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U.S. Army Public Health Center (APHC) Coronavirus Disease 2019 (COVID-19) Response, January 2020-March 2021

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From January 2020 through March 2021, the U.S. Army Public Health Center's (APHCs) Coronavirus 2019 (COVID-19) Task Force was supported by all of the APHC Technical Directorates whose numerous scientists shifted their focus from important mission work to respond to this unprecedented public health crisis. Over 30 APHC staff were assigned full-time to the Task Force during this timeframe. Their collective and tireless commitment enabled the development and execution of APHCs COVID-19 response, providing essential support to stakeholders throughout the Army Enterprise. This report and its contents are a tribute to their significant dedication, time, and contributions to military public health.

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14. ABSTRACT

This report documents U.S. Army Public Health Center (APHC) activities and products in support of the Army's coronavirus disease 2019 (COVID-19) response, January 2020-March 2021. Over $42 million was spent on APHC COVID-19 activities during this time frame; the majority paid for by supplemental FY20 CARES Act funds. In March 2020, the APHC COVID-19 Task Force was formed. Each month, approximately 6,000 APHC Civilian and military hours were dedicated to Task Force support. Request for information (RFI) volume was highest upon initial Task Force formation, with 262 RFIs in April 2020. RFI volume remained constant September 2020 to March 2021, with 53 RFIs per month on average. From February 2020 to March 2021, over 1,400 social media content items were published, resulting in more than 1 million impressions reaching over 647,000 persons. In addition, content uploaded into Sprinklr was utilized 567 times, reaching over 5 million users. APHC also obtained funding enabling enhanced laboratory surveillance and pooled sampling capabilities across the Army Public Health Laboratory Enterprise (APHLE), and from May 2020-March 2021, the APHLE processed 176,841 samples in 20,092 pools, saving 161,450 diagnostic assays. Public health surveillance and reporting began in March 2020, with the establishment of COVID-19 reporting in the Disease Reporting System internet (DRSi). Recurring reports were initially provided three times per day, 7 days per week. Throughout this time frame, Task Force lessons learned were collected and shared with the MEDCOM Center for Lessons Learned. In May 2021, semi-structured interviews of Army Public Health senior leaders provided numerous recommendations for the planning, response, and recovery phases of future public health emergencies. These insights should be used to guide future preparations and decisions regarding public health infrastructure required to maintain essential emergency preparedness and response capabilities.

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PUBLIC HEALTH INFORMATION PAPER NO. 98-04-1021
U.S. ARMY PUBLIC HEALTH CENTER (APHC) CORONAVIRUS DISEASE 2019 (COVID-19) TASK FORCE RESPONSE, JANUARY 2020-MARCH 2021

1 SUMMARY

1.1 Purpose

This report documents and provides an assessment of U.S. Army Public Health Center (APHC) activities and products in support of the U.S. Army's response to the Coronavirus disease 2019 (COVID-19) pandemic from January 2020 to March 2021. Lessons learned and business operations are described to guide and inform future decisions regarding public health infrastructure that is required to maintain essential emergency preparedness and response capabilities.

1.2 Abstract

This report documents and reviews APHC activities and products in support of the Army's COVID-19 response from January 2020 to March 2021. Over $42 million was spent on APHC COVID-19 activities during this time frame, which the majority was paid for by supplemental fiscal year 2020 (FY20) Coronavirus Aid, Relief, and Economic Security (CARES) Act funds. In March 2020, the APHC COVID-19 Task Force was formed. Each month, approximately 6,000 APHC Civilian and military hours were dedicated to Task Force support; these total hours do not include contract support. Request for information (RFI) volume was highest upon initial Task Force formation, with 262 RFIs in April 2020. RFI volume remained constant from September 2020 to March 2021, with 53 RFIs per month on average. From February 2020 to March 2021, over 1,400 social media content items were published, resulting in more than 1 million impressions, reaching over 647,000 persons. In addition, Army social media managers utilized content uploaded into Sprinklr® 567 times, reaching over 5 million users. APHC also obtained funding that enabled enhanced laboratory surveillance and pooled sampling capabilities across the Army Public Health Laboratory Enterprise (APHLE); from May 2020 through March 2021, the APHLE processed 176,841 samples in 20,092 pools, saving 161,450 diagnostic assays. Task Force lessons learned were collected and shared with the U.S. Army Medical Command (MEDCOM) Center for Lessons Learned. Feedback obtained in May 2021 from Army Public Health senior leaders provided numerous recommendations for the planning, response, and recovery phases of future public health emergencies. These insights and recommendations should be used to guide future preparations and decisions regarding public health infrastructure required to maintain essential emergency preparedness and response capabilities.

2 REFERENCES

See Appendix A for a listing of references used within this report.

3 AUTHORITY

Army Regulation 40-5 (Army Public Health Program) tasks the APHC with providing technical and support capabilities to enhance Army readiness by identifying, assessing, and providing recommendations for solutions to legacy, current, and emerging public health issues to include

monitoring health outcomes and health hazards at the population level.[1] Department of Army Pamphlet 40-11 (Army Public Health Program) further specifies that the APHC, as part of the Enterprise for Army Public Health, supports functional areas of Army Public Health, including but not limited to public health emergency management, health surveillance and epidemiology, occupational health, public health laboratory services, and clinical public health.[2]

4 BACKGROUND

To examine the full APHC's COVID-19 pandemic response, it is necessary to understand the regulatory requirements guiding APHC.

4.1 Public Health Emergency Preparedness and Response

The need for governmental public health infrastructure to support emergency preparedness and response was highlighted in the 2003 Institute of Medicine report, *The Future of the Public's Health in the 21st Century*.[3] Subsequently, capabilities that make such a response possible were outlined in the 10 Essential Public Health Services[3,4] and Public Health Accreditation Board domains.[5] Public health preparedness requirements were further described by the Centers for Disease Control and Prevention (CDC), Center for Preparedness and Response.[6] The recommended public health preparedness structure consists of 2 tiers and 15 capabilities, with Tier 1 representing essential, foundational capabilities. Tier 1 capabilities are as follows: Community preparedness, Emergency operations coordination, Emergency public health information and warning, Information sharing, Medical countermeasure dispensing and administration, Medical material management and distribution, Responder safety and health, Public health laboratory testing, and Public health surveillance and epidemiologic investigations.

4.2 Department of Defense (DOD) Emergency Preparedness and Response

The DOD role in the national emergency response infrastructure is outlined in Department of Defense Instruction (DODI) 6055.17 (DOD Emergency Management (EM) Program), which aligns EM Program efforts with Presidential Policy Directive 8 and implements the National Planning Frameworks and the National Preparedness System, including the National Incident Management System (NIMS), Incident Command System (ICS), and Multi-Agency Coordination System (MACS) for incident management of emergencies.[7] DODI 6055.17 describes the establishment of an EM Steering Group for each DOD component to provide EM guidance and recommend policy for each component. In addition, each installation commander is instructed to establish an EM Working Group to implement the EM program.

Public health emergency management is further described in DODI 6200.03 (Public Health Emergency Management within the Department of Defense).[8] In DODI 6200.03, a public health emergency is defined as "the occurrence or imminent threat of an illness or health condition that poses a high probability of a significant number of deaths, serious or long-term disabilities, widespread exposure to an infectious or toxic agent, overwhelmed health care resources, or severe degradation of mission capabilities."[8] Public health emergencies may be declared by the U.S. Department of Health and Human Services; individual states; local, tribal, or territorial authorities; or military commanders in consultation with their Public Health Emergency Officer (PHEO) and staff judge advocate (SJA) or command judge advocate (CJA).[8] Considerable responsibilities are designated to DOD military installation commanders, who must ensure

collaboration with state, local, tribal, territorial, and host nation emergency management planners and public health authorities.[7,8] Medical treatment facility (MTF) commanders or directors, PHEOs and alternate PHEOs, and medical emergency managers (MEMs) and alternate MEMs provide additional support required for effective installation preparedness, response, and recovery.[8]

4.3 APHC Public Health Emergency Preparedness and Response

The APHC and its predecessor organizations have historically maintained an emergency response capability that is activated to assist the U.S. Army in its all-hazards response mission, including public health emergencies. For example, APHC's clinicians and scientists have been mobilized to provide disaster response support for the Tōhoku earthquake and tsunami (Operation Tomodachi, 2011), Hurricane Katrina (2005), and the September 11 Pentagon terrorist attack (2001).[9,10]

Currently, public health is a functional area of the Military Health System for which the U.S Army Surgeon General (TSG) is the functional proponent.[1] The APHC is tasked to provide technical capabilities in support of Army readiness including developing, training, staffing, equipping, and operating public health response teams.[1] Public health emergency management was formally established in Army Public Health policy in 2020.[1,2] To support Army PHEOs who serve as installation senior commanders' central point of contact for public health-related information during a public health emergency, APHC maintains capabilities such as centralized Active Duty health surveillance, a public health laboratory system, and expertise in preventive medicine, public health communication, and health risk assessment.[2] These capabilities fulfill TSG and MEDCOM responsibilities defined in Army Regulation 525-27 (Army Emergency Management Program).[11]

4.4 APHC and the COVID-19 Response

Spread of the respiratory disease caused by the SARS-CoV-2 virus escalated quickly after its start in Wuhan, China in late 2019.[12] Infection extended into Europe and other Asian countries by February 2020.[13] In January 2020, the World Health Organization (WHO) declared COVID-19 to be a Public Health Emergency of International Concern,[14,15] and on 11 March 2020, the WHO declared COVID-19 a pandemic. Lockdowns and mandatory "stay-at-home" orders were implemented across the world.[14-16] In the U.S., initial cases were detected in January 2020, and the President's Coronavirus Task Force was established in response.[12] The U.S. declared a National Emergency on 13 March 2020. From 1 March to 31 May 2020, stay-at-home orders were issued in 42 States and territories, affecting 2,355 of 3,233 (73%) U.S. counties.[16]

On 13 March 2020, the APHC COVID-19 Task Force (hereafter referred to as the Task Force) was created in response to the rapidly emerging COVID-19 pandemic to support ongoing pandemic monitoring and communication and response efforts across the Army Enterprise via coordinated activities and products. The Task Force was formed after similar response efforts were launched by Headquarters, Department of the Army (HQDA) and MEDCOM. The initial team consisted of 4 APHC personnel and was quickly expanded to 10 personnel within the first 2 weeks. Ultimately, the Task Force sustained operations with 12 to 17 APHC staff members. These core staff were needed to support the numerous and varied requests for information.

The mission of the Task Force was to provide project management coordination to ensure COVID-19 information and products were comprehensive, consistent, scientifically sound, transparent, timely, and followed the best currently available public health guidance. The Task Force's scope of operations was specifically defined by the APHC Director to focus on internal APHC and Deputy Chief of Staff for Public Health (DCS-PH) project management to facilitate integrated responses to Army senior leaders, operational decision makers, and APHC customers and personnel. Figure 1 is the Task Force structure encompassing responsibilities for shaping and direction of COVID-19 communication materials (Communication), task management (Operations) with connection to Directorate subject matter experts (Liaison Officers (LNOs)), management of all produced content (Knowledge Management), Task Force performance metrics (Response Analysis), and essential related responsibilities (Adjunct Cells). During the response, the Task Force structure evolved to respond to the needs at the time. **Figure 1** represents the structure in March 2021.

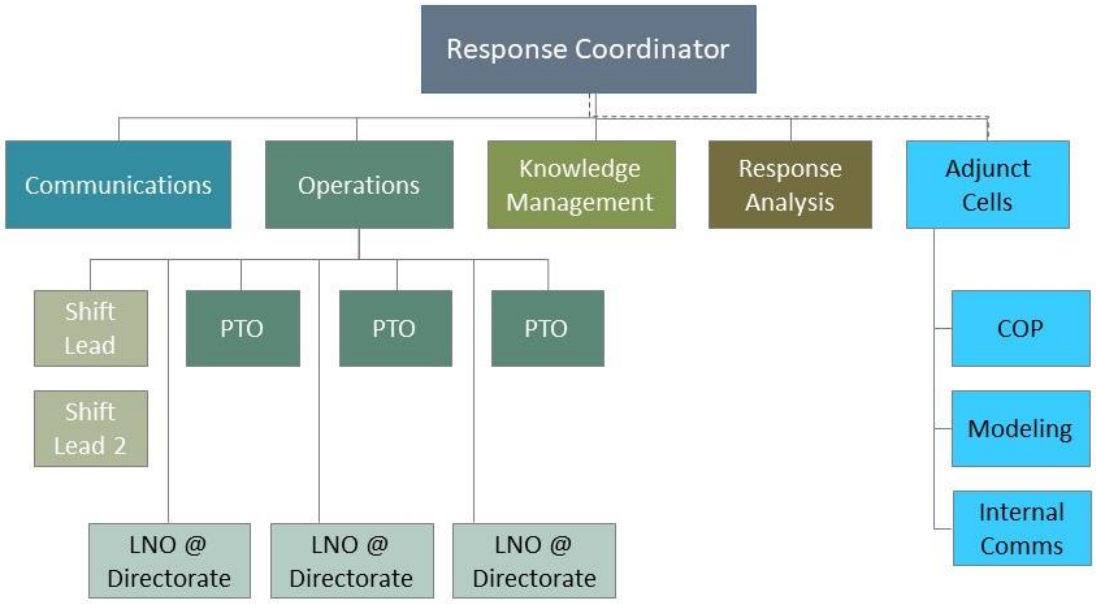

Figure 1. Example of APHC COVID-19 Task Force Structure

Legend: LNO = Liaison Officer to selected Directorates; PTO = Project Task Officer; COP = Common Operating Picture (Dashboard team).

To expedite response and ensure consistency in operations, a detailed task management process was maintained for all requests received by the Task Force. **Figure 2** displays an example of this process. Further details of the tactical execution of key functions of the Task Force are provided in the APHC COVID-19 Task Force Standard Operating Procedure (SOP) (Appendix B).

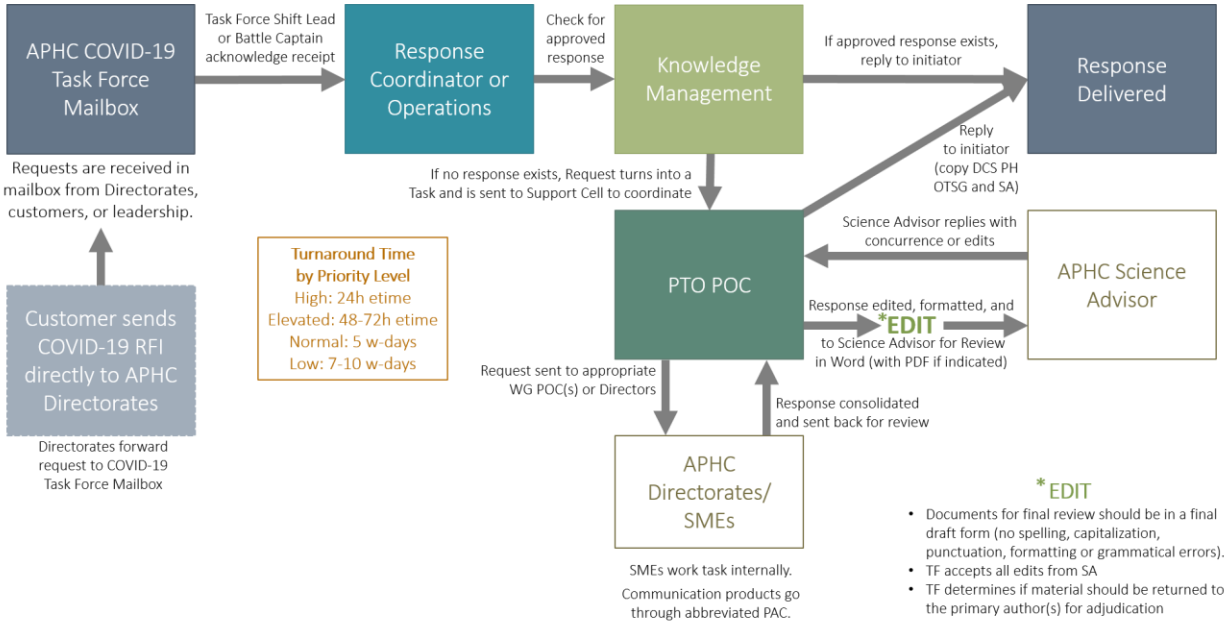

Figure 2. APHC COVID-19 Task Force, Lifecycle of a Request

Legend: APHC = U.S. Army Public Health Center; PTO = Project Task Officer; POC = point of contact; SA = Science Advisor; SME = subject matter expert; TF = Task Force.

This report documents Task Force operations and products and summarizes after action input obtained from lessons learned, exit statements, and semi-structured interviews of Army public health leaders. The intent is to provide information to inform future decisions regarding public health infrastructure and actions required to maintain military public health preparedness and response capabilities.

5 TASK FORCE DATA

Systems developed by the Task Force tracked APHC expenses, labor hours, requests for information (RFI), tasks, and social media and digital media content development. The sections that follow summarize data representing the January 2020 to March 2021 timeframe.

5.1 Operations Expenses

From January 2020 to March 2021, over $42 million were spent supporting APHC COVID-19 activities. Forty-three percent were provided to Occupational Health Clinics. The funding was used for a contract that provided occupational health service support at 30 occupational health clinics in the continental U.S. and Hawaii. Manpower provided by the contract included occupational health physicians, occupational health nurses, occupational health technicians, and medical support assistants. The contract service providers enabled reduction of the backlog of occupational health examinations from the curtailment of non-essential occupational health services during the pandemic. **Figure 3** shows one-third (34%) of expenses covered Civilian labor expenses for APHC support of APHC COVID-19 activities. Nineteen percent of expenses were obtained for a laboratory contract to upgrade the APHLE Acute Respiratory Disease Surveillance (ARDS) testing program, establishing methods for SARS-CoV-2 detection

at seven Army public health laboratories across the world. Supplemental funding from the CARES Act was received in FY20, and covered the expenses related to the Occupational Health Clinics and APHLE.

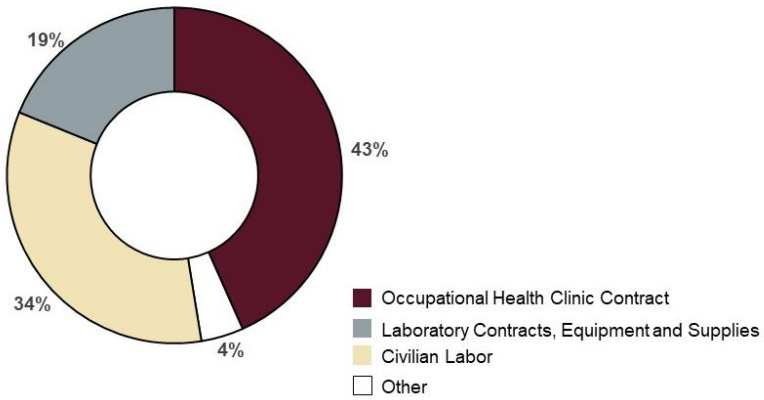

Figure 3. APHC COVID-19 Expenses, January 2020-March 2021
Source: General Fund Enterprise Business System (GFEBS)

5.2 Labor

From January 2020 to March 2021, over 100,000 man-hours of APHC Civilian and military were utilized to support APHC COVID-19 activities **(Figure 4)**. Seven percent (over 7,000 hours) were overtime or compensatory time hours. The COVID-19 response consumed, on average, 6,000 hours monthly across the APHC from August through December of 2020, dipping slightly to 5,500 hours in 2021 **(Figure 5)**. More specifically, Task Force operations, including both full-time assigned and adjunct personnel, accounted for approximately 3,000 hours monthly (about half of the Center's total COVID-19 support).

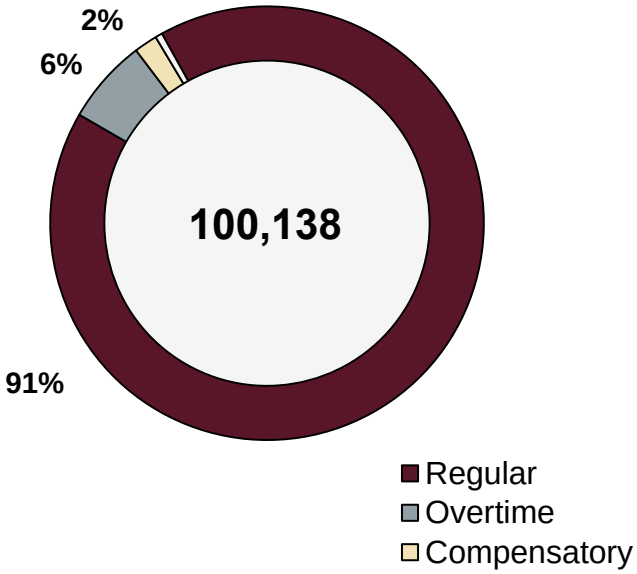

Figure 4. APHC COVID-19 Civilian and Military Total Labor Hours, January 2020 – March 2021

Source: Automated Time Attendance and Production System (ATAAPS)

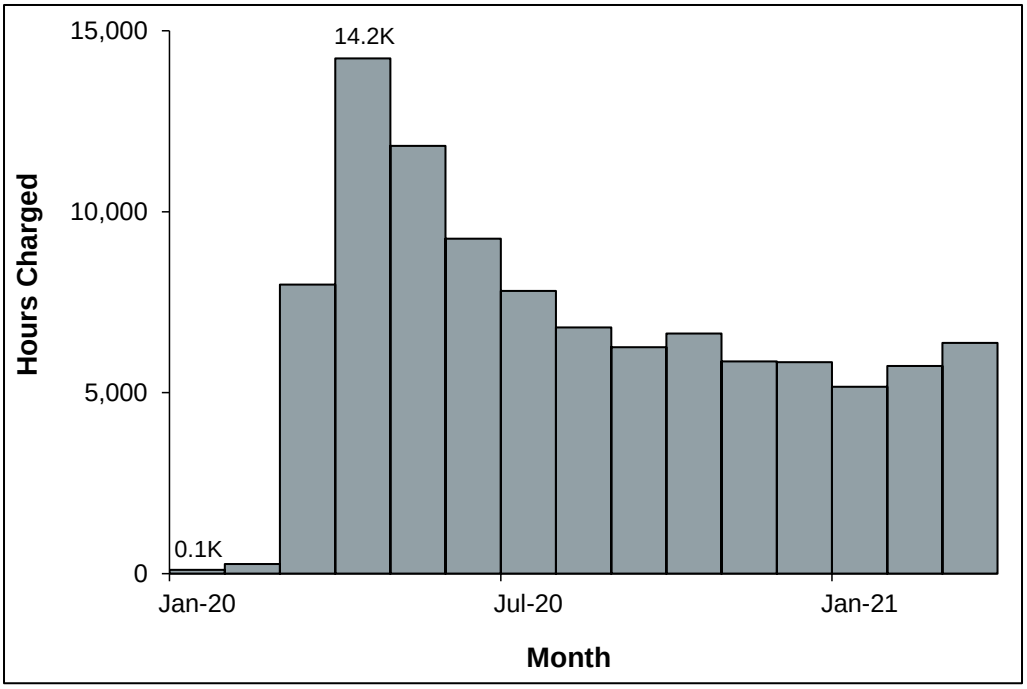

Figure 5. APHC COVID-19 Civilian and Military Labor Hours by Month, January 2020-March 2021

Source: Automated Time Attendance and Production System (ATAAPS)

Figure 6 (below) demonstrates the total Civilian and military resource contributions by APHC Directorates to the COVID-19 response. Contractor hours are not tracked in the Automated Time Attendance and Production System (ATAAPS) system, so they could not be reported. Full-time Task Force personnel were detailed or reassigned from the parent Directorate; therefore, Directorate assignments in **Figure 6 and 7** are based on an individual's assigned Directorate as of 1 January 2020 or at the time of arrival to APHC. The illustration of charged hours is based on work breakdown structure (WBS) elements. Hours charged to Task Force WBS elements are shown, in addition to hours charged to other APHC COVID-19 response WBS elements (e.g., COVID-19 Laboratory Operations).

In April 2020, there were eight technical Directorates within APHC: Clinical Public Health and Epidemiology (CPHE), Environmental Health Sciences and Engineering (EHSE), Health Promotion and Wellness (HPW), Laboratory Sciences (LS), Occupational Health Sciences (OHS), Public Health Communication (PHCOM), Toxicology (TOX), and Veterinary Services and Public Health Sanitation (VSPHS). Also at this time, APHC manpower consisted of 544 Army Civilians, 106 Active Duty military, and 167 contractors.

Total hours contributed from January 2020 to March 2021 were greatest for the CPHE Directorate (20,296 hours total), followed by the LS and PHCOM Directorates (16,065 and 14,970 hours, respectively) **(Figure 6)**. Hours for full-time Task Force assignment were greatest for the CPHE Directorate (6,136 hours), followed by the PHCOM, EHSE, and OHS Directorates (5,252; 3,741; and 3,346 hours, respectively). Hours related to APHC COVID-19 support (not

including full-time Task Force assignment) were greatest for the LS Directorate (15,589 hours), followed by the CPHE and OHS Directorates (14,160 and 9,122 hours, respectively).

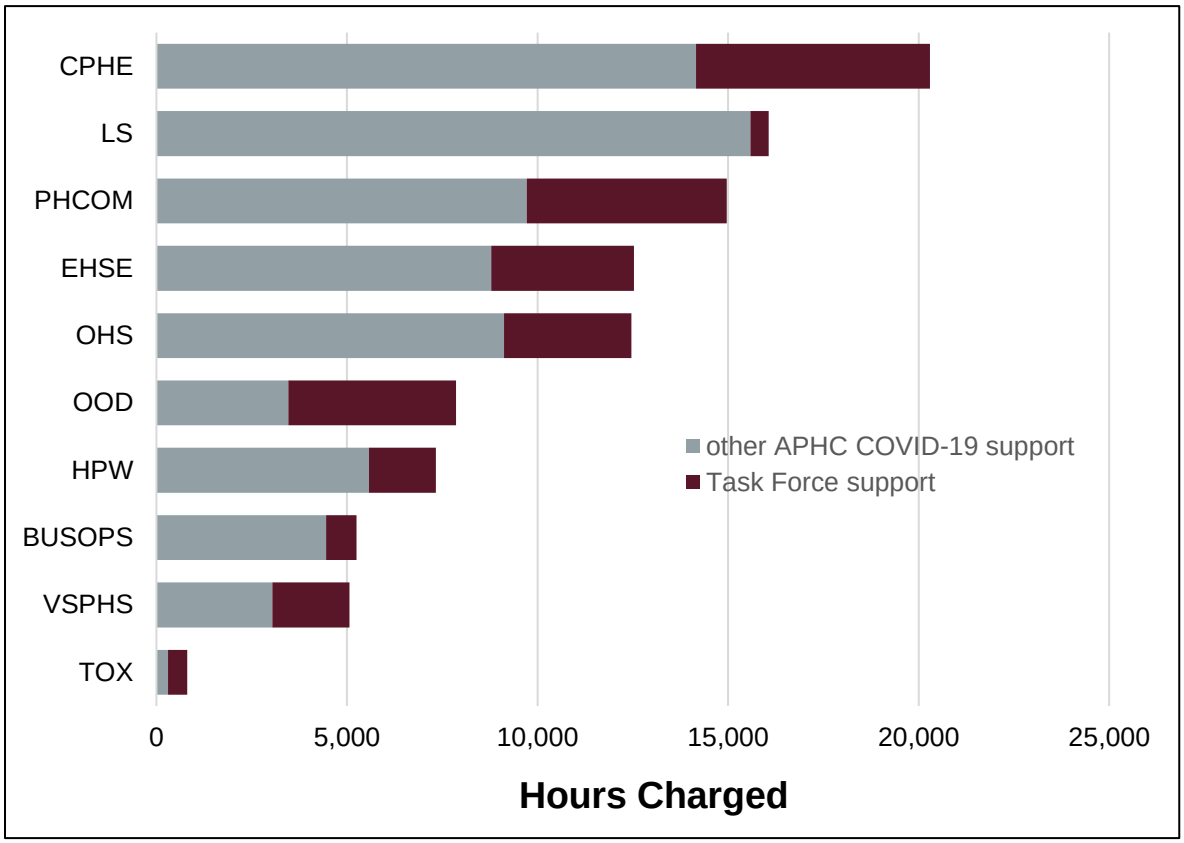

Figure 6. APHC COVID-19 Civilian and Military Labor Hours by Directorate, January 2020-March 2021

Source: Automated Time Attendance and Production System (ATAAPS)
Legend: CPHE = Clinical Public Health and Epidemiology; EHSE = Environmental Health Sciences and Engineering; OHS = Occupational Health Sciences; PHCOM = Public Health Communications; HPW = Health Promotion and Wellness; OOD = Office of the Director; BUSOPS = Business Operations; VSPHS = Veterinary Services and Public Health Sanitation; LS = Laboratory Sciences; TOX = Toxicology.

The cumulative resource commitment of the noted APHC directorates reflects the knowledge, skills, and abilities necessary for the Army public health response to the COVID-19 pandemic. Notably, required knowledge, skills, and abilities included, but were not limited to, disease surveillance, industrial hygiene, environmental health and sanitation, health risk assessment and mitigation, survey design and execution, public health communication development, and laboratory methods design and execution. In addition, new functions were established or adapted for the COVID-19 response, including mathematical modeling to project the impact of COVID-19 on MTF resources and data visualization to design and maintain the MEDCOM COVID-19 Common Operating Picture.

From March 2020 through March 2021, a total of 33 APHC staff members were assigned full-time to the Task Force **(Table 1)**. The 33 full-time staff members rotated from the technical directorates for 23 weeks each, on average (standard deviation ± 12.5 weeks; range 4 to 54 weeks). Two-thirds (n=22) were Civilian employees and one-third (n=11) were Active Duty military.

Table 1. APHC COVID-19 Full-time Civilian and Military Task Force support by Directorate, March 2020-March 2021

Directorate or Office	Full-time Task Force members	Dashboard team members	Modelling team members
CPHE	7	-	2
EHSE	5	1	1
OHS	5	1	-
PHCOM	4	-	-
HPW	3	-	2
OOD	3	-	-
BUSOPS	2	1	-
VSPHS	2	2	-
LS	1	-	-
TOX	1	-	-
Totals	33	5	5

Source: APHC COVID-19 Task Force roster, APHC OOD
Legend: CPHE = Clinical Public Health and Epidemiology; EHSE = Environmental Health Sciences and Engineering; OHS = Occupational Health Sciences; PHCOM = Public Health Communications; HPW = Health Promotion and Wellness; OOD = Office of the Director; BUSOPS = Business Operations; VSPHS = Veterinary Services and Public Health Sanitation; LS = Laboratory Sciences; TOX = Toxicology.

Operational tempo (OPTEMPO) of full-time Task Force members was also tracked with self-reported hours each week submitted on the Task Force SharePoint® site. A reminder email from the Response Analysis lead was sent each week. This 'OPTEMPO' data supplemented ATAAPS data, providing a complete capture of overtime (ATAAPS did not capture overtime hours for military personnel) and a real-time assessment of hours worked that was reviewed by Task Force leadership each week. Self-reported hours enabled monitoring of specifics such as time spent in Task Force meetings, on tasks related to Task Force members' primary assignment (e.g., Operations, Knowledge Management, Response Analysis), and on COVID-19 support outside of primary Task Force assigned tasks.

Figure 7 depicts the 2-week average of hours worked per week by Task Force members, categorized by primary Task Force assignment, from May 2020 to March 2021. Hours fluctuated greatly from May to September 2020, and then leveled off between 40 to 45 hours per week through March 2021.

