUDY I:
PANDEMIC
PREPAREDNESS
CAPACITIES IN
HUMANITARIAN
SETTINGS**



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ACRONYMS

| ACRONYM | DESCRIPTION |
|-------------|--|
| BGH | Bureau for Global Health |
| BHA | Bureau for Humanitarian Assistance |
| CBM | Country Business Model |
| CDC | United States Centers for Disease Control and Prevention |
| CEA | Community Engagement and Accountability |
| COVAX | COVID-19 Vaccines Global Access |
| COVID-19 | Coronavirus Disease 2019 |
| ET | Evaluation Team |
| FAA | Fixed Amount Award |
| FCV | Fragile, Conflict-Affected and Vulnerable |
| FGD | Focus Group Discussion |
| FY | Fiscal Year |
| Gavi | Gavi, the Vaccine Alliance (previously GAVI Alliance/ Global Alliance for Vaccines and Immunization) |
| GBV | Gender-Based Violence |
| GOS | Government of Syria-controlled areas |
| HCIMA | Humanitarian Coordination, Information Management, and Assessments |
| HEPR | Health Emergency Preparedness, Response and Resilience |
| HeRAMS | Health Resources and Services Availability Monitoring System |
| HW | Health Worker |
| IFRC | International Federation of Red Cross and Red Crescent Societies |
| IHR | International Health Regulations |
| INGO | International Non-Governmental Organization |
| IP | Implementing Partner |
| IPC | Infection Prevention and Control |
| KII | Key Informant Interview |
| LASER PULSE | Long-term Assistance and Services for Research Partners for University-Led Solutions Engine of Purdue Applied Research Institute |
| MHPSS | Mental Health and Psychosocial Support |
| MOH | Ministry of Health |
| NS | North of Syria |
| NGO | Non-Governmental Organization |
| OSL | Operations Supply and Logistics |
| PIO | Public International Organization |
| PMC | Pharmaceutical and Medical Commodities |
| PPE | Personal Protective Equipment |
| RCCE | Risk Communication and Community Engagement |
| RQ | Research Question |
| TANGO | Technical Assistance to Non-Governmental Organizations |
| UNICEF | United Nations Children's Fund |
| USAID | United States Agency for International Development |
| USG | United States Government |
| WASH | Water, Sanitation and Hygiene |
| WFP | United Nations World Food Programme |
| WHE | WHO Health Emergencies Programme |
| WHO | World Health Organization |

EXECUTIVE SUMMARY

Significance

It is only a matter of time before the world faces another pandemic. This reality has prompted negotiations for the first Pandemic Treaty among various other investments in global health security, including by the United States Government (USG). In 2023, World Health Organization (WHO) developed the Health Emergency Preparedness, Response and Resilience (HEPR) architecture to further operationalize the core capacities and commitments necessary of nation states and global stakeholders aligned with the International Health Regulations (2005). Yet, countries facing humanitarian emergencies, often characterized by limited governance and systems, cannot be left behind. Global health security depends on the inclusion of even the most fragile countries in this agenda.

What are the opportunities for building and sustaining future pandemic capacities in humanitarian contexts, and specifically for conflict settings? Drawing upon learning from USAID/BHA's Coronavirus Disease 2019 (COVID-19) 2020-2022 response, this Thematic Evaluation study seeks to answer this by identifying the multi-level and system capacities built directly and indirectly from the response.

Methods

The evaluation was commissioned by USAID/BHA and conducted by an external evaluation team from Technical Assistance to Non-Governmental Organizations (TANGO) International and Tulane University. The study utilized a multi-level model to evaluate key pandemic preparedness capacities and gaps across four levels: 1) Global & Regional, 2) BHA & USG Coherence, 3) Country & Implementing Partner (IP), and 4) Community. Key capacities are outlined around WHO's HEPR framework. Examples of cross-system capacities developed during the COVID-19 response and other promising practices are provided. The primary evidence sources triangulated to support study findings include: 62 remote and in-person key informant interviews across levels and stakeholder groups; qualitative data from case studies in conflict/insecurity settings of Syria, South Sudan, and Honduras; 129 health worker surveys in the case study countries; and relevant award reports and literature. This theme was selected and refined using evidence from the BHA COVID-19 Fiscal Year 2021 Supplemental Performance Evaluation, and in collaboration with BHA. This study focuses on health sector preparedness, while highlighting the necessity of multi-sectoral response, and the complementary Thematic 2 report on Lessons on Surge Funding covers food security and emergency livelihood responses.

The research questions (RQ) included: RQ1) What preparedness capacities were strengthened in the humanitarian architecture across levels? RQ2) How can capacities be built and sustained in fragile, conflict-affected, and vulnerable settings? RQ3) What promising practices emerged from BHA support?

Results

Key preparedness capacities and evidence of institutionalization to sustain these capacities across levels are framed around the HEPR five competencies (*Emergency Coordination/Human Resources, Collaborative Surveillance, Community Protection, Safe and Scalable Care, and Access to Countermeasures*). Some key results on these capacities and gaps included the following:

- **Global & Regional Level:** All five competencies were enhanced at this level. This was completed via Global Health Cluster strengthening, improved multi-sectoral cluster coordination, surge and joint assessment mechanisms, and global open courses, including for surveillance (*Coordination and Collaborative Surveillance*); greater coherence of Risk

Communication and Community Engagement (RCCE)/Community Engagement and Accountability (CEA) strategies among stakeholders (*Community Protection*); and advancing the WHO Health Emergencies (WHE) Programme's operational role, such as in medical supply chain (*Safe and Scalable Care*). Longer-term and diversified sources of funding are a major barrier for sustaining many of these programs.

- **BHA & USG Level:** Significant strides have been made within BHA and across relevant USG offices to enhance and institutionalize coordination for strengthening pandemic preparedness, detection, and response systems, and to support vaccines reaching humanitarian settings in the future and requires leveraging other actors (*Coordination and Access to Countermeasures*). Further simulation or other exercises to test these mechanisms are needed. BHA has played a key role in ensuring multi-sectoral responses to pandemic secondary effects (*Community Protection*).
- **Country & IP Organizational Level:** Key capacities included enhanced local government collaboration and capacity strengthening, along with developing adaptive and operational response skills among IP staff and systems for RCCE and infodemic programs, mobile and remote service delivery, and supply chain management, among others (*Coordination/ Human Resources, Collaborative Surveillance, Community Protection, Safe and Scalable Care*). These systems also need ongoing investment to be sustained.
- **Community Level:** Frontline and community health workers felt confident in their abilities and skills gained from COVID-19, which span the HEPR competencies, and include enhanced and ongoing use of infection prevention and control (IPC) measures. Subsequent shocks and outbreaks beyond COVID-19 have stressed their ability to maintain essential services and capacities in a post-COVID-19 funding phase.
- **Conflict Settings:** The foundation for building pandemic preparedness capacities involves investing in frontline human resources, community engagement systems, national and sub-national cluster coordination.

Conclusion & Recommendations

In conclusion, building enduring pandemic capacities in humanitarian and fragile contexts requires ongoing investment, coordinated efforts across sectors and levels, and a steadfast commitment to health system and all-shock preparedness and response from donors and humanitarian actors. Funding and capacity building at national and community levels are crucial for sustaining and institutionalizing improvements gained following the COVID-19 response. BHA plays a key role in supporting multi-level and multisectoral pandemic preparedness in these contexts, and advocating for global health security in fragile contexts among other USG agencies and donors. Overall, BHA's COVID-19 response enhanced multi-level pandemic preparedness and highlighted the need for continued support, clear program milestones, and strategic planning to strengthen these gains.

RECOMMENDATIONS FOR USAID/BHA:

1. BHA should continue to collaborate with Bureau for Global Health, Centers for Disease Control and Prevention, and others on a plan for multi-year capacity building of the humanitarian architecture for future pandemics, including collaboration areas with other funding streams or donors. A clear impact statement by WHE is needed on the potential global health security repercussions due to lack of funding.
2. BHA should integrate the above pandemic capacity building strategy into its ongoing country-level humanitarian health awards to ensure outbreak readiness.
3. BHA should advocate for flexibility to support local government capacity building through partners where appropriate, and leverage health clusters where possible.

4. BHA should consider partnering with initiatives that invest in training institutions to support the health workforce in protracted emergencies.
5. BHA should ensure awards include impact evaluations of e-learning programs and include real-time assessments of their effectiveness in future allocations.

RECOMMENDATIONS FOR HUMANITARIAN PARTNERS:

6. Partners should sustain multi-sectoral response coordination mechanisms from the acute COVID-19 era and enhance sub-national coordination with local actors and government entities.
7. Partners should retain RCCE/CEA skills in emergency contexts and ensure their integration into ongoing responses.
8. Partners should establish sustainable systems for continuous training and refresher courses, including outbreak response management and IPC skills for national and frontline staff.

BACKGROUND

Funding and evaluation

In March 2020, the United States Congress approved assistance including USAID/BHA Coronavirus Disease 2019 (COVID-19) Supplementals of \$558 million in International Disaster Assistance. On March 11, 2021, the follow-on American Rescue Plan Act continued the COVID-19 pandemic response, comprising Economic Support Funds \$1.3 billion and Title II \$800 million. BHA committed to understanding the performance and key learning of this response, commissioning an independent evaluation team (ET) from Technical Assistance to Non-Governmental Organizations (TANGO) International and Tulane University through the LASER PULSE funding mechanism (Long-term Assistance and Services for Research Partners for University-Led Solutions Engine of Purdue Applied Research Institute).¹ This ET also conducted BHA's Fiscal Year (FY) 2020 COVID-19 Evaluation. The evaluation included a Performance Evaluation of the FY 2021 Supplemental with results [reported in three briefs](#), and two Thematic Evaluation studies that examined specific topics across the BHA FY 2020-2022 COVID-19 response. This study is Thematic Evaluation Study I: Pandemic Preparedness Capacities in Humanitarian Settings.

Rationale for thematic selection and key terms

Thematic I aimed to analyze future pandemic preparedness capacities (see Box I for working definitions) in humanitarian settings, including a focus on conflict, documenting capacities built by BHA-funded responses and exploring challenges and opportunities related to their further development. It allowed for deeper multi-level study of both direct and indirect preparedness supported by BHA, building on evidence from the Performance Evaluation of the FY 2021 Supplemental's Objective 5 (To improve and Strengthen Humanitarian Architecture to Support Scale-Up of Infectious Disease Response Capacity, [see brief here](#)). It includes the topic of BHA/United States Government (USG) coherence as a key theme named amongst BHA scoping interviews. This study focuses on health sector preparedness, not broader emergency preparedness; yet these capacities are critically linked to multi-sectoral and multi-shock responses.