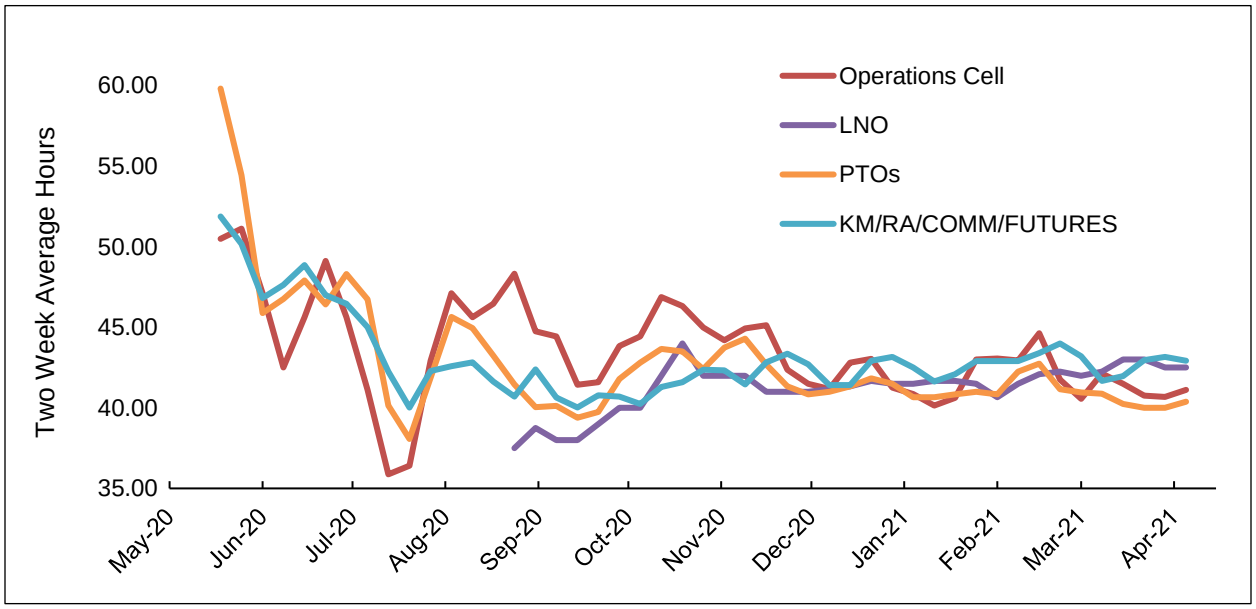

Figure 7. Self-reported APHC COVID-19 Task Force Hours by Month, May 2020-March 2021

Source: APHC COVID-19 Task Force, Response Analysis Cell
Abbreviations: LNO: Liaison Officer; PTO: Project Task Officer; KM: Knowledge Management; RA: Response Analysis; COMM: Communications.

5.3 Products and Services

The sections below summarize Task Force products from January 2020 to March 2021.

5.3.1 Responses to Requests for Information (RFIs)

The Task Force received RFIs primarily by email throughout the pandemic. RFIs were defined as any request from any client, internal or external to APHC. Examples of RFIs ranged from clarification of DOD, Army, or MEDCOM orders to complex problems requiring comprehensive public health implementation guidance for management of novel risks. The APHC COVID-19 Task Force SOP (Appendix B) contains an explanation of the RFI process.

The Task Force received a total of 1,088 RFIs between 1 March 2020 and 31 March 2021 **(Figure 8)**. As requests were received, they were assigned to one of the following categories: Operations, Occupational, Disease Epidemiology, Communications, Laboratory, or Environmental. Most RFIs received were related to military and workplace operations.

RFI metrics were tabulated weekly on an APHC COVID-19 Internal Dashboard The RFI metrics displayed included total number, weekly number, requesting organization, and category.

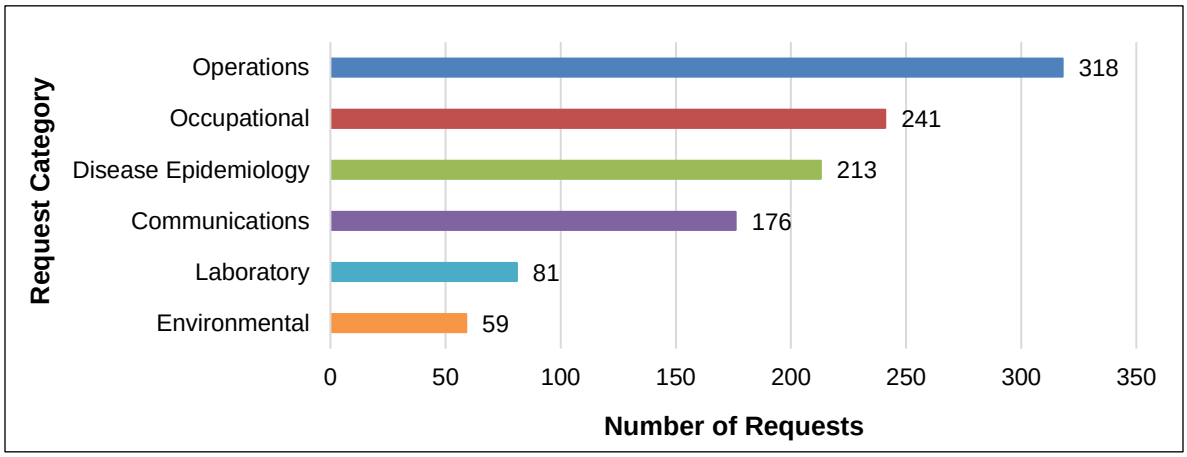

Figure 8. APHC COVID-19 Task Force Requests for Information by Category, March 2020-March 2021

Source: APHC COVID-19 Task Force, Response Analysis Cell

The RFI volume was highest upon initial formation of the Task Force at the beginning of the pandemic, with 262 requests received in April 2020 **(Figure 9)**. After that, request volume gradually decreased and then remained constant from September 2020 to March 2021, with an average of 53 requests per month. The majority of requests in the beginning of the pandemic fell into the Occupational category and included queries about personal protective equipment (PPE) (e.g., masks), ventilation and other engineered controls, and technology evaluations. The number of Operations-related RFIs remained constant throughout the year and evolved from topics such as health protection condition (HPCON) frameworks early in the pandemic to health risk assessments for training and events as Army elements returned to large-scale operations.

In April 2020, the Task Force received 91 RFIs categorized as Occupational, 72 RFIs categorized as Disease Epidemiology, and 41 RFIs categorized as Operations. RFI numbers decreased to 3 Occupational and 8 Disease Epidemiology requests in March 2021, with Operations requests remaining high at 22.

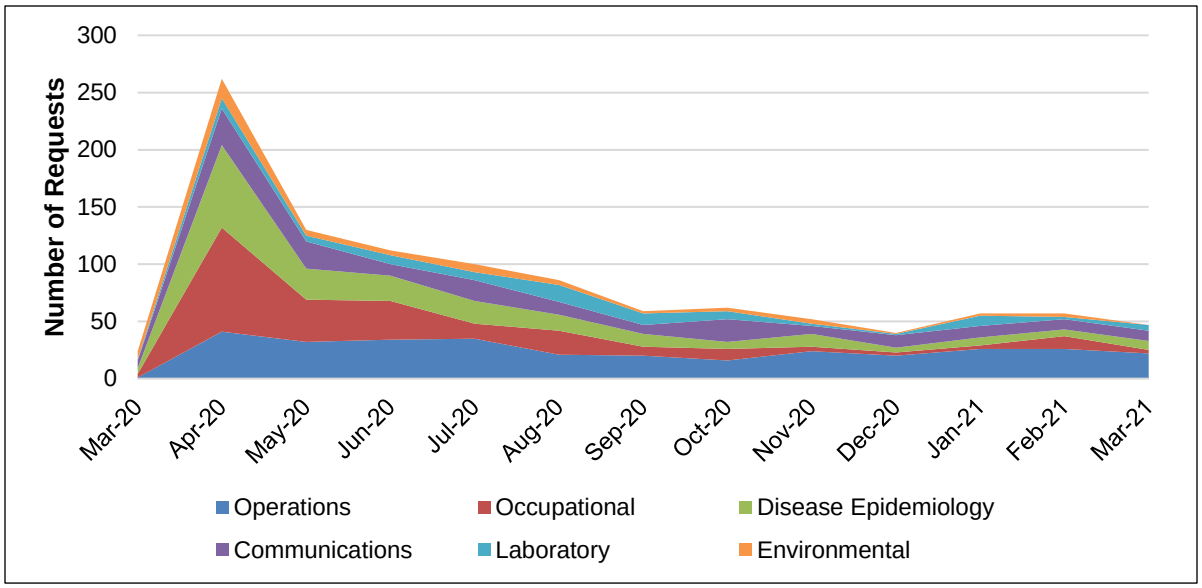

Figure 9. APHC COVID-19 Task Force Requests for Information by Category and Month, March 2020-March 2021

Source: APHC COVID-19 Task Force, Response Analysis Cell

RFIs were received from a total of 161 different organizations across the DOD, including the Office of the Army Surgeon General (OTSG)/ MEDCOM, HQDA, the Defense Health Agency (DHA), and the Army Training and Doctrine Command (TRADOC), as well as internal requests from APHC **(Figure 10)**. The Task Force received the most RFIs from OTSG/MEDCOM, including formal taskings, with 263 total requests through March 2021.

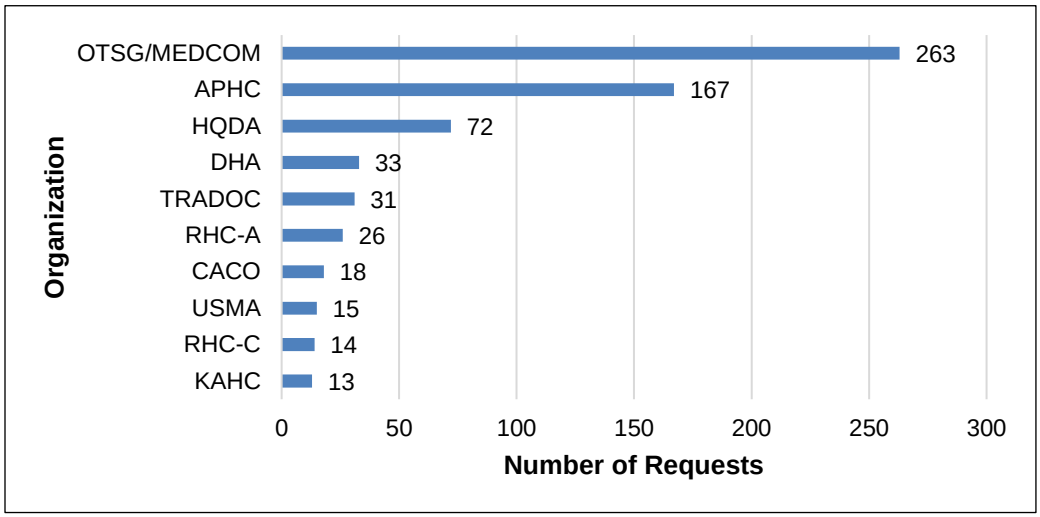

Figure 10. APHC COVID-19 Task Force Requests for Information by Top 10 Requesting Organizations, March 2020-March 2021

Source: APHC COVID-19 Task Force, Response Analysis Cell
Abbreviations: OTSG/MEDCOM: Office of the Surgeon General/Army Medical Command; APHC: U.S. Army Public Health Center; HQDA: Headquarters Department of the Army; DHA: Defense Health Agency; TRADOC: Training and Doctrine Command; RHC-A: Regional Health Command-Atlantic; CACO: Congressional Affairs Contact Office; USMA: U.S. Military Academy; RHC-C: Regional Health Command-Central; KAHC: Kirk Army Health Clinic.

The Task Force tracked the time to completion, or close, of RFIs. **Figure 11** displays time to close transposed over RFI volume per month. Time to close fluctuated, but generally decreased during the timeframe. Notable spikes in time to close are apparent during periods of fluctuations in Task Force manning in the fall of 2020 (staffing decreased from 5 to 3 project task officers) and increased volume at the beginning of 2021. Overall, however, the average time to close RFIs improved over time, speaking to improved efficiency and processes of the Task Force.

During April and May 2020, the Task Force refined its processes and built its knowledge management database. Once complete, the database allowed common responses to be catalogued and retrieved for future responses. This is evidenced in the reduced time to close after May 2020. The high volume in April 2020 may have had an effect on time to close (24 days) in May 2020.

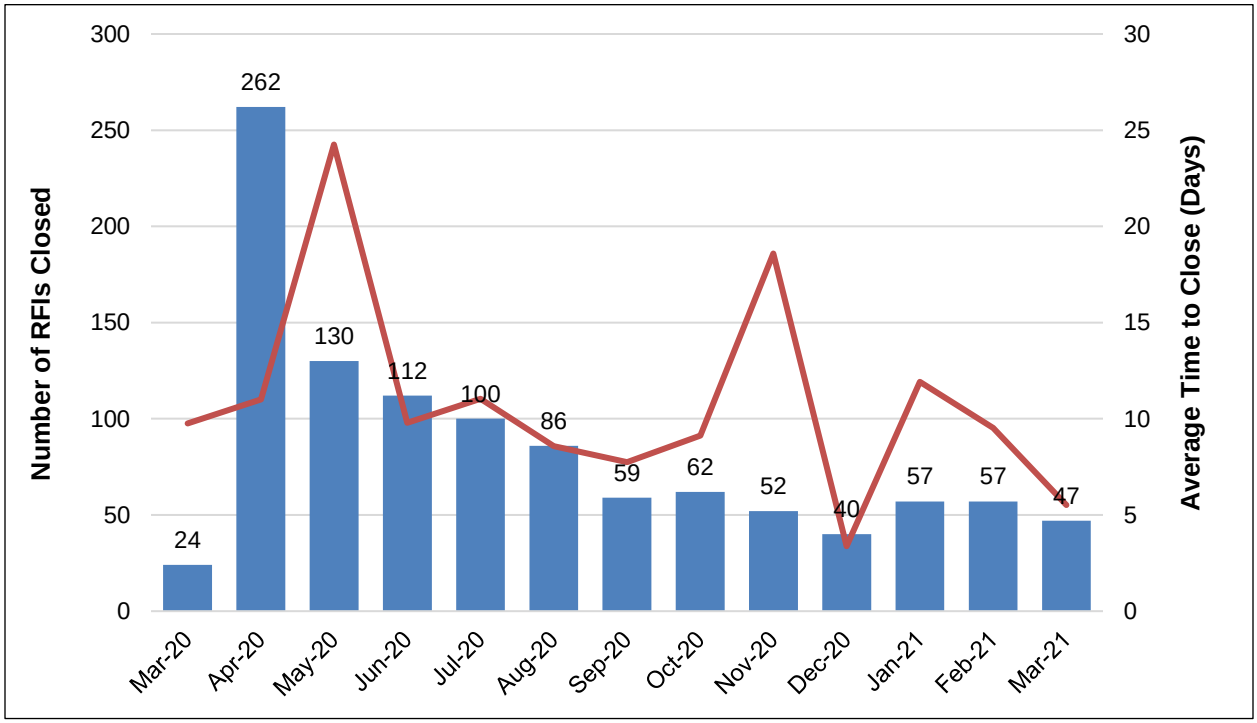

Figure 11. APHC COVID-19 Task Force Requests for Information Counts and Time to Close, March 2020-March 2021

Source: APHC COVID-19 Task Force, Response Analysis Cell

5.3.2 Tasks

Some RFIs received by the Task Force required more time and attention than others. While the majority of requests were handled within the Task Force, time-intensive RFIs (often requiring the creation of original content), necessitated further resourcing and management. Additionally, high-priority short-suspense RFIs were received that required more resources in a compressed period of time. When material could not be leveraged quickly from existing products, or the high-priority short-suspense nature warranted, RFIs were turned into “Tasks” managed by Project Task Officers (PTOs). PTOs worked with Directorates to establish the scope of the task and suspense, engage appropriate subject matter expertise, and develop accurate and medically-sound information. Further explanation of the Task Force Task process can be found in the APHC COVID-19 Task Force SOP **(Appendix B)**.

Task volume and completion per PTO is displayed in **Figure 12**. This metric was used to monitor Task Force efficiency and personnel burden over time. As depicted here, starting in November 2020, the difference between All Tasks and Closed Tasks lines served as an indication of outstanding (not yet closed) tasks to Task Force members each week.

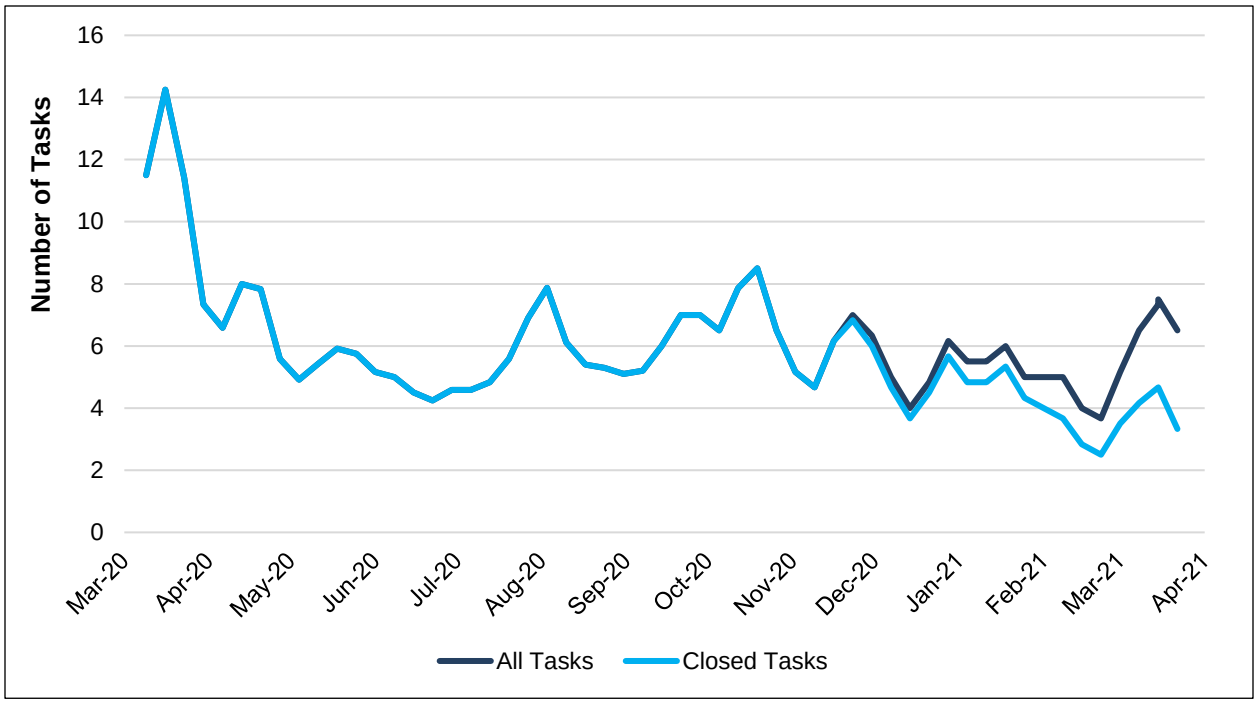

Figure 12. APHC COVID-19 Task Force Tasks per Project Task Officer by Month, March 2020-March 2021

Source: APHC COVID-19 Task Force, Response Analysis Cell

Figure 13 shows the average time to complete, or close, Tasks transposed over Task volume per month. Time to close fluctuated throughout the pandemic but generally decreased over time as the Task Force refined its processes and staffing. At its peak of 28 days in July 2020, the Task Force was transitioning staff and pursuing a series of complex new guidance for returning to work and sustaining workplace operations. The iterative development process of this guidance in combination with personnel turnover likely contributed to the increased time to close. The second peak in November 2020 (18 days) is attributable to a planned staffing decrease from 5 to 3 project task officers. Throughout these periods, work was prioritized based on suspense, customer, and urgency to continuity of operations. High-priority deliverables were completed without delay.

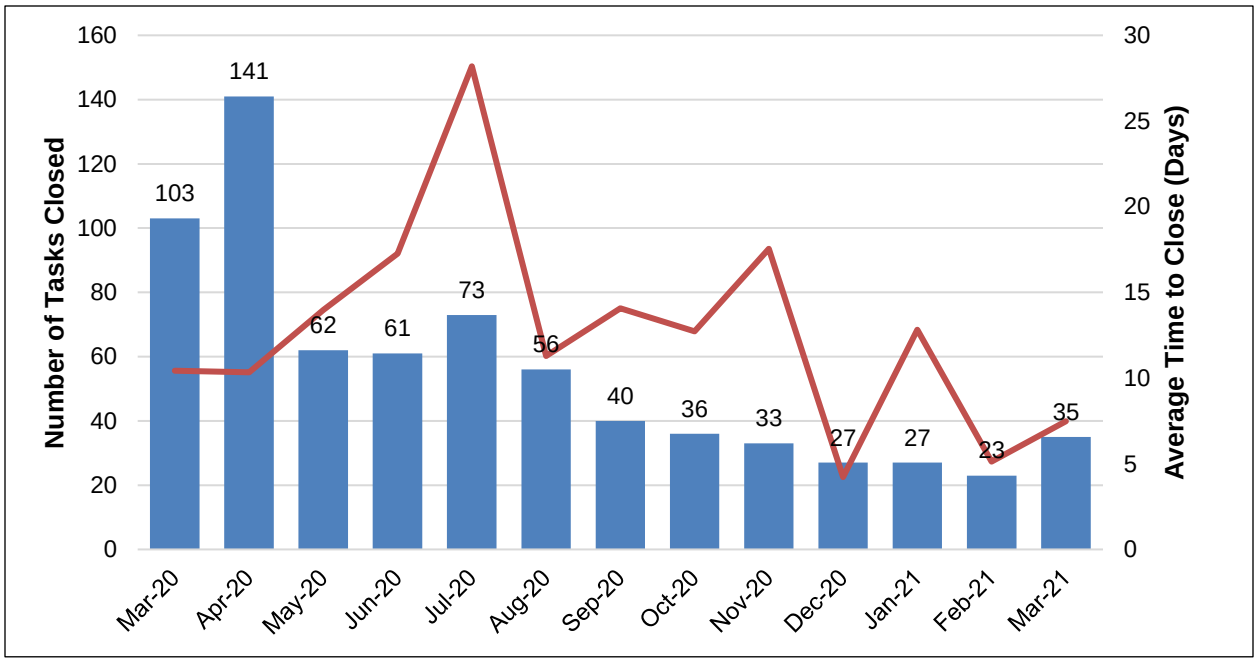

Figure 13. APHC COVID-19 Task Force Task Counts and Time to Close, March 2020-March 2021

Source: APHC COVID-19 Task Force, Response Analysis Cell

5.3.3 Task Characterization

The Task Force Knowledge Management team used a multi-tiered taxonomy to characterize all information consumed and produced by the Task Force. This included assigning the variables of application, setting, and domain as well as keywords, which collectively facilitated a later recall of information. Application was defined as the purpose of creating the content. Setting referred to the environment and/or target audience where a given piece of knowledge may apply and was independent to application, domain, and keywords. Domain was the broad subject matter area for a given piece of knowledge and was subordinate to domain. The complete taxonomy is available within the Task Force SOP **(Appendix B)**.

Tasks were categorized into 23 domains. Domains may be viewed as a more specific cataloguing of RFI categories and allowed for detailed capture within the Knowledge Management database. **Figure 14** shows the Top 10 Task Domains. There were 139 Tasks in the risk assessment and mission planning domain, 65 in surveillance and screening, and 46 in PPE. A catchall or other category of “public health” netted 63 tasks.

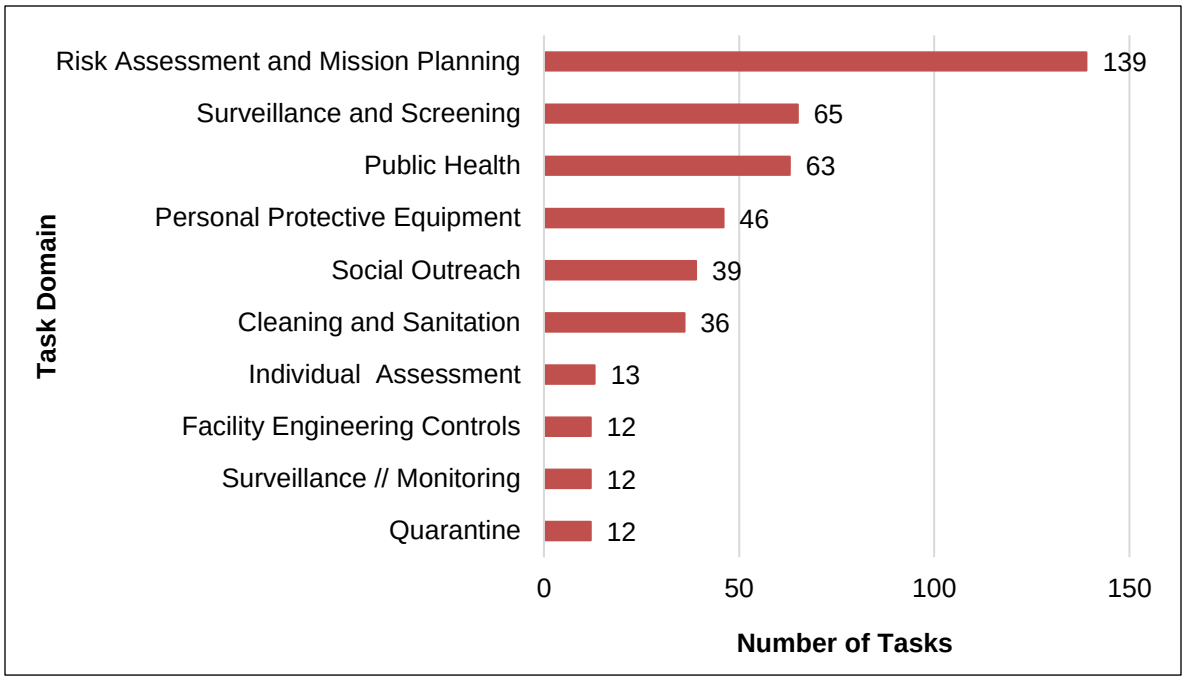

Figure 14. APHC COVID-19 Task Force Task Domains, March 2020-March 2021
Source: APHC COVID-19 Task Force, Response Analysis Cell

5.3.4 Social Media

Social media was a principle component of the APHC COVID-19 communication campaign. Targeted social media outlets for APHC COVID-19 materials were Facebook®, Instagram®, and Twitter®. These platforms were chosen based on current use within the Army, DOD, and APHC. The Task Force monitored metrics via an Internal Dashboard including impressions, engagements, and persons reached. Impressions, reach, and engagements inform impact. Impressions reflect the number of times content is displayed, reach is the total number of accounts who have seen content, and engagements measure the number of times content was clicked, reacted to, commented on or another action taken (Dashboard link: (https://carepoint.health.mil/sites/APH/Analytics/Pages/InternalDashboards.aspx).

Figure 15 displays a summary of social media data from February 2020 through March 2021. During that time frame, the APHC social media team, in coordination with the Task Force, published over 1,600 content items that resulted in over 1 million impressions, over 160,000 engagements, and reached over 657,000 persons. The highest number of impressions for an individual post during that time frame was 55,667 for Facebook (topic: COVID-19 resources through Army Medical Readiness Assistance Program hotline), 1,004 for Instagram (topic: Protective measures to slow the spread of COVID-19 in healthcare system), 267 for Instagram Story (topic: COVID-19 myth vs. fact), and 40,989 for Twitter (topic: Social distancing). Maximum weekly impressions were highest for Facebook (77,394) and lowest for Instagram Stories (1,752). The maximum Facebook weekly impressions occurred at the start of the pandemic in the U.S. (publication week 15-20 March 2020), when 17 Facebook posts were generated, including information on how to protect yourself and your family from COVID-19,

rationale for social distancing, CDC resources, HPCON Level descriptions, and the Army COVID-19 information hotline.

Starting in October 2020, APHC learned about and started using the Digital Asset Management (DAM) capability in Sprinklr. Sprinklr is an enterprise content management solution provided by the Army that replaces the need for social media toolkits and increases the impact of social media content created by APHC. APHC and other Army organizations used Sprinklr's DAM as a content repository where social media managers could find content to use. Metrics of reach and engagement from APHC social media channels alone, from 28 October 2020 to 31 March 2021, indicate that 83 products were published 245 times to APHC social media channels (Facebook, Instagram, and Twitter), reaching 178,608 users, and resulting in 4,537 engagements. The same 83 APHC COVID-19 products were uploaded to Sprinklr's DAM, and from 28 October 2020 to 31 March 2021, these products were used by other Army social media managers 567 times, the content reached 5,025,553 users, and was engaged with 6,534 times.

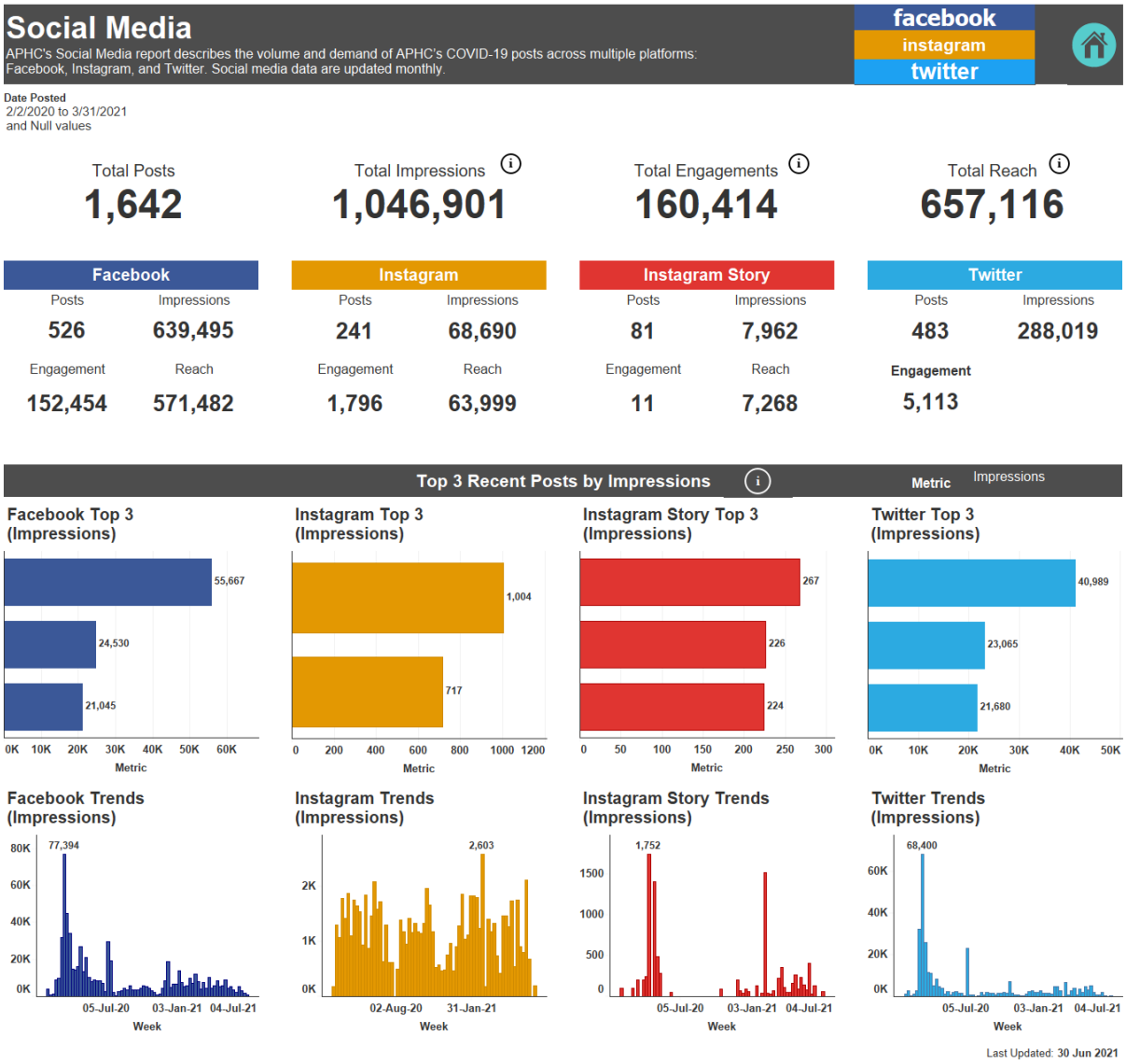

Figure 15. APHC COVID-19 Social Media Metrics, February 2020-March 2021
Source: APHC COVID-19 Common Operating Picture (COP) Dashboard

5.3.5 Digital Content

The APHC COVID-19 Internal Dashboard **(Figure 16)** routinely tracked the following metrics related to information products: total number of information products developed, number of downloads, downloads by product topic, downloads by specific product, and downloads per day over time. The Internal Dashboard also displayed the following metrics related to websites: total number of APHC COVID-19 web pages, number of page views, page views by topic, page views by web page, and page views by day over time (Dashboard link: (https://carepoint.health.mil/sites/APH/Analytics/Pages/InternalDashboards.aspx).