¹ Commissioned by USAID/BHA/Office of Technical and Program Quality/Monitoring & Evaluation and funded by the LASER PULSE buy-in mechanism. LASER PULSE is a cooperative agreement between USAID/IPI/ITR (Bureau for Inclusive Growth, Partnerships, and Innovation/Innovation, Technology, and Research Hub) and Purdue Applied Research Institute, LLC. <https://laserpulse.org/portfolio/evaluation-of-bhas-covid-19-response/>

This theme is aligned with global momentum for pandemic preparedness that has risen from COVID-19, including efforts like the Pandemic Treaty negotiations and 2024 USG Global Health Security Strategy. Pandemic capacities are defined through the World Health Organization (WHO) Health Emergency Preparedness, Response and Resilience (HEPR) framework, which outlines how to further progress toward the 2005 International Health Regulations (IHR) core capacities through multi-level and systems competencies necessary for member states and key global stakeholders to prepare for and respond to global health threats (WHO, 2023b).

Given the probability of future global pandemics, it is a key moment to sustain and improve capacities built for/through the COVID-19 response to cement preparedness for future pandemics (Meadows et al., 2023). Per BHA's mandate, it is also paramount to consider how pandemic preparedness can extend to fragile, conflict-affected and vulnerable (FCV) settings, as 90 percent of BHA FY 2021 COVID-19 Supplemental country-level funding was in complex emergencies, which includes conflicts and other shocks.

Study objective and research questions

The purpose of the Thematic Evaluations was to conduct in-depth thematic analyses into aspects of BHA's COVID-19 response, with particular focus on improved future management of large-scale infectious disease outbreaks and/or global emergencies. Focused in scope and forward-looking, the thematic studies draw upon but have a different purpose from the Performance Evaluation. This theme was selected and refined through triangulation of key challenges and achievements noted over the course of gathering evidence for the Performance Evaluation, and in collaboration with BHA. The ET identified three key research questions (RQs) for the Thematic I study, which evolved iteratively during the study process:

- RQ1: What pandemic preparedness capacities were strengthened in the humanitarian architecture across levels? What gaps remain? (Note: capacities may be directly or indirectly supported by BHA funding strategies)
- RQ2: How can capacities be built and sustained in FCV settings?
- RQ3: What promising practices emerged from BHA support?

Box I: Key terms:

Fragile, conflict-affected and vulnerable (FCV) settings: a “range of situations including humanitarian crises, protracted emergencies and armed conflicts” (WHO, n.d).

Pandemic emergency: used hereafter to include also widespread infectious disease outbreaks or epidemics with potential for overwhelming health systems and socio-economic disruption (IHR, 2005)

Pandemic capacities: defined through WHO IHR pillars and HEPR competencies (WHO, 2023b)

Preparedness: the capabilities of governments, organizations, communities, and individuals to anticipate, respond to, and recover from disasters, includes readiness (UNDRR, n.d.)

(See [Appendix A](#) for more description)

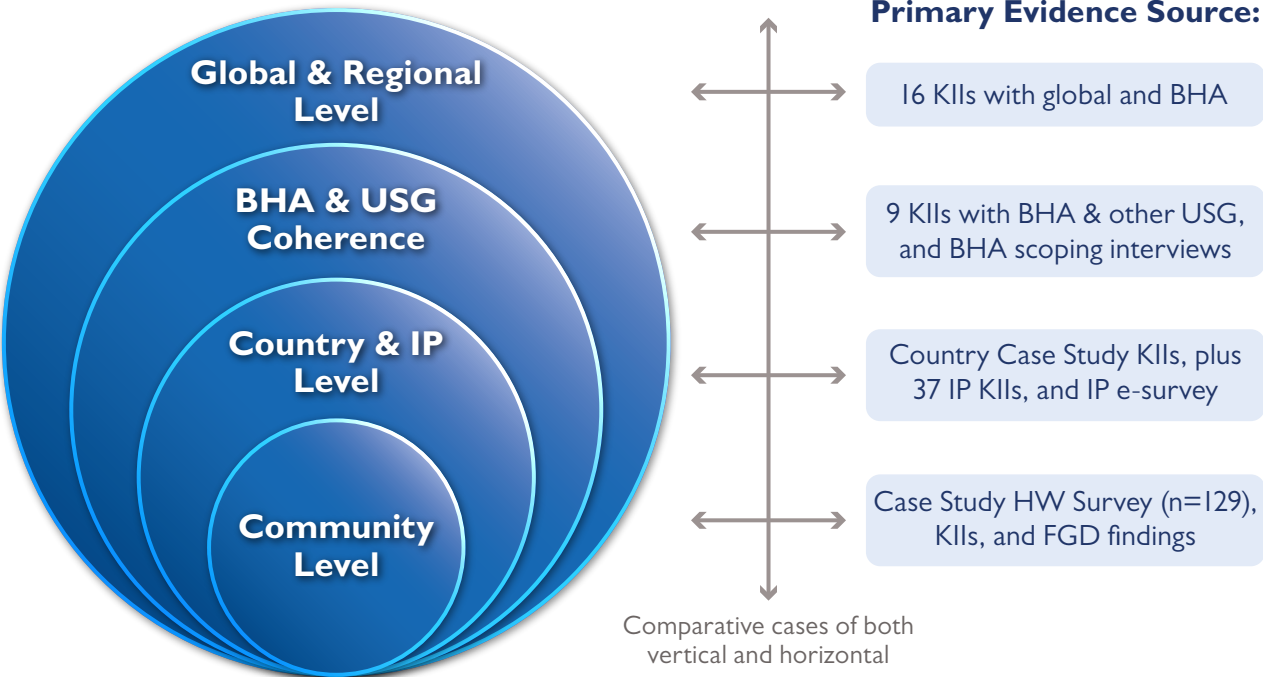


METHODS

This study utilized a multi-level framework to evaluate pandemic preparedness capacities, adapting good practices from the social-ecological model and Development Assessment Committee evaluation criteria to understand the interaction and coherence of building these capacities across levels (Bronfenbrenner, 1977; OECD/DAC, 2021). The analyses identified cases where capacities were built across the system (vertically), and cases were compared within each level (horizontally) (Scholz & Tietje, 2002).

Figure 1 shows the four levels and primary evidence sources. This brief was informed by multiple data sources, including reviews of award reports; case study data collection in Syria, South Sudan, and Honduras, including Health Worker (HW) surveys and Focus Group Discussions (FGDs) with communities (March-April 2024); Implementing Partner (IP) Key Informant Interviews (KIs); and KIs with BHA and other USG counterparts such as Bureau for Global Health (BGH). In-person KIs were also conducted with key public international organization (PIO) awardees in Geneva, Switzerland in March 2024. This was triangulated with previous evidence and findings from the Performance Evaluation, including scoping interviews with BHA, a scoping IP e-survey, and KIs across levels and sectors. Findings from these interviews were consolidated using rapid thematic qualitative analysis in Excel. See [Appendix A](#) for more information on the methods and limitations.

Figure 1. Thematic I study levels and sources








RESULTS

I. Preparedness Capacities and Gaps by Level

Overview

BHA's COVID-19 response contributed to different elements of WHO's 2023 HEPR framework aligned with the IHR (2005) across levels of the humanitarian architecture. Capacities span the five C's of the health emergency framework: emergency *coordination*, *collaborative surveillance*, *community protection*, *safe and scalable care*, and access to *countermeasures* (Table 1) (WHO, 2023b). They also align with priority technical areas outlined in the 2024 USG Global Health Security Strategy (The White House, 2024). The BHA-funded COVID-19 response and BHA/USG coherence directly and indirectly contributed to all HEPR competencies at the Global and Regional, Country and IP, and Community Levels. Most of the BHA-funded COVID-19 global awards conducted capacity building or other activities also at the country level, and many award activities applied across competencies but select examples are shown below. The sub-sections that follow present evidence on these capacities built and institutionalized across levels, including application of COVID-19 response capacities to other outbreaks. Remaining gaps or key challenges by level are also identified.

Table 1. HEPR competencies addressed through BHA COVID-19 funding by level, with select activity examples

| HEPR Competency | Global and Regional | BHA-USG Coherence | Country and IP | Community |
|--|---|--|--|--|
|  <p>Emergency Coordination (includes Human Resources)</p> | <ul style="list-style-type: none"> Cluster/multisectoral coordination, joint assessments and analytics, technical surge mechanisms (across levels) | <ul style="list-style-type: none"> USG-wide Coordination structures USAID Outbreak Framework | <ul style="list-style-type: none"> Response/ operations staff training Local government coordination, multi-sectoral response | <ul style="list-style-type: none"> COVID-19 training and support for frontline/ community HWs |
|  <p>Collaborative Surveillance</p> | <ul style="list-style-type: none"> OPENWHO courses across competencies (largest number on surveillance) | | <ul style="list-style-type: none"> Reporting systems linked to Ministries of Health | <ul style="list-style-type: none"> Topic included in some COVID-19 trainings for HWs |
|  <p>Community Protection (i.e., IPC/RCCE)</p> | <ul style="list-style-type: none"> RCCE Collective Service: BHA-funded impact evaluation IFRC CEA strategy | <ul style="list-style-type: none"> BHA funding strategy to address pandemic secondary effects | <ul style="list-style-type: none"> IP RCCE, CEA, Infodemic programs | <ul style="list-style-type: none"> Topic included in some COVID-19 trainings for HWs and communities |
|  <p>Safe and Scalable Care</p> | <ul style="list-style-type: none"> Health supply chain and logistics WHO HeRAMS service monitoring Readiness checklists | <ul style="list-style-type: none"> BHA funding strategy prioritized maintaining primary level health and child nutrition services | <ul style="list-style-type: none"> IPC, triage, WASH supports across health facility levels Adaptive services (mobile units) also providing other sectoral needs | <ul style="list-style-type: none"> IPC protocols established in health and nutrition facilities Frontline capacity in case management and continuity of essential services, etc. |
|  <p>Access to Countermeasures</p> | <ul style="list-style-type: none"> Humanitarian Buffer Manufacturing potential established | <ul style="list-style-type: none"> BHA/BGH support for improved vaccine procurement | | <ul style="list-style-type: none"> Vaccine outreach through health facilities and community outreach |

New acronyms: Community Engagement and Accountability (CEA), Health Resources and Services Availability Monitoring System (HeRAMS), International Federation of Red Cross and Red Crescent Societies (IFRC), Infection Prevention and Control (IPC), Risk Communication and Community Engagement (RCCE), Water, Sanitation, and Hygiene (WASH)

i. GLOBAL AND REGIONAL LEVEL

Through the FY 2021 Supplemental, BHA directly supported humanitarian system capacities to prevent and respond to future infectious disease risks in humanitarian settings through global awards totaling \$84,798,012. See Performance Evaluation Brief 2/ [Objective 4](#) and [Objective 5](#) for more discussion of global award results. The strongest evidence for preparedness capacities includes: Global Health Cluster and cross-cluster coordination, surge and assessment mechanisms, coherence of Risk Communication and Community Engagement (RCCE)/Community Engagement and Accountability (CEA) strategies among key stakeholders, and—despite differing opinions by some, advancing the WHO Health Emergencies (WHE) program’s operational role in the health supply chain, and in country offices, among other significant components. **Given the complexities of confronting pandemics in humanitarian settings, the evaluation found that BHA’s support for the enhancement of WHO’s health emergency operational capacity was a key strategic investment.**

“...without [the BHA award] a lot of the foundations that we need as the WHE wouldn’t be possible in the last three years... So it’s how this all comes together and really builds the foundations for a stronger health emergencies program.”
—KII IP Global

Sector coordination and information management

Many global humanitarian partners documented lessons learned from the pandemic and outlined strategies for pandemic preparedness. The Global Health Cluster, funded separately from the WHE development award, produced three studies focused on multi-sectoral action, coordination good practices, and COVID-19 vaccination in humanitarian settings, in addition to an impact analysis of COVID-19 on the Cluster’s ability to respond to emergencies (Global Health Cluster, 2024a). The Cluster used the learning from these reports to inform pandemic preparedness strategies and tools according to KIIs, as illustrated by the recent development of an All-Hazard Resource compiling guidance and tools for preparedness and readiness (Global Health Cluster, 2024c) and a checklist for respiratory pathogen pandemic preparedness (WHO, 2023c). Similarly, other clusters and coordinating bodies in the areas of Education, Protection, Nutrition, Accountability, and Mental Health and Psychosocial Support (MHPSS) built tools to improve future pandemic preparedness and augmented their capacity, including surge mechanisms, to provide technical support globally.