Tracking of information products began in March 2020. From March 2020 to March 2021, over 100 informational products were developed; these products were downloaded nearly 58,000 times. Products related to cleaning requirements for prevention of COVID-19 transmission had the highest number of downloads (n=21,922), followed by materials providing general COVID-19 information (n=7,692 downloads) and risk assessment and mission planning (n=6,721 downloads). The specific product with the most downloads was the APHC Technical Information Paper (TIP) 98-115-0420 *Use of Ozone Generators* (n=15,207 downloads). The highest downloads per day occurred in December 2020 (n=689) when the Ozone Generator TIP was downloaded 193 times.

The website metrics reflect data from 19 APHC COVID-19 pages. From March 2020 to March 2021, over 300,000 page views were recorded. The leading topics of interest were PPE (n=16,781 page views) and cleaning and sanitation (n=11,263 page views). The most commonly viewed web page was HPCON levels (n=194,592 page views), followed by cloth face coverings (n=12,826 page views). Page views by day were highest at the start of the Task Force response (March and April 2020), representing initial significant demand for information on COVID-19.

The scale of the snapshot in Figure 14 does not allow for inclusion of individual page URLs. For additional interactive detail, please visit the dynamic dashboard at https://carepoint.health.mil/sites/APH/Analytics/Pages/InternalDashboards.aspx.

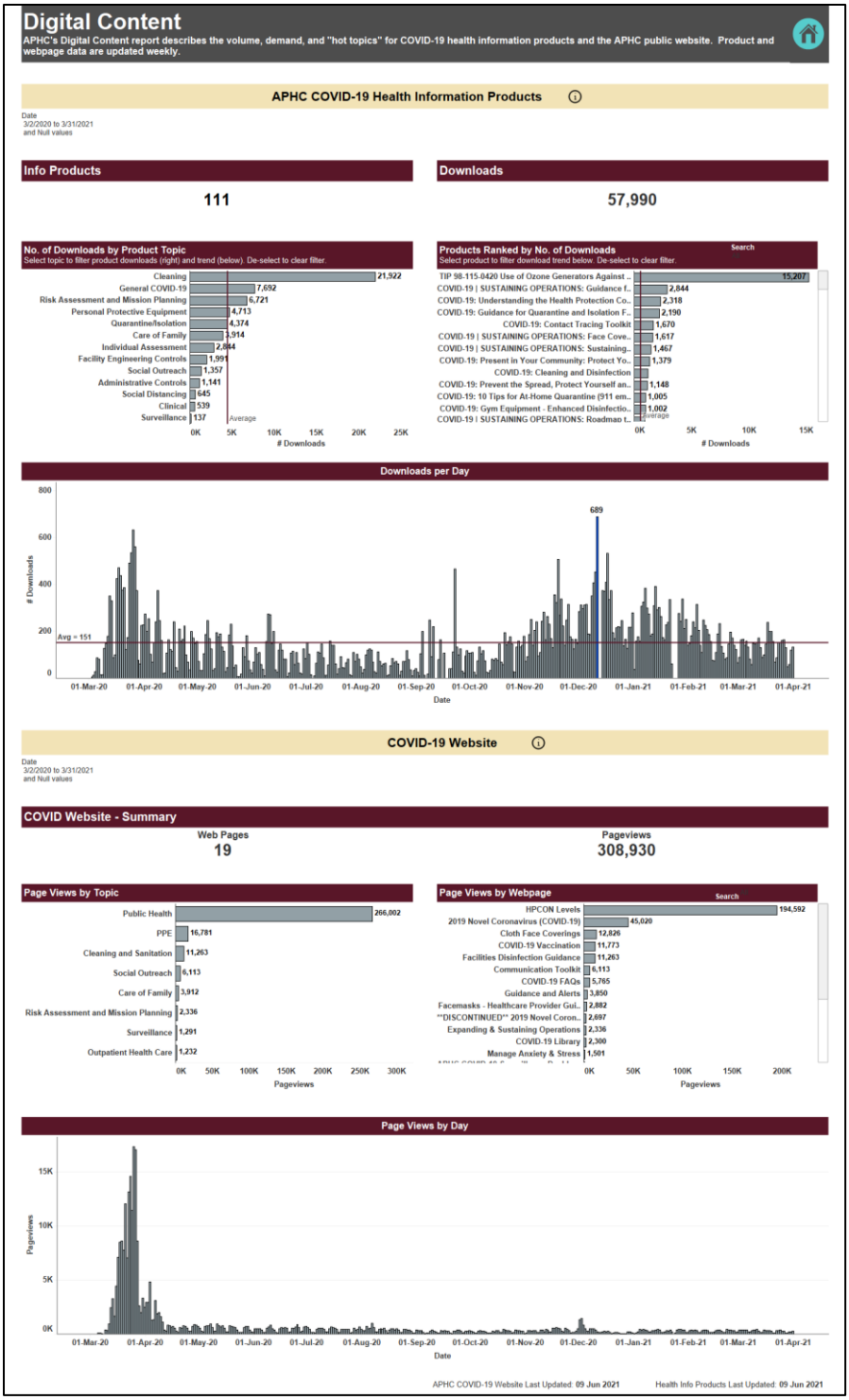

Figure 16. APHC COVID-19 Digital Content Metrics, March 2020-March 2021

Source: APHC COVID-19 Common Operating Picture (COP) Dashboard (https://carepoint.health.mil/sites/APH/Analytics/Pages/InternalDashboards.aspx)

5.3.6 Traditional Media

The APHC Public Affairs Office maintained close coordination with Army Medical Command (MEDCOM) and Army Office of Chief of Staff for Public Affairs (OCPA). Priorities in the early stages of the emerging COVID-19 crisis were to establish communication channels with sister Service counterparts as well as members of the Defense Health Agency (DHA) strategic communication team, Office of Secretary of Defense (OSD) public affairs, and Northern Command (NORTHCOM) Public Affairs to coordinate and share information.

Example communication channels**:**

- Public Affairs Guidance and communication material disseminated via Fragmentary Order (FRAGO).
- Briefing cards used in support of public affairs and risk communication products. Initial COVID-19 briefing card was approved March 2, 2020.
- Defense Visual Information Distribution System (DVIDS) and Army.mil.
    - Health Protection Conditions (HPCONs) information, published to DVIDS March 16, 2020, to date has more than 2,300 web views.
    - Thirteen COVID-19 specific news articles on topics such as lab testing, food supply, veterinary recommendations, as well as resiliency and behavioral health content.
    - Media interviews with APHC subject matter experts published in Stars and Stripes and military.com.

This communication coordination evolved into regular supplementary communication coordination with DHA's COVID-19 Communication Work Group, which led to improved and sustained information sharing and coordination between the DHA and the Task Force.

5.4 Public Health Support to the Medical Common Operating Picture

The MEDCOM COVID-19 COP was developed to track key COVID-19 metrics with dynamic visual displays. The dashboards were located on a CAC-enabled DHA Carepoint website: (https://carepoint.health.mil/sites/CDSP/PostureAssessments_APHC/Pages/DATA-VISUALIZATIONS.aspx). The purpose of the dashboards was to provide a toolset to visualize, track, and analyze the current health, readiness, and possible burden that Army MTFs were experiencing during the COVID-19 pandemic. The dashboards were created and maintained by the APHC and MEDCOM Program Analysis & Evaluation (PA&E) using the Tableau 2020 software. The APHC COVID-19 Dashboard Team consisted of approximately four team members and a small group at MEDCOM PA&E who provided additional development assistance. The dashboards required data updates twice a day, weekly maintenance, and new content development as requests were funneled to the team. Key metrics tracked included, but were not limited to, MTF bed and ventilator status, Army COVID-19 case statistics, lab equipment and testing results, PPE supply/demand, and MTF staffing.

5.4.1 Mathematical Modeling

The capability to project capacity needs at each MTF was also developed as part of public health surveillance efforts. The Army COVID-19 Model for Epidemics (ACME) Tool projected the expected numbers of hospital ward beds, intensive care unit beds, and ventilators that a MTF would need over time. The purpose of ACME was to help MTF commanders make critical and short-suspense logistical decisions, especially early in the COVID-19 pandemic when limited data were available. The APHC, Army Futures Command, and U.S. Military Academy developed the ACME tool. The software used to develop these tools was R version 4.0.2, and it was hosted on the cPROBE server. The ACME required daily data update during the first year of the pandemic, and switched to a twice-weekly update in early 2021. The MTF reports generated by the ACME tool were produced biweekly from March 2020 to April 2021. Starting April 2021, the APHC COVID-19 Modeling Team updated and maintained the ACME tool on an as-needed basis. The ACME tool is accessible at https://cprobe.army.mil/rsc/acme/.

5.4.2 Public Health Surveillance and Reporting

The APHC conducted detailed and layered surveillance and reporting of COVID-19 for DOD, Army, and Army Medicine leaders and stakeholders beginning in early March 2020. APHC collaborated with the Services and DHA to immediately establish a COVID-19 reporting page in the Disease Reporting System internet (DRSi)[1], build and facilitate novel DRSi capabilities, codify and continuously maintain a case definition, and train a large number of new users to ensure timely and accurate case reporting.

APHC used individual DRSi line listings and summaries to generate reports for the Army and DOD populations. Data were validated with individual medical record checks and laboratory data feeds. The APHC worked with Regions and individual MTFs to ensure case capture and backlog management. Recurring reports were initially provided three times per day, 7 days per week, and later reduced to once per day, 5 days per week. An example of these reports is included in Appendix I.

The APHC also reported cases of COVID-19 to the Regional Health Commands with individual treatment facility-level data on a daily basis or by request of the Regional Health Command. A list of unreported cases was monitored daily and sent to the Regional Health Commands each week. The APHC maintained a weekly report summarizing installation-level cases with additional context for local and regional authorities. The APHC generated situational surveillance reports by customer request.

In August 2020, after years of inter-Service collaboration, APHC released a new and improved version of DRSi. APHC and the Tri-Service DRSi re-development team wrote new training materials and a new DRSi user guide. The team tested each patch that was applied to the new system and monitored usage of the new DRSi daily, answering questions and setting up new

[1] The DRSi is a CAC-enabled public health surveillance system that has been used to track cases of infectious diseases and other reportable medical events in the Department of Defense (DOD) since 2010.

training sessions with users, all while simultaneously maintaining COVID-19 surveillance for the DOD and Army.

The surveillance team consisted of eight personnel who worked on COVID-19 case validation and analysis daily, in addition to maintaining pre-pandemic surveillance activities and reports. The APHC resourcing of these surveillance activities for the period of April 2020 to March 2021 totaled more than 6000 hours (data were not available for March 2020). The cumulative resources committed are under-represented due to shared manpower of Army and Defense Health Agency Satellite staff who support Army medical surveillance.

5.4.3 Public Health Laboratory Support

In May 2020, APHC proposed a concept to MEDCOM G-3/5/7 for conducting COVID-19 laboratory surveillance using pooled sampling to reduce the testing burden on clinical laboratories. The proposed surveillance method would enhance Acute Respiratory Disease Surveillance (ARDS) testing by adding SARS-CoV-2 methods at seven Army public health laboratories across the world. The overarching public health goal of the program was to prevent the spread of COVID-19 throughout the Army through early identification of asymptomatic individuals and reduction of COVID-19 spread. The reduced spread among Soldiers would improve readiness and potentially avoid COVID-19 hospitalizations and deaths.

MEDCOM allocated a portion of DOD CARES Act funding to support the APHLE COVID-19 surveillance project, including funding for laboratory equipment, supplies, reagents, freezers, PPE for these laboratories, and contractor personnel.

The Task Force created a Carepoint site to summarize Army Pooled Lab Surveillance data https://bitab.health.mil/#/views/LabSurveillance_16003037183750/PooledLabSurveillance). The site displayed pooled testing results starting in May 2020 and allowed filtering by unit identification code (UIC), installation, public health laboratory (PHL), and time. The dashboard provided information to senior leaders on the number of pooled tests conducted and number of diagnostic kits saved.

The APHLE analyzed de-identified, pooled samples using research use only (RUO) reagents under a biological scope of accreditation. This reduced the use of clinical reagents and resources, and provided rapid results to leadership. Pooling of samples in populations with disease prevalence of less than or equal to 5%, reduced expected testing burden by approximately 50%. Overall, from May 2020 to March 2021, public health laboratories processed 176,841 samples in 20,092 pools, saving 161,450 diagnostic assays.

6 AFTER ACTION INPUT

6.1 Lessons Learned

To formally document Task Force lessons learned, input was solicited by the APHC COVID-19 Response Analysis Cell on a weekly basis at the beginning of the pandemic, and then on a monthly basis beginning in October 2020. The Response Analysis Cell wrote lessons in the Army Lessons Learned format. Once finalized, the lessons were approved by Task Force

leadership and submitted to MEDCOM. The Response Analysis Cell worked with the MEDCOM Lessons Learned Program Manager to provide additional information as requested.

FY20 lessons learned were summarized in a 2020 report produced by the Public Health Service Line.[17] The 27 lessons learned in FY20 covered four main topics: Emergency Response, Knowledge Management, Veterinary Food Audits, and Workforce Support. Examples included a need for clarification of roles and responsibilities within the Public Health Emergency Management (PHEM) community, establishment of specific Outlook Mailboxes for RFI receipt, and ongoing communication with APHC staff. Distribution of this report was authorized for DOD personnel only (including U.S. DOD contractors). Requests must be referred to U.S. Army Medical Command, Office of the Deputy Chief of Staff-Public Health, Defense Health Headquarters, 7700 Arlington Boulevard, Falls Church, Virginia 22042.

In FY21, eight lessons learned were added. The lessons learned covered three broad categories: Best practices (5), Communication (2), and Laboratory/testing (1); see Appendix C for details. Best practice-related issues included the need for an updated alternative work schedule (AWS) policy, how to avoid Task Force staff member burnout, preparation needed to effectively surge personnel in response to public health emergencies, and the role of mathematical and statistical modeling. The topic related to laboratory/testing discussed the collection of samples for COVID-19 pooled sampling. The two communication issues were necessary coordination when conducting pooled sampling and effectively promoting the COVID-19 vaccines down to the lowest echelons. The lessons learned could be applied to future Army or DOD emergency responses, such as to a pandemic or tropical storms/hurricanes.

6.2 Exit Statements

The APHC Director requested exit statements from members leaving the Task Force. Questions were intended for process improvement and addressed factors such as experience transitioning to the Task Force, orientation to the Task Force, operational tempo, time spent on the Task Force, and professional impact (see Appendix D for exit statement template).

There were five exit statements available for review. Task Force rotations for these APHC personnel ranged from 5 to 9 months, with a median (and mean) of 7 months. Most personnel transitioned quickly (within a week), due to coordination with established Task Force team members and/or an in-depth orientation provided by a Battle Captain. These personnel reported gaining time- and project management-skills, SharePoint and Microsoft® Access® experience, Army information paper writing experience, valuable connections with personnel from other Directorates, and gratification from participating in APHC's COVID-19 response. Two people noted burnout or disengagement at 4 and 6 months; others did not specifically note burnout. Suggested changes included establishing dedicated detailed positions, a position description, a clear expectation of workload and scope of tasks, and an appointment maximum of 5 months (recommended lengths ranged from 3 to 12 months; median of 5 months). Recommended best practices included having a 3-month non-obligatory renewable term, which allowed a 1-month adjustment period as well as a defined end point, and establishing a digital content-development platform to manage data, relevant publications, and guidance.

The exit statements allowed the Task Force and its operational procedures to continually evolve and mature. The first three items, related to position descriptions, were actioned in later spirals

of the Task Force. Each role of the Task Force was defined by way of a position detail, a performance plan objective, and via the Task Force SOP.

6.3 Army Public Health Leader and Client Interviews

In May 2021, the Task Force gathered Army Public Health senior leader, APHC Directorate Directors, and key client perspectives on APHC's COVID-19 response. The Task Force partnered with the APHC Public Health Assessment Division (PHAD) and the APHC Injury Prevention Branch (IPB) to execute the project. Approval of the project plan by the APHC Public Health Review Board was received on 10 May 2021 (OHP # 21-951).

The project objectives were to—

- Understand interviewee perceptions of the Task Force activities and processes;
- Assess how well APHC activities and products supported the U.S. Army's response to COVID-19; and
- Identify lessons learned and opportunities for improvement regarding APHC's COVID-19 response.

Two data collection methods were used to gather Army Public Health senior leader and key client perspectives:

- A 12-question electronic survey (see Appendix E) to capture demographics (e.g., area of expertise, years working in the area of expertise, years working for the U.S. Army, months working with the Task Force) and categorical questions (e.g., COVID-19 Task Force resources used), and
- Semi-structured interviews conducted virtually using Microsoft Teams® from the interviewee's duty station or approved telework location.

The Task Force Response Analysis Lead facilitated a majority of the interviews, with a member of the PHAD team serving as a backup facilitator. The IPB developed, administered, and analyzed the survey, which collected responses using the Verint® survey platform. The PHAD assisted with interview guide development and provided interview notetaking and a rapid analysis summary of interview notes. Interview guides (see Appendix F) were developed with questions tailored for relevancy and applicability to interviewees based upon three groups of interest, which include 1) members of the Deputy Chief of Staff for Public Health Office or APHC Office of the Director, 2) APHC Directorate Directors, and 3) key clients (Regional Health Command leaders). Appendix G presents additional methods description. The brief survey was sent to interviewees prior to their interview, and interviews were designed to last between 45 and 60 minutes. Surveys were administered and interviews were conducted between 14 and 27 May 2021.

6.3.1 Survey Results

As described above, a 12-question electronic survey was provided prior to interviews to capture demographics and responses to categorical questions. All invited Army Public Health senior leaders, APHC Directorate Directors, and key clients (n=19) completed the survey. Results indicated that interviewees represented a broad range of expertise, to include medicine, environmental and occupational science, and public health communication. The top four areas

of expertise represented were preventive medicine (42%), epidemiology (16%), environmental health (16%), and occupational health (16%). On average, interviewees had 24 years (± 7 years) with the Army. Over half (58%) were currently Active Duty Army, and another 21% were former Active Duty. Two-thirds (74%) had worked on previous emergency response efforts such as those for H1N1 and Zika, anthrax at U.S. postal facilities, Hurricane Katrina, demilitarization of chemical agents, and the September 11th terrorist attack.

Interviewees interacted with the Task Force, on average, for 11.7 months (± 3.4 months, range: 2-15 months). The tools most utilized included the APHC COVID-19 Surveillance Dashboard (79%), the APHC COVID-19 website (74%), and the SharePoint COVID-19 Orders and Policies page (63%) **(Figure 17)**.

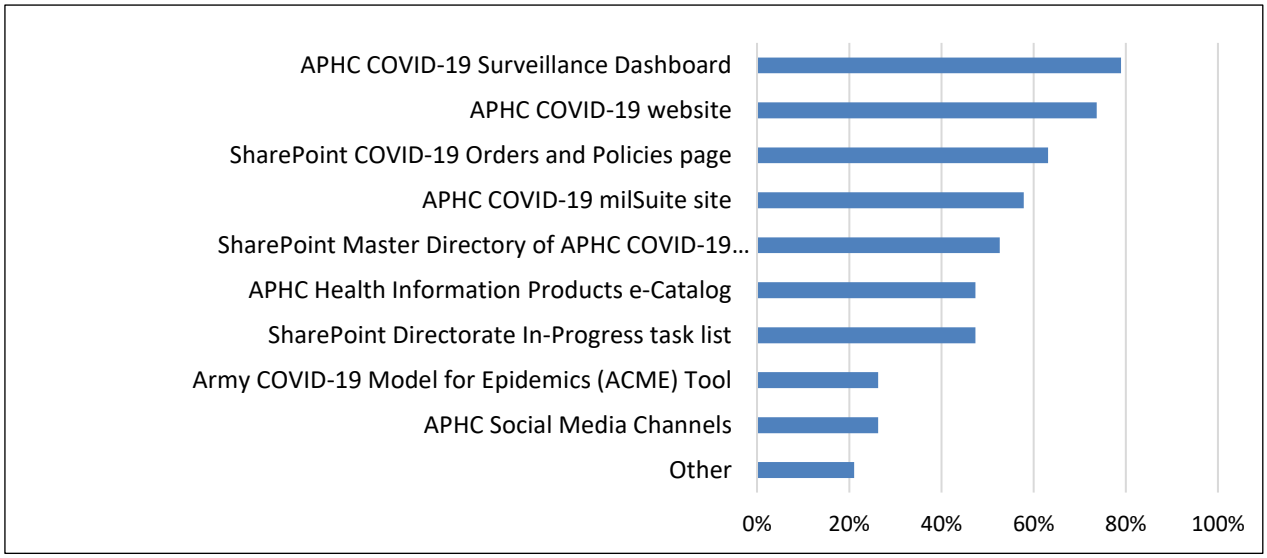

Figure 17. APHC COVID-19 Knowledge Management Resources Utilized*

Source: APHC COVID-19 Task Force, Survey of Army Public Health Senior Leaders, May 2021
Note: *Links to each resource provided in Appendix H.

The survey also asked leaders to consider the nine foundational capabilities for public health emergency preparedness and response (as defined by CDC Center for Preparedness and Response[6]), rate their perception of APHC's COVID-19 response from January 2020 to March 2021 ("current state"), and give their recommendation of what APHC's capabilities *should be* in future public health emergencies ("desired state").

Respondents ranked APHC's COVID-19 response highest in Public Health Laboratory Testing, Public Health Surveillance and Epidemiologic Investigations, and Information Sharing **(Figure 18)**. The same three capabilities were ranked highest for future focus of public health emergency response efforts **(Figure 19)**.

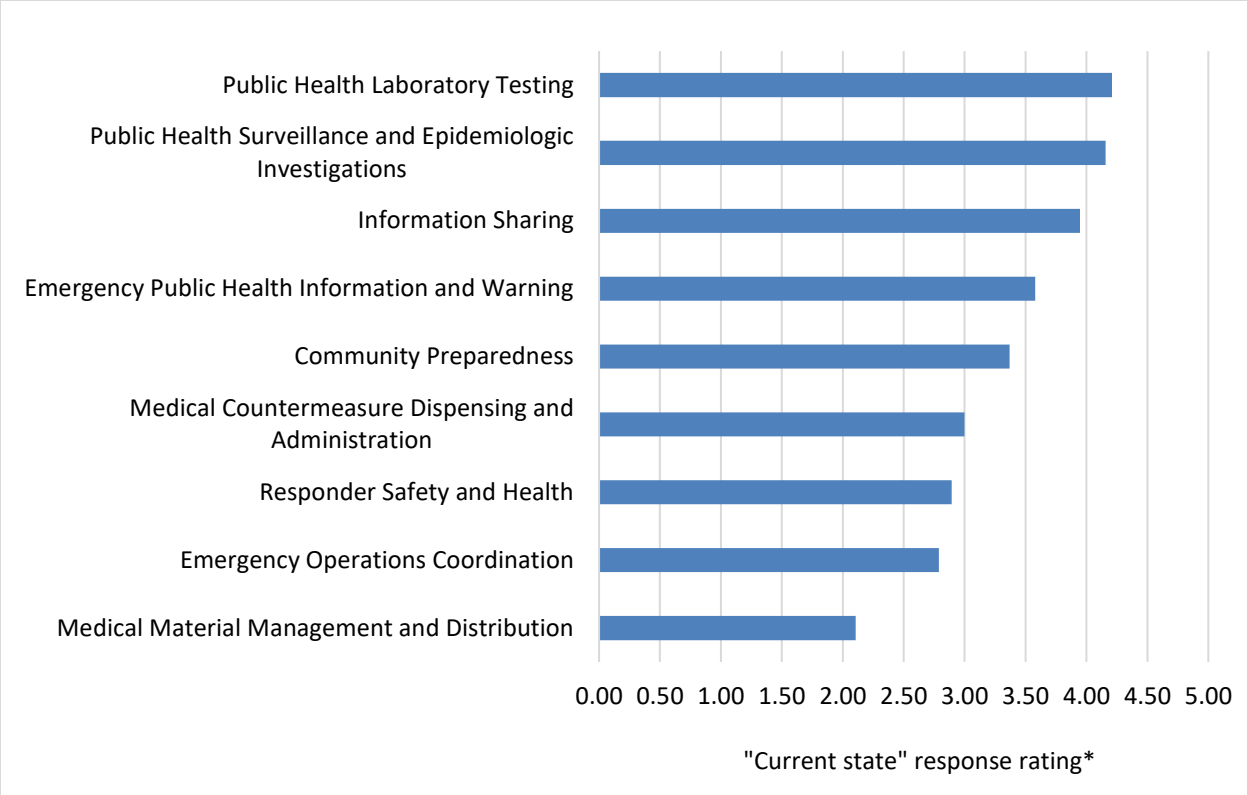

Figure 18. APHC COVID-19 Current State Response by CDC Foundational Capability

Source: APHC COVID-19 Task Force, Survey of Army Public Health Senior Leaders, May 2021

Note: *Responses: 1=Not applicable to APHC, requirement/role filled by other organization; 2=Provided some subject matter input; 3=Provided subject matter input and at least one product; 4=Provided subject matter input and multiple products; 5=Led the effort.

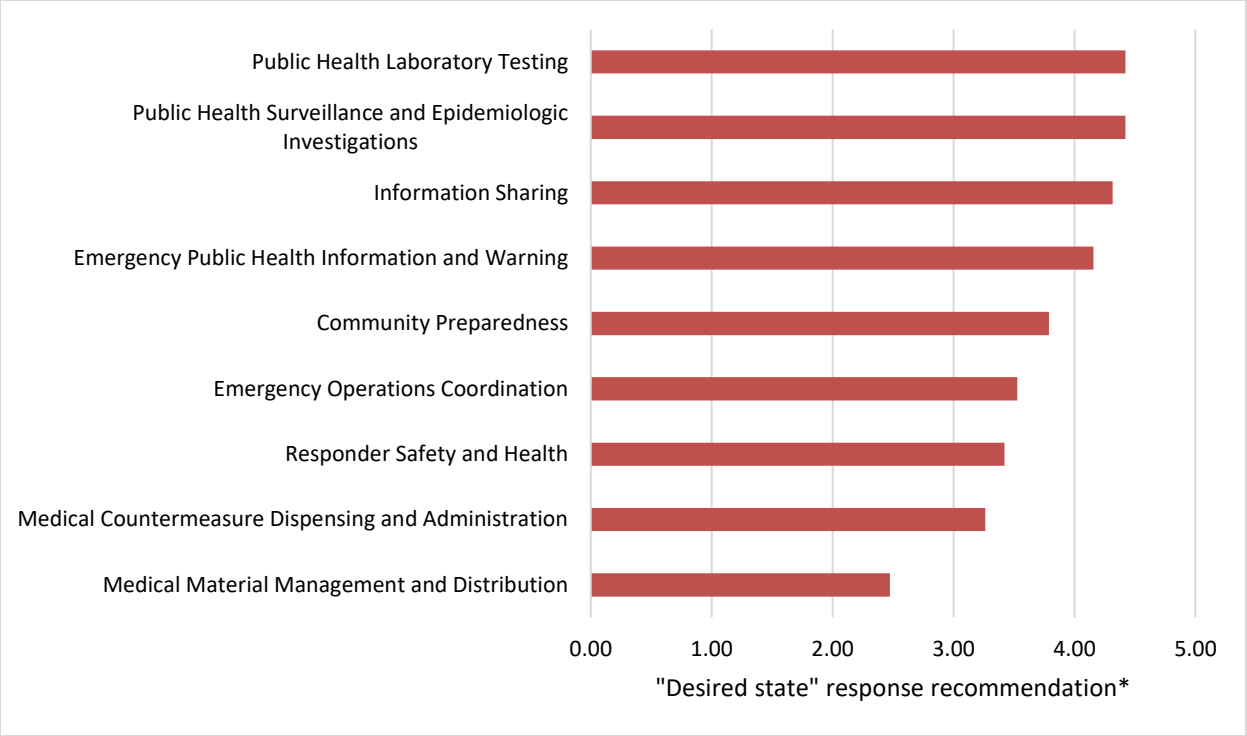

Figure 19. APHC COVID-19 Desired State Response by CDC Foundational Capability

Source: APHC COVID-19 Task Force, Survey of Army Public Health Senior Leaders, May 2021
Note: *Responses: 1=Not applicable to APHC, requirement/role filled by other organization; 2=Slight involvement (i.e., provide subject matter input only); 3=Moderate involvement (i.e., provide subject matter input and product development); 4= High involvement (i.e., routinely provide subject matter input and multiple products); 5=Should lead the effort.

6.3.2 Interview Results

A total of 19 interviews were conducted from 14 to 27 May 2021 (5 members of the Deputy Chief of Staff for Public Health Office or APHC Office of the Director, 5 Regional Health Command leaders, 9 APHC current or former technical Directorate Directors). All leaders who were contacted agreed to be interviewed and completed the brief initial survey.

Three primary cross-cutting themes emerged from the consolidated interview input from the Army Public Health senior leaders, APHC Directorate Directors, and key clients: (1) Operations, (2) Systems and processes, and (3) Key activities to support Enterprise-level needs. The following is a summary of findings for each theme and sub-theme (details in Appendix G):

6.3.2.1 Operations

- Structure. Feedback included the benefits of the Task Force operating independently from the Directorates, which was perceived to enhance flexibility and improve efficiency of coordination and integration across APHC. The liaison officer (LNO)

model utilized by the Task Force was considered effective, and was recommended for consideration in future emergency response initiatives.

- Continuity. The importance of maintaining consistent Task Force core team membership was noted, and creation of a dedicated crisis response cell that could be activated and/or detailed to support future emergency responses was suggested.

6.3.2.2 Systems and Processes

- Establishing and maintaining visibility. Interviewees indicated that the Task Force enabled APHC to have critical situational awareness of both internal and external COVID-19 needs and activities. It was recommended to establish a Task Force at the onset of other public health emergencies. Task Force attendance at key meetings enhanced visibility. Management tools, such as the SharePoint platform and a dedicated mailbox for RFIs, provided systematized access to and tracking of guidance, directives, and products.

- Staffing. Staffing was a stressor for APHC leaders due to challenges related to continuity of mission work and burnout experienced by staff assigned to the Task Force. Development and implementation of a process for determining mission priorities was recommended, as well as guidance on workflow expectations across the chain of command and incorporation of additional APHC capabilities and assets. A more systematic approach to identification of Task Force members was recommended, including involvement of Directors/Division Chiefs in the selection, and basing selection on experiences and skillsets rather than Directorate affiliation.

- Internal review process. Directors, in general, perceived the process as flexible and effective. Existing Directorate review processes were used to support COVID-19 product development. SharePoint tracking tools were helpful, and duplicative efforts were rare.

- Key client integration. There was a lack of visibility of the Task Force and its products among key clients (Regional Health Commands), though products and information received were considered valuable and of high quality. Recommendations included adapting products with locally relevant information for OCONUS commands, and establishment of regular touchpoints with key clients in future emergency response initiatives to ensure utility and relevancy of products and services provided by APHC.

- Proactive products and guidance. Enhanced proactive planning was desired among stakeholders, such as development of a communication plan and anticipatory products and guidance. Examples of desired guidance included return-to-work policy and criteria for termination of Task Force assignments. Early and ongoing communication was also desired to improve visibility of the Task Force vision and way ahead. Leveraging of subject matter expertise within Directorates to identify, develop, and coordinate anticipatory products was recommended.

6.3.2.3 Key Activities to Support Enterprise-Level Needs

- Numerous activities that supported Enterprise needs were reported, including Staff Assistance Visits, Health Risk Assessments, draft Operational Orders (OPORDs) and FRAGOs for MEDCOM, critical review of Force Health Protection guidance, and identification of APHC-specific resources applicable to collaborative efforts, such as COVID-19 pooled testing capabilities and procedures. All were recommended to include in future emergency responses.

7 CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusions

7.1.1 Operations

- Expenses. From January 2020 to March 2021, over $42 million was spent supporting APHC COVID-19 activities. Forty-three percent ($18 million) was provided for Occupational Health Clinics, 34% ($14 million) covered labor expenses for APHC Army Civilian support of APHC COVID-19 activities, and 19% ($8 million) supported upgrades to the APHLE ARDS testing program for SARS-CoV-2. Supplemental funding from the CARES Act was received in FY20 and covered expenses related to the Occupational Health Clinics and APHLE.

- Labor. From January 2020 to March 2021, over 100,000 man-hours of APHC Civilian and military were utilized to support APHC COVID-19 activities. Each month, APHC dedicated approximately 6,000 hours to COVID-19 support. The Task Force itself accounted for approximately 3,000 hours monthly, on average. During this time frame, a total of 33 APHC staff members were assigned full-time to the Task Force for 23 weeks each, on average. Hours fluctuated greatly from April to September 2020 and then leveled off to 40 to 45 hours per week through March 2021.

7.1.2 Products and Services

- Requests for information (RFI). The Task Force received a total of 1,088 RFIs between March 2020 and March 2021. RFI volume was highest upon initial formation of the Task Force at the beginning of the pandemic, with 262 requests received in April 2020. Request volume then gradually decreased and remained constant from September 2020 to March 2021, with an average of 53 requests per month. RFIs were received from a total of 161 different organizations across the DOD, including OTSG/MEDCOM, HQDA, DHA, and TRADOC, as well as internal requests from APHC. The majority of requests in the beginning of the pandemic fell into the Occupational category and included queries about PPE, ventilation and other engineered controls, and technology evaluations. The number of operations-related RFIs remained constant throughout the year and evolved from topics such as HPCON frameworks early in the pandemic to health risk assessments for training and events as Army elements returned to large-scale operations.

- Tasks. Time-intensive RFIs requiring original content development were turned into Tasks. From March 2020 to March 2021, there were 437 Tasks, the majority of which were related to Risk Assessment and Mission Planning (32%), Surveillance and Screening (15%), and Public Health (14%).

- Social media. From February 2020 to March 2021, the APHC social media team, in coordination with the Task Force, published over 1,400 content items that resulted in over 1 million impressions, over 160,000 engagements, and reached over 647,000 persons. Starting in October 2020, with expanded reach through use of Sprinklr, 83 APHC COVID-19 products were uploaded and used by other Army social media managers 567 times, the content reached 5,025,553 users, and was engaged with 6,534 times.

- Digital content. On APHC websites, from March 2020 to March 2021, over 300,000 page views were recorded. Leading topics of interest were PPE and cleaning and sanitation. Products with the greatest number of downloads were related to cleaning requirements for prevention of COVID-19 transmission, materials providing general COVID-19 information, and risk assessment and mission planning.

- Public health laboratory support. Enhanced ARDS testing for SARS-CoV-2 leveraging pooled sampling began in May 2020 and would continue through March 2021. The 176,841 samples processed in 20,092 pools at eight regional laboratories, saving 161,450 diagnostic assays.

7.1.3 After Action Input

- Lessons learned. Through multiple collection efforts, the Task Force identified sustainable practices including centralizing Enterprise needs (RFIs/RFAs) and leveraging a robust public health laboratory testing surveillance capability. Opportunities for improvement focused on continuous multilateral information flow and manpower management.

- Exit statements. Members of the APHC Task Force gained professional skills and grew their networks. Opportunities for improving the administrative management of the Task Force were realized. Solutions for predictable and sustainable resourcing remained a challenge.

- Army Public Health leader and client interviews. Army Public Health senior leaders, APHC Directorate Directors, and key clients participated in a semi-structured interview process to—

    - Understand interviewee perceptions of the COVID-19 Task Force activities and processes;

    - Assess how well APHC activities and products supported the U.S. Army's response to COVID-19; and

    - Identify lessons learned from the APHC COVID-19 response.

Their feedback encompassed three primary cross-cutting themes: Operations, Systems and processes, and Key activities to support Enterprise-level needs. Findings were incorporated into the recommendations below.

7.2 Recommendations

Recommendations were generated from feedback captured in the leadership semi-structured interviews, documented FY20 and FY21 lessons learned, and Task Force leadership.

7.2.1 Planning Phase

- Ensure emergency response plans are regularly reassessed and updated. Align emergency response strategy with DHA emergency management guidance. Prepare and maintain necessary resources and information technology tools, including those necessary to enable efficient and effective telework, knowledge management, and communication capabilities.

- Define organizational mission essential tasks, develop and implement a more integrated prioritization process, and inform staff of possible resource shifts.

- Create an Emergency Response Cell to support Joint Services public health emergency responses. Create a process to stand up a Task Force in response to future public health emergencies.

- Draft a communication plan template for execution at the onset of future public health emergencies. Include an outline of key internal and external stakeholders, priorities, and a plan for routine communications with stakeholders to promote knowledge sharing, awareness of mission priorities, and resource requirements.

- Develop a Task Force marketing plan. Include steps to promote awareness of products and services with key stakeholders.

- Develop an evaluation plan to capture feedback on the quality and applicability of Task Force products and services. Include the customer, population reached, how materials were used, and how they influenced Force Health Protection decisions and outcomes.

7.2.2 Response Phase

- Stand up a Task Force within the Emergency Response Cell that is separate from the APHC Directorates to enable efficient inter-Directorate collaboration and increase response flexibility. Establish a Task Force mission. Select Task Force personnel based on skillsets. Integrate the full chain of command when making staffing decisions.

- Monitor Task Force workload and team member work hours to inform decisions about staffing and avoid burnout.

- Use processes and tools such as existing Directorate internal review procedures, a dedicated Task Force mailbox, SharePoint task tracking, and a SharePoint repository of key guidance.

- Develop a knowledge management system to organize materials related to the Task Force mission to facilitate rapid identification of information and enable timely delivery of responses. Empower Task Force leads to leverage this system to share answers promptly to questions that have been previously answered or to notify requestors that a question has been previously identified as being outside the scope of the Task Force.

- Coordinate modeling efforts across DOD groups and work with DOD partners to sustain necessary modeling tools to help leaders make data-driven and evidence-based decisions using real-time projections under varying public health scenarios.

- Maintain timely, consistent communication with the APHC workforce.

- Leverage Directorate subject matter experts to identify, develop, and coordinate anticipatory products and guidance in support of proactive emergency response.

- Provide services such as Staff Assistance Visits, Health Risk Assessments, policy review, and Public Health Laboratory support.

- Investigate and use the latest social media content management systems to share, manage, and disseminate communications.

7.2.3 Recovery Phase

- Summarize lessons learned and submit to higher headquarters to ensure solutions and challenges are documented for application in future public health emergencies.

- Acknowledge contributions of Task Force members with awards and/or other recognition.

- Develop transition plan(s) for Task Force products to retain access and knowledge gained during Task Force execution.

8 POINT OF CONTACT

The APHC Office of the Director is the point of contact for this project, and can be reached by e-mail (usarmy.apg.medcom-aphc.mbx.pao@mail.mil) or phone (Commercial: 410-436-4375, DSN: 584-4375). Specific questions may be directed to authors listed at the front of this report.

APPENDIX A

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APPENDIX B

U.S. ARMY PUBLIC HEALTH CENTER COVID-19 TASK FORCE STANDARD OPERATING PROCEDURE (SOP)

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U.S. ARMY PUBLIC HEALTH CENTER COVID-19 TASK FORCE SOP

Note: This SOP represents conditions present at the time of report production. It is a living document and Task Force evolution may have occurred, necessitating change to operational procedures.

B-1. INTRODUCTION

B-1.1. Purpose

This standard operating procedure (SOP) codifies the U.S. Army Public Health Center (APHC) COVID-19 Task Force processes to provide project management and to integrate responses to Army senior leaders, operational decision makers, and APHC customers and personnel.

B-1.2. Background

On 13 March 2020, the APHC created a COVID-19 Task Force to address the increasing volume of requests for information (RFI) from the Army Public Health Enterprise, and Army and Defense Senior Leaders. The high operational tempo (OPTEMPO) and dispersed teleworking staff made it essential to centralize processes to prioritize, coordinate, review, and publish guidance and informational products. The Task Force increases efficiency for RFI responses, prevents redundant work, actions leadership's priorities, and provides a vital link for coordination with Directorates across the Center.

B-1.3. Mission

The Task Force provides project management coordination to ensure COVID-19 information and products are comprehensive, consistent, scientifically sound, transparent, delivered in a timely manner, and follow the best available public health guidance.

B-1.4. Scope

The Task Force focuses on internal APHC and Deputy Chief of Staff for Public Health (DCS-PH) project management and facilitates integrated responses to Army senior leaders, operational decision makers, and APHC customers and personnel.

B-1.5. Integration

As an emerging best practice, the COVID-19 Task Force processes were integrated into a comprehensive APHC Emergency Response Plan (ERP). The multifaceted ERP encompasses a monitoring process for emerging public health threats at the Directorate level, a monitoring process for all hazards at the Center level, the process for activation of a Directorate-level emergency response, and the process for activation of a Center level emergency response.

B-1.6. Extranet Page

The COVID-19 Extranet Page is a compilation of all internal Task Force documentation. The main COVID-19 extranet page is found at:
https://eaphc.amedd.army.mil/covid19/SitePages/Home.aspx.

B-2. TASK FORCE ORGANIZATIONAL STRUCTURE

The COVID-19 Task Force is led by the Response Coordinator and comprises the Communications, Operations, Knowledge Management, Response Analysis, Future Operations, and Adjunct Cells (Figure B-1). Individual responsibilities are summarized in the following paragraphs, and Annexes B-1 through B-7 provide detailed position descriptions. Operational procedures for each component cell are contained in proceeding sections of this SOP.

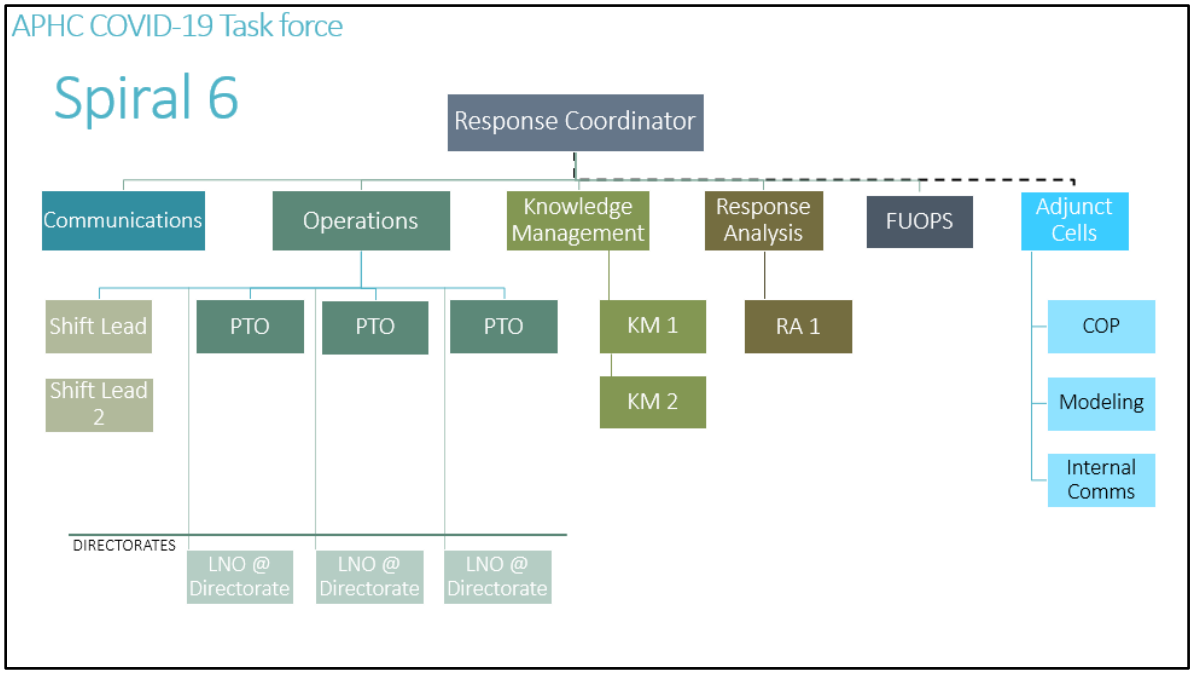


Figure B-1. APHC COVID-19 Task Force Spiral 6

Legend: PTO= Project task officer; LNO=Liaison officer; KM=Knowledge management; RA=Response analysis, FUOPS=Future operations; COP=Common operating picture; Comms=communications

B-2.1. Response Coordinator

The Response Coordinator manages and integrates the Army Public Health Response for APHC and the DCS-PH. The Response Coordinator leads the task force assigned personnel and supporting activities. The Response Coordinator is the primary accountable officer to the Office of the Director for response efforts (Annex B-1).

B-2.2. Communications

The Communications Coordinator is responsible for overseeing and coordinating the delivery of information from the APHC to a diverse audience of Army and Department of Defense (DOD) stakeholders. The Response Coordinator will leverage multiple communications channels to achieve the desired objectives. The individual will also coordinate with content managers to ensure the most effective delivery of public health knowledge and practices in response to COVID-19 (Annex B-2).

B-2.2.1. Product Development and Rapid Review

The APHC routinely provides guidance and education to Army stakeholders through social media, web content, and products such as flyers, fact sheets, technical information papers, handouts, and tip cards. During the pandemic, APHC created a workflow to coordinate content and product development efforts based on need and priority. The workflow ensured all necessary subject matter experts (SMEs) were included in content development, and that the appropriate communication design and reviews occurred. The APHC also developed a rapid product review and approval process to ensure content and products leaving the APHC were consistent in messaging and style, released in a timely manner, and aligned with current guidance from the Army, DOD, and the U.S. Centers for Disease Control and Prevention (CDC).

This standardized process mitigates the risk of creating unnecessary or redundant products, allows APHC to sustain its pandemic response efforts while remaining relevant and agile, and addresses the constantly evolving needs of the Army and DOD.

See Annexes B-8 through B-10 for specific workflows to include:

- Web Material Workflow (Annex B-8)
- Print Publication Workflow (Annex B-9)
- Social Media workflow (Annex B-10)

B-2.3. Operations

B-2.3.1. Operations Chief

The Operations Chief (i.e., Battle Captain) manages the daily operations of the Task Force while supporting the Response Coordinator with Task Force and APHC COVID-19 response missions. The Battle Captain is the Task Force lead in interactions with the Directorate Directors and contributing SMEs and conducts task-management of all efforts supporting the Army Public Health response. This responsibility may be shared across multiple personnel on rotation depending on the current mission OPTEMPO (Annex B-3).

B-2.3.2. Shift Lead

The Shift Lead is a member of the Task Force Operations Cell and manages the Task Force mailbox. The shift lead works closely with the Task Force Operations Chief and Response Coordinator and interacts with Task Force members and internal and external stakeholders (Annex B-4).

B-2.3.3. Project Task Officers (PTO)

The PTO's primary responsibility is to manage RFIs from receipt to client response. Daily activities include coordinating with SMEs, managing suspense dates, ensuring adequate time for required reviews, coordinating with the Task Force Battle Captain(s), and contributing to the Task Force Knowledge Management and Communications efforts (Annex B-5).

B-2.3.4. Liaison Officers (LNO)

LNOs, in the context of the APHC COVID-19 response, serve to coordinate and manage work within their assigned technical area or Directorate and provide responses to the Task Force for staffing and publication or correspondence. The LNO role is analogous to the PTO role but confined to the scope of its organic technical area or Directorate. The use of LNOs provides stability amidst the continued high OPTEMPO and ensures greatest collaboration across the entire APHC team.

B-2.3.5. Knowledge Management (KM)

KM identifies, organizes, and maintains relevant information supporting the emergency response. The KM strategy includes a comprehensive taxonomy for classifying component resources and facilitates recall. The KM cell executes content management involving regular, systematic review for scientific currency and application. The KM tools facilitate PTO response to previously addressed RFIs and consistent communication of guidance (Annex B-6).

Knowledge Management's mission is to optimize the efficiency and reliability of the APHC COVID-19 response by—

- Agile leveraging of APHC COVID-19 Task Force accumulated knowledge to inform decision-making and content development.
- Ensuring on going accuracy and consistency of APHC COVID-19 content and products.
- Assisting the Task Force with internalization and synchronization of external information.
- Providing project management surge capacity to Task Force Support Cell.
- Informing (future) APHC response analysis and long-term mission planning activities.

B-2.4. Response Analysis

Response Analysis documents, analyzes, and monitors the processes and outcomes associated with an APHC emergency response. Response Analysis collaborates with stakeholders internal and external to the Task Force (Annex B-7).

B-2.5. Future Operations

Future Operations is an operational and organization concept intended to integrate emerging science, DOD/Army guidance and policy to steer the Army Public Health pandemic response strategy, identify informational gaps, and present opportunities. This activity was briefly exercised as a component of the APHC COVID-19 response, but discontinued due to resourcing.

B-2.6. Adjunct Cells

B-2.6.1. Common Operating Picture (COP)

Known as, the "Dashboard Team," the COP organizes, visualizes, and facilitates use of the MEDCOM COP, inclusive of dashboards depicting key metrics of the Army Medicine response to COVID-19. The Dashboard Team is currently maintained within the Veterinary Services and Public Health Sanitation (VSPHS) Directorate for administrative and operational support. The Task Force remains accountable for technical execution and product.

B-2.6.2. Modeling

The Modeling Cell leverages mathematical models and machine learning to facilitate primarily predictive "what-if" scenarios The Modeling Cell is currently maintained within the Clinical Public Health and Epidemiology (CPHE) Directorate for administrative and operational support. The Task Force remains accountable for technical execution and product related to COVID-19. The modeling cell may have additional scope beyond COVID-19 based on APHC and CPHE priorities and available resources. These activities are external to the Task Force.

B-2.6.3. Internal Communications

Internal communications consist of five (5) lines of effort (LOE) related to exchanging information with APHC staff. Execution of the LOEs is distributed across multiple APHC work units as detailed in subsequent sections of this SOP. Internal Communications collaborates with stakeholders internal and external to the Task Force.

B-3. OPERATIONS

This section describes the routine procedures of the Operations cell of the APHC COVID-19 Task Force. Figure B-2 illustrates the core processes of the Operations cell to move tasks from receipt through response delivery. Each subparagraph which follows, corresponds to a chronologic process step in the figure and describes the action and/or the responsible party.

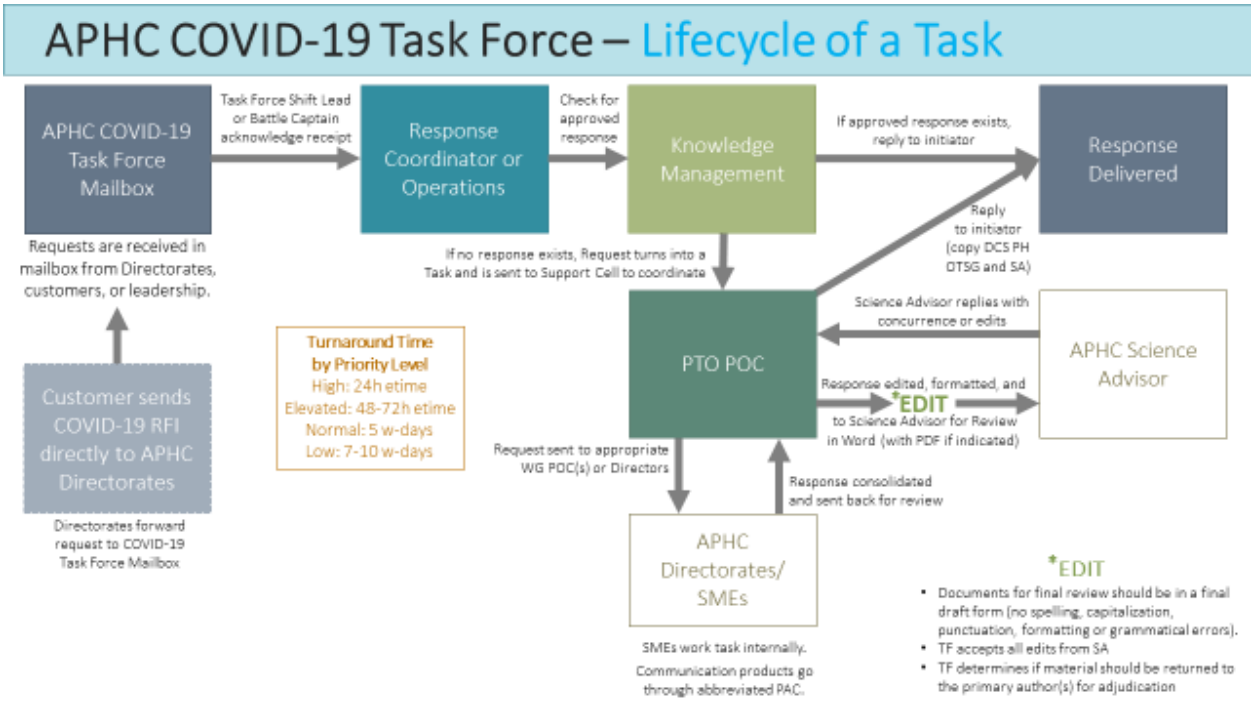


Figure B-2. Lifecycle of a Task

B-3.1. Receive the Request

Requests for information/assistance (RFI/RFA) are generally received in the Task Force Mailbox *(usarmy.apg.medcom-aphc.mbx.covid-19-task-force@mail.mil)*

B-3.1.1. The Shift Lead—

- Acknowledges the request by email to client.
- Creates a Request using the original request e-mail. Ensure any attachments are included.
- Logs the request in SharePoint here: **https://eaphc.amedd.army.mil/covid19/CV19%20Request%20Emails/Forms/Active%20Requests.aspx**
- Navigates to the “Request” page on SharePoint, clicks on the “Library” tab, and selects the “Open with Explorer” option. Drag-and-drops the RFI email from Outlook into the window. Refreshes SharePoint and clicks on the edit option of the new Request (see Figure B-3).
- Fills out each box on the page and includes the following details:

    - The Battle Captain or email subject line directs the title of the response.

- The description comes from the Battle Captain, if not plainly stated.
- The Response POC is who requested the RFI, add secondary Response POC as necessary (Last, First Title). The Keywords that pertain to RFI for future search tools.
- Assign Task Force POC given by Battle Captain.
- Change the Request status to “Assigned” and save the item.

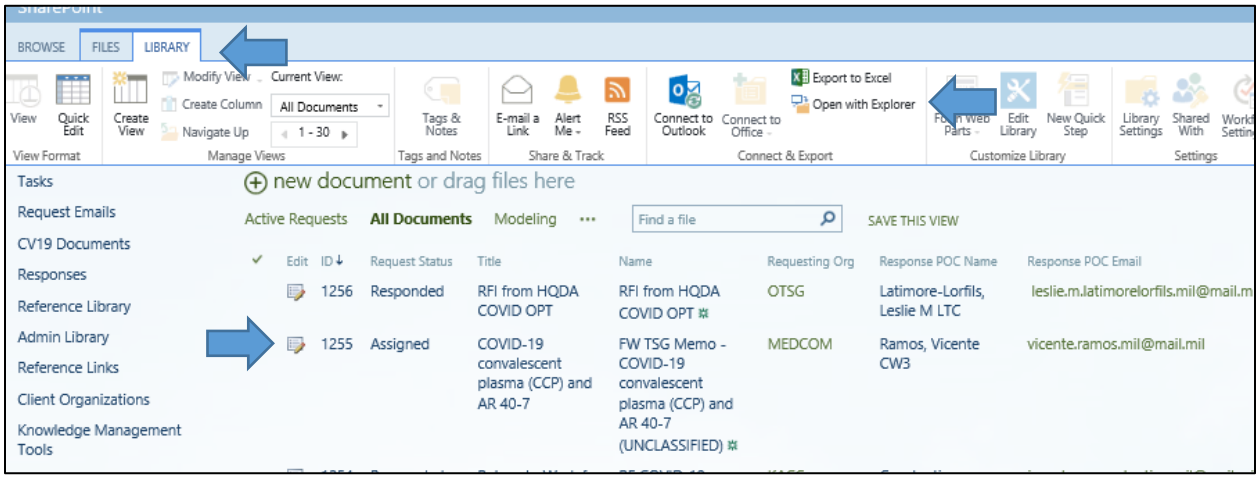


Figure B-3. Shift Lead Response Creation

- Selects the client organization or adds a new client to: **https://eaphc.amedd.army.mil/covid19/Lists/CV19Client_Organizations/AllItems.aspx.**
  The requesting organization may be different from the organization of the requestor and should represent the highest level that the response will eventually be delivered to.
- Forwards the email with request ID to PTO/LNO and copies the Battle Captain and COVID-19 Task Force Mailbox email. In subject line, add “New Task/ Request # XXXX” – resume previous subject line. If a Task is being created as well, do not send email until after a new task is created, see Section B-5.2.

Figure B-4 shows the RFI categories and are found at:
https://eaphc.amedd.army.mil/covid19/Lists/RFI_Category/AllItems.aspx

Laboratory	RFIs and tasks related to collection, analysis, and reporting of specimens and other samples for identification and characterization of the outbreak.
Disease Epidemiology	RFIs and tasks related to monitoring, reporting, and visualizing the status, progression, and significance of the outbreak.
Operations	RFIs and tasks related to the continuance, modification, or curtailment of operations due to the outbreak. Also includes RFI/RFA to develop or advise operations in support of outbreak response.
Environmental	Environmental sanitation and infectious control. RFIs and tasks related to best practices for cleaning, maintaining, and controlling infectious materials.
Communications	RFIs and tasks related to exchange of information both internally and externally. Most will have substantive responsibility to PHCOM. Immediate accountability (OPR) may be to content developer (e.g., behavioral health).
Occupational	RFIs and tasks related to occupational health and safety to include matters of personal protective equipment.

Figure B-4. RFI Categories

B-3.1.2. The PTO/LNO—

- Acknowledges receipt of the request/task to the Shift Lead and Battle Captain.
- Adjudicates the request. Is the request unique? Does the content already exist?
- Replies to client if an approved response exists.
- Turns an RFI into a task if the following conditions are met:
    - If no response exists; and
    - The response requires input from subject matter experts OR staffing through the signature authorities (SA).

B-3.1.3. The Battle Captain—

- Determines the necessary office of primary responsibility (OPR) and office of contributing responsibility (OCR), input, and scope of task.
- Directs the Shift Lead to build the task in SharePoint.

B-3.2. Build the Task

All tasks are posted here:
https://eaphc.amedd.army.mil/covid19/Lists/CV19%20Tasks/MyItems.aspx

NOTES: Based on the nature of the original RFI, the Battle Captain may direct the SL to build the task at the same time as the request, when the RFI is first received.

B-3.2.1. The Shift Lead—

- Includes the following details:
    - On Task page click the “plus” symbol next to new task.
    - Task Name, Description, and OPR should match corresponding Request.
    - Task Status as “Started.”
    - Enter Suspense Date from Battle Captain.
    - Request drop down, select corresponding request title.
    - Select Priority according to Table B-1. Note: Many external RFIs will include a specific suspense date/time that may not match the task priority. The TF will typically try to meet these suspenses.
    - Click on address book next to field.
    - Save item.

- Forwards the email with request ID to PTO/LNO and copies the Battle Captain and COVID-19 Task Force Mailbox email. In subject line add: “New Task/ Request # XXXX” – resume previous subject line.

Table B-1. Task Priority

Turnaround by Priority Level	Time
High:	24 hrs
Elevated:	48-72 hrs
Normal:	5 w-days
Low:	7-10 w-days
Monitoring:	On-going

B-3.2.2. LNO

If a request is assigned to an LNO, it is the responsibility of the LNO to build the task from the original request (see Figure B-5).

B-3.3. Manage the Task

B-3.3.1. The PTO/LNO—

- Sends the task to the office of primary responsibility (OPR) and office of contributing responsibility (OCR) subject matter experts with defined scope, suspense and expected product.
- Moves the task from “assigned” to “in-progress.”
- Oversees the entirety of the task by maintaining communication with the OPR/OCR.
- Conveys the task and intent clearly to the OPR/OCR subject matter experts and to Public Health Communications (PHCOM).
- Defines or refines the communication requirement(s) of the task in coordination with the Communications Coordinator, as necessary and appropriate.
- Facilitates coordination among contributing officers and ensures integrated content development. Utilizes and building on existing content if relevant.

- Delivers the prepared product to PHCOM for design as warranted by the task and deliverable format. An intermediate “azimuth check” by review authorities may be warranted.
- Coordinates expedited review and final approval of content via the Rapid PAC Process (see paragraph 5.6).
- Works with PHCOM and directorate personnel to incorporate needed edits from review. Submit for additional reviews as needed.

B-3.3.2. The Office of Primary Responsibility (OPR)/Office of Coordinating Responsibility (OCR)—

- Acknowledges receipt of the task and suspense.
- Communicates with PTO/LNO if suspense can/cannot be met.
- Develops the content as appropriate to the initial RFI/task.
- Maintains communication with the PTO/LNO throughout content development.
- Returns the completed content to the PTO/LNO.

B-3.3.3. The PTO/LNO—

- Consolidates the content and routes for appropriate editing, formatting, and/or design of product.
- Routes to PHCOM for editing, formatting, and/or design as appropriate.
- Returns the complete, edited, and formatted product to the Battle Captain/Response Coordinator for approval.
- Once approved, sends the final product to the Science Advisor for review and approval.
- Changes the task from “in-progress” to “in staffing.”

B-3.4. Staff Response to Release Authority

- The PTO/LNO sends the original request and completed response to the Science Advisor for review and approval.
- Only one Science Advisor needs to approve the product/response.
- The Science Advisor(s) adjudicates the response and returns to the PTO/LNO.

B-3.5. The Rapid Product Assurance and Clearance (PAC) Process

The Rapid PAC Process begins at the conclusion of OPR/OCR coordination. The Rapid PAC Process includes (1) Public Affairs and other potential PHCOM reviews [from Health Risk Communication, Health Communication Science, and/or Publications Management], (2) Operations Security review, (3) APHC SJA Review, and (4) Science Advisor/OTSG review.

B-3.6. Close the Task/Catalogue Response

- The PTO/LNO—
    - Edits the product/response as necessary per the Science Advisor(s)’ comments.
    - Communicates the response/product to the client.
    - Initiates this process with PHCOM, DCS-Ops, or others as appropriate if the product is appropriate for publication.
    - Provides approved content to PHCOM and/or OPR/OCR for dissemination.
    - Changes the task from “in staffing” to “complete.”

- Catalogues the response and associates it with the request and task number.