“The learning from the COVID-19 work, yes, it’s relevant for other respiratory pathogens, but a lot of the learning is also relevant for other epidemics and pandemics from other pathogens de facto, because it’s that collaborative process.”
—KII IP Global

Further, numerous BHA-funded awards, including through Humanitarian Coordination, Information Management, and Assessments (HCIMA) support, facilitated joint and Multi-Sectoral Needs Assessments, which were reported as one key factor enabling multisectoral collaboration during the pandemic across levels (WHO, 2023b). Three international non-governmental organizations (INGOs) used BHA funding to improve monitoring of humanitarian and crisis situations and disseminate findings for use by global humanitarian actors to effectively scale services, validated by studies and evidence of increased use of disseminated products. Two of the INGOs focused on improving collection of secondary data, since primary data were not available due to pandemic restrictions. The third sought to increase the availability of multi-sectoral data to inform annual humanitarian planning cycles and targeted emergency response processes. Additionally, two completed research on potential new measures for improving situation monitoring, such as the integration of remote mortality, climate, and disaster risk indicators into analyses. More on the key achievements of this BHA HCIMA funding can be found in [this Performance Evaluation brief](#). In all, this enabling of cross-sector/ cluster coordination, joint assessments, and technical support were key capacities for pandemic management.

Global training resources

WHE developed the capacity to rapidly and systematically develop and translate courses for COVID-19 and new infectious disease outbreaks for OpenWHO, WHO's platform for Massive Online Open Courses. Collaborative surveillance had the most OpenWHO trainings available with 52 courses, followed by Safe and Scalable Care (39 courses), and Emergency Coordination (33 courses) (WHO, 2024a). Over the course of the pandemic, the program produced approximately 50 COVID-19 related courses, with BHA funding providing most of the learning and capacity development budget and supporting translation of products into over 40 languages. In 2021, the platform received 6.8 million enrollments. While enrollments are tracked, effectiveness assessments are not being conducted by OpenWHO, a situation common to online course programs. WHO's process for rapid development of training has already been applied for other disease outbreaks, like Mpox and Marburg.

Health service monitoring

One necessary element to support preparedness is health service monitoring (per HEPR Objective 1.1.2; WHO, 2023d). BHA provided a substantial investment to WHO's Health Resources and Services Availability Monitoring System (HeRAMS) platform. HeRAMS developed geospatial capabilities to map population access to health services and widely expanded usage and available data points with BHA's support (HeRAMS, 2024). This study was unable to identify use cases of the HeRAMS platform in relation to pandemic planning or response, and interviews provided mixed perspectives on the utility of the platform in this regard. According to Kils, the HeRAMS development from BHA's COVID-19 investment will allow the platform to operate on a significantly smaller budget going forward.

RCCE harmonization

BHA's funding to evaluate the RCCE Collective Service highlighted the success, timeliness, and utility of the service (IFRC et al., 2023). All three primary stakeholders in the service (i.e., International Federation of Red Cross and Red Crescent Societies (IFRC), WHO, and the United Nations Children's Fund (UNICEF)) lauded the success of the effort and its impact on effectiveness and efficiency of RCCE efforts. While the service was primarily funded by the Gates Foundation, BHA invested in an impact evaluation of the service, which outlined potential ways in which RCCE coordination could be continued and improved

Box 2: IFRC CEA system-wide institutionalization

One key example of a BHA investment that contributed to sustained cross-level preparedness capacities is the IFRC CEA program, including the **new global CEA strategy**. Tools developed through this funding like the Community Trust Index and Community Feedback Toolkit continue to be available to national societies' multisectoral emergency responses. IFRC has also worked to **build regional capacities**, which benefits additional countries that regions advise. The evaluation found this program not only strengthened IFRC's RCCE efforts but also has prompted a **cultural shift within the organization** toward improved community-based approaches in emergencies. Although, challenges around the artificial division of RCCE from CEA efforts remain an important lesson for all partners.

Nepal was a CEA pilot country. During the pandemic, the Nepalese national society built on CEA skills developed for a prior earthquake response. Collaboration with the government on this process was highly successful, and after the pandemic the society continued using the strategies for another earthquake and a national measles campaign.

There is evidence IFRC's CEA strategy has been adopted by national societies that were not a focus for early adoption, such as **Honduras**. In this country, health committees developed by the national society served as important links between communities and primary health care centers and were trusted by communities, evidenced by greater COVID-19 vaccine uptake (see quote below). CEA was also used to verify the appropriateness of cash transfers. Cruz Roja Honduras designed a CEA strategy with help from BHA funds. They continue to implement the national strategy with the support of a national focal point for this task, by socializing it with staff and volunteers, and holding planning sessions with stakeholders when beginning new projects.

“When the COVID-19 vaccination came, no one wanted it at first. So, it was surprising when we traveled to the Valley and had lines of 400-500 people waiting for the vaccine. Then we realized the [health] committee had influenced their community and the surrounding communities.” –Kil IP Honduras

for future crises. With the 'CE' within RCCE often limited, BHA made a strategic investment to support IFRC in implementing a new Community Engagement and Accountability (CEA) strategy. This effort made IFRC a leading PIO in the area of CEA and was considered an emerging best practice implemented across levels (Box 2).

Humanitarian Buffer

BHA supplementals indirectly supported efforts toward the COVID-19 Vaccines Global Access (COVAX) Humanitarian Buffer, which sought to provide vaccine access to vulnerable and high-risk groups living in humanitarian settings (WHO, 2023a). For instance, the Global Health Cluster used BHA funding to track COVID-19 vaccination in humanitarian settings and built a dashboard with weekly updates for stakeholders, which KIs believed could be renewed in future pandemics. However, key challenges remained. IP reports and KIs described the relative failure of the COVAX Humanitarian Buffer, which only reached one percent of its target of providing 155 million people living in humanitarian settings with COVID-19 vaccines (Global Health Cluster, 2023a). Reaching populations with vaccines in humanitarian contexts often relies on non-government and other humanitarian actors. Interviews documented that non-governmental organizations (NGOs) struggled with liability for vaccine efficacy and adverse reactions, and that working with governments with no/low capacity to manage vaccines was a key challenge. These issues are mirrored in the Global Health Cluster's "Study to examine COVID-19 vaccination in humanitarian settings" (2023a).

Given the importance and challenges of delivering medical countermeasures to humanitarian contexts, BHA technical experts participated in relevant coordination meetings. To overcome difficulties in coordination between Gavi, the Vaccine Alliance, and humanitarian agencies in the future, a joint convening was held in 2023 with vaccine and humanitarian partners. This convening documented lessons for improving coordination among actors distributing COVID-19 vaccines and improving preparedness for future collaboration on potential health emergencies, including for humanitarian populations (WHO, 2023a).

Study interviews explained that further investment from global donors post-pandemic will allow Gavi to procure vaccines in the future without prequalification requirements. Greater donor interest in building preparedness in this area is reflected by USG investment into vaccine manufacturing in Africa in hopes of providing greater regional access to vaccines through the African Vaccine Manufacturing Accelerator (Gavi, 2024). This is jointly backed by BHA and BGH support for Gavi's Fragile and Conflict Countries team in designing a new strategy to address vaccinations in fragile and humanitarian settings, which is currently in production. In June 2024, the USG demonstrated its continued commitment to Gavi through a five-year \$1.58 billion allotment to expand routine and infectious disease vaccinations in addition to global health security by "preparing countries to respond swiftly to health emergencies" (USAID, 2024a). There is potential to ensure that future iterations of a Humanitarian Buffer are more successful; however, success remains contingent upon the continued will of actors to invest in addressing the issues identified here. As one interviewee framed it, "we have made some progress but have a long way to go."

Health supply chain and logistics

For this topic, see Section 3. Promising Practice Example below.

Overall gaps

Reliable and long-term funding is a major barrier to the sustainability of pandemic preparedness capacities in humanitarian contexts and threatens the gains of the COVID-19 investments, repeatedly mentioned by IPs and BHA. WHE, and the Global Health Cluster separately, are primarily funded by BHA. The underfunding of the Global Health Cluster and core WHE positions threatens emergency preparedness and response capabilities and the ability to retain qualified staff, as noted by multiple KIs. At the time of drafting this report, BHA is facilitating meetings with USG stakeholders to support more diversified funding streams to WHE and the Global Health Cluster. Yet, WHE's role in this global humanitarian architecture is still not clear within WHO

nor externally, as perceived by humanitarian partners. The evaluation has found that WHE played an instrumental role within the humanitarian architecture in the management of the COVID-19 pandemic; however, the capacities built will not be sustained unless regular funding is available. The role of WHE and a strategic plan for its development is needed to guide donor investments and maintenance.

Coordination and data sharing barriers and limitations of the cluster system also exist. While BHA funding prompted humanitarian data sharing and analysis during the pandemic response, a greater appetite for ongoing data sharing, such as situation monitoring and surveillance, is needed in order to assess potential emerging threats and new outbreaks. This evaluation documented in its' HCIMA brief that inter-agency competition, inadequate cluster prioritization of information management, and lack of a coherent "humanitarian data ecosystem" are key barriers.

ii. BHA AND USG LEVEL

This section describes evidence of coherence of pandemic strategies among BHA and key USG entities. **Overall, great progress has been made internal to BHA and across relevant USG offices to improve and institutionalize coordination to cement pandemic preparedness, detection, and response systems.**

USG coordination structures

Coordination for pandemic preparedness and response has improved considerably as a result of the COVID-19 response writ large. Though not specifically funded through the supplementals, KIIs described various ongoing whole-of-government coordination mechanisms in which BHA contributes or participates. A new interagency coordination response structure led by the National Security Council was built to improve coordination and response between agencies for sharing information and building risk assessments to better inform the White House. Primary agencies involved include USAID, the United States Centers for Disease Control and Prevention (CDC), the State Department, and Department of Health and Human Services, among others. Several new bodies also arose, including the White House Office of Pandemic Preparedness and Response Policy, State Department Bureau of Global Health Security and Diplomacy, and BGH Outbreak Response Team—while not related to BHA funding, this remains an indication of USG coherence. An example of how coordination has been improved and solidified comes from the USG Mpox response. KIIs stated the new interagency group was granted a direct line to the National Security Council and that their leadership role is clear, which was not always the case in previous outbreaks. USG-wide efforts to improve pandemic preparedness are supported by a renewed USG Global Health Security strategy and the international Global Health Security Agenda.