B-3.7. Respond to the Request/Task

See the Task Force Process PowerPoint for response examples:
https://eaphc.amedd.army.mil/covid19/CV19AdminLibrary/TaskForceProcess.pptx

B-3.7.1. Etiquette

- Carbon copy (CC) the Task Force List on 1) emails to Directors soliciting their assistance, 2) to the APHC Deputy Director for review, and 3) the final response to the client. The Task Force List can be left out of other communication.
- Always CC the Mailbox.
- If sending a formal reply, send "from" the Mailbox.
- If the situation calls for it, reply, "Roger, acknowledged" to leadership, but no need to respond with a "Thank you, you're the best!" to folks. We give each other recognition on Teams. One of our goals as a Task Force is to minimize email communication for the APHC Director and Deputy Director; they have explicitly asked not to be thanked.

B-3.7.2. Who to Include on Response

It is important to pause and ask yourself "who needs to be on this response?" once a task is complete. The Task Force Process SOP above includes a list of directors and who to CC. Always CC the Task Force Mailbox.

- Regional Health Commanders, Deputy Commanders, and ACOS PH should be copied on all responses to Medical Treatment Facilities (MTFs)/Preventive Medicine Departments. Regional Command leaders are found in the Task Force POC list: https://eaphc.amedd.army.mil/covid19/Lists/CV19POC/AllItems.aspx.

OTSG Public Health Emergency Program Manager should be copied on all responses to Public Health Emergency Officers (PHEOs)/ Assistant Public Health Emergency Officers (APHEOs).

B-3.8. Stages of a Task

The following are how the tasks are processed:

- Assigned: Task identified, created in SharePoint, and assigned to Task Force Member
- In Progress: Task Force Member working on task; task pushed to OPR/OCR
- In Staffing: Task Force Member has pushed task to Science Advisor(s) for review and approval; can included additional edits
- Sustaining: Tasks that have repeat deliverables
- Monitoring: Tasks that the Task Force continues to monitor (i.e., keep a pulse on the task)

B-3.9. How to Determine if the PTO, LNO, or Other Task Force Member is Assigned the Task

The PTOs are assigned a task based on their current workload and task difficulty. If the OPR for the task within the LNO's Directorate (EHSE, OHS, VSPHS), then the LNO is assigned the task. Tasks are assigned to non-PTO/LNO members on a case-by-case basis.

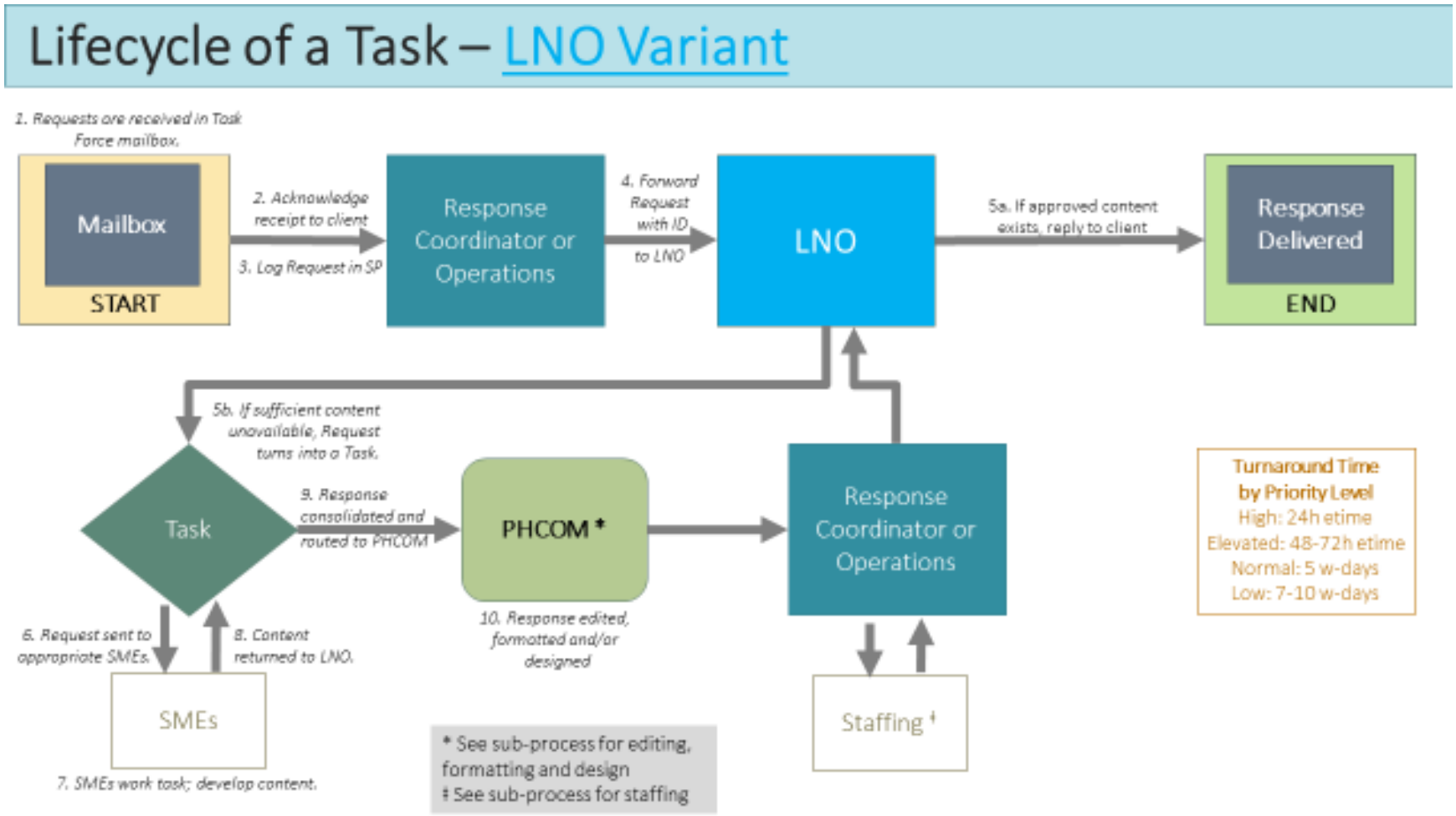


Figure B-5. Lifecycle of a Task - LNO Variant

B-4. KNOWLEDGE MANAGEMENT (KM)

KM's daily operations are broken down into four functions: (1) Knowledge Capture, (2) Knowledge Recall, (3) Content Management, and (4) providing weekly roundups (see Figure B-6).

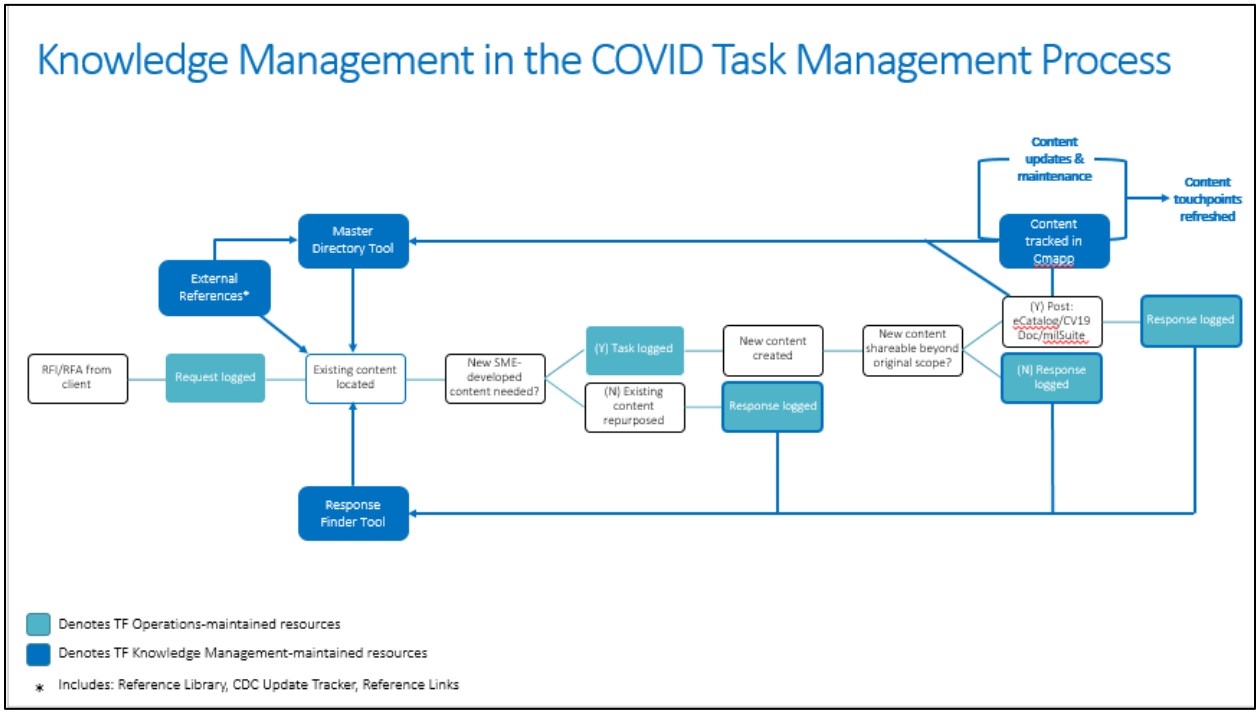


Figure B-6. Knowledge Management in the COVID-19 Task Management Process

B-4.1. Knowledge Capture

B-4.1.1. The Reference Library

KM maintains the "Reference Library" on the APHC extranet to facilitate installation PHEOs access to COVID-19 relevant operations orders, executive orders, policies, and guidance. The Reference Library—

- Is a library of official orders and policies relating to COVID-19 published by HQDA, MEDCOM, DHA, etc.
- Is organized by Base Order > FRAGO > Annex.
- Includes a summary statement for each document, KM keywords, and a flag for APHC-produced content. Flagged APHC-produced content indicate a touchpoint for content update purposes.

B-4.1.2. KM Taxonomy

The KM taxonomy refers to the system for classifying content by its subject matter, purpose or application, and target audience see Figure B-7). When applied to content in SharePoint, it

allows a search-by-filter method for users to locate content. The following four primary taxonomy fields are applied to COVID-19 Task Force content:

- Application - Speaks the functional application of a given piece of knowledge (i.e., the purpose for creating the content).
- Domain - Speaks to the broad subject matter area for a given piece of knowledge.
    - Domain is subordinate to Application
    - Example: APPLICATION: Infection Control, DOMAIN: Cleaning and Sanitation
- Keywords - Adds more specificity to the subject matter area of a given piece of knowledge.
    - Keyword is subordinate to Domain and multiple keywords are often associated with given piece of knowledge
    - Example: APPLICATION: Infection Control, DOMAIN: Cleaning and Sanitation, KEYWORDS: Area Disinfection, UVGI, SOP
- Setting - Speaks to the environment and/or target audience where a given piece of knowledge may apply (e.g., Does this knowledge apply to isolation in a healthcare setting or isolation at home?)
    - Setting is independent to Application, Domain, and Keywords

Where/When is the KM Taxonomy Applied?

Item	KM Fields Used	Responsible POC?	When?
Request Emails	Keywords	PTO // KM	At time of tasking // After response created
Reponses	Application, Setting, Domain	KM	After response created by PTO
CV-19 Documents	Application, Setting, Domain, Keywords, Effective Date	PTO (keywords only) // KM	After document upload
Reference Links	Application, Setting, Domain, Keywords	KM	At time of capture in Reference Links library
Cmapp items	Application, Setting, Domain, Keywords, Date of last publication, touchpoints	KM	At time of capture in Cmapp
Orders and Policies	Keywords, summary, component type	KM	After document upload
CDC Guidance updates	Keywords, summary	KM	At time of capture in CDC Update Tracker

Figure B-7. When/Where is KM Taxonomy Applied?

B-4.1.3. CDC Guidance Updates

KM also tracks relevant centers guidance updates. On a daily basis, KM reviews the CDC "What's New," PHEO daily messages (email), and Science Updates (email). KM captures links to CDC pages that are significant to military public health. KM provides a summary of the update and applies Keywords and Effective Dates.

B-4.1.4. Knowledge Capture Links

- Full list of KM taxonomy operational definitions: **https://eaphc.amedd.army.mil/covid19/CV19AdminLibrary/KM%20Taxonomy%20Definitions.xlsx**
- Library is located at: **https://eaphc.amedd.army.mil/covid19/CV19ReferenceLibrary/Forms/Base%20Order%20Grouped.aspx**
- External user: **https://eaphc.amedd.army.mil/covid19/SitePages/Orders%20and%20Policies.aspx**
- Link to CDC Update Tracker: **https://eaphc.amedd.army.mil/covid19/Lists/CDC%20Update%20Tracker/NEW%20THIS%20WEEK.aspx**

B-4.2. Knowledge Recall

B-4.2.1. The Response Finder

- Allows Task Force members to recall information from previous RFIs, tasks, and responses.
- Draws in relevant metadata from the Requests, Task, and Response databases into one SharePoint list to allow the Task Force's accumulated knowledge to be more readily discovered by those who need it.
- Primary drivers for recall by topic area are the KM taxonomy fields applied to Requests and Responses.
- Response can also be recalled by RFI/Task/Response number and Client Organization.

B-4.2.2. Maintaining the Response Finder

- Knowledge Mapping Functions:
    - Navigate to COVID-19 Task Force homepage, open tabs for each of the following: Responses, Requests, COVID- 19 Documents.
    - Open MS Access file COVID_TaskForceDatabase_KM and run the "KM Response QC_q1" query.
    - Identify new responses that have not been tagged with KM fields (should be first items in the query).
    - In SharePoint, select edit item properties for the response you wish to update. It is recommended that you also open the corresponding request item.
    - Review the content of both the response and the request to make a determination of how to best categorize the response. Use the KM Taxonomy Operational

Definitions to help make your determination. If necessary, update the Key Words field in the corresponding request and linked documents.

- Response Quality Control (QC) Functions:
  - Make sure the Description field is completed.
  - Check for documents and external hyperlinks in each response. If not already posted linked to the response, post the documents and/external hyperlinks in the appropriate SharePoint list (apply matching KM taxonomy fields) and link them to the response.
  - Check that client organization, response POC, and titles are consistent and sensible.
- Refreshing the Response Finder Tool:
  - After completing Knowledge Mapping and Response QC functions described above, open MS Access file COVID_TaskForceDatabase_KM file and run the following queries in order:
    1. Clear_RF_1
    2. Append_RF-Responses_q
    3. Append_RF_KeyWords_q
  - This will clear the existing RF entries and the republish current data from the Response/Request/Task libraries

B-4.2.3. The COVID-19 Master Directory

The COVID-19 Master Directory is a resource for locating the published content, internal documents, and helpful reference links based on content subject matter. It queries other COVID Task Force databases and pulls together a current list of products from—

- Task Force COVID-19 documents (add information about selection here).
- APHC public eCatalog (shopping cart).
- COVID milSuite folders.
- Task Force reference links list.

B-4.2.4. Refreshing the Master Directory (3x week)

- Open MS Access file COVID_TaskForceDatabase_KM file and run the following queries in order:
  1. Clear_MstrDirectory_q
  2. MstrDirectory_CVDocs_q
  3. MstrDirectory_CVDocs_KeyWords_q
  4. MstrDirectory_CM_q
  5. MstrDirectory_CM_KeyWords_q
  6. MstrDirectory_Links_q
  7. MstrDirectory_Links_KeyWords)q

- This will clear the existing Master Directory entries and the republish current data from the CV19 docs, Content Management Application (Cmapp), and Reference Links, respectively.

B-4.2.5. Knowledge Recall Links

- Link to Response Finder: **https://eaphc.amedd.army.mil/covid19/Lists/Response%20Finder/AllItems.aspx**.
- Link to Master Directory: **https://eaphc.amedd.army.mil/covid19/Lists/CV19%20Master%20Directory/AllItems.aspx**

B-4.3. Content Management

Content Management allows Task Force members to track selected content for the purposes of ongoing content updates and dissemination. A unique entry is created in the Cmapp for each piece of content within scope (e.g., COVID-related eCatalog products). Administrative data, current status, KM taxonomy, and downstream touch points are entered for each item in the Cmapp. When a product review or update is needed, KM initiates a content update task by assigning a task number (3 digit OPR code – 4 digit date code), updating the status, and leveraging the content update task workflow. Status updates for each item are maintained in the Cmapp throughout the task life cycle. The Cmapp form for a given item is reset at the conclusion of the content update task (see Figures B-8 and B-9 below).

B-4.3.1. What goes in the Cmapp?

- "Evergreen" documents – those that must be maintained with current information, such as instructional guidance documents that are not housed in the APHC COVID-19 Task Force SharePoint
- COVID-19 products located in the APHC eCatalog: **https://ephc.amedd.army.mil/HIPECatalog/searchResults.aspx?hotlist=88**
- COVID-19 products located in APHC milSuite: **https://www.milsuite.mil/book/groups/army-public-health-centers-medical-threat-briefings**
- Note: KM is responsible for checking the above links and adding new items in the Cmapp on a regular basis (weekly).

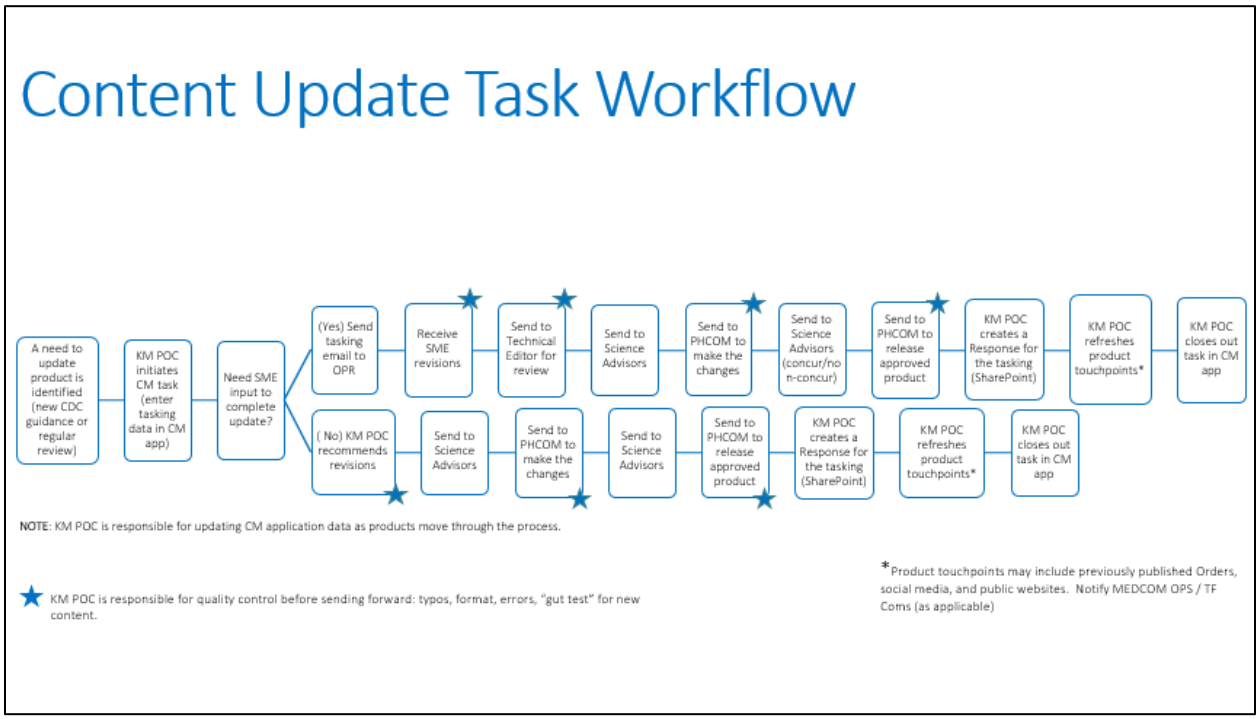


Figure B-8. Content Update Task Workflow

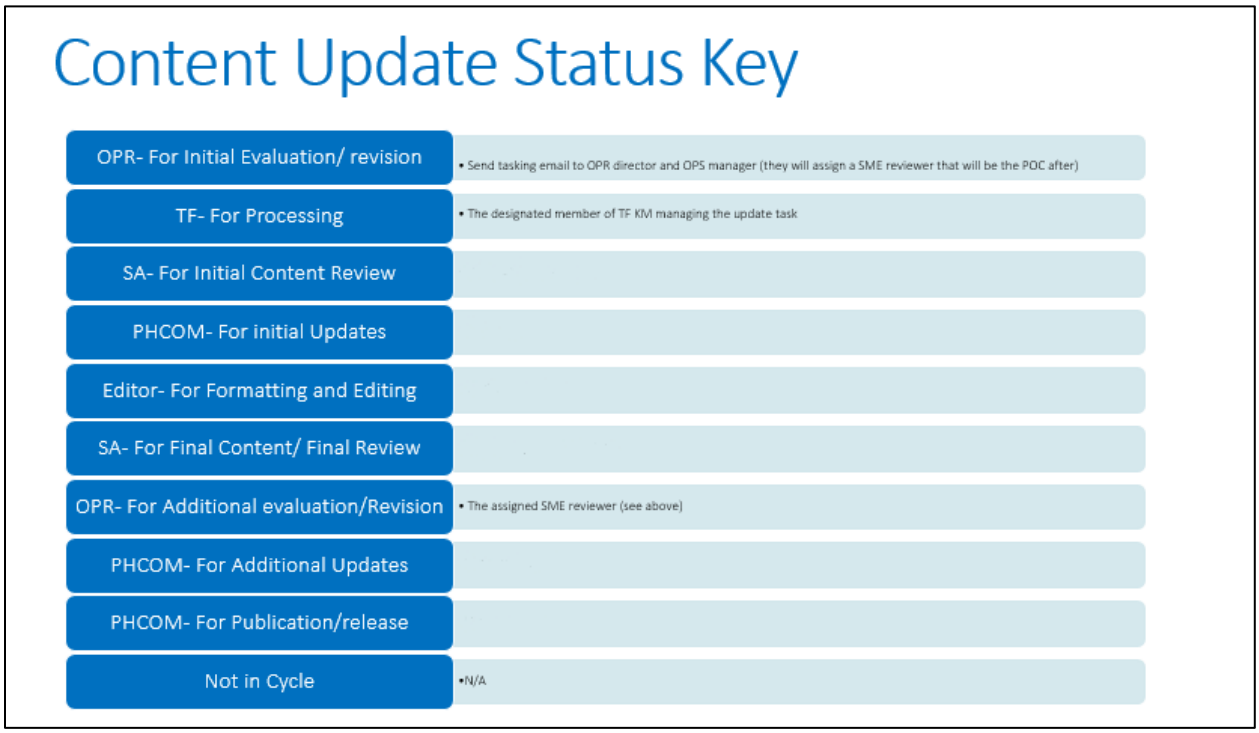


Figure B-9. Content Update Status Key

B-4.3.2. Content Update Task Nomenclature

- Template: Three digit OPR Number- Four Digit Date (example: Task 294-1214)
- Current OPR Codes
    - CPHE: 294
    - OHS: 293
    - VHPHS: 369
    - PHCOM: 295
    - EHSE: 509
    - (create more as needed)

B-4.4. Weekly Roundups

Provide weekly roundups on science and guidance updates (including both CDC and higher commands (MEDCOM, HQDA).

B-5. RESPONSE ANALYSIS (RA)

B-5.1. Process Documentation

RA is responsible for updating the Task Force Standing Operating Procedures to fit the current posture. This fluid process will continue to evolve as the Task Force changes.

B-5.2. Lessons Learned

RA helps to look for Lessons Learned throughout the Task Force and APHC if it pertains to COVID-19. Either RA will construct Lessons Learned based on an observation, or they will interview individuals to obtain the information and draft the Lessons Learned document.

Once a Lessons Learned is drafted, it is routed for review. During the draft/routing process, the Lessons Learned is saved in P:\shared\COVID19 Task Force\Response Analysis\Lessons Learned. After each review, it is returned to RA for the next routing step. Routing is as follows:

- SMEs and persons of interest from the action that originated the Lessons Learned
- APHC COVID-19 Task Force Response Coordinator
- APHC Deputy Director or Medical Advisor
- Submit to MEDCOM Lessons Learned Website: https://mitc.amedd.army.mil/sites/G357/G33%20OPERATIONS/CUOPS/SitePages/OTSG-MEDCOM_COVID-19_CAT.aspx.

Lessons Learned are saved in two separate locations:

- A compilation of all Lessons Learned: https://eaphc.amedd.army.mil/covid19/CV19AdminLibrary/APHC%20lessons%20learned%20submission%20tracker.docx.
- Also searchable in the following database: https://eaphc.amedd.army.mil/covid19/Lists/Lessons%20Learned/AllItems.aspx.

B-5.3. Task Force Metrics

RA is responsible for analyzing the workload of all personnel on the Task Force. The purpose of this analysis is to determine if the current staffing is accurate and to inform the Task Force Response Coordinator when additional/less personnel are required. The demobilization/remobilization criteria help to determine this requirement.

- Demobilization criteria:
  - ≤ 4 tasks/week/support cell member
  - ≤ 4 high priority tasks/week
  - average 40-42 hours/week
- Remobilization criteria:
  - ≥ 6 tasks/week/support cell member
  - ≥ 6 high or elevated priority tasks/week
  - average ≥ 45 hours/week

The metrics to determine these criteria starts with all personnel submitting their OPTEMPO for the previous week on SharePoint. This is completed in the following steps:

- Go to: https://eaphc.amedd.army.mil/covid19/Lists/Op%20Tempo/This%20Week.aspx
- Click on new item
- Fill in information
- Click Submit

On the same Website, RA clicks List and Export to Excel in order to gather the data. This data is transferred to the Task Force OPTEMPO Master in P:\shared\COVID19 Task Force\Response Analysis\Op Tempo.

The remaining data needed to complete the PTO Metrics tab of the Task Force OPTEMPO Master is found in the Master Access file at: https://eaphc.amedd.army.mil/covid19/CV19AdminLibrary/COVID-19_TaskForceDatabase.accdb

Once the data is compiled, it is put into the weekly PowerPoint that is presented at the COVID Task Force All Hands Meeting every Wednesday at 1300. The previous PowerPoints can be found at: P:\shared\COVID19 Task Force\Response Analysis\Op Tempo. A copy of the current weeks PowerPoint is uploaded prior to the meeting at: https://eaphc.amedd.army.mil/covid19/CV19AdminLibrary/Forms/AllItems.aspx.

B-5.4. Dashboard Updates

The APHC COVID-19 Internal Dashboard provides a central location with key, high-level information on APHC's COVID-19 response efforts (see Figure B-10).

The Dashboard Updates are used to update the APHC Internal Dashboard. RA is responsible for uploading data daily/weekly/monthly (data dependent) into the Task Force Share Drive folder and for notifying the Dashboard Team when complete so that the data can be pushed for update. Collaboration is important to fix any errors and ensure that the data is reported appropriately. Instructions for completing the dashboard updates can be found at: P:\shared\COVID19 Task Force\Internal Reporting. The file name is Dashboard Refresh SOP_Compiled (working).

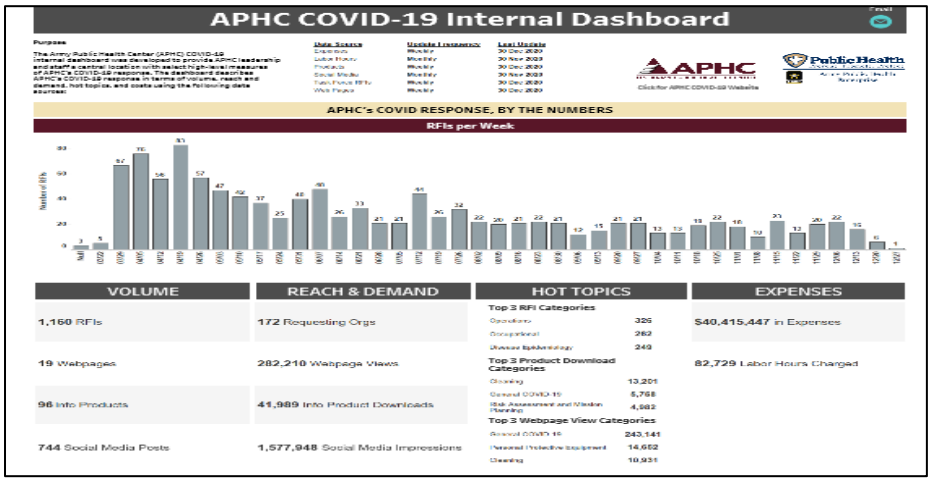


Figure B-10. COVID-19 Internal Dashboard

The updates include:

- Overview Data Feeder
  - Updated to reflect the date that the remaining data is updated
- GFEBS
  - Updated every Thursday Morning
  - Data obtained from the Resource Management Liaison and placed in: P:\TEMP\CV19 GFEBS reports_DO NOT DELETE
- ATAAPS
  - Updated monthly
  - Data obtained from APHC COVID-19 Task Force Response Coordinator around the second week of the following month
- Task Force RFIs
  - Updated every Thursday Morning
  - Data obtained from the Access File within the Internal Reporting folder labeled COVID-19_TaskForceDatabase_current
- Public Website Page Views
  - Updated Daily
  - Data received by automatic email update daily from APHC Webmaster
- eCatalog Product Downloads
  - Updated Daily
  - Data received by automatic email update daily from APHC Webmaster
- Social Media
  - Updated Monthly

- Data received around the middle of the month from APHC Social Media Manager

Upon completion of updates, a message is sent to the APHC COVID-19 Task Force Dash Developer/Management Team in MS Teams. Currently, the Dashboard Team will complete the update.

B-5.5. PHEO RFI

RFIs are sent out to the PHEOs and APHEOs based on a topic determined by the Task Force and the OTSG Public Health Emergency Program Manager. Currently, the RFI is on an ad hoc basis. Start this process early since it takes the full month to complete.

Instruction for completing the RFIs to include email examples can be found at: P:\shared\COVID19 Task Force\Response Analysis\TASK 277 PHEO & APHEO RFI\RFI Instructions. Also within this folder, you will find the previous RFIs.

B-5.6. Weekly APHC Contributions to COVID-19 Response Report

This report is submitted to the APHC Deputy Director weekly on Thursday by close of business. It is an internal report that captures how APHC contributes to the COVID-19 response.

The report includes information from the Internal Dashboard, Laboratory Surveillance Studies Report, and Task Force workload metrics.

The report is found at: https://eaphc.amedd.army.mil/covid19/Lists/Recurring%20Reports/DispForm.aspx?ID=3&Source=https%3A%2F%2Feaphc%2Eamedd%2Earmy%2Emil%2Fcovid19%2FLists%2FRecurring%2520Reports%2FAllItems%2Easpx&ContentTypeId=0x0100F41AD98CFED3FB40A9A2CD6884EB6CCD

B-5.7. Maintaining POC/Recurring Reports/Recurring Meetings

RA maintains the list of Task Force POCs, Recurring Reports, and Recurring Meetings. RA should help look for anything new that can be added to these three items and update as necessary. In addition, when reports are updated, they are added to the Recurring Reports site. These sites can be found at the following locations:

- POCs: https://eaphc.amedd.army.mil/covid19/Lists/CV19POC/AllItems.aspx
- Recurring Reports: https://eaphc.amedd.army.mil/covid19/Lists/Recurring%20Reports/AllItems.aspx
- Recurring Meetings: https://eaphc.amedd.army.mil/covid19/Lists/Recurring%20Meetings/calendar.aspx

B-5.8. Managing On Call and Leave Schedules

The on call schedule and leave is tracked in the TF Schedule Calendar within the USARMY APG MEDCOM APHC Mailbox COVID-19 Task Force: usarmy.apg.medcom-aphc.mbx.covid-19-task-force@mail.mil mailbox.

TF members submit leave when they complete their OPTEMPO forms; RA puts this data into outlook. In addition, if the on call schedule does not work with leave that is submitted, RA will notify leadership so that adjustments can be made (see example in Figure B-11).