Other direct BHA coordination

Concerning direct coordination between USAID and CDC, there are two dyads of intergovernmental coordination that were described by KIIs: one between BHA and CDC and another between BGH and CDC. BHA has established a process for deconflicting funds and coordinating humanitarian response with CDC, stemming from the West Africa Ebola learning, a BHA staff member sits within CDC. Meanwhile BGH coordinates with CDC on health aspects, such as diagnostics and outbreak responses in areas outside of designated humanitarian crises. If internal BHA coordination is required, outside of technical collaboration, then USAID's Outbreak Response Framework (revised in 2023) is used and provides a clear outline for defining roles and response requirements. The framework outlines the leadership designation process for outbreaks, which includes three options – BGH-led response, BHA-led response, and agency taskforce-led response – and the circumstances in which each option should be selected. Interviews noted satisfaction with the current USAID Outbreak Response Framework. One noted gap was the lack of operational planning for pandemics. Key informants felt that there should be clear step-by-step

guidance for ramping systems up and down. Additionally, stakeholders expressed the need for interagency simulation exercises between CDC, BHA, and other relevant stakeholders to execute the interagency response framework.

“The changes that we have made as a government will definitely be helpful [for the next pandemic]. What we have done as an agency is a step in the right direction and because USAID’s sole role is international assistance, we have a very important role to play, along with CDC.” —KII BHA

BHA strategic positioning

The evaluation has found that BHA’s decision to ensure the FY 2021 response considered the secondary effects of the pandemic (e.g., gender-based violence (GBV), food security, community engagement to address mistrust) was highly effective. These multi-sectoral coordination and response strategies were critical in humanitarian contexts. This is good practice for future health emergencies and a valuable perspective BHA brings to USG coordination.

Another promising tool in BHA’s toolbox for building pandemic capacities is the Fixed Amount Award (FAA), a funding mechanism that can allow for both flexibility and accountability. FAAs are multi-year awards with milestones/conditionalities that, when met, release additional tranches of funding (USAID, 2017). This approach builds-in collaboration between BHA and its IPs and was recently noted as a strategy that USAID plans to increasingly use to promote localization (Office of Inspector General USAID, 2024). The ET found it was a relevant way to fund large PIO programs in particular, as it provides built-in accountability. Yet, one potential threat to the effectiveness of the FAA is high turnover of BHA award management staff. KIIs covering the FAA from the FY 2021 Supplemental felt it was effective but could be improved in future funding cycles. Issues noted included the need for improved design of milestones- linking milestones to outcomes, reducing the number of milestones, ensuring linkages across activity areas, building in milestone adaptiveness; and ensuring funds released were linked to completed milestones rather than submission of milestone reports. If future iterations were to address these key issues, it could allow for more concrete and accountable engagement with global partners.

Overall gaps

There are two key unresolved issues noted around USG funding for pandemic preparedness. Firstly, there is not a framework or guidance for BHA’s partners in building local government capacities in fragile and complex emergency contexts. Though BHA is not mandated to directly fund local government capacity building, PIO and NGO IPs are involved in these efforts through BHA funding and have requested more guidance in this area. Because BHA is often the largest donor in many humanitarian contexts, their role in capacity development is substantial. The ET notes that while drafting this report, USAID released a Policy on Locally Led Humanitarian Assistance with national and subnational government included in the definition of ‘local actors’ (USAID, 2024b). Secondly, there is the issue of reliance of USAID/USG offices on BHA to rapidly disperse funds. KIIs universally expressed the stresses related to surge funding in a pandemic. This required herculean efforts on the part of BHA and affected their ability to design, implement, and monitor programming quality. Lessons on BHA Surge Funding, a complementary thematic study, are discussed in-depth in the Thematic 2 study [here](#). These issues directly relate to the ability of humanitarian partners to build and sustain pandemic capacities at the country level (discussed next).

“[BHA] policy not to channel any resources through government may potentially impact ownership and stewardship of the health [or other sector] program outputs and results, as there was no clear role for government.” —E-survey IP Zimbabwe

iii. COUNTRY AND IP ORGANIZATIONAL LEVEL

At the country and IP country program level, many examples showcase the development of lasting pandemic capacities in response to COVID-19 pandemic challenges (see [Appendix C](#)). **The evaluation found that important capacities at country level included improved local government coordination and capacity strengthening, as well as building IP adaptive and operational capacities among their staff and systems.**

Local government coordination, capacity strengthening, and multi-sectoral response

Improved coordination between IPs and governments was generally strengthened by necessity over the course of the pandemic across BHA-funded responses. This contributed to better preparedness and coordination structures for future outbreaks. While coordination with governments and ministries of health (MOHs) may vary by country, there are multiple examples of collaboration that may be sustained. The Nigerian Centers for Disease Control, a federal government agency, was pivotal to the response, coordinating closely with WHO and IPs, according to KII and award reports. In the Democratic Republic of Congo, the government was very active in leading the response, i.e., data collection, monitoring, and supporting infection prevention and control (IPC) procedures. IPs formalized collaboration this country through a Memorandum of Understanding with government counterparts.

Beyond coordination, BHA-funded initiatives increased local government human resources capacity and enabled better multi-sectoral responses, recognizing the secondary effects of health threats. The multisectoral response plans developed by humanitarian coordination groups were often used for national coordination, providing direction for the responses and for the mobilization of resources (Inter-Agency Humanitarian Evaluation, 2022). Local governments were strengthened in the areas of surveillance, all-shock emergency planning (see quote below), pre-positioned supplies, social protection systems, and support of direct service provision to maintain basic health, nutrition, water, sanitation and hygiene (WASH), or food and cash assistance. In South Sudan, as an example, IPs supported training and incentives for local government employees across MOHs and other ministries, or they seconded their health workers along with supplies and training to public health facilities. Sustained partnerships with MOH clinics facilitated ongoing availability of healthcare and nutrition services, attributed as award achievements by KIIs and IP e-survey responses. In Syria, the simultaneous cholera–COVID-19 response led IPs to collaborate with schools and the education sector to provide awareness and services. Lessons learned from the Protection secondary effects of the pandemic (e.g., GBV) were also applied to the cholera outbreak response.

“We actually did a lot of activities for... the disaster risk management agency of government and... I can personally see the increase in their capacity, when there is a cyclone, when there’s displacement, when there’s an emergency, they are able to mobilize and use the contingency planning properly.” —KII IP Mozambique

Adaptive management

Adoption of COVID-19 protocols and guidance documents, along with a high level of IP adaptive management to maintain essential services, was evident from IP KIIs across BHA-supported programs. IP interviews and reports described practical solutions, such as mobile clinics and frontline worker capacity building and task shifting, that were widely used across countries. Shifts to telemedicine or home-based case management services ensured continued access to health care. Locally recruited coordinators and managers, a common feature of BHA-supported initiatives, also played a key role in the coherence of health program management and ensuring adequately adapted programs could gain community trust. IP programs gained crucial capacities in IPC, RCCE, and beyond, such as training local organizations and community leaders in rumor tracking and social listening for health promotion, that are applicable far beyond COVID-19 (Sommariva, 2021). Repurposing isolation centers and laboratories for other infectious diseases is yet another example of sustaining and adapting capacities beyond the COVID-19 pandemic.

Response and operations capacity

BHA-funded intensive training programs like the READY Initiative built capacities of NGO in-country staff to improve operational systems and to be better response managers in pandemics/outbreaks through online and in-person trainings, mentorships, and simulations (READY, 2023). The READY Initiative found that some of the trained NGOs used the new skills to secure funding and respond to emergencies. On the issue of pharmaceutical and medical commodity supply chain management, BHA funded JSI (formerly John Snow, Inc.) to provide training, mentorship, and technical support for IPs in humanitarian settings (JSI, 2024). Although these programs provided COVID-19-specific support, the mission of these training and capacity building projects extended to other outbreaks and emergencies. Throughout the evaluation, IPs provided multiple examples of capacities developed during the West Africa Ebola response that had been maintained in some contexts. This learning-by-doing approach suggests that capacities developed during COVID-19 by these training programs may persist when applied in areas where outbreaks remain a threat.

In terms of WHO country-level workforce capacity, a Country Business Model (CBM) component of the WHE program filled key gaps in positions within FCV countries. Over two years (between October 2021 and 2023), the program reduced gaps in full-time qualified vacancies for CBM positions in 12 high-priority countries by 54 percent. WHE also sought to improve country-level readiness and preparedness for disease outbreaks by creating readiness checklists (including all-hazards and hazard-specific checklists) that countries can use to track their status on WHO's Partners Platform. The Global Health Cluster has embedded these checklists in guidance, and other studies and simulations of their use are underway.

Overall gaps

Nevertheless, the sustainability of some of these capacities and the outcomes they achieved is challenged by the instability of humanitarian health funding, as discussed previously. In South Sudan and Libya, scale-down of health activities when the FY 2021 Supplemental ended led to backsliding in health and nutrition progress in some regions facing recurrent crises. In these contexts, IPs reported that governments were unable to support health facilities in hard-to-reach areas, resulting in closures. Across contexts, many MHPSS activities have decreased or ceased since the end of pandemic funding. In Syria, mobile medical units and expanded secondary health services supported by the supplemental have decreased or stopped providing services. Local partners in Syria expressed concern because mobile teams were critical for community-based surveillance of cases of cholera and leishmaniasis cases (see quote).

“There are some cases of cholera in areas reached by mobile teams, and cases of leishmaniasis in these areas, and the Health Directorate was given a report on the cases and is now conducting an appropriate campaign for [the outbreaks].” —KII IP Syria

iv. COMMUNITY LEVEL

Importantly, the COVID-19 response left a legacy of improved IPC among frontline health facilities. Frontline and community HWs were confident in their abilities and skills cultivated during the COVID-19 response. They reported improved capacity to protect themselves, patients, their health facilities, and communities, though ongoing support of these capacities is needed. Across BHA COVID-19 response health awards, over 55,000 HWs globally received training or capacity building through the funding, with a high level of satisfaction. See Performance Evaluation [Objective 1 brief here](#) for more discussion of health award results.

Community health facility and HW protections

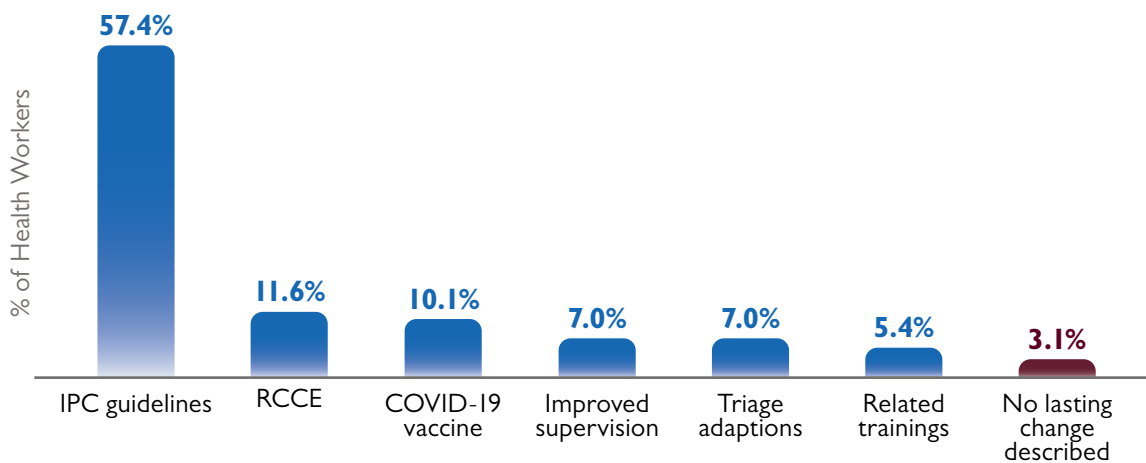
Nearly all HWs surveyed (125/129) felt “mostly confident” about facing future outbreaks or a pandemic because of their frontline experience during COVID-19 (Box 3). Training topics, recalled a year or more post-training by at least three-quarters of the surveyed HWs, related to proper use of personal protective equipment (PPE), knowledge of transmission/symptoms, and implementation of IPC procedures in their health facility (triage, isolation, handwashing). Over half (57%) of HWs surveyed report that IPC guidelines and training topics have been integrated into their organization (Figure 2). See [Appendix D](#) for additional HW survey tables.

Box 3: Confidence of health workers to face a future pandemic?

97% (mostly) Yes
3% (mostly) No

“My level of awareness has increased, especially in controlling excessive fear and knowing methods of prevention.”
—Health Worker Syria

Figure 2. Health facility or organization has integrated practices or trainings from COVID-19



Health Worker Survey (n=129). See Table 11 in Appendix D

RCCE approaches and community trust

One of the great challenges of health emergencies is gaining community trust. Whether it be for effective population behavioral changes related to infection transmission, care, or treatment, establishing trust and addressing misinformation are key challenges for effective communication during outbreaks (Unlu et al., 2023). Because of BHA supplemental investments, HWs and IPs reported improved capacities in community-engaged communications, including building trust with communities around vaccines and accessing health and other basic services. Triangulated with community focus groups and award data, the evaluation found some communities are sustaining various health promotion and health-seeking behaviors resulting from IP interventions. Examples reported by IPs and communities include increased guidance availability and sustained community handwashing practices, with perceptions that this improved conditions during cholera outbreaks. A BHA-funded case study on the use of IFRC CEA strategies in Malawi found that investing in local committee capacities built health emergency resilience, as communities took ownership in promoting behavior change and implementing their own health promotion activities (IFRC, 2023). Youth networks developed also continue to play a vital role in spreading accurate information and dispelling myths.

COVID-19 IPC practices and protocols applied to other outbreaks

Several lasting pandemic capacities have been adapted to address other outbreaks in local health systems or facilities, as established through KII with twelve IPs and HW surveys across Syria, South Sudan, and Honduras. Other outbreaks were faced by 68 percent of HWs surveyed across Syria, 59 percent in Honduras, and 46 percent in South Sudan (Box 4). On average, HWs reported applying eight relevant topics from the COVID-19 pandemic response to other outbreak responses, including proper use of PPE (89 percent); IPC procedures in health facilities (76 percent); knowledge of transmission routes (70 percent); community surveillance processes (63 percent); IPC procedures in community institutions or school (63 percent); and others (Table 10 in [Appendix D](#)). IPs explained how existing resources and training initially developed for COVID-19 were seamlessly repurposed to address other infectious diseases.

Box 4: COVID-19 measures applied to other outbreaks

Syria: cholera, leishmaniasis

South Sudan: cholera, measles

Honduras: dengue

Despite the instability of humanitarian health funding, there was significant emphasis on preparing for future outbreaks in interviews with IPs and HWs. They demonstrated a proactive approach to ensuring ongoing public health resilience, even in low-resource and humanitarian settings. Four out of five HWs surveyed (80 percent) reported feeling supported by their community health facility or organization in preparing for future outbreaks or pandemics (Table 7 in [Appendix D](#)). Key readiness or supportive measures identified included: facility maintenance or infrastructure repairs (47 percent); a supportive and efficient health team (41 percent); and incentive pay and ongoing training (39 and 22 percent). While existing capacities are in place, sustained functionality requires financial resources.

“The health center was supported with the IPC improvements, expanded waiting areas, clean water and sanitation facilities, and RCCE, all a lasting legacy of this funding. —KII IP Yemen

“Patients are still asked to wear masks, and we always try to have hand sanitizer gel, water, and soap in the health center.” —Health Worker Honduras

Overall gaps

The largest gap in HW knowledge and skills to handle future pandemics is ongoing refresher trainings on infectious disease topics (33 percent). Notably, nearly one-third of HWs surveyed did not report any specific gaps in their own capacities for future outbreak/ pandemic response. However, HWs reported that the main challenges faced by their community health facility or organization to build pandemic capacities were staff shortages (50 percent), no ongoing training system related to future outbreaks or pandemics (also noted at the individual level) (48 percent), lack of consistent worker pay (44 percent), and medical supply (41 percent) and/or PPE shortages (27 percent) (Table 8 in [Appendix D](#)). These findings and relevant literature have emphasized that training must be accompanied by adequate supplies and support to be enacted by health workers (Eyayu, M. et al, 2022; Delamou, A. et al., 2022; Seruwagi, G. et al., 2021). Maintaining a ready frontline health workforce in humanitarian settings requires integration of these capacities into national health systems and cooperation with MOHs to promote unified efforts.

2. Pandemic Capacities in Conflict Settings

The effects of the COVID-19 pandemic on peace and conflict have been well established (Jedwab et al., 2021; Hilhorst & Mena, 2021; Farzanegan & Gholipour, 2023). Humanitarian actors have also documented conflict-sensitive approaches to pandemic response (Bousquet & Fernandez-Taranco, n.d.). Even while fragile systems were further degraded in humanitarian settings during the COVID-19 response, pandemic preparedness is possible in these contexts (Serafini & Shai, 2023). This provides an important opportunity to build on the emerging capacities built during the COVID-19 response for future pandemics. The new US Global Health Security Strategy has expanded to include more countries with humanitarian contexts (Box 5). This evaluation sought to capture some insights around approaches for building pandemic capacities in FCV settings.

Box 5: US Global Health Security
28 of 46 BHA FY21 Supplemental funded countries are included in the expanded US Global Health Security Program (USAID, 2024c)

First, different stakeholders have key roles—PIOs are especially important actors in the global humanitarian system when state actors are weak, absent, or hostile. The BHA-supported WHO CBM built up teams in 12 FCV Priority I countries, and the Health Cluster was supported to improve cross-sectoral coordination and tailored guidelines, though sub-national coordination needs to be strengthened (Global Health Cluster, 2024a). PIOs frequently rely on national NGO partners for effective implementation, which aligns with USAID’s localization agenda. In addition, international NGOs with fixed funding and the ability to have a long-term presence are important, as they can safely operate in insecure contexts and provide multi-sectoral assistance.

Second, in many cases, government systems, especially local government, are capable and engaged with local health stakeholders and should not be overlooked as key players in FCV settings. The BHA-funded READY Initiative and Global Health Cluster have researched this topic and reported conclusions and recommendations that align with this evaluation’s evidence (Global Health Cluster, 2024b; Spiegel et al., 2023). This included humanitarian actors’ roles in empowering national governments to take the lead in outbreak/pandemic coordination, except in situations where a government oppresses its population or does not have control over its territory. Evaluation evidence shows PIOs often embed system strengthening in their country programming. And some INGOs also have expertise to build local government and system capacity but are not explicitly supported by BHA to do so—as discussed previously. Both types of partners are involved in localization to some degree, funded by BHA. Therefore, the evaluation suggests a need for a strategic capacity building plan or guidance co-created with BHA.

“In general, humanitarian settings need to consider better pandemic preparedness as the current focus is on shocks such as conflict and disasters.” —E-survey IP Sudan

Finally, the foundation for building HEPR capacities in conflict settings includes investing in frontline human resources, strong local systems and infrastructure, and community engagement capacities. Country-level case studies presented here provide examples of how humanitarian actors responded with fragile government systems and to country-specific conditions to develop pandemic capacities (see Table 2). Frontline health workers interviewed in these case countries named conflict or insecurity causing restricted access or shutdowns as a key challenge in building future pandemic capacities: 12.8% in Northeast Syria, 59.1% in South Sudan, and 46.9% in Honduras (see Table 8 in [Appendix D](#)).

Table 2. Case study approaches for building pandemic capacities in conflict settings and contexts with covariate shocks

| Syria <i>Protracted armed conflict/civil war, fractured control + earthquake</i> | South Sudan <i>Protracted armed conflict, post-civil war + floods</i> | Honduras <i>Gang violence/regional insecurity + dengue and hurricanes</i> |
|---|--|--|
| <p>Importance of engaging existing authorities and community leaders for service delivery</p> <ul style="list-style-type: none"> • Empowering local partners to fully lead implementation • Emphasizing transparent communication with communities • Reaching marginalized groups through mobile health units, and embedding infectious disease surveillance capacities | <p>Importance of building trust in systems at local levels among isolated, displaced populations</p> <ul style="list-style-type: none"> • Systems strengthening with local MOH and government counterparts in emergency preparedness, response, and logistics • Building capacities for social listening among communities, partners, and media to address infodemic fear/ stigma • Implementing mobile health units | <p>Importance of supporting public health system linked to community health committees</p> <ul style="list-style-type: none"> • Building on strong pre-existing community network structures • Security at health centers and to protect HWs if necessary • Providing MHPSS, GBV, and violence prevention activities • Supporting repair of MOH clinics |

3. Promising Practice Example: Health Supply Chain and Logistics

Pandemic supply chain management presents many unique challenges. During the pandemic, and with BHA contributions, key developments were made to adjust for the overwhelming demand for procurement and/or transportation of medical and pharmaceutical supplies. These included procuring PPE, medical equipment, medicines, and in some cases, vaccine transport. The FY 2020 and FY 2021 Supplementals funded 35 and 58 awards under the Health sub-sector of pharmaceutical and medical commodities (PMC), respectively. Health logistics funding supported supply and commodity procurement and transportation, PMC training, and the development of new tools and platforms. Regarding training, 31 NGO awards trained 1,753 people in medical commodity supply chain management and 75 percent of these awards achieved their targets in FY 2021 (at >90%). There was also one global award specifically dedicated to training and providing technical support to BHA IPs and personnel in PMC management for humanitarian settings (JSI: noted above Country Level).