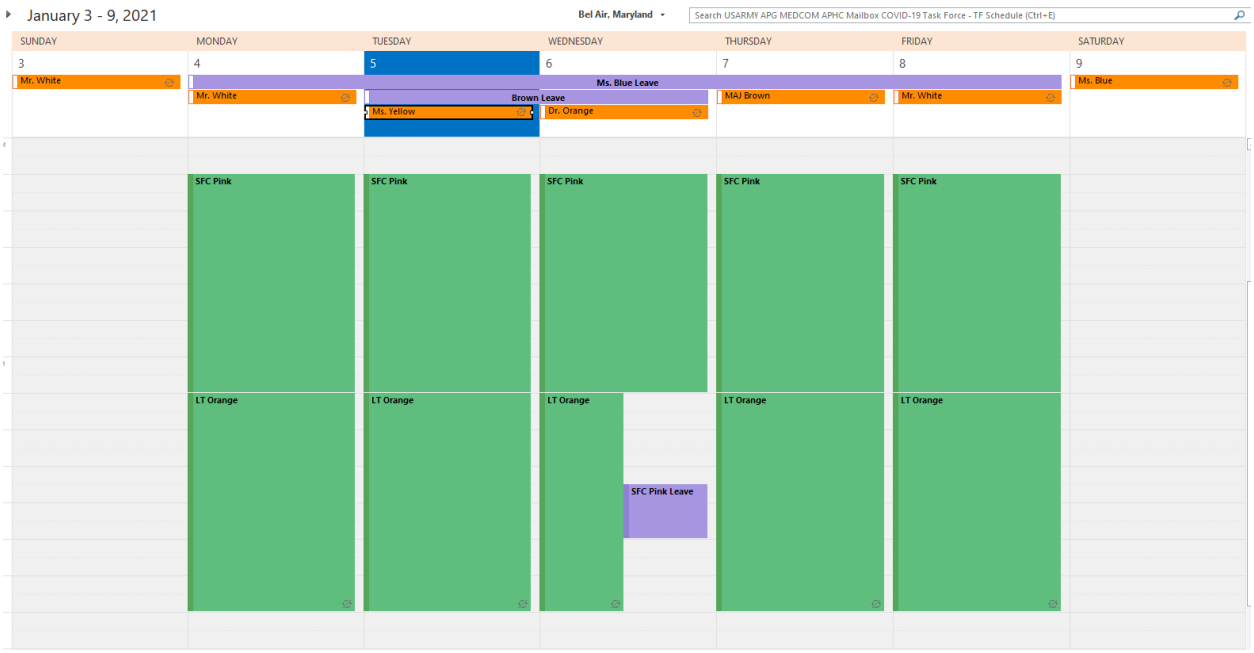


Figure B-11. On Call and Leave Calendar

B-5.9. Exit Interviews

Exit interviews are used to for the Task Force Leadership to assess the Task Force through the vision of a team member that has been on the team for a while. Exit interviews follow a format of specific questions. RA sends the exit interviews to members after their departure, collects the data, and provides the response to the Task Force Response Coordinator for review.

The questionnaire with an example and previous exit interviews are located in: P:\shared\COVID19 Task Force\Response Analysis\Exit Interviews

B-6. ADJUNCT CELL: COMMON OPERATING PICTURE (COP) / DASHBOARD TEAM

The MEDCOM COVID-19 COP is a collection of fully dynamic data visualizations that was built to help track key COVID-19 metrics. The purpose of these dashboards is to provide a toolset to visualize, track, and help analyze the current health, readiness, and possible burden that Army MTF's are experiencing throughout the COVID-19 environment. This tool was created by and is currently being maintained by the APHC and MEDCOM Program, Analysis, and Evaluation (PA&E). The software used to develop these tools is Tableau 2020 and the platform used to host and gain access is DHA's CarePoint site. The APHC COVID-19 Dashboard Team currently consists of four team members and a small group at PA&E who provide additional development assistance. The dashboards require data updates twice a day, weekly maintenance, and new content development as requests are funneled into the team.

B-6.1. Key Metrics

The key metrics that are being tracked include, but are not limited to—

- MTF bed and ventilator status;
- Army COVID-19 case statistics;
- Lab equipment and testing results;

- Personal protective equipment supply/demand; and
- MTF staffing.

B-6.2. URL

https://carepoint.health.mil/sites/CDSP/PostureAssessments_APHC/Pages/DATA-VISUALIZATIONS.aspx

B-6.3. Objectives

The three main objectives of the COP/Dashboard Team include:

- Development: When a new development is requested, the team gathers requirements from the customers and discusses the details with the COVID Task Force to determine if the request is valid and worth inputting it into the development stage. If approved, the Dashboard Team works on developing draft pages and works with customers to get final product approval. New dashboard pages or additional data visualizations are then put into the maintenance and data refresh schedule.
- Maintenance: The maintenance of the COVID-19 Dashboard is performed as needed and based on weekly page reviews, as well as requests made by internal and external customers. If there are operational issues with the dashboard, requests for maintenance are made by emailing the dashboard team at usarmy.apg.medcom-aphc.list.covid-19-dashboard-team@mail.mil
- Data Refresh: The APHC COVID-19 Dashboard is currently updated twice daily and is determined by the availability of the external data sources. Certain data sources are refreshed daily by 0800 hours and the remaining data sources are refreshed by 1700 hours. The Dashboard team consists of four Tableau developers who share the responsibility of the daily update procedures. See the MEDCOM COVID19 COP Data Refresh SOP document for a detailed description of the data refresh process.

B-7. ADJUNCT CELL: MODELING TEAM

The Army COVID-19 Model for Epidemics (ACME) Tool provides a projection of capacity needs at each MTF. It projects the expected numbers of hospital ward beds, intensive care unit beds, and ventilators that an MTF would need over time. The purpose of ACME is to help MTF commanders make critical and short-suspense logistics decisions, especially early in the COVID-19 pandemic where limited data were available. The APHC, Army Futures Command, and U.S. Military Academy developed the ACME tool. The software used to develop these tools is R version 4.0.2 and is currently hosted on the cPROBE server. The ACME required daily data updates during the first year of the pandemic, and switched to twice-weekly updates in early 2021. Starting April 2021, the Modeling Team began to update and maintain the ACME tool on an as-needed basis. The MTF reports, generated by the ACME tool, were produced biweekly from March 2020 to April 2021. The latest MTF reports are stored on the MilSuite Website.

The ACME tool is found at: https://cprobe.army.mil/shinyapps/covid_army_v2/.

B-8. ADJUNCT CELL: INTERNAL COMMUNICATION

B-8.1. COVID-19 Intranet Page

The COVID-19 intranet page is a composition of all Task Force documentation. This page is planned to be archived while the relevant pieces are retired or transitioned elsewhere. The main COVID-19 intranet page is found at:
https://iphc.amedd.army.mil/organization/OOD/COVID19/Pages/default.aspx

B-8.2. Establishing Directorate Emergency Liaison

Task Force Liaisons serve essential functions in Task Force mobilization, demobilization, and remobilization. An All-Hazard Task Force Liaison (i.e., Directorate Emergency (DE) Liaison) is affiliated with an APHC Task Force Support Cell but is located within each Directorate. The DE Liaison is the designated Directorate member on the APHC Emergency Management Working Group (EMWG). The DE Liaison is responsible for communication and coordination between the Task Force and their Directorate as part of an APHC all-hazard emergency response. The Director selects the person holding the position within the Directorate. The responsibilities may be additional / collateral duty to a current position and scaled up or down as determined by the Director.

In times when the Center is not actively mobilizing, demobilizing, or responding to a crisis, the DE Liaison allots 5-10% of their time to their duties. The DE Liaison is the Directorate representative to the EMWG, attends monthly meetings, and participates in crisis preparatory training and exercises. The DE Liaison is also involved in the Directorate-level public health threat monitoring activities.

As the Center mobilizes for or demobilizes from a crisis, the DE Liaison dedicates 50-85% of their time to support crisis response activities. During mobilization and at the discretion of the Director of the Directorate, the DE Liaison will either actively transition to a full-time Task Force member or remain in the Directorate as the primary Liaison. During demobilization activities, active Task Force members can demobilize from the Task Force to a DE Liaison position within their Directorate.

During an active crisis response, if the DE Liaison remains in the Directorate, they are the primary link in communication between the Director and the Task Force. They communicate Task Force work and priorities to the Director, and create and implement a communication plan approved by the Director to the Directorate. DE Liaisons facilitate creation of products requested by the Task Force and approved by the Director, recommend Directorate SMEs to the Director, and track and report requested Directorate-level efforts to the Director.

B-8.3. APHC Workforce Situational Reports (Weekly)

The Task Force communications cell collects, coordinates, and disseminates COVID-19 related information to the APHC workforce on a routine basis through a situational report (SITREP). The material disseminated is the most up-to-date and pertinent information relevant to COVID-19 and its many implications in both the workplace and within the home environment. The goal of the SITREP is to promote and maintain open and consistent communication among the APHC workforce to support and ensure continued optimal operations. Business Operations disseminate the SITREP to the APHC Workforce through an email distribution list.

SITREP frequency triggers are as follows:

- Daily SITREP for weeks 1 through 11 of response.
- Decreased to 2/week (Mon and Thu) per Human Resources Command recommendation to prevent email fatigue.
- Reduced to 1/week subsequent to APG frequency reduction and HPCON reduction.
- No SITREP with Minimal Task Force Staffing and Task Force Monitoring

The SOP is found at:
https://eaphc.amedd.army.mil/covid19/CV19AdminLibrary/SOP_APHC-COVID-19SITREPforEmployees.docx

B-8.4. APHC Workforce Frequently Asked Questions

The Task Force partnered with Public Health Assessment Division (PHAD) to develop and launch a Frequently Asked Question (FAQ) site on the APHC Staff COVID-19 intranet to appropriately answer the FAQs from APHC staff during the pandemic. The COVID-19 Task Force Internal Cell coordinated with PHAD to create an internal APHC employee COVID-19 FAQ approval workflow and to ensure APHC staff receives responses that are approved and presented in a timely manner. APHC staff can submit questions through the COVID-19 Task Force mailbox, the main submission button on the COVID-19 Intranet site, or the weekly staff polls (see Figure B-12).

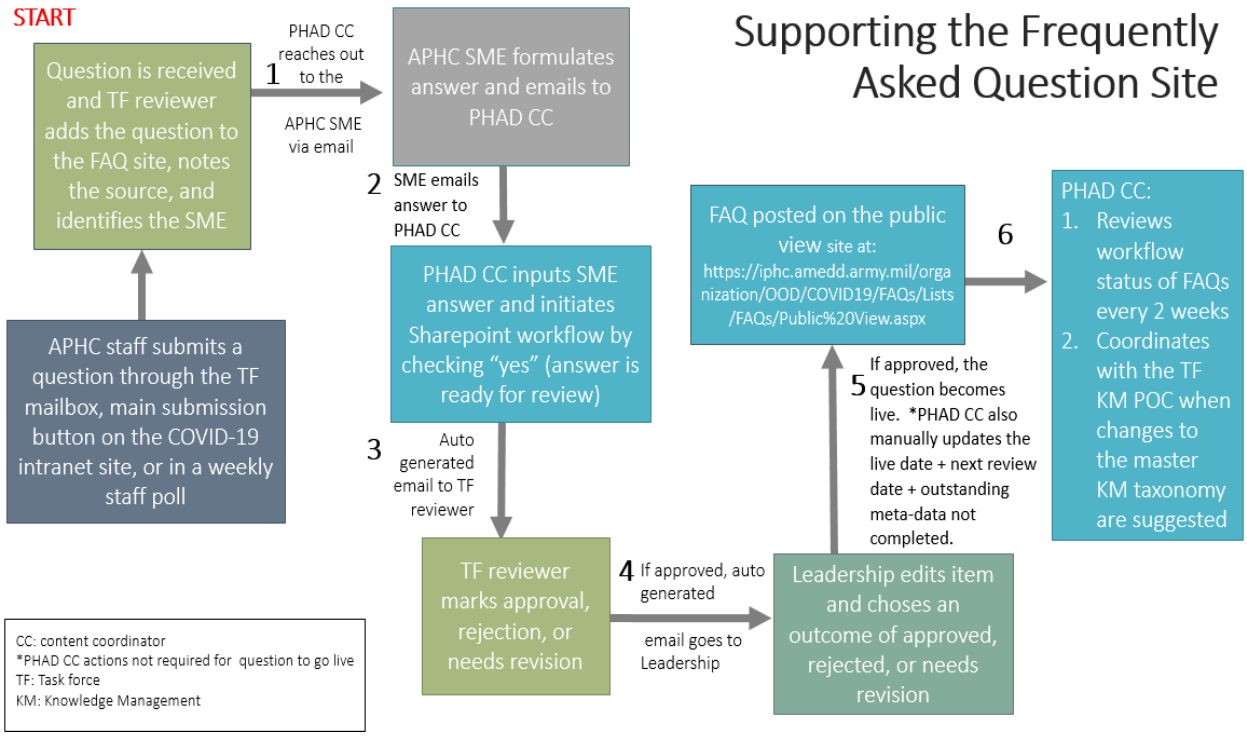


Figure B-12. FAQ Workflow

To find a specific question easily, the questions are organized into different groups: administrative, APHC's response efforts, communications, future of APHC, resources (supplies), technology, and return to workplace. The PHAD content coordinators review existing FAQs and reach out to the identified SMEs for content updates as needed. https://iphc.amedd.army.mil/organization/OOD/COVID19/Pages/default.aspx

B-8.5. Coordinating for Staff Polls and Surveys

In a pandemic environment of increased stress and changing processes (e.g., telework), the APHC polled staff to receive early, actionable feedback. The APHC PHAD design and deliver several polls each month based on topics identified in FAQs submitted through the Task Force, staff intranet, and town halls. Once PHAD analyzes poll results, the PHAD and the Task Force share feedback with the APHC leadership. The Task Force then provides feedback to APHC staff on the outcomes of the polls, as well as the resultant APHC actions taken to address the findings. The polls and surveys provide early identification of workforce preferences and challenges that they are experiencing. This feedback allows the APHC to adjust practices to provide more effective and efficient support to its workforce.

Annex B-1

APHC Task Force Response Coordinator Duty Description

Mission:

The APHC Task Force Response Coordinator manages and integrates the Army Public Health Response for U.S. Army Public Health Center (APHC) and the Deputy Chief of Staff for Public Health (DCS-PH). The Response Coordinator leads the Task Force assigned personnel and supporting activities. The Response Coordinator is the primary accountable officer to the Office of the Director for response efforts.

Job Knowledge, Skills, and Abilities:

- Project management expertise
- Skilled briefer to large audiences and senior leaders
- Exceptional organizational skills
- Capacity and confidence in rapid decision-making
- Critical thinking and communication
- Comprehensive knowledge of APHC structure and leadership
- Flexibility of response to changing resource availability and needs
- Group facilitation using remote tools
- Effective navigation of Microsoft Suite (e.g., PowerPoint, Excel)
- Preferred:
    - Familiarity with SharePoint
    - Comprehensive knowledge of current APHC business practices

Job Duties:

- Quickly analyze and integrate large volumes of response-related information
- Synthesize and distill large amounts of information for Army leaders
- Coordinate responses to requests and comments from military and Civilian stakeholders of various command levels
- Facilitate interactions with subject matter experts within the APHC and DCS-PH
- Lead development of Task Force strategy for each phase of response
- Fulfill duties in other cells as needed
- Rate and senior rate assigned team members, as appropriate

Annex B-2

APHC Communication Coordinator Duty Description

Mission:

The U.S. Army Public Health Center (APHC) Task Forces Communication Coordinator is responsible for overseeing and coordinating the delivery of information from the APHC to a diverse audience of Army and Department of Defense stakeholders. The coordinator will leverage multiple communication channels to achieve the desired objectives. They will also coordinate with content managers to ensure the most effective delivery of public health knowledge and practices in response to Coronavirus disease 2019 (COVID-19).

Job Knowledge, Skills, and Abilities:

- Strong communication and organizational skills
- Critical thinking
- Ability to synthesize public health guidance and content
- Familiarity with APHC structure and leadership
- Flexibility of response to changing resource availability and needs
- Effective navigation of the Microsoft Suite of applications (e.g., PowerPoint, Excel)
- Familiarity with SharePoint
- Experience in Army and Defense public health programs, initiatives, and strategies
- Experience with methods, metrics, tools, and techniques for business processes
- Experience in leading multi-disciplinary projects, internally and externally communicating, and information management
- Multi-tasker with ability to prioritize tasks
- General understanding of basic administrative processes
- Ability to engage with key stakeholders across the APHC and the Public Health Enterprise
- Work well as a team member or team lead

Job Duties:

- Conduct and maintain an inventory of APHC COVID-19 communication content and materials
- Assess informational needs of stakeholders
- Develop, coordinate, and mature communication objectives matched to the response
- Identify gaps in existing content and materials
- Consult on the most effective communication vehicle(s) and channel(s) for new content
- Coordinate with Directorates to rapidly action new content
- Efficiently and effectively coordinate product development with the Public Health Communication Directorate, as required
- Facilitate interactions with subject matter experts within the APHC and the Deputy Chief of Staff for Public Health
- Document and standardize content and material development processes
- Support development of Task Force strategy for each phase of response

Annex B-3

APHC Task Force Operations Chief Duty Description

Mission:

The U.S. Army Public Health Center (APHC) Task Force Operations Chief (i.e., Battle Captain) manages the daily operations of the Task Force while supporting the Response Coordinator in the larger Task Force and APHC Coronavirus disease 2019 (COVID-19) response missions. The Battle Captain is the Task Force lead in interactions with the Directorate Directors and contributing subject matter experts (SMEs) to conduct task-management of all efforts supporting the Army Public Health response. This responsibility may be shared across multiple personnel on rotation, depending on the current mission operational tempo.

Job Knowledge, Skills, and Abilities:

- Project management expertise
- Skilled briefer to large audiences and senior leaders
- Exceptional organizational skills
- Capacity and confidence in rapid decision-making
- Critical thinking and communication
- Comprehensive knowledge of APHC structure and leadership
- Flexibility of response to changing resource availability and needs
- Group facilitation using remote tools
- Effective navigation of Microsoft Suite (e.g., PowerPoint, Excel)
- Preferred:
    - Familiarity with SharePoint
    - Comprehensive knowledge of current APHC business practices

Job Duties:

- Quickly analyze and integrate large volumes of response-related information
- Synthesize and distill large amounts of information for Army leaders
- Coordinate responding to requests and comments from military and Civilian stakeholders of various command levels
- Prioritize and delegate tasks to Support Cell
- Facilitate interactions with SMEs within the APHC and the Deputy Chief of Staff for Public Health
- Oversee Shift Leads
- Serve as a backup for Shift Leads including managing incoming requests for information during off-duty shifts

Annex B-4

APHC Task Force Shift Lead Duty Description

Mission:

The Shift Lead is a member of the Task Force Operations Cell and manages the Task Force mailbox. The shift lead works closely with the Task Force Operations Chief and Response Coordinator and interacts with Task Force members and internal and external stakeholders.

Job Knowledge, Skills, and Abilities:

- Mastery of Outlook and SharePoint
- Multitask with strong organizational skills
- Familiarity with U.S. Army Public Health Center (APHC) structure and leadership
- Strong Critical Thinking and communication skills

Job Duties:

- Manage incoming Coronavirus disease 2019 tasks for the APHC and the Deputy Chief of Staff for Public Health
- Input Requests and Tasks into SharePoint
- In coordination with the battle captain, delegate tasks to Support Cell
- Field duplicate requests for information with pre-approved/staffed products and resources

Annex B-5

APHC Task Force Project Task Officer

Mission:

The U.S. Army Public Health Center (APHC) Task Force Project Task Officer's (PTO) primary responsibility is to manage requests for information (RFIs) from the Office of the Surgeon General/U.S. Army Medical Command, Department of the Army, and Department of Defense organizations. Daily activities include coordinating with subject matter experts (SMEs), managing suspense dates, ensuring adequate time for required reviews, coordinating with the Task Force Battle Captains, and contributing to the Task Force Knowledge Management and Communications efforts.

Job Knowledge, Skills, and Abilities:

- Strong communication and organizational skills
- Critical thinking
- Ability to synthesize public health guidance and content
- Familiarity with APHC structure and leadership
- Flexibility for response to changing resource availability and needs
- Effective navigation of the Microsoft Suite of applications (e.g., PowerPoint, Excel)
- Familiarity with SharePoint
- Experience in Army and Defense public health programs, initiatives, and strategies
- Experience with methods, metrics, tools, and techniques for business processes
- Experience in leading multi-disciplinary projects, internal and external communicating, and information management
- Multi-tasker with ability to prioritize tasks
- General understanding of basic administrative processes
- Ability to engage with key stakeholders across the APHC and the Public Health Enterprise
- Work well as a team member or team lead

Job Duties:

- Receive, interpret, document, and communicate new tasks to responsible Directorate(s)
- Coordinate with Directorates to rapidly action requests
- Facilitate interactions with SMEs within the APHC and Deputy Chief of Staff for Public Health
- Monitor task progress and provide situational awareness to Task Force leadership
- Efficiently and effectively coordinate product development with Public Health Communications Directorate, as required
- Staff product for review and release approval
- Document task progress in SharePoint and provide periodic update briefs
- Develop and standardize new processes for task actions
- Synthesize and consolidate public health guidance
- Support development of Task Force strategy for each phase of response

Annex B-6

APHC Task Force Knowledge Management Duty Description

Mission:

The U.S. Army Public Health Center (APHC) Task Force Knowledge Management team's primary responsibility is to maintain and update the knowledge management (KM) system. The KM members leverage the KM system to answer requests for information (RFIs) from the Office of the Surgeon General/U.S. Army Medical Command, Department of the Army, and Department of Defense organizations.

Job Knowledge, Skills, and Abilities:

- Strong technical knowledge and skills in—
    - Data management, and
    - Data analysis techniques.
- Adept with Microsoft Office products including SharePoint, Access, Excel, and Tableau
- Strong critical thinking and communication abilities to successfully engage with senior leaders and provide clear, succinct communication on a wide variety of military and public health topics
- Basic understanding of data, knowledge, project, and quality management principles
- Preferred formal training include:
    - Data Management
    - Knowledge Management
    - Project Management
    - Quality Management

Job Duties:

- Develop and maintain the KM Strategy, KM Plan, KM Standard Operating Procedures, Content Management Plan, Records Management Plan, KM Systems Support Architecture, and KM Assessment documents
- Ensure that content within Task Force knowledge databases and repositories are current, relevant, non-repetitive, and follow the appropriate review and approval processes through partnering with organizational knowledge proponents, SMEs, and other staff elements
- Leverage repository to answer requests for information for internal and external stakeholders in a timely manner
- Work independently to develop strategies and execute plans
- Maintain up to date materials
- Provide surge capacity to Task Force Support Cell as needed

Annex B-7

APHC Task Force Response Analysis Duty Description

Mission:

The U.S. Army Public Health Center (APHC) Task Force Response Analyst is a member of the Task Force Internal Cell and documents, analyzes, and monitors the processes and outcomes associated with an APHC emergency response. Response Analysis collaborates with stakeholders internal and external to the Task Force.

Job Knowledge, Skills, and Abilities:

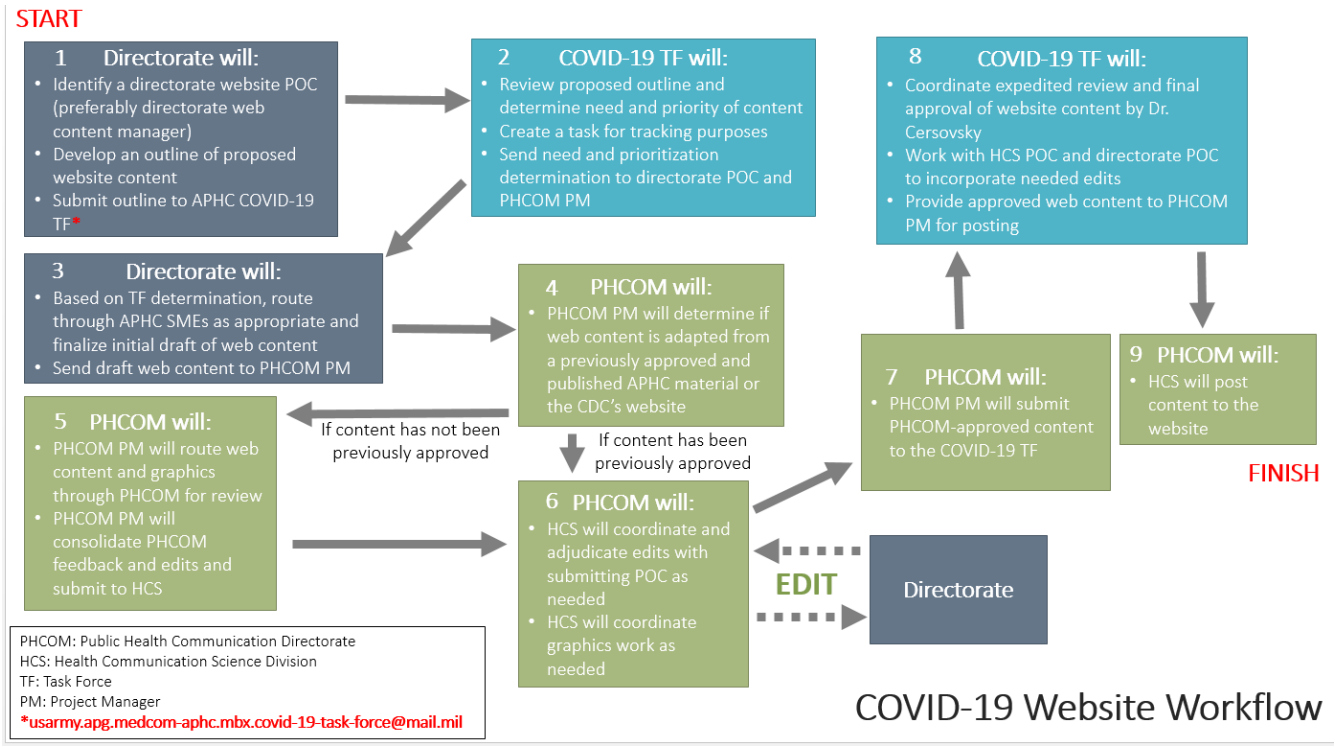
- Qualitative and quantitative analysis
- Group facilitation
- Strong writing skills
- Project management
- Effective navigation of Microsoft Suite (e.g., PowerPoint, Excel)
- Proficient in designing and delivering briefs (e.g., interim progress reports, decision briefs)
- Survey Design
- Process Improvement (e.g., Lean six, yellow belt, black belt)
- Familiarity with SharePoint

Job Duties:

- Document and facilitate process improvement
- Develop and maintain Lessons Learned Program
- Develop and analyze metrics to evaluate
    - APHC's emergency response support to Army stakeholders
    - Effects of APHC's emergency response effort on APHC staff
- Track and analyze Task Force personnel workload
- Develop and track response metrics to inform mobilization, demobilization, and remobilization
- Provide continuous direction, review, and feedback on the internal Frequently Asked Question (FAQ) site used to inform the APHC workforce
- Collaborate in the development, analysis, and translation of surveys and polls
- Partner with APHC stakeholders to identify and mitigate any gaps in the APHC response efforts
- Provide surge capacity to Task Force Support Cell as needed

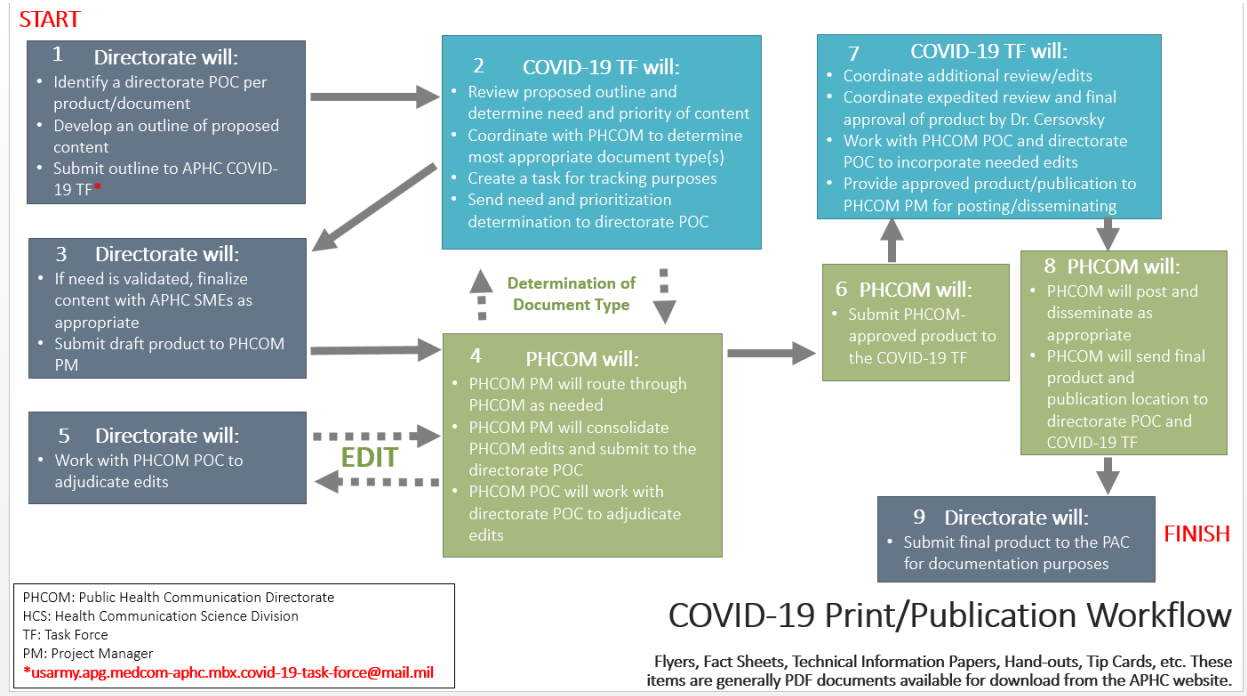
Annex B-8

COVID-19 Website Workflow



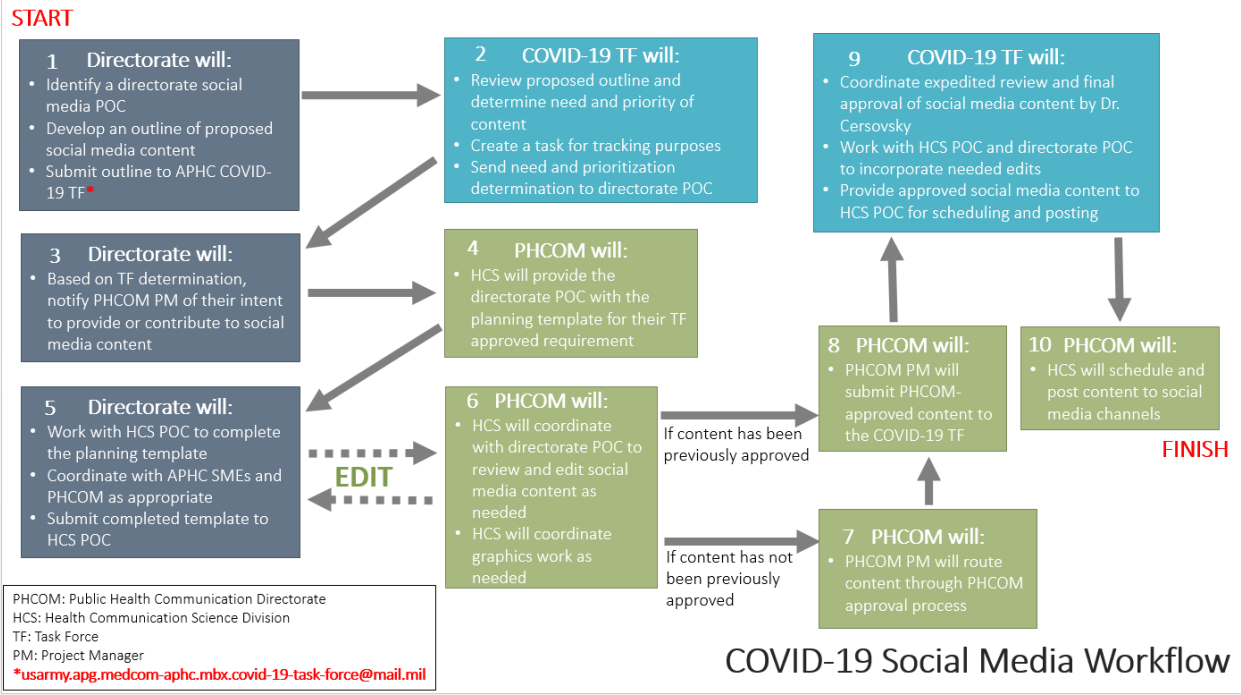
Annex B-9

COVID-19 Print/Publication Workflow



Annex B-10

COVID-19 Social Media Workflow



APPENDIX C

FY21 APHC COVID-19 TASK FORCE LESSONS LEARNED

	Focus Area	Issue	Discussion	Recommendations
1	Best Practice	How to effectively surge personnel to respond to public health emergencies	At the start of the pandemic, organizations immediately recognized the need to surge personnel to combat the growing public health emergency. During an emergency response, it is necessary to leverage prepared lists for mission essential tasks, critical tasks, and critical personnel. APHC used these materials to identify which missions needed sustainment and which could be placed on hold so that resources could be redirected to the pandemic response. There are many factors to consider when shifting priorities, personnel, and other resources. If personnel are not familiar with emergency response protocols in an organization, they can become concerned that their positions could be in jeopardy if they are not identified as essential and working on an essential mission. Additionally, there is risk inferred to non-essential missions when priorities shift. Leaders in an organization may be reluctant to stand down their routine missions to support the public health emergency due to fears that their routine missions might not be fully resourced at the conclusion of the response. Finally, personnel may not be familiar with the process for self-nomination to support the public health response and feel they are not afforded the opportunity to participate in one of the multiple public health response lines of effort.	Organizations should cross-reference essential and critical missions with all personnel to establish response teams and outline this process in their emergency response plans. Personnel should be trained on this process prior to an emergency/event so that they are not surprised or worried when resources within an organization begin to shift.

	Focus Area	Issue	Discussion	Recommendations
2	Best Practices	Mathematical and statistical modeling is essential to understanding the military significance and impact of infectious and non-infection public health threats	When the Task Force (TF) stood up in March 2020, it identified an opportunity to inform data-driven and evidence-based strategic decisions. A modeling team was established to complement the TF's existing structure and provide real-time projections under varying scenarios to help shape Army Senior Leaders' decisions and planning operations in the COVID-19 environment. The team developed the Army COVID-19 Model for Epidemics (ACME) (https://cprobe.army.mil/shinyapps/covid_army_v2) which is used to predict hospital resource needs and provide epidemiological guidance for reducing Health Protection Condition (HPCON) levels. In addition, through a contract with Lawrence Livermore National Laboratory, the team has used modeling to optimize restriction of movement (ROM) and pre-/post-travel COVID-19 screening to prevent outbreaks at the Combat Training Centers (CTC). For CTC, Soldiers come from multiple locations and assemble in one place. With this movement, the risk of importing an infection is proportionate to the locality from which the Soldiers are coming and the sensitivity/specificity of the COVID-19 test used. Based on the predictions, ROM is recommended prior to travel. The logical next step is to use the models developed for CTC and apply them to the initial entry training (IET) environments across the Army. Recruits come from all over the country and converge on a single location for basic training, so the risk of importing cases is very high.	Mathematical and statistical modeling capabilities should be matured and expanded to support characterization of environmental and other public health hazards. Future assessments should examine retrospective health impact and model future threat. Coordinate modeling efforts across DOD groups to help leaders make data-driven and evidence-based decisions using real-time projections under varying public health scenarios.
3	Best Practices	Need for an updated Alternative	COVID-19 has changed the way many organizations complete their mission. U.S. Army Public Health Center (APHC) conducted a poll of	Organizations should review their Civilian Alternative Work Schedule Policy to determine if it 1) supports continuity during emergency

	Focus Area	Issue	Discussion	Recommendations
		Work Schedule (AWS) Policy	Active Duty military and DA Civilians to determine how the current liberal telework schedule has affected employees. This poll was executed in October 2020 and received 272 completed responses, with 34% of APHC Active Duty and 42% of APHC Civilians completing the poll. Nearly two-thirds of the poll participants responded that they are interested in having an AWS. Top reasons given for interest in an AWS were: already working longer hours/days, currently have an AWS, more flexibility, and better work/life balance. The poll showed that 74% of supervisors support flexible work schedules for all or some of their employees. Supervisors' rationale for support of an AWS included: (AWS's) proven results and (the desire to) support the workforce.	operations and 2) maximizes employee productiveness and work-life balance.
4	Best Practices	Employee Burnout during COVID-19 operations	The COVID-19 pandemic presented challenges to the way that organizations do business. While some organizations have the ability to halt or postpone operations, the APHC created a TF to respond to the large number of requests for information and assistance coming to the Center from across the Army enterprise. The TF ramped up and prepared for a large workload of contributions to the Army's campaign to keep personnel safe during a global pandemic. The Response Analysis Cell was established as a part of the TF. This cell is responsible for analyzing the workload of the TF team members. The purpose of this analysis is to prevent burnout and determine when it is necessary to add or decrease the number of personnel to the TF Cells. The analysis is done by logging and monitoring TF member work hours	To prevent burnout, organizations with heavy workloads should closely monitor employee workload and work hours and measure these against established criteria.

	Focus Area	Issue	Discussion	Recommendations
			and assigned tasks and comparing these to pre-determined mobilization and demobilization criteria.	
5	Best Practices	Incomplete public practice due to insufficient time and resources to collect end user feedback	The pace and complexity of the COVID-19 pandemic response degraded the APHC's ability to monitor the application of public health content and refine accordingly. The APHC has responded to 1,260 requests since its mobilization in March 2020. The responses include information papers, toolkits, and technical guidance as well as websites, social media posts, and e-resources. The APHC typically receives an acknowledgment of receipt from the client; however, a formal feedback process does not currently exist for the response/products created. Once a response/product is delivered, the APHC has no mechanism for determining if the client found the information helpful, used the product for its intended purpose, and/or distributed the product throughout his/her organization. In addition to these types of feedback, the APHC does not have a current process to determine if the COVID-19 strategic guidance is being applied at the tactical level. Although APHC currently leverages a Client Satisfaction Survey, this survey is not tailored to gather these types of feedback on COVID-19 products and responses.	Future public health emergency response planning should implement mechanisms to assess implementation and effect of strategic content at the operational and tactical level.
6	Laboratory / Testing	COVID-19 Pooled Samples Shipping to APHC Laboratory	When conducting COVID-19 pooled sample testing, the sample shelf life is 72 hours. After 72 hours, the RNA begins to breakdown, and the samples are no longer viable. The APHC Lab is currently supporting pooled sample testing for FORSCOM Combat Training Center rotations and other missions as approved by the Army Task Action Board. Several installations have reported difficulties shipping	Units should strive to collect pooled samples according to local shipping timelines whenever possible. Additional shipping contracts with other carriers (e.g., UPS, private courier service), may better meet the needs of COVID-19 pooled sample testing. Also, using dry ice as a means to prolong the sample shelf life should be further evaluated for use across the Army.

	Focus Area	Issue	Discussion	Recommendations
			samples that are collected on Fridays, Saturdays, Sundays, and/or Federal Holidays due to current FedEx® contracts. The samples are not able to ship until the following Monday, leaving the collected samples potentially useless. Some units in Alaska successfully used dry ice to prolong the sample shelf life. Other units contracted FedEx Ground to drive the collected samples 10 or more hours to the APHC lab to meet the 72-hour deadline. Additionally, once the labs in the Central and Pacific regions open, shipping time will decrease for units located in closer proximity to these labs.	
7	Communication	The Army must effectively promote the COVID-19 vaccines down to the lowest echelons to maximize vaccine uptake.	The APHC has limited reach outside of the AMEDD community within the Army, and it is difficult to know if our vaccine communication products are reaching the lowest levels. While APHC is producing effective and informative materials to promote vaccine uptake, are junior Soldiers and their Families benefiting from this information? The AMEDD must work with all installations to identify channels and avenues to disseminate vaccine information to every Soldier, Civilian, and Family member.	Social media is one avenue through which public health communication can reach the lowest echelons of the Army. The Army is using Sprinklr, an enterprise-level social media content management system, as part of a pilot overseen by the U.S. Army Office of the Chief of Public Affairs. Accordingly, APHC is utilizing Sprinklr as its social media content management and content sharing platform. This allows for social media product synchronization with all Army social media accounts that participate in the Army workspace. It is recommended that all installations use Sprinklr to share, manage, and disseminate vaccine communications.
8	Communication	Pre-coordination between supported and	A Pennsylvania Army National Guard (PA ARNG) unit conducting exercises at Fort Indiantown Gap, Pennsylvania conducted COVID-19 pooled sample testing of approximately 500 ARNG Soldiers. The	Exercises containing multiple agencies require pre-coordination to understand the roles of each organization and to established lines of communication. There is also opportunity to

	Focus Area	Issue	Discussion	Recommendations
		supporting units in COVID-19 pooled sampling	Regional Health Command-Atlantic (RHC-A) Laboratory was supporting as the receiving and testing laboratory for the samples. APHC was supporting by reviewing and approving the process of Transportation of Hazardous Material by MILVAN. 10th Mountain Division was supporting by providing medical personnel to conduct the testing. Communication and pre-coordination between the PA ARNG unit, the 10th Mountain Division medical assets, the APHC, and the RHC-A Lab was inadequate, which led to the following issues: (1) the roles of all involved parties were not clearly defined and communicated; (2) field data sheets were not filled out according to the laboratory standard operating procedure (SOP); (3) field identifications (IDs) were not well documented on the testing roster; (4) points of contact were not established so that the transporting personnel could provide the laboratory with an estimated arrival time; and (5) there was not enough time to process the laboratory paperwork prior to the samples arriving at the RHC-A Lab because the lab location was in close proximity to the collection site.	develop an SOP for pooled sample collection across the enterprise. It is recommended that the supporting lab and transportation coordinator provide the SOP for collection, cataloguing, and transporting the samples. The unit should serve as the lead for pre-coordination and communication between all parties involved to ensure that personnel tasked with setting up and running the event are prepared to execute and that all other participants understand their requirements.

APPENDIX D

TEMPLATE FOR U.S. ARMY PUBLIC HEALTH CENTER (APHC) COVID-19 TASK FORCE MEMBER EXIT STATEMENT

APHC leadership has requested that members leaving the Task Force provide an exit statement discussing their experience working on the COVID-19 Pandemic Response. Below is a template of the questions to address in a narrative summary; the pages that follow are an example summary written by one of the original Task Force members. The recommendation of one to two pages is sufficient to address these items.

****

Name:
Dates on Task Force: (date joined - date departed)
Role on Task Force:

Feedback to be used for Process Improvement. Please describe the following:

1. What was your experience with transitioning to the Task Force from your Directorate?
    a. What challenges did you experience?
    b. What could be done to address these?
    c. What facilitated your transition to the Task Force?
2. How was your orientation to the Task Force?
    a. What could be done to improve the orientation?
    b. Was the length of orientation appropriate?
    c. How long did it take before you felt comfortable performing your duties on the Task Force?
3. How was the operational tempo of the Task Force?
    a. Was tempo too high or too low?
    b. Was your work schedule predictable? If not, how could this be improved?
4. Was the total length of time that you spent on the Task Force appropriate?
    a. Should the length of appointment to the Task Force be adjusted?
    b. Should the Task Force rotate members more frequently?
5. What do you wish someone had told you before you joined the Task Force?
6. What should be done to improve the Task Force model?
7. What practices will you take back to your previous position and team within APHC? What types of direct or indirect linkages do you see, if any, with your other work?
8. How has the Task Force impacted you professionally (e.g., helped you grow, let you see the impact of your work, changed your views of APHC, public health, or the Army)?

APPENDIX E

FY21 APHC COVID-19 TASK FORCE LESSONS LEARNED

Verint® APHC COVID-19 Task Force Senior Leader and Key Client Survey [English (United States)]

APHC COVID-19 Task Force Senior Leader and Key Client Survey

The purpose of this APHC COVID-19 Task Force project is to document and assess APHC activities and products in support of the U.S. Army's response to COVID-19, January 2020-March 2021.

As an Army public health leader and/or client of the APHC COVID-19 Task Force, your observations and lessons learned are desired. The information you provide will inform future decisions regarding public health infrastructure and actions required to maintain public health preparedness and response capabilities.

As also noted via email, your feedback will be gathered in two parts:

(1) Survey. Captures demographic and background information and initiates thinking about the current state and desired state of APHC's response. The survey (below) is estimated to take 10 minutes. Please complete the survey prior to your interview.

(2) Interview. An interview will be scheduled using your Outlook calendar availability. The interview will take approximately 1 hour. The interview will gather lessons learned from and observations of APHC's COVID-19 Task Force response, with questions related to strengths and gaps of the Task Force response, services that were or were not utilized, and suggested improvements.

Please note, due to formatting requirements, this survey is best viewed on a laptop or other similar device.

Demographics

1. Enter the 3-digit unique ID provided to you:

_____

2. Area(s) of expertise/discipline:

_____

3. Number of years working in area of expertise/discipline:
(Please round to the nearest whole number)

_____

4. Are you current or former Active Duty?
- □ Current Active Duty
- □ Former Active Duty
- □ Not current or former Active Duty

5. Number of years working for the U.S. Army (include both active duty and civilian time, if applicable):
(Please round to the nearest whole number)

_____

6. Do you have experience with previous emergency response efforts?
- □ Yes
- □ No

This Question is Conditionally Shown if: (6 = Yes)
7. Please briefly describe your previous emergency response efforts.

_____
_____
_____
_____
_____

8. Number of months worked with the APHC COVID-19 Task Force:
(Please round to the nearest whole number)

_____

(End of Page 1)

Current State vs. Desired State

9. Nine foundational capabilities for public health emergency preparedness and response were defined by CDC's Center for Preparedness and Response.*

Considering the *current state*, please rate APHC's COVID-19 response related to each capability, January 2020-March 2021 (1=Not applicable to APHC; 5=Led the effort):

	1= Not applicable to APHC, requirement / role filled by other organization	2= Provided some subject matter input	3= Provided subject matter input and at least one product	4= Provided subject matter input and multiple products	5= Led the effort
Community preparedness (i.e., assist installations and Army populations to prepare for, withstand, and recover from public health incidents over the short and long term).	❍	❍	❍	❍	❍
Emergency operations coordination (i.e., enhance coordination with emergency management by establishing a standardized, scalable system of oversight,	❍	❍	❍	❍	❍

organization, and supervision).					
Emergency public health information and warning (i.e., develop, coordinate, and disseminate information to public and incident management personnel).	❍	❍	❍	❍	❍
Information sharing (i.e., conduct multilevel and multidisciplinary exchange of health-related information, including routine information sharing and public health alerts).	❍	❍	❍	❍	❍
Medical countermeasure dispensing and administration (i.e., provide medical countermeasures to target populations to prevent, mitigate, or treat).	❍	❍	❍	❍	❍
Medical material management and distribution (i.e., acquire, manage, transport, and track medical material).	❍	❍	❍	❍	❍

Responder safety and health (i.e., protect emergency responders during deployment phases).	❍	❍	❍	❍	❍
Public health laboratory testing (i.e., implement methods to detect, characterize, and confirm public health threats).	❍	❍	❍	❍	❍
Public health surveillance and epidemiologic investigations (i.e., create, maintain, support, and strengthen routine surveillance and detection systems and epidemiological investigation processes).	❍	❍	❍	❍	❍

*Source: Public Health Emergency Preparedness and Response Capabilities. January 2019 update. Atlanta, Georgia; Centers for Disease Control and Prevention, Center for Preparedness and Response. Accessed April 2021 at https://www.cdc.gov/cpr/readiness/00_docs/CDC_PreparednesResponseCapabilities_October2018_Final_508.pdf

(End of Page 2)

10. Considering a *desired state*, please also rate your recommendation of what APHC's role should be in future public health emergencies (1=Not applicable to APHC; 5=Should lead the effort):

	1= Not applicable to APHC (requirement / role filled by other organization)	2= Slight involvement (i.e., provide subject matter input only)	3= Moderate involvement (i.e., provide subject matter input and product development)	4= High involvement (i.e., routinely provide subject matter input and multiple products)	5= Should lead the effort
Community preparedness (i.e., assist installations and Army populations to prepare for, withstand, and recover from public health incidents over the short and long term).	❍	❍	❍	❍	❍
Emergency operations coordination (i.e., enhance coordination with emergency management by establishing a standardized, scalable system of oversight, organization, and supervision).	❍	❍	❍	❍	❍
Emergency public health information and warning (i.e., develop,	❍	❍	❍	❍	❍

coordinate, and disseminate information to public and incident management personnel).					
Information sharing (i.e., conduct multilevel and multidisciplinary exchange of health-related information, including routine information sharing and public health alerts).	❍	❍	❍	❍	❍
Medical countermeasure dispensing and administration (i.e., provide medical countermeasures to target populations to prevent, mitigate, or treat).	❍	❍	❍	❍	❍
Medical material management and distribution (i.e., acquire, manage, transport, and track medical material).	❍	❍	❍	❍	❍
Responder safety and health (i.e., protect emergency responders	❍	❍	❍	❍	❍

during deployment phases).					
Public health laboratory testing (i.e., implement methods to detect, characterize, and confirm public health threats).	❍	❍	❍	❍	❍
Public health surveillance and epidemiologic investigations (i.e., create, maintain, support, and strengthen routine surveillance and detection systems and epidemiological investigation processes).	❍	❍	❍	❍	❍

(End of Page 3)

APHC COVID-19 Task Force Resources Utilized

The next questions are intended to capture your use of APHC COVID-19 TF knowledge management resources.

11. Did you access APHC COVID-19 information resources?

❍ Yes
❍ No

This Question is Conditionally Shown if: (11 = Yes)

12. What specific resources did you utilize? (Select all that apply):

❑ Sharepoint Directorate In-Progress task list (https://eaphc.amedd.army.mil/covid19/SitePages/opr.aspx)
❑ Sharepoint Master Directory of APHC COVID-19 products (https://eaphc.amedd.army.mil/covid19/SitePages/APHC%20Product%20Directory.aspx)
❑ Sharepoint COVID-19 Orders and Policies page (https://eaphc.amedd.army.mil/covid19/SitePages/Orders%20and%20Policies.aspx)
❑ APHC COVID-19 website (https://phc.amedd.army.mil/topics/campaigns/covid19/Pages/default.aspx)
❑ APHC COVID-19 milSuite site (https://www.milsuite.mil/book/groups/army-public-health-centers-medical-threat-briefings/pages/covid-19)
❑ APHC COVID-19 Surveillance Dashboard (https://carepoint.health.mil/sites/CDSP/PostureAssessments_APHC/Pages/DATA-VISUALIZATIONS.aspx)
❑ APHC Health Information Products e-Catalog (HIP e-Catalog) COVID-19 Hotlist (https://ephc.amedd.army.mil/HIPECatalog/searchResults.aspx?hotlist=88)
❑ APHC Social Media Channels (Facebook, Twitter, Instagram)
❑ Army COVID-19 Model for Epidemics (ACME) Tool (https://cprobe.army.mil/shinyapps/covid_army_v2/)
❑ Other shared response management content (Please specify) _____

(End of Page 4)

APPENDIX F

APHC COVID-19 TASK FORCE SENIOR LEADER AND KEY CLIENT INTERVIEWS KEY INFORMANT INTERVIEW GUIDES

Interview Guide 1: DCS-PH and APHC Senior Leaders

Introduction

Hello, my name is [insert facilitator name] and this is [insert note taker name]. We are part of an evaluation team from the U.S. Army Public Health Center (APHC), at Aberdeen Proving Ground, Maryland. As you are aware, APHC has been supporting the U.S. Army's response to COVID-19 from January 2020 – March 2021, via development of the COVID-19 Task Force. The APHC COVID-19 Task Force is conducting an After Action Review to collect information about APHC and COVID-19 Task Force activities, products, and processes. The aim is to use the information collected to inform future decisions regarding public health infrastructure and actions required to maintain public health preparedness and response capabilities.

You were asked to participate in this interview due to your experiences with and visibility on COVID-19 Task Force activities and processes, as someone who can provide insight and feedback into what went well, what did not go well, and opportunities for improvement regarding APHC's response to COVID-19. Based upon your role and experience over the past year, we will ask a set of questions in which we hope to hear what you've seen or heard directly and what your experiences have been. I want to assure you that we are not part of any investigation and we are not inspecting your agency or any other program at your installation.

The purpose of this interview is to listen and capture your perceptions, experiences and feedback in regard to COVID-19 Task Force activities and products in order to document facilitators and barriers and capture lessons learned. We encourage you to participate freely in this discussion and to answer questions honestly. There is no right or wrong answers and we are interested in your honest opinion. Our conversation will likely last 45-60 minutes.

We would like the discussion to be recorded using a digital audio recorder, but nothing you say will be tied specifically to you. [Insert note taker name] will be taking notes, but in our experience this only allows us to capture about 30% of what is said. Recording the session will help to ensure that we capture what you share in its entirety, so that we do not miss anything essential that you share today. If needed, the recordings may be transcribed by a professional contract team that is not located at APHC, at your installation, or in your chain of command. The only people with access to the interview recordings and notes are the APHC Evaluation Team members. Do you have any objection to having the interview recorded?

[If the participant has concerns, agree not to record].

Thank you for your consent.

Do you have any questions before we begin?

[Give moment to ensure recorder is ready and recording]

I'd like to start with a discussion of your perceptions of and experiences with the APHC COVID-19 Task Force response.

1. Please describe how you utilized the Task Force.

   Probe: What services did you request of them?

2. From your perspective, please tell us about one or two successes of the APHC COVID-19 Task Force that had the most impact?

   Probe: Why do you think these activities/products were critical?

3. Were there any Task Force activities that you think did not meet their intent?

   Probe: [If yes]: Please indicate which activity or activities and describe in what way(s) they did not meet their intent.

4. What Task Force services were most worth the resource expenditure?

   Probe: Why do you think so?

5. What Task Force services were least worth the resource expenditure?

   Probe: Why do you think so?

6. What, if any, gaps do you think would have resulted if the COVID-19 Task Force had not been created?

   Probe: [If gaps noted]: Why do you think these gaps would have occurred?

7. What, if anything, do you think could have improved APHC's COVID-19 response?

   Probe: [If provide examples] Why do you think so?

Now I'd like to move into a discussion of APHC Task Force processes.

8. First let's talk about interactions with external partners.

   When thinking about interactions with external partners (Army senior staff, ACOM/ASCC Surgeons, RHC/PHCs, MEDCOM Operations), how did things go (what went well; what did not go well)?
   - *Probe*: Why do you think so?
   - *Probe*: What are some specific examples?
   - *Probe:* [If not mentioned as specific examples above] Do you have any examples or thoughts regarding Army senior staff, ACOM/ASCC Surgeons, RHC/PHCs, MEDCOM Operations?

   What, if anything, would you change?
   - *Probe*: Why or why not?

9. Next, let's talk about internal responses across APHC Directorates.

   When thinking about internal (APHC) response across Directorates, how did things go (what went well; what did not go well)?
   - *Probe*: Why do you think so?

Probe: What are some specific examples?
Probe: [If not mentioned as specific examples above]: Do you have any examples or thoughts regarding task collaboration, task staffing, product development, product review and updating?

What, if anything, would you change?
Probe: Why or why not?

10. Next, let's talk about internal support, such as to health promotion project officers (HPPOs).

    When thinking about internal support, such as to HPPOs, how did things go (what went well; what did not go well)?
    Probe: Why do you think so?
    Probe: What are some specific examples?
    Probe: [If not mentioned in specific examples above]: Do you have any examples or thoughts regarding information flow and sharing of current COVID-19 Task Force knowledge?

    What, if anything, would you change?
    Probe: Why or why not?

11. Regarding your own interactions with the Task Force, did you find email an efficient and effective method for communicating?

    Probe: Why or why not?

    Probe: [If not an effective method of communicating] What tool and/or method would you suggest?

12. What, if any, negative impacts did creating and sustaining the Task Force have?

    Probe: Why do you think so?

    Probe: In what ways, if any, could these impacts have been mitigated?

    Probe: If a similar situation arose in the future, would you recommend creating and sustaining a Task Force? Why or why not?

Now we'd like to hear your thoughts regarding the Army Public Health Enterprise response.

13. How would you describe the collective APHE response?

    Probe: What services were most useful? Why do you think this is the case?

    Probe: What services were missing?

14. What, if anything, could have improved the APHE response?

    Probe: Why do you think this is the case?

15. Is there anything else that you would like to share about the topics that we discussed today?

    [Insert note taker(s) name(s)], do you have any additional questions?

Thank you for taking time to talk with us today. APHC intends to use what we learn to inform future decisions regarding public health infrastructure and actions required to maintain public health preparedness and response capabilities.

Interview Guide 2: Directorate Leaders

Introduction

Hello, my name is [insert facilitator name] and this is [insert note taker name]. We are part of an evaluation team from the U.S. Army Public Health Center (APHC), at Aberdeen Proving Ground, Maryland. As you are aware, APHC has been supporting the U.S. Army's response to COVID-19 from January 2020 – March 2021, via development of the COVID-19 Task Force. The APHC COVID-19 Task Force is conducting an After Action Review to collect information about APHC and COVID-19 Task Force activities, products, and processes. The aim is to use the information collected to inform future decisions regarding public health infrastructure and actions required to maintain public health preparedness and response capabilities.

You were asked to participate in this interview due to your experiences with and visibility on COVID-19 Task Force activities and processes, as someone who can provide insight and feedback into what went well, what did not go well, and opportunities for improvement regarding APHC's response to COVID-19. Based upon your role and experience over the past year, we will ask a set of questions in which we hope to hear what you've seen or heard directly and what your experiences have been.

The purpose of this interview is to listen and capture your perceptions, experiences and feedback in regard to COVID-19 Task Force activities and products in order to document facilitators and barriers and capture lessons learned. We encourage you to participate freely in this discussion and to answer questions honestly. There is no right or wrong answers and we are interested in your honest opinion. Our conversation will likely last 45-60 minutes.

We would like the discussion to be recorded using a digital audio recorder, but nothing you say will be tied specifically to you. [Insert note taker name] will be taking notes, but in our experience this only allows us to capture about 30% of what is said. Recording the session will help to ensure that we capture what you share in its entirety, so that we do not miss anything essential that you share today. If needed, the recordings may be transcribed by a professional contract team that is not located at APHC, at your installation, or in your chain of command. The only people with access to the interview recordings and notes are the APHC Evaluation Team members. Do you have any objection to having the interview recorded?

[If the participant has concerns, agree not to record].

Thank you for your consent.

Do you have any questions before we begin?

[Give moment to ensure recorder is ready and recording]

I'd like to start with a discussion of your perceptions of and experiences with APHC COVID-19 Task Force response.

1. From your perspective, please tell us about one or two successes of the APHC COVID-19 Task Force that had the most impact?

Probe: Why do you think these activities/products were critical?

2. Were there any Task Force activities that you think did not meet their intent?

   Probe: [If yes]: Please indicate which activity or activities and describe in what way(s) they did not meet their intent.

3. What Task Force services were most worth the resource expenditure?

   Probe: Why do you think so?

4. What Task Force services were least worth the resource expenditure?

   Probe: Why do you think so?

5. What, if any, gaps do you think would have resulted if the COVID-19 Task Force had not been created?

   Probe: [If gaps noted]: Why do you think these gaps would have occurred?

6. What, if anything, do you think could have improved APHC's COVID-19 response?

   Probe: [If provide examples] Why do you think so?

Now I'd like to move into a discussion of processes related to Task Force work.

7. Can you please describe your Directorate's process for technical review and quality control of its products and contributions to the APHC COVID-19 Task Force (such as surveillance data summaries, information papers, responses to requests for information)?

   Probe: What, if any, systems or IT tools did you use?
   Were these helpful? Why or why not?

   Probe: What aspects of these processes went well? Why?

   Probe: What, if any, aspects of the processes did not go well? Why not?

   Probe: Did you make any changes to these processes during implementation?
   [If yes]: What changes and why?

   Probe: Are there any changes you would make to these processes in the future? Why or why not?

8. How, if at all, could APHC have better utilized your Directorate in the COVID-19 response?

9. What, if any, negative impacts did creating and sustaining the Task Force have on your Directorate?

   Probe: Why do you think so?

   Probe: In what ways, if any, could these impacts have been mitigated?

Probe: In future APHC responses to a national public health emergency, would you recommend creating and sustaining a Task Force? Why or why not?

10. Is there anything else that you would like to share about the topics that we discussed today?

[Insert note taker(s) name(s)], do you have any additional questions?

Thank you for taking time to talk with us today. APHC intends to use what we learn to inform future decisions regarding public health infrastructure and actions required to maintain public health preparedness and response capabilities.

Interview Guide 3: Key Clients (Regional Health Command Representatives)

Introduction

Hello, my name is [insert facilitator name] and this is [insert note taker name]. We are part of an evaluation team from the U.S. Army Public Health Center (APHC), at Aberdeen Proving Ground, Maryland. As you are aware, APHC has been supporting the U.S. Army's response to COVID-19 from January 2020 – March 2021, via development of the COVID-19 Task Force. The APHC COVID-19 Task Force is conducting an After Action Review to collect information about APHC and COVID-19 Task Force activities, products, and processes. The aim is to use the information collected to inform future decisions regarding public health infrastructure and actions required to maintain public health preparedness and response capabilities.

You were asked to participate in this interview due to your experiences with and visibility on COVID-19 Task Force activities and processes, as someone who can provide insight and feedback into what went well, what did not go well, and opportunities for improvement regarding APHC's response to COVID-19. Based upon your role and experience over the past year, we will ask a set of questions in which we hope to hear what you've seen or heard directly and what your experiences have been.

The purpose of this interview is to listen and capture your perceptions, experiences and feedback in regard to COVID-19 Task Force activities and products in order to document facilitators and barriers and capture lessons learned. We encourage you to participate freely in this discussion and to answer questions honestly. There is no right or wrong answers and we are interested in your honest opinion. Our conversation will likely last 45-60 minutes.

We would like the discussion to be recorded using a digital audio recorder, but nothing you say will be tied specifically to you. [Insert note taker name] will be taking notes, but in our experience this only allows us to capture about 30% of what is said. Recording the session will help to ensure that we capture what you share in its entirety, so that we do not miss anything essential that you share today. If needed, the recordings may be transcribed by a professional contract team that is not located at APHC, at your installation, or in your chain of command. The only people with access to the interview recordings and notes are the APHC Evaluation Team members. Do you have any objection to having the interview recorded?

[If the participant has concerns, agree not to record].

Thank you for your consent.
Do you have any questions before we begin?

[Give moment to ensure recorder is ready and recording]

I'd like to start with a discussion of your perceptions of and experiences with APHC COVID-19 Task Force response.

11. Please describe how you utilized the Task Force.

    Probe: What services did you request of them?

12. From your perspective, please tell us about one or two successes of the APHC COVID-19 Task Force that had the most impact.

    Probe: Why do you think these activities/products were critical?

13. Were there any Task Force activities that you think did not meet their intent?

    Probe: [If yes]: Please indicate which activity or activities and describe in what way(s) they did not meet their intent.

14. What Task Force services were most worth the resource expenditure?

    Probe: Why do you think so?