In the FY 2021 Supplemental, nine World Food Programme (WFP) awards received logistics funding totaling \$29,750,000 supporting air and fleet transport of goods and personnel. WFP's structured response through a series of regional and sub-regional hubs was found to be effective. WFP was a good partner for storage and transport, though lacked technical expertise to facilitate the management of some PMC, which necessitated partnership with WHO.

Regarding WHO global health logistics and supply chain capacities, the evaluation found the WHE efforts were critical in providing guidance, information, and coordination for supply procurement in key humanitarian contexts during the pandemic.

With BHA funding, the WHE Operations Supply and Logistics (OSL) unit invested in building Standard Operating Procedures with key partners (including the Health Cluster), in addition to an Essential Supplies Forecasting Tool that can be applied in future pandemics to streamline estimations of supply requirements for response. This tool along with OSL's Market Intelligence Platform, funded by the EU Commission Health Emergency Preparedness and Response Authority, have seen increased demand and requests for information from partners and governmental agencies. While WHO more traditionally provides technical norms and guidance in outbreaks, there is indication that WHO OSL has taken a more operational role in PMC supply chain management—a critical gap that WHO has begun to fill. The WHE role in supply chain management within WHO was important, yet needs to be formalized within WHO architecture.

Another key promising practice is country-level pooled procurement² and pre-positioning through PIO partnerships, with examples also stemming from global- to country-level WHO OSL support. In South Sudan, KIs indicated that there was successful coordination between WFP, WHO, and UNICEF to pool procurement using a supply portal during COVID-19. Another area of logistics includes stockpiling and pre-positioning PMC. WHO and the Food and Agriculture Organization of the United Nations (FAO) have medical stockpiles through coordination with BGH. WHO's regional emergency hub in Nairobi also hosts a store of medical commodities and kits (Kenya MOH, 2023). The Nairobi hub was noted by KIs as a key asset that can now be used to facilitate more rapid procurement to South Sudan (i.e. transport of supplies in 1-2 weeks instead of 4-6 months). These are examples that could be expanded and supported across humanitarian regions.

CONCLUSIONS AND RECOMMENDATIONS

In conclusion, the path towards building lasting pandemic capacities in humanitarian and fragile contexts necessitates persistent investment, coordinated efforts across sectors and levels, and an unwavering commitment to infectious disease threat preparedness and response across donor funding streams and humanitarian actors. At the **global and regional level**, this evaluation highlights achievements in pandemic preparedness through robust cluster/cross-sector coordination and surge capacity; development of global training resources; collaborative RCCE strategies; and strengthening the WHO/WHE operational capacities (especially health supply chain and logistics). Work is still needed to define WHE's roles within the humanitarian architecture and within WHO and to develop a funding plan for its continued support. Another critical area of need is preparation to implement vaccination programs in fragile and conflict contexts. At the **level of BHA/USG coherence**, the evaluation found proactive approaches by BHA and across other USG offices to enhance and participate in coordination mechanisms. However, more detailed operational planning around future pandemic response scenarios across key USG actors is needed. The evaluation identified significant capacities at **country and IP level**, including enhanced coordination with local governments, multi-sectoral responses, and the development of adaptive response capacities among IP staff and systems. At the **community level**, health workers revealed confidence from their frontline experience and training during COVID-19 to protect themselves, patients, health facilities, and communities. Institutionalization of IPC procedures and their application to other outbreaks since 2020 shows progress in maintaining safety protocols. Continued utilization of community engagement strategies illustrates the potential for maintaining positive health-seeking/promoting behaviors. Ongoing support and training to invest in local human resources and local governance is particularly important for conflict settings; across all contexts, this will be crucial in maintaining community and primary health-level outbreak preparedness and response efforts beyond current emergencies.

BHA plays an important role in supporting multisectoral, multi-level, and systems pandemic capacities in humanitarian contexts, and in advocating and facilitating global health security support for fragile and conflict settings amongst key USG agencies and other donors. The April 2024 White House release of the renewed Global Health Security Strategy underscores the imperative for integrating and optimizing development and humanitarian programs toward this aim (The White House, 2024). Funding commitment from member states emerges as the most important resource for sustaining and institutionalizing these critical capacities. In all, BHA's COVID-19 response contributed multi-level capacities for pandemic preparedness and response, revealing the need for sustained support and strategic planning amongst BHA and IPs to fortify these achievements.

² Pooled procurement is defined by WHO as a "a formal arrangement where financial and other resources are combined across different purchasing authorities, to create a single entity for procuring health products on behalf of individual purchasing authorities." (WHO, 2021).

RECOMMENDATIONS FOR USAID/BHA:

1. BGH/CDC/BHA should continue to collaborate on a USG-wide strategic plan for capacity building of the humanitarian architecture for future pandemics, which may involve WHE and others. This plan should clearly outline which capacities each USG funding stream will prioritize and any potential areas for collaboration and advocacy with other donors. This includes outlining with WHE and others the potential impacts of lack of funding not only on humanitarian architecture but on the Global Health Security Agenda. BHA's global awards should consider better utilizing the FAA mechanism and longer time frames needed for achieving clear milestones for pandemic preparedness.
2. The pandemic capacity building strategy from Recommendation 1 should be integrated into and monitored across BHA's ongoing humanitarian health awards at the country level. Maintaining primary health services and a well-equipped frontline workforce in infection prevention and control and other topics are critical for outbreak readiness in conflict and fragile contexts.
3. BHA should advocate for flexibility to support local government capacity building for strengthened multi-sector responses, where appropriate and through partners. Health clusters can be another vehicle for supporting government engagement and capacity for response leadership.
4. BHA should consider collaborating with initiatives that invest in training institutions in key protracted emergency contexts to support the health workforce.
5. Recognizing that pandemics demand standardized and scalable capacities built quickly and effectively, BHA should ensure awards include impact evaluations of e-learning programs to better guide the evolution of this powerful tool. Future awards should include real-time evaluation of e-learning effectiveness.

RECOMMENDATIONS FOR HUMANITARIAN PARTNERS:

6. Partners should continue fostering COVID-19-era mechanisms for multi-sectoral response coordination, and IPs should enhance support for sub-national coordination with local actors and government entities.
7. Partners should maintain RCCE/CEA skills in emergency contexts, ensuring their integration into ongoing response efforts.
8. Partners should develop sustainable mechanisms for continuous training and refresher courses, investing in robust systems to support these efforts. This includes outbreak response management and operations for national staff, and it includes continuing to strengthen IPC skills and practices for frontline stakeholders and systems.

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(Feel free to contact for additional analyses on health worker pandemic preparedness in humanitarian settings.)

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APPENDIX

A. Additional Background and Methods

Pandemic defined

Per the revised the IHR (2005), a pandemic emergency is a public health emergency of international concern caused by a communicable disease outbreak that is widespread and disrupting or at risk of disrupting health system capacity, and social and economic functioning in affected areas (WHO, 2024b). It would also require a rapid and equitable response and coordination at the international level.

Preparedness versus readiness: According to the United Nations Office for Disaster Risk Reduction, preparedness consists of capacities and knowledge developed by governments, organizations, communities, and individuals to “effectively anticipate, respond to and recover from the impacts of likely, imminent or current disasters” (n.d.). Whereas readiness encompasses the capability to quickly respond to an emergency in an appropriate manner. Preparedness was selected as the overarching term used for this evaluation as it pertains to capacities that can potentially be developed and sustained over a longer period of time, but also includes readiness.

Focus on conflict settings

FCV settings is a term used to describe a wide “range of situations including humanitarian crises, protracted emergencies and armed conflicts” (WHO, n.d.). In 2022, out of the estimated 406.6 million people worldwide in need of humanitarian assistance, 87 percent lived in countries with high-intensity conflicts (Development Initiatives, 2023). Issues related to capacity building in FCV settings can include issues with insecurity, lack of social cohesion, weak institutions, and divisions and shifts in political power dynamics (UNDP, 2015). While strengthening health systems is a goal in stable countries, BHA is confronted with the majority of humanitarian contexts characterized as FCV. In these cases, governments are either weak, fractured, and/or parties of conflict, and building pandemic capacities may primarily rely on public or non-governmental international organizations (PIO/INGO) and local non-state actors to disseminate guidelines and systems for infection prevention and control (IPC) or Risk Communication and Community Engagement or Accountability (RCCE/CEA).

Methods

For the Country & IP level, Community level, and Pandemic Capacities in Conflict Settings sections, case studies conducted via in-person fieldwork in Honduras, Syria³, and South Sudan provided key evidence. A rapid qualitative analysis of KII and FGD notes and transcripts served to provide viewpoints from program coordinators and recipients on pandemic capacities developed during the COVID-19 response and their durability. Quantitative and qualitative questions from HW survey questions concerning the knowledge and capacities developed at the individual and facility level were analyzed to inform the community level analysis. See Performance Evaluation Annex [here](#) for further details on case studies completed, as well as methods for scoping interviews, Health Worker surveys, and performance evaluation KIIs with BHA and global, regional, and country level IPs.

Table 3. Evidence by Case Study

| Country/Case Study | Number of KIIs (total respondents) | Number of FGDs | Number of Health Worker Surveys |
|--------------------|------------------------------------|----------------|---------------------------------|
| Honduras | 13 (21 respondents) | 22 | 32 |
| South Sudan | 20 (24 respondents) | 11 | 22 |
| Syria | 45 (76 respondents) | 30 | 75 |
| Total | 78 (121 respondents) | 63 | 129 |

³ Field work in Syria was conducted in the North of Syria (NS) and Government of Syria-controlled (GOS) areas

Table 4. List of Thematic I Kills

| Date of interview | Organization | Area of Brief Addressed | # of Attendees |
|-------------------|--|--|----------------|
| 2/13/24 | WHO Global | Global Level | 4 |
| 3/11/24 | WHO Global | Global Level | 2 |
| 3/12/24 | WHO Global | Global Level, Promising Practices | 1 |
| 3/12/24 | WHO Global | Global Level | 1 |
| 3/13/24 | WHO Global Health Cluster | Global Level | 2 |
| 3/13/24 | IFRC Global | All Levels | 4 |
| 4/18/24 | CDC | Global Level, BHA & USG Coherence | 1 |
| 4/18/24 | BGH | BHA & USG Coherence | 1 |
| 4/24/24 | BHA/Agreement Officer's Representative | Global Level, BHA & USG Coherence, Promising Practices | 1 |
| 4/25/24 | WHO Global | Global Level, Country Level | 1 |
| 4/30/24 | BGH | Global Level, Promising Practices | 1 |
| 5/10/24 | BGH | Global Level, BHA & USG Coherence | 1 |
| 5/10/24 | CDC | Global Level, BHA & USG Coherence | 1 |
| 5/10/24 | BHA Logistics | Global Level, BHA & USG Coherence, Promising Practices | 1 |
| 5/22/24 | BHA Office of Global Policy, Partnerships, Programs, and Communication | BHA & USG Coherence | 1 |
| 5/30/24 | IFRC Global (Evaluation Consultant) | All Levels | 1 |
| 6/3/24 | Save the Children Global | Country Level | 1 |
| 6/11/24 | BGH | Global Level, BHA & USG Coherence | 1 |
| 6/24/24 | WHO Global | Global Level; Promising Practices | 1 |
| 6/25/24 | JSI | Country Level | 1 |
| 6/26/24 | WHO South Sudan | Promising Practices (addressing WHO global award implementation at country and regional level) | 2 |
| Total | | | 29* |

* One Key Informant was interviewed twice.

Limitations

Limitations to this study include recall bias of key informants and survey respondents, which was mitigated through the triangulation of evidence across different stakeholders and data sources. Award staff turnover also presented a challenge for collecting qualitative evidence through interviews and FGDs. However, the ET sought to mitigate this through award reviews and selecting awards based on considerations of IPs' abilities to respond. Social desirability and courtesy bias were also mitigated by assuring respondents that data are anonymized and aggregated before reporting. For case studies this was mitigated by hiring local consultants who could relate to communities and conduct effective probing for direct interviews with participants. Anonymization also helped to address the common issue that program participants may be inclined to over-state the benefits of a project or negative outcomes hoping it could lead to more assistance. Additionally, the qualitative sample of interviews was not intended to be representative of the award beneficiaries. However, evidence from case studies served to amplify and explain the other data sources and findings. Case study sampling was conducted in line with qualitative research standards for reaching thematic saturation.

B. Interview Guides

The following questions were used as a general outline of questions to be adapted for KIIs with BHA, USAID or other USG agencies, and IPs.

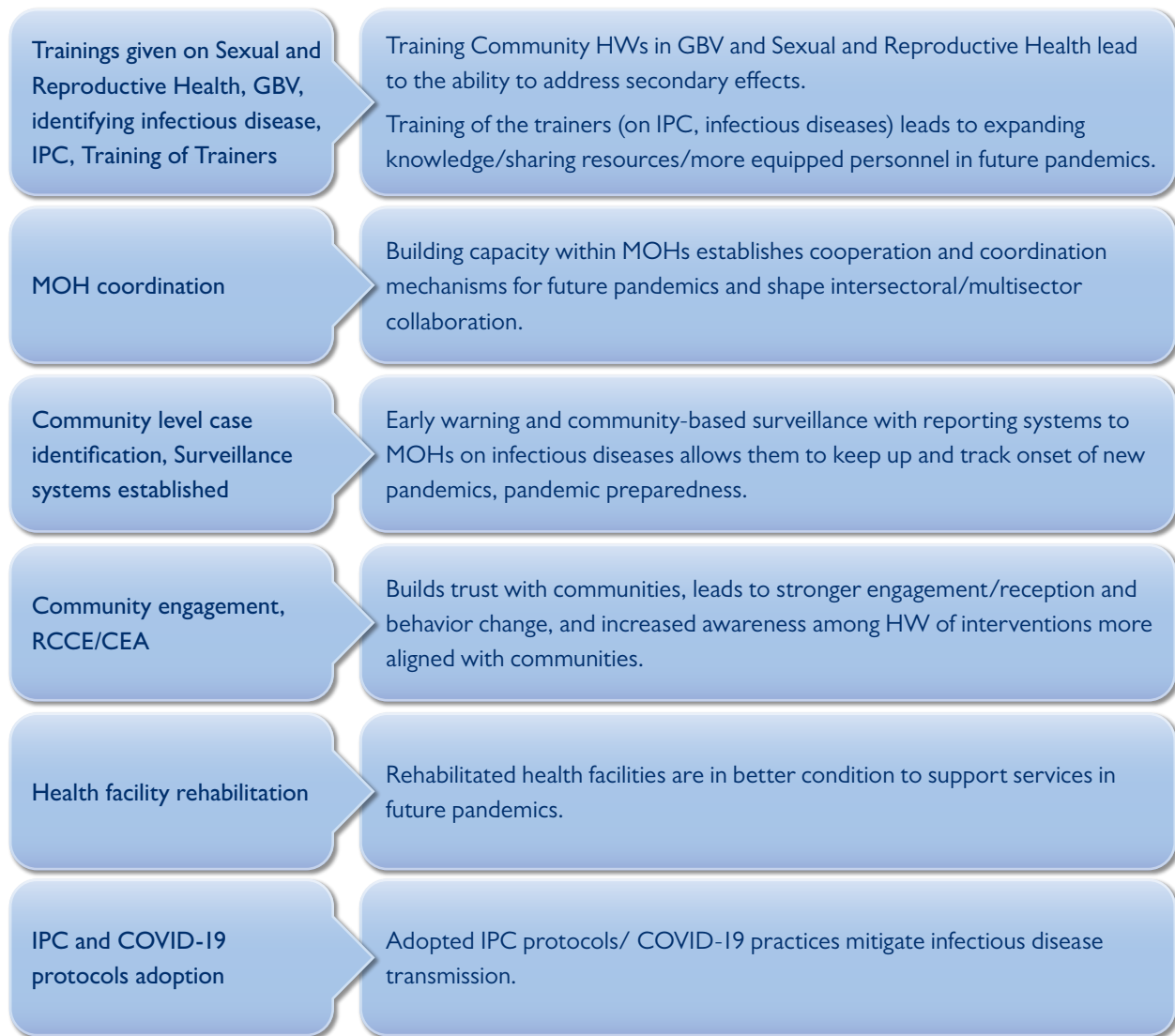
1. How do you believe epidemic/pandemic preparedness can best be achieved in conflict settings? Which capacities can be sustainably achieved? Through which stakeholders? At which levels?
2. What were you hoping that this project (if relevant, XXX) would achieve in related to preparedness for epidemics and possibly other threats in fragile/conflict contexts?
3. What were the most important achievements in terms of preparedness capacities that the supplemental contributed to?
 - a. Probe for surge capacity-human, materials, financial, policies, guidelines, tools, coordination mechanisms, knowledge management/information systems, supply chains, surveillance, diagnostic capacity, social behavioral change/community engagement, GBV/nutrition/mental health program capacity, international/regional/country/subnational levels?
 - b. What is the evidence that these capacities will persist after the supplemental funding is exhausted?
4. Where were results less impressive? Why do you think that was the case?
5. What gaps in pandemic preparedness capacity still remain in the regional or national level humanitarian architecture?
6. Are you aware of any best practice case studies where these capacities were applied to other epidemic threats or waves of COVID-19? If yes, which epidemic contexts? Which capacities? Who is a good contact to provide details?
7. If you were to rewrite this project/funding, what would you do differently in terms of building preparedness capacities in conflict contexts?
8. Any promising approach?
9. Do you recommend talking with anyone else about this topic?

If non-BHA/other USG:

10. Were you aware that BHA COVID-19 supplemental funds included an objective to improve epidemic preparedness in conflict settings? If yes, how did you learn about this?
11. In the design of the supplemental strategy, did BHA consult your agency about intention to build epidemic capacity? If yes, how (probe: design, implementation, coordination, strategy for preparedness capacity building)?
12. Do you believe BHA's strategy to improve preparedness in conflict settings was clear to donor partners?
13. If the supplemental were to be redesigned, what preparedness issues/capacities do you feel should be the focus? Why?
14. In your opinion, was BHA collaborative with your organization to adaptively manage its strategy to improve preparedness?

C. Country-level Pathways for Sustained Pandemic Capacities

Figure 4. Pathways for Lasting Pandemic Capacities



Source: IP KII analysis (n=26)

D. HW Survey Tables

Table 5. Health Worker Survey Question E1

| E1: Overall, do you feel more confident to face future outbreaks or pandemics because of your frontline health worker experience from COVID-19? | | | | | | |
|--|-------------|------------|--------------|-----------------|--------------------|---------------|
| | GOS* | NS* | Syria | Honduras | South Sudan | Totals |
| (mostly) Yes | 97.2 | 100.0 | 98.7 | 93.8 | 95.2 | 96.9 |
| (mostly) No | 2.8 | 0.0 | 1.3 | 6.3 | 4.8 | 3.1 |
| Don't know | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| n | 36 | 39 | 75 | 32 | 22 | 129 |

*GOS indicates Government of Syria-controlled areas and NS indicates North of Syria

Table 6. Health Worker Survey Question E2

| E2: Gaps in your knowledge or skills to handle future outbreaks or pandemics | | | | | | |
|--|------------|-----------|--------------|-----------------|--------------------|---------------|
| | GOS | NS | Syria | Honduras | South Sudan | Totals |
| No/Don't Know | 47.2 | 46.2 | 46.7 | 6.3 | 18.2 | 31.8 |
| New disease information/scientific updates | 13.9 | 25.6 | 20.0 | 40.6 | 18.2 | 24.8 |
| Management protocols | 5.6 | 0.0 | 2.7 | 12.5 | 4.5 | 5.4 |
| Patient management/treatment (including use of ventilators, etc.) | 5.6 | 5.1 | 5.3 | 15.6 | 4.5 | 7.8 |
| MHPSS (health workers and patients) | 5.6 | 0.0 | 2.7 | 6.3 | 0.0 | 3.1 |
| RCCE/addressing misinformation (including on vaccines) | 2.8 | 0.0 | 1.3 | 3.1 | 0.0 | 1.6 |
| Supply chain management and more equipment | 0.0 | 0.0 | 0.0 | 6.3 | 4.5 | 2.3 |
| More training generally/or refreshers on pandemic/infectious disease outbreak topics | 30.6 | 35.9 | 33.3 | 34.4 | 31.8 | 33.3 |
| Community early detection and prevention | 0.0 | 0.0 | 0.0 | 0.0 | 4.5 | 0.8 |
| Other | 0.0 | 2.6 | 1.3 | 6.3 | 18.2 | 5.4 |
| n | 36 | 39 | 75 | 32 | 22 | 129 |