15. What Task Force services were least worth the resource expenditure?

    Probe: Why do you think so?

16. What, if any, gaps do you think would have resulted if the COVID-19 Task Force had not been created?

    Probe: [If gaps noted]: Why do you think these gaps would have occurred?

17. What, if anything, do you think could have improved APHC's COVID-19 response?

    Probe: [If provide examples] Why do you think so?

Now I'd like to move into a discussion of APHC Task Force processes.

18. Considering RFIs, did you find email an efficient and effective method for communicating?

    Probe: Why or why not?

    Probe: [If not an effective method of communicating] What tool and/or method would you suggest?

    Probe: Were responses received with efficient time to facilitate action? Why or why not?

Now I'd like to hear your thoughts regarding the Army Public Health Enterprise response.

19. How would you describe the collective APHE response to COVID-19?

20. What, if anything, could have improved the APHE response?

Probe: Why do you think this is the case?

21. Is there anything else that you would like to share about the topics that we discussed today?

    [Insert note taker(s) name(s)], do you have any additional questions?

Thank you for taking time to talk with us today. APHC intends to use what we learn to inform future decisions regarding public health infrastructure and actions required to maintain public health preparedness and response capabilities.

APPENDIX G

APHC COVID-19 TASK FORCE AFTER ACTION REVIEW: INTERVIEW FINDINGS & RECOMMENDATIONS

Appendix G
APHC COVID-19 Task Force After Action Review: Interview Findings & Recommendations

Public Health Assessment Division
Health Promotion and Wellness Directorate

15 June 2021

Disclaimer

The views expressed in this presentation are those of the author(s) and do not necessarily reflect the official policy of the Department of Defense, Department of the Army, U.S. Army Medical Department or the U.S. Government.

The mention of any non-federal entity and/or its products is not to be construed or interpreted, in any manner, as federal endorsement of that non-federal entity or its products.

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Project Overview

Purpose

PURPOSE: To provide a summary of the results from the May 2021 COVID-19 Task Force (TF) After Action Review (AAR) conducted with input from Deputy Chief of Staff for Public Health (DCS-PH) and Army Public Health Center (APHC) Senior Leaders, APHC Directorate Directors, and Key Clients

OUTLINE:

- Project Overview
- Design & Methods
- Findings & Recommendations by Cross-cutting Theme
- Overarching Findings
- Conclusions

Background

- APHC stood up the COVID-19 TF with the following aims: to monitor, to communicate and to respond to the COVID-19 pandemic across the Army Enterprise via coordinated activities and products
- The APHC COVID-19 TF requested support to understand what went well, what did not go well and lessons learned during APHC's COVID-19 response
- Feedback on TF implementation and outcomes was collected via:
  - Semi-structured interviews
  - Brief surveys administered to individuals who agreed to be interviewed*
- This project is a collaboration between Clinical Public Health & Epidemiology (CPHE) and Health Promotion and Wellness (HPW) Public Health Assessment Division (PHAD)

* Survey design, methods and findings provided in a separate deliverable

Objectives

1. Understand interviewee perceptions of the COVID-19 TF activities and processes
2. Assess how well APHC activities and products supported the U.S. Army's response to COVID-19
3. Identify lessons learned and opportunities for improvement regarding APHC's COVID-19 response

Design & Methods

Design & Methods

- The overall structure of the semi-structured interview guides was modeled after Army AAR format
- The TF identified potential interviewees from three groups of interest:
  - Deputy Chief of Staff for Public Health Office (DCS-PH) and APHC Office of the Director
  - APHC Directors
  - Key Clients (e.g. Regional Health Commands (RHCs))
- *N* = 19 interviews conducted*

* (Senior Leader (*n* = 5), APHC Director (*n* = 9), Key Client (*n* = 5))

Design & Methods (continued)

- A 10-15-question, semi-structured interview guide was developed and tailored for each of the three interview groups
- The interview guides included questions regarding:
  - Perceptions of and experiences with APHC COVID-19 TF internal and external processes, products, activities, successes and opportunities for improvement
  - Army Public Health Enterprise COVID-19 response
- Interviews were facilitated by one of two project facilitators and captured via a note-taker and audio recorder

Design & Methods (continued)

- Interview audio recordings were used to clean and finalize interview notes
- Due to the project timeline, coding and analysis were conducted concurrently in pairs using a primary and secondary coder/analyst approach*
- Finalized notes were deductively coded in NVivo 12
- Coded references were thematically analyzed across and within:
  - Codes/sub-codes
  - Interviewee groups
- Cross-cutting themes emerged from the data
  - Findings are presented in the slide deck by these themes for cohesiveness and clarity
  - The evaluation team developed recommendations based upon these cross-cutting themes

*See backup methods slide for more details

Findings & Recommendations by Cross-cutting Theme

Themes & Sub-themes Overview

Three primary themes emerged from the data:

		SUB-THEMES	
1	Operations	• Structure • Continuity	
2	Systems & Processes	• Visibility • Staffing • Internal Review Process • Key Client Integration • Proactive vs. Reactive	
3	Key Activities to Support Enterprise-level Needs	• Establishing APHC as a Critical Resource • Forms of Key Support	

Operations

Operations: Structure

- Three Senior Leaders and one Director mentioned the benefits of the TF operating independently from the Directorates.
  - The two most commonly mentioned key benefits were:
    - Increased flexibility and adaptability of the COVID-19 response
    - Improved efficiency of coordination and integration across APHC
- Four APHC Directors indicated that the TF operational structure appeared to optimize collaboration between the Directorates, and suggested the TF identify additional opportunities to encourage collaboration
- A little over half of APHC Directors found the liaison officer (LNO) model utilized by the TF to be effective, and several recommended further leveraging of this model in future emergency responses

CONSIDERATIONS

Structure TFs to operate independently from Directorates during future emergency responses to:

- Support flexible and adaptable response and posture
- Leverage TF assets to support Senior Leader needs

Facilitate opportunities for Directorate cross-collaboration to meet emergency response and future TF needs

Identify additional ways to leverage LNO models in future TF responses

Operations: Continuity

- Multiple interviewees across interviewee groups mentioned the importance of maintaining consistent TF core team membership
- This continuity of leadership was perceived to:
  - Facilitate consistency in TF mission/vision
  - Support TF stability and effective implementation of COVID-19 response
- Two APHC Directors and an APHC Senior Leader suggested the creation of a dedicated crisis response cell that could be activated and/or detailed to support future TFs, indicating this could:
  - Augment efficacy and effectiveness
  - Potentially mitigate ongoing personnel and mission workflow challenges

CONSIDERATIONS

Identify and establish a core team early in TF development to maintain stability and continuity

Consider the creation of a dedicated crisis response cell or equivalent capability to support future TF staffing and needs

Systems & Processes

Systems & Processes: Establishing & Maintaining Visibility

- The TF supported APHC's ability to have critical situational awareness of both internal and external COVID-19 needs and activities, which optimized the APHC response to the pandemic, via:
  - Maintaining a repository of information of key guidance, directives and products utilizing SharePoint
  - Using a centralized mailbox to systematize the RFI process
  - Establishing a group of personnel who could consistently attend key meetings to establish and maintain a clearer site picture to inform decision-making and planning

CONSIDERATIONS

Continue implementation of established systems and processes for the ongoing COVID-19 response and leverage for future TFs:

- The SharePoint platform
- Dedicated mailbox to collect RFIs and monitor workflow
- Attendance of key meetings to establish and maintain visibility

Establish a TF at the onset of future public health emergencies, to help maintain visibility and awareness

Systems & Processes: Staffing

- APHC Senior Leaders and APHC Directors spoke of TF staffing as a stressor as well as its ongoing impacts:
  - For those assigned to support the TF, stressors included:
    - Competing priorities between TF workflow and regular mission tasks
    - Burnout due to OPTEMPO and the number of hours necessary to meet TF needs
  - Non-TF activities and projects were also impacted to varying degrees across Divisions/Directorates, including:
    - In some instances non-TF mission work had to be paused
    - In other instances critical mission work continued to be conducted with non-optimal staffing
- APHC Directors discussed the benefit of leveraging assets and capabilities from across the Center.

CONSIDERATIONS

Develop and implement a more integrated prioritization process for determining mission priorities across APHC considering both TF and non-TF workflow to:

- Better de-conflict competing priorities
- Ensure that adequate and appropriate guidance regarding workflow expectations is provided up and down the command chain

Consider applicability of all Division/Directorate subject matter expertise for meeting TF mission needs

Systems & Processes: Staffing (continued)

- APHC Directors identified several implementation challenges and missed opportunities for optimization of TF staffing decisions. These included:
  - The delay in recalling Directors and Division Chiefs attending CES training at the onset of the pandemic
  - Inclusion of APHC Directors/Division Chiefs when selecting personnel to support TF activities
    - APHC Directors/Division Chiefs have key visibility on personnel capacity and capabilities
    - May minimize impact on non-TF workflow
  - Selection of personnel should be based upon their background and experiences rather than just Division or Directorate affiliation, as many APHC personnel have knowledge and skills beyond their current position.

CONSIDERATIONS

Develop and implement a more systematic approach to the identification and selection of personnel to support the TF

In anticipation of personnel needs for future public health emergency responses:

- Establish a process to identify initial and ongoing mission needs to inform staffing selection and determine level of support (e.g. expertise, skills, detail vs. additional duty)
- Create a process and management system for collecting and maintaining key subject matter expertise and experience data on APHC personnel and establish a policy for keeping this information up-to-date

Ensure better integration of personnel's chain of command in the process of making TF staffing decisions

Systems & Processes: Internal Review Process*

- Overall, APHC Directors found the internal review process effective for meeting suspenses
  - Several APHC Directors also mentioned the utility of task-tracking via the TF SharePoint
- Additionally, APHC Directors perceived the process as flexible and spoke positively of the following capabilities:
  - Determine and distribute task assignments
  - Maintain existing Directorate internal review processes but adjust course to review COVID-19 tasks rather than regular mission work tasks
  - Identify collaboration opportunities with subject matter experts in other Directorates when needed
  - Leverage the TF for an additional layer of review and science translation
- A few APHC Directors indicated rare issues with version control during TF review, resulting in duplicative efforts

CONSIDERATIONS

Continue Directorate use of internal technical review processes that are flexible and adaptable to support timeliness and efficiency of task completion

Utilize task-tracking capabilities on SharePoint to support Director visibility in future emergency responses

Identify opportunities to improve TF version control to avoid effort duplication

Develop a process to approve content that can be incorporated into other products quickly and efficiently

*APHC Directors were the only interviewees directly asked about the Internal Review Process

Systems & Processes: Key Client Integration - Visibility

- Two key subthemes emerged within key client integration: visibility and inclusion
- Approximately half of Key Clients interviewed were not aware of:
  - A formalized TF and/or
  - Formalized TF processes (e.g., request for information (RFI) process, TF mailbox)
- This suggests communication gaps, and is further supported by:
  - Senior Leader who mentioned the TF did not have regular touchpoints with RHCs and Public Health Emergency Officers (PHEOs)
  - Director who discussed that TF products, links and information were not included in The Surgeon General (TSG) emails
  - Reported lower applicability of TF products for OCONUS clients, given the varying pandemic stages world-wide
- The Clients interviewed who were aware of the TF:
  - Appreciated the information, products and guidance pushed out by the TF
  - Generally found the products and information to be high quality and helpful

CONSIDERATIONS

In the event of the creation of a future TF, develop a communication plan that prioritizes socialization of the TF to better establish and maintain visibility among Key Clients and other critical stakeholders

- Leverage existing Distro lists and other dissemination channels to share this information
- Consider providing reminders via these channels to ensure ongoing TF situational awareness
- Provide information to Key Clients regarding formalized TF processes (e.g., RFI processes, mailbox) to support awareness and utility

Systems & Processes: Key Client Integration - Inclusion

- Clients often indicated that increased Client engagement in TF-supported activities and tasks would improve the ability to meet the needs of Clients and those they serve
- Opportunities specifically mentioned were:
  - Input on the needs of the field from the Client perspective
  - Feedback on guidance and products to help ensure relevancy and feasibility, for example:
    - Adapting products with locally relevant information for OCONUS commands
    - Providing technical/operational guidance
- One Director suggested that improved Client engagement would increase mission efficiency through reduced miscommunication and misinterpretation

CONSIDERATIONS

To support increased relevancy, utility and efficiency of products and services provided by APHC, consider establishing a regular battle rhythm for touchpoints with Key Clients, including RHCs and PHEO networks, to facilitate ongoing:

- Communication
- Receipt and integration of Key Client input and feedback

Systems & Processes: Proactive vs. Reactive

- Interviewees across all three interview groups, discussed the benefit of proactive versus reactive planning and implementation to ensure provision of timely guidance and resources. This was viewed as essential to more optimally meeting needs during an emergency response.
- Commonly provided examples include:
  - General communication plan for sharing relevant and timely information within APHC
  - Developing anticipatory information resources for internal and external audiences:
    - Risk communication products
    - Return-to-Work policy and guidance
  - Identifying and communicating a termination plan for personnel detailed to the TF and for the TF generally
  - Two DCS-PH Senior Leaders described the benefit of developing a strategic vision to guide operation/tactical planning

CONSIDERATIONS

In future TFs, provide ongoing communication to improve visibility of the TF vision and way ahead to support better coordination and integration between the TF mission and the broader APHC mission

Leverage subject matter experts within Directorates to identify, develop and coordinate anticipatory products and guidance to support proactive emergency response

Key Activities to Support Enterprise-level Needs

Key Activities to Support Enterprise-level Needs

- Services and activities directed by the TF early in the pandemic helped establish APHC as critical resource in addressing the Army's COVID-19 response
- The TF provided key support to meet Enterprise-level needs, to include:
  - Staff Assistance Visits
  - Health Risk Assessments
  - Draft OPORDS and FRAGOS for MEDCOM
  - Critical review of Force Health Protection guidance
  - Identification of APHC-specific resources applicable to collaborative efforts, such as COVID-19 pool testing capabilities and procedures

CONSIDERATIONS

In the event of a future public health emergency, future TFs should implement the key activities identified on this slide to help ensure APHC integration into the Army's broader response

Overarching Findings

Overarching Findings

Overall, interviewees felt that the APHC COVID-19 TF met its intended aims*

The TF evolved to adapt and overcome barriers and challenges for improved implementation and outcomes

*Aims: To monitor, to communicate and to respond to the COVID-19 pandemic across the Army Enterprise via coordinated activities and products

Overarching Findings (continued)

- **What went well?**
  - Adaptable and flexible approach to implementation
  - Overall standardization and systematization of processes
  - Leveraging technology
  - Early engagement in Enterprise-level discussions brought a public health lens to initial COVID-19 response decision-making and planning and established APHC as a critical response resource
- **What did not go well?**
  - TF strategic communication (Internal and External)
  - Staffing processes
  - Integration of key clients
- **How could we improve?**
  - Contingency plan for coordinating APHC's response to future public health crises
  - Leverage recommendations and lessons learned from this AAR in addition to those collected throughout the COVID-19 response to further optimize future TF implementation

Conclusions

Conclusions

- A task force provides a critical integrating and coordinating capability during a public health emergency
- Future TFs should:
  - Be stood up at the onset of an emergency
  - Establish a mission to:
    - Ensure visibility and optimal utilization of APHC resources and subject matter expertise to meet the needs of the Army and other Services as applicable
    - Coordinate and integrate APHC's crisis response
  - Leverage lessons learned from COVID-19 TF implementation
- Findings from this AAR can be used to inform future decisions regarding:
  - Public health infrastructure
  - Actions required to maintain public health preparedness and response capabilities

Backup Slides

Design & Methods

Concurrent Data Collection and Analysis:

- **Step 1:** Finalized initial subset of interview notes by reviewing audio files to ensure note accuracy and completeness. Uploaded interview note set into Nvivo 12 for coding and analysis.
- **Step 2:** Developed initial three code codebook following the AAR framework. Descriptively-coded interview note subset in pairs using a primary and secondary coder process.
- **Step 3:** The project team met to discuss and further develop the codebook based on concepts emerging from the data. The primary coder then re-coded the initial subset of data using the updated codebook. All subsequent interview notes were coded using the updated codebook.
- **Step 4**: Utilized a primary and secondary analytic approach by code and sub-code. Analyzed data references from the 19 interviews within and across codes and sub-codes, and within and across interviewee groups. The primary analyst then identified and defined initial themes.
- **Step 5:** Secondary analysts applied the same analytic approach and then reviewed the findings documented by the primary analyst. The secondary analyst provided feedback on theme refinement and the analyst pairs then met to adjudicate feedback.
- **Step 6**: The project team met to discuss and finalize findings and recommendations (by and across code/sub-code and theme).

APPENDIX H

DESCRIPTION OF APHC COVID-19 KNOWLEDGE MANAGEMENT RESOURCES

Resource Name	Description	Web Link(s)
SharePoint Directorate In-Progress task list	SharePoint list of In-Progress tasks. Can be filtered/sorted to display by office of primary responsibility (OPR), task status, and suspense.	https://eaphc.amedd.army.mil/covid19/SitePages/opr.aspx
SharePoint Master Directory of U.S. Army Public Health Center (APHC) Coronavirus disease 2019 (COVID-19) products	Provides single point of entry to search for COVID-19 products that are in the Health Information Products e-Catalog, COVID-19 milSuite site, or the internal COVID-19 documents library.	https://eaphc.amedd.army.mil/covid19/SitePages/APHC%20Product%20Directory.aspx
SharePoint COVID-19 Orders and Policies page	COVID-19 specific orders, policies from the executive branch, DOD, Army, Combatant Commands, and MEDCOM	https://eaphc.amedd.army.mil/covid19/SitePages/Orders%20and%20Policies.aspx
APHC COVID-19 website	Army-specific information and communication resources related to COVID-19 from the APHC.	https://phc.amedd.army.mil/topics/campaigns/covid19/Pages/default.aspx
APHC COVID-19 milSuite site	CAC-enabled information and resources for leadership and DOD personnel.	https://www.milsuite.mil/book/groups/army-public-health-centers-medical-threat-briefings/pages/covid-19
APHC COVID-19 Surveillance Dashboard	A resource management tool that provides summary tables and visualizations of COVID related data on laboratory and testing, MTF capabilities and capacity, case metrics in the Army/DOD and general population, personal protective equipment, and vaccine information.	https://carepoint.health.mil/sites/CDSP/PostureAssessments_APHC/Pages/DATA-VISUALIZATIONS.aspx
APHC Health Information Products e-Catalog (HIP e-Catalog) COVID-19 Hotlist	COVID-19-related and non-COVID-19 related products are available for download and order from the APHC Health Information Products e-Catalog.	https://ephc.amedd.army.mil/HIPECatalog/searchResults.aspx?hotlist=88
APHC Social Media Channels	The Army is using Sprinklr for enterprise-level social media content management. Army social media managers with Sprinklr access can now find, use and share COVID-19 and other social media content created by the APHC by logging onto Sprinklr and visiting: https://space.sprinklr.com/social/asset-manager/tab/post_assets (license required)	https://twitter.com/USAPHC https://www.facebook.com/ArmyPublicHealth https://www.youtube.com/usaphc https://www.instagram.com/armypublichealth
Army COVID-19 Model for Epidemics (ACME) Tool	Developed as part of public health surveillance efforts, this tool projected the expected numbers of hospital ward beds, intensive care unit beds, and ventilators that a MTF would need over time.	https://cprobe.army.mil/shinyapps/covid_army_v2/

APPENDIX I

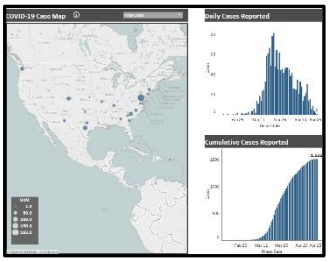
COVID-19 SURVEILLANCE REPORT TEMPLATES

ARMY COVID-19 SURVEILLANCE REPORT

REPORT DATE: DATE

Total Disease Reporting System-internet (DRSi) Reports for COVID-19 as of DATE at 1700 Hours

Case Status	Number of Cases
Confirmed – Ever Hospitalized	X (+X)
Confirmed – Not Hospitalized	X (+X)
Probable	X (+X)
Deaths	X (X)
TOTAL	**X**



Click the icon to view the Army COVID-19 dashboard; updated daily at 0800. (Recommend viewing via Google Chrome)

DRSi Reports: COVID-19

Onset Date	Admission Date	Location	Service	Status	Hospital Location	Age	Sex
Confirmed – Currently Hospitalized as Reported from Army MEDCOM Installations							
9/15/2021	9/15/2021	Ft Example	Navy	AD	Example AMC	40	F
9/15/2021	**9/15/2021**	**Ft Example**	**Army**	**AD**	**Civilian Hospital**	**26**	**F**
9/14/2021	**9/14/2021**	**Ft Example**	**Army**	**Ret**	**Example AMC**	**65**	**M**
9/14/2021	**9/14/2021**	**Ft Example**	**Army**	**Dep**	**Example AMC**	**48**	**F**
9/14/2021	9/14/2021	Ft Example	Army	Dep	Civilian Hospital	71	F
9/14/2021	9/14/2021	Ft Example	Army	Dep	Example AMC	0	M
9/14/2021	8/21/2021	Ft Example	Army	Unk	Example AMC	72	M
9/13/2021	9/16/2021	Ft Example	Army	Dep	Civilian Hospital	38	F
9/13/2021	**9/13/2021**	**Ft Example**	**Civilian**	**Civ**	**Example AMC**	**79**	**M**
9/13/2021	**9/7/2021**	**Ft Example**	**Civilian**	**Civ**	**Example AMC**	**67**	**M**
9/13/2021	9/14/2021	Ft Example	Army	Ret	Civilian Hospital	79	M

Legend: AD=Active Duty | Rec=Recruits | Dep= Dependent | Res= Reserves | Ret= Retired | NG= National Guard | Cad = Cadet
Note: New DRSi reports are shown in BOLD.

DRSi Reports: Confirmed – Currently Hospitalized by Beneficiary Category

MTF	Total*	AD	Rec	NG/Reserves	Dependent	Retired	Civilian	Contractor
Army MTF	X	X	X	X	X	X	X	X
DHA MTF	X	X	X	X	X	X	X	X
Civilian MTF	X	X	X	X	X	X	X	X

Legend: AD = Active Duty | Rec = Recruits | NG = National Guard
Notes: *Patients discharged from hospitalization will be removed from this list. Patient beneficiary categories may be corrected during daily validation process.

DRSi Reports: Confirmed – Currently Hospitalized Army Active Duty by MTF				
MTF	**Total***	**Army MTF**	**DHA MTF**	**Civilian MTF**
Army AD SM	X (+X)	X (-X)	X (0)	X (+X)

Notes: *Only Army Active Duty (AD) Service members (SMs) are included in this count. Army AD SMs discharged from hospitalization will be removed from this count upon their discharge.

DRSi Reports: COVID-19 Reported Deaths					
Date of Death	**Location**	**Service**	**Status**	**Age**	**Sex**
9/14/2021	Ft Example	Army	Dep	70	F
9/13/2021	Ft Example	Marine Corps	Ret	68	M
9/13/2021	Ft Example	Army	Dep	73	F
9/12/2021	Ft Example	Army	Ret	64	M

Legend: AD=Active Duty | Rec=Recruits | Dep= Dependent | Res= Reserves | Ret= Retired | NG= National Guard
Note: New DRSi reports are shown in BOLD.

Figure 1. Epi Curve of DRSi COVID-19 Reports for Service members and Other Beneficiaries by Reported Date of Onset, 10 February 2020 – DATE @ 1700

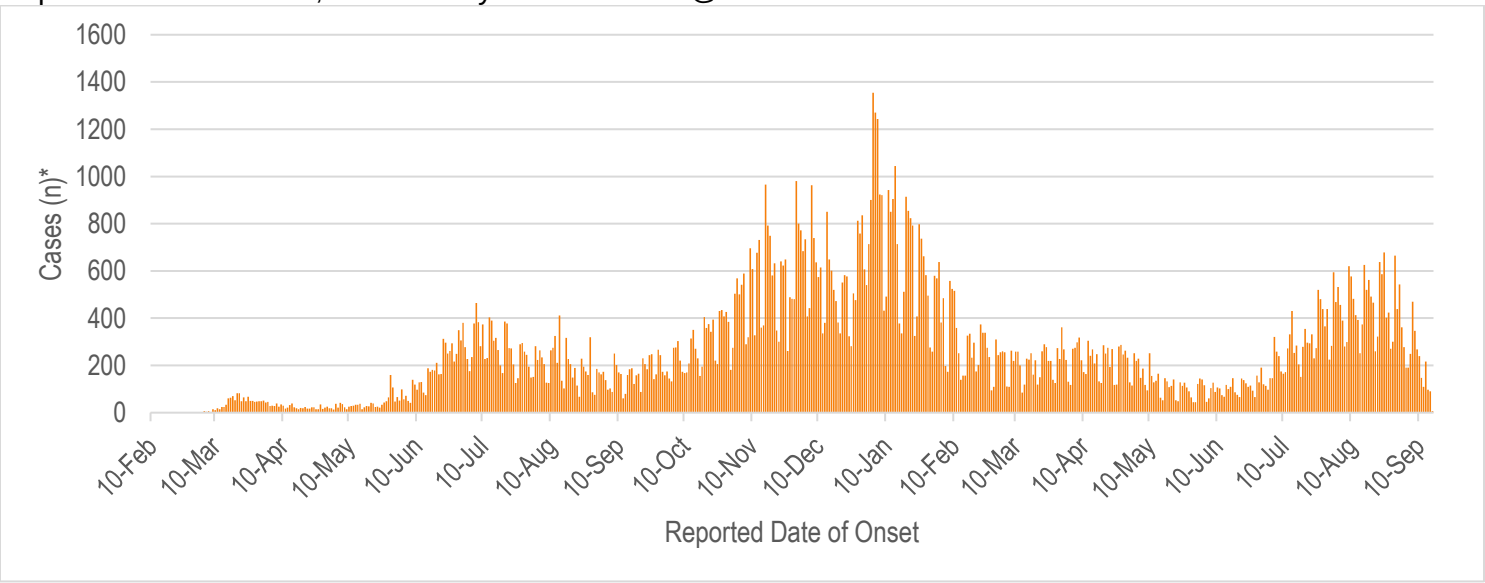
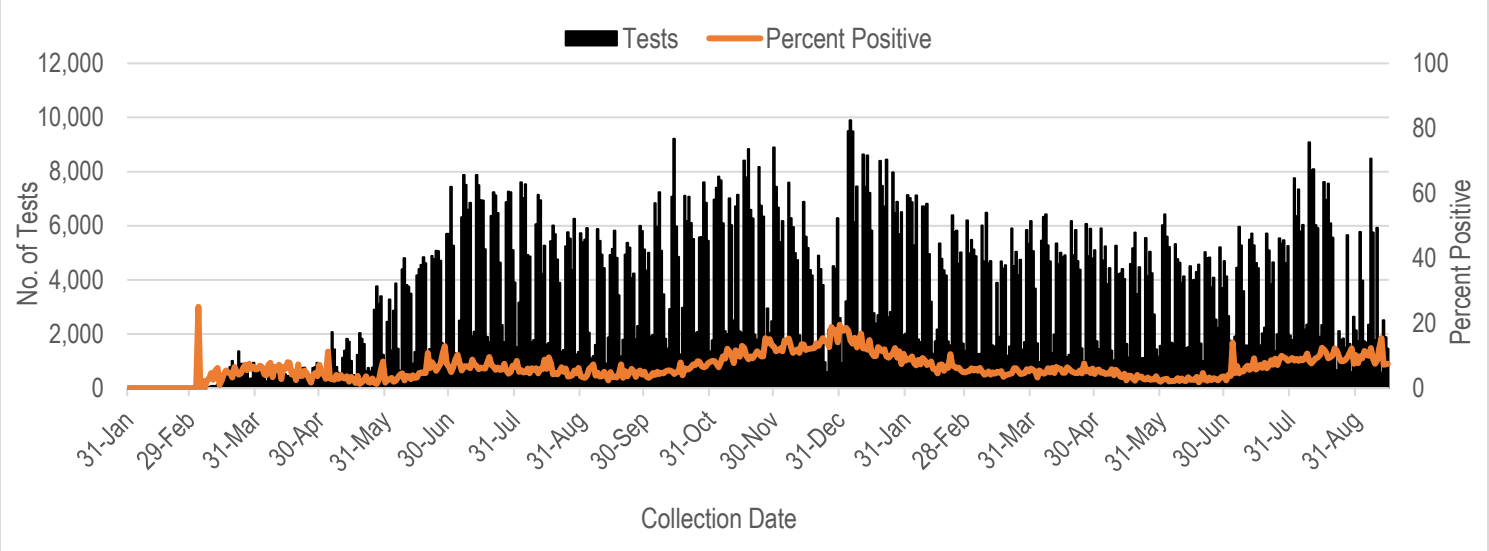


Figure 2. Number of COVID-19 laboratory tests performed and percent of positive COVID-19 results from Army installations, 31 January 2020 – DATE*



Notes: *Laboratory data current with results certified through DATE. Based on laboratory results from the Health Level 7 (HL7) and MHS Genesis, received daily Monday – Friday. Graph updated daily Monday – Friday in the evening for the next day's Army MEDCOM report.

DRSi Reports: Cases of COVID-19 Reported by Installation

Installation	Confirmed - Ever Hospitalized	Confirmed – Not Hospitalized	Probable	Deaths
Ft Example 1	X	X	X	X
Ft Example 2	X	X	X	X
Ft Example 3	X	X	X	X
Ft Example 4	X	X	X	X
Ft Example 5	X	X	X	X
Ft Example 6	X	X	X	X
Ft Example 7	X	X	X	X
Ft Example 8	X	X	X	X
Ft Example 9	X	X	X	X
Ft Example 10	X	X	X	X
TOTAL	**x**	**x**	**x**	**x**

Note: Cases may be removed during daily validation process

DRSi Reports: Cases of COVID-19 Reported by Beneficiary Category

Beneficiary Category	Confirmed - Ever Hospitalized	Confirmed – Not Hospitalized	Probable	Deaths
Active Duty	X	X	X	X
Cadet	X	X	X	X
Civilian	X	X	X	X
Dependent	X	X	X	X
NG/Reserves	X	X	X	X
Other	X	X	X	X
Recruit	X	X	X	X
Retired	X	X	X	X
Grand Total	**X**	**X**	**X**	**X**

Note: Other = Contractors, Foreign Nationals, Unknown Status

- **Public Health Investigation Notes - DATE**

Surveillance Summary – Since the previous report, a total of X new cases of COVID-19 were reported to the Disease Reporting System internet (DRSi) from X installations, with X confirmed – not hospitalized, X confirmed – hospitalized, and X probable cases. No deaths were reported. Ft Example reported the highest number of new cases (+X), of which X% (+X) occurred in Active Duty (AD) service members. Onset dates for all new cases ranged from 25 July to 13 September. Ft Example 2 reported X new cases (X confirmed – not hospitalized and X confirmed – hospitalized). Onset dates ranged from 1 – 15 September. Of the new cases reported, X% (+X) were symptomatic. No outbreak reports were submitted from any location.

Per DoD Force Health Protection Guidance for the Novel Coronavirus Outbreak Memorandum from the Office of the Under Secretary of Defense, all cases of COVID-19 must be reported to the Disease Reporting System internet (DRSi). DRSi is a Tri-Service passive surveillance system for selected diseases identified as reportable medical events. Cases are updated on a continuous basis by staff at Army MTFs. On 10 December 2020, the COVID-19 case definition was updated to concur with the Council of State and Territorial Epidemiologists and the Centers for Disease Control and Prevention's case definition for COVID-19. As these guidelines change, the DRSi reporting criteria will be updated as necessary, and the information displayed in this report may reflect those changes.

For additional information: usarmy.apg.medcom-aphc.mbx.disease-epidemiologyprogram13@mail.mil