Table 7. Health Worker Survey Question E3

| E3: Supported from health facility/organization in preparations for a future outbreak or pandemic | | | | | | |
|--|------------|-----------|--------------|-----------------|--------------------|---------------|
| | GOS | NS | Syria | Honduras | South Sudan | Totals |
| Supported | 77.8 | 89.7 | 84.0 | 68.8 | 84.2 | 80.2 |
| No/Lack of Support | 0.0 | 7.7 | 4.0 | 15.6 | 10.5 | 7.9 |
| Somewhat supported | 16.7 | 2.6 | 9.3 | 15.6 | 0.0 | 9.5 |
| Other | 5.6 | 0.0 | 2.7 | 0.0 | 5.3 | 2.4 |
| n | 36 | 39 | 75 | 32 | 20 | 127 |
| Adequate prevention measures/procedures in place for IPC (PPE, etc.) | 19.4 | 13.9 | 16.7 | 7.4 | 0.0 | 12.0 |
| Health team structure/staffing is supportive or efficient | 52.8 | 33.3 | 43.1 | 33.3 | 44.4 | 41.0 |
| HW attitude (dedication, pride, self-efficacy) | 0.0 | 0.0 | 0.0 | 3.7 | 0.0 | 0.9 |
| Leadership support/ providing good communication | 27.8 | 5.6 | 16.7 | 3.7 | 0.0 | 11.1 |
| Incentive/ pay | 41.7 | 44.4 | 43.1 | 11.1 | 66.7 | 39.3 |

| E3: Supported from health facility/organization in preparations for a future outbreak or pandemic | | | | | | |
|--|------------|-----------|--------------|-----------------|--------------------|---------------|
| | GOS | NS | Syria | Honduras | South Sudan | Totals |
| Ongoing training | 16.7 | 38.9 | 27.8 | 18.5 | 5.6 | 22.2 |
| Access to treatments, equipment, or countermeasures (vaccines) | 0.0 | 13.9 | 6.9 | 22.2 | 0.0 | 9.4 |
| Laboratory system | 0.0 | 2.8 | 1.4 | 3.7 | 0.0 | 1.7 |
| Facility maintenance/infrastructure | 63.9 | 44.4 | 54.2 | 25.9 | 50.0 | 47.0 |
| Community education/awareness (e.g., RCCE) | 0.0 | 16.7 | 8.3 | 0.0 | 0.0 | 5.1 |
| Other | 2.8 | 13.9 | 8.3 | 14.8 | 22.2 | 12.0 |
| n | 36 | 36 | 72 | 27 | 18 | 129 |

Table 8. Health Worker Survey Question E4

| E4: What are the primary challenges your health facility/organization faces in building these pandemic capacities? | | | | | | |
|---|------------|-----------|--------------|-----------------|--------------------|---------------|
| | GOS | NS | Syria | Honduras | South Sudan | Totals |
| Shortages of PPE | 2.7 | 20.5 | 12.0 | 43.8 | 54.6 | 27.1 |
| Staff turnover | 61.1 | 25.6 | 42.7 | 50.0 | 18.2 | 40.3 |
| Shortages of other medical supplies | 11.1 | 28.2 | 20.0 | 84.4 | 50.0 | 41.1 |
| Staff shortages | 52.8 | 25.6 | 38.6 | 84.4 | 40.9 | 50.4 |
| No ongoing training related to future outbreaks or pandemics | 52.8 | 30.7 | 41.3 | 81.3 | 22.7 | 48.1 |
| Lack of consistent pay/salary for health workers | 47.2 | 28.2 | 39.3 | 68.8 | 31.8 | 44.2 |
| Conflict or insecurity causing restricted access or shutdowns | 0.0 | 12.8 | 6.7 | 46.9 | 59.1 | 25.5 |
| Other, specify | 38.8 | 23.1 | 30.7 | 25.0 | 68.2 | 35.7 |
| n | 36 | 39 | 75 | 32 | 22 | 129 |

Table 9. Health Worker Survey Question E5

| E5: Have you faced other outbreaks since/during COVID-19? | | | | | | |
|--|------------|-----------|--------------|-----------------|--------------------|---------------|
| | GOS | NS | Syria | Honduras | South Sudan | Totals |
| Yes-outbreak or endemic infectious disease | 61.1 | 74.4 | 68.0 | 59.4 | 45.5 | 62.1 |
| No-outbreak or endemic infectious disease | 38.9 | 25.6 | 32.0 | 40.6 | 54.6 | 37.9 |
| n | 36 | 39 | 75 | 32 | 22 | 129 |
| Cholera | 63.6 | 86.2 | 76.4 | 5.3 | 51.6 | 55.0 |
| Dengue fever | 0.0 | 0.0 | 0.0 | 73.7 | 0.0 | 17.5 |
| Leishmaniasis | 36.4 | 17.2 | 25.5 | 0.0 | 0.0 | 16.3 |
| Measles | 4.5 | 3.4 | 3.9 | 15.8 | 51.6 | 11.3 |
| Tuberculosis / bronchitis | 13.6 | 0.0 | 5.9 | 26.3 | 0.0 | 10.0 |
| Scabies | 4.5 | 34.5 | 21.5 | 0.0 | 0.0 | 13.5 |
| Malaria | 0.0 | 0.0 | 0.0 | 15.8 | 31.6 | 5.0 |
| Others | 18.2 | 13.8 | 15.6 | 31.6 | 42.2 | 20.0 |
| n | 22 | 29 | 51 | 19 | 10 | 80 |

Table 10. Health Worker Survey Question E5a

| E5a: What knowledge, skills, or experience from COVID-19 were relevant to dealing with this other outbreak? | | | | | | |
|---|------------|-----------|--------------|-----------------|--------------------|---------------|
| | GOS | NS | Syria | Honduras | South Sudan | Totals |
| Proper use of PPE | 86.4 | 100.0 | 94.1 | 84.2 | 66.7 | 88.6 |
| Transmission routes | 45.5 | 72.4 | 60.8 | 84.2 | 88.9 | 69.6 |
| Case detection/screening in the health facility | 31.8 | 41.4 | 37.3 | 78.9 | 66.7 | 50.6 |
| Community surveillance | 63.6 | 48.3 | 54.9 | 89.5 | 55.6 | 63.3 |
| Case management (including home-based care, treatment referral) | 18.2 | 65.5 | 45.1 | 73.7 | 55.6 | 53.2 |
| RCCE (i.e., community-based health messaging, including addressing rumors or misinformation) | 54.5 | 51.7 | 52.9 | 78.9 | 55.6 | 59.5 |
| IPC procedures in the health facility (handwashing, triage, isolation) | 72.7 | 79.3 | 76.5 | 78.9 | 66.7 | 75.9 |
| Disinfection and waste management in the health facility | 40.9 | 65.5 | 54.9 | 68.4 | 44.4 | 57.0 |
| Case reporting to the health system (MOH) | 31.8 | 51.7 | 43.1 | 84.2 | 33.3 | 51.9 |
| IPC procedures in community facility or school (handwashing, screening, isolation) | 59.1 | 72.4 | 66.7 | 73.7 | 22.2 | 63.3 |
| MHPSS techniques for frontline workers | 40.9 | 13.8 | 25.5 | 36.8 | 0.0 | 25.3 |
| COVID-19 vaccination dissemination procedures | 18.2 | 31.0 | 25.5 | 63.2 | 44.4 | 36.7 |
| Procedures for continuing basic health/nutrition services during pandemic (ex: distancing, new guidelines, etc.) | 31.8 | 48.3 | 41.2 | 68.4 | 22.2 | 45.6 |
| Case testing/laboratory procedures | 4.5 | 27.6 | 17.6 | 57.9 | 22.2 | 27.8 |
| Supply chain management (ex: to ensure adequate supply of PPE, etc.) | 0.0 | 20.7 | 11.8 | 78.9 | 11.1 | 27.8 |
| Identifying vulnerable individuals in health facility or community setting (ex: groups not accessing care, GBV or other protection issues, food insecurity) | 9.1 | 27.6 | 19.6 | 68.4 | 11.1 | 30.4 |
| Other, | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Mean number of topics applied | 6.1 | 8.2 | 7.3 | 11.7 | 6.7 | 8.3 |
| n | 22 | 29 | 51 | 19 | 9 | 79 |

Table 11. Health Worker Survey Question E6

| E6: Health facility/organization integration promising practices, trainings, or new guidelines from COVID-19 | | | | | | |
|---|------------|-----------|--------------|-----------------|--------------------|---------------|
| | GOS | NS | Syria | Honduras | South Sudan | Totals |
| No lasting change described | 2.8 | 2.6 | 2.7 | 6.3 | 0.0 | 3.1 |
| IPC guidelines and training topics are still being practiced (masks, handwashing, sanitizing, distancing, etc.) | 58.3 | 69.2 | 64.0 | 53.1 | 40.9 | 57.4 |
| Patient flow or triage adaptations maintained | 5.6 | 5.1 | 5.3 | 15.6 | 0.0 | 7.0 |
| Infectious disease-related trainings continue | 5.6 | 12.8 | 9.3 | 0.0 | 0.0 | 5.4 |
| Community awareness sessions/health communication skills (e.g., RCCE) | 5.6 | 17.9 | 12.0 | 3.1 | 22.7 | 11.6 |
| Improved supervision, outbreak updates, and coordination within the health center | 16.7 | 5.1 | 10.7 | 0.0 | 4.5 | 7.0 |
| COVID-19 vaccine integrated with routine vaccine promotion | 2.8 | 2.6 | 2.7 | 9.4 | 36.4 | 10.1 |
| Other | 16.7 | 5.1 | 10.7 | 18.8 | 4.5 | 11.6 |
| n | 36 | 39 | 75 | 32 | 22 | 129 |

Table 12. Health Worker Survey Question E7

| E7: How to better prepare you to face a future outbreak or pandemic as a frontline health worker | | | | | | |
|---|------------|-----------|--------------|-----------------|--------------------|---------------|
| | GOS | NS | Syria | Honduras | South Sudan | Totals |
| More related training and information dissemination across all staff | 58.3 | 41.0 | 49.3 | 50.0 | 36.4 | 47.3 |
| Community surveillance (including clear reporting of new cases) | 5.6 | 12.8 | 9.3 | 0.0 | 4.5 | 6.2 |
| Improved access to vaccines/support for ongoing promotion/delivery | 0.0 | 0.0 | 0.0 | 9.4 | 0.0 | 2.3 |
| Access to PPE, key equipment | 0.0 | 5.1 | 2.7 | 15.6 | 4.5 | 6.2 |
| Coordination with other organizations | 2.8 | 0.0 | 1.3 | 9.4 | 0.0 | 3.1 |
| Systematizing the guidelines across public health centers | 0.0 | 2.6 | 1.3 | 6.3 | 4.5 | 3.1 |
| MHPSS services needed | 11.1 | 0.0 | 5.3 | 3.1 | 0.0 | 3.9 |
| Laboratory/diagnostic systems | 0.0 | 0.0 | 0.0 | 6.3 | 0.0 | 1.6 |
| Logistics and supply chain management | 0.0 | 7.7 | 4.0 | 0.0 | 9.1 | 3.9 |
| More human resources/salaries | 2.8 | 5.1 | 4.0 | 6.3 | 0.0 | 3.9 |
| Other | 16.7 | 0.0 | 8.0 | 12.5 | 4.5 | 8.5 |
| None | 16.7 | 41.0 | 29.3 | 3.1 | 31.8 | 23.3 |
| n | 36 | 39 | 75 | 32 | 22 | 129 |

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