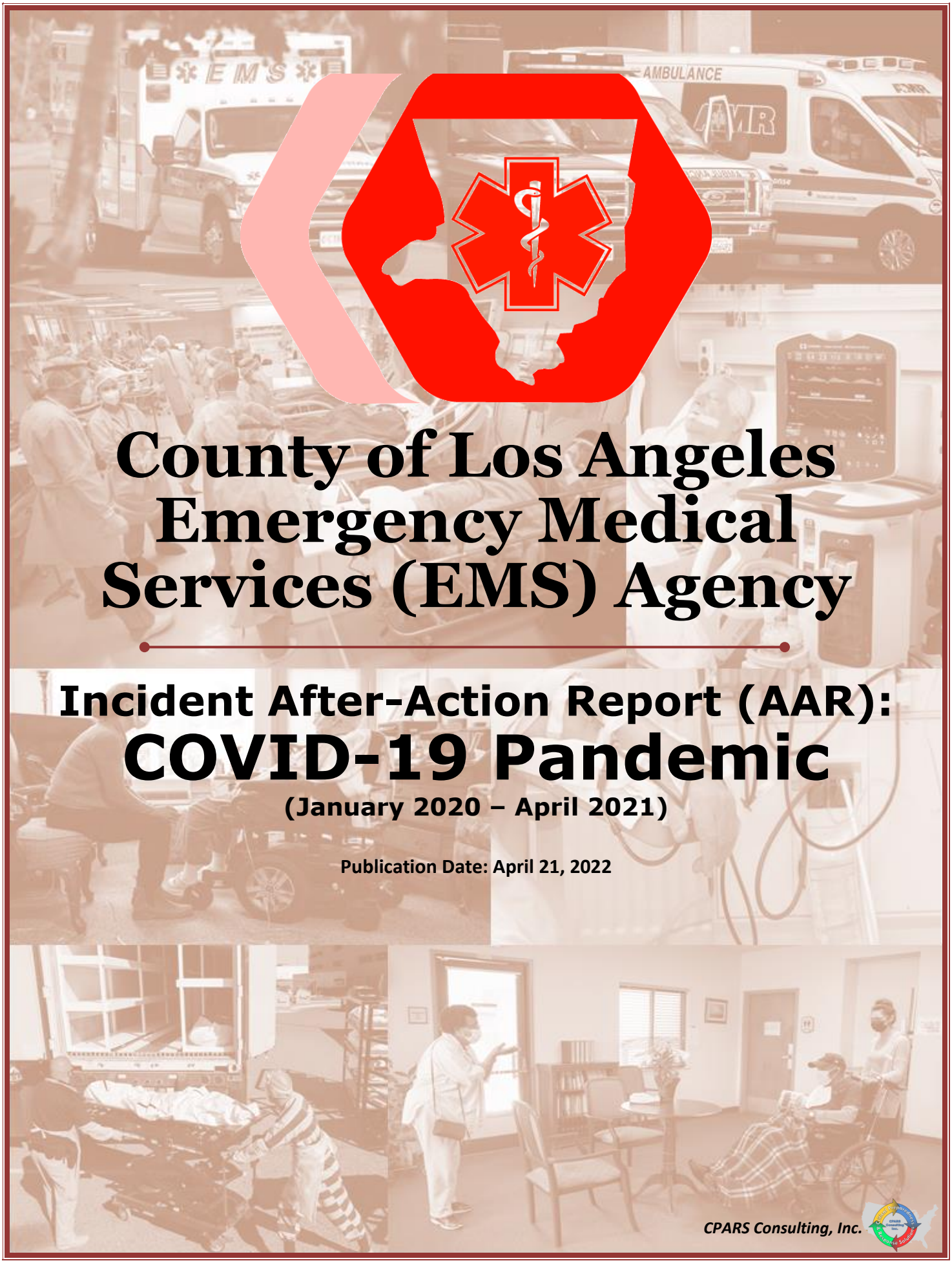


# County of Los Angeles Emergency Medical Services (EMS) Agency

## Incident After-Action Report (AAR):

# COVID-19 Pandemic

**(January 2020 – April 2021)**

**Publication Date: April 21, 2022**

*CPARS Consulting, Inc.*

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# Overview/Executive Summary

| | |
|---|---|
| **Organization** | **Emergency Medical Services (EMS) Agency**,<br>Department of Health Services,<br>County of Los Angeles |
| **Sponsor** | This project was sponsored by the Los Angeles County EMS Agency and funded in part by the Hospital Preparedness Program, U.S. Department of Health and Human Services (HHS), Assistant Secretary for Preparedness and Response (ASPR) grant funding. This award has been assigned the Federal Award Identification Number (FAIN) U3REP190604. |
| **Organization Type** | County Department/Operational Area (OA)-Level |
| **CalOES Administrative Region** | Southern Region |
| **Incident** | 2020 - 2021 Global Pandemic of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2); commonly referred to as Coronavirus or COVID-19 |
| **Type of Hazard** | Biological Agent, Pandemic, Public Health Emergency |
| **Incident Period/ Duration** | January 2020 - Ongoing (as of this report) |
| **Situation Overview** | The Los Angeles County Emergency Medical Services (EMS) Agency serves as the lead agency for the EMS System in the County and is responsible for coordinating all system participants, public and private sector, including EMS providers, hospitals, clinics, and other affiliated healthcare entities (i.e., surgical centers, dialysis centers, urgent care centers, home healthcare/hospice, and skilled nursing/long-term care facilities). As part of its responsibility, the EMS Agency facilitates disaster preparedness, response and recovery activities for healthcare entities in the County and administers the local and regional portions of the statewide medical and health mutual aid system. The pandemic created an unprecedented demand on the healthcare system, which was exacerbated by limited supplies of critical resources and personnel, alternate standards of care and the need for expansion/surge facilities, and regularly changing practices and policies as information about the virus, new strains, and ebbs and flows in the infection rates frequently changed. |

The EMS Agency's response to COVID-19 focused primarily on coordination activities with EMS System/Healthcare Coalition members as it related to pre-hospital treatment policies, resource coordination, information management, and load balancing. Much of that emergency work over the course of the pandemic was accomplished through a team of dedicated staff assigned to the EMS Agency's Department Operations Center (DOC), Medical Alert Center (MAC), and Central Dispatch Office (CDO).
The multitude of programs and services considered mission priorities that the EMS Agency supported during the pandemic included the following:

- Provided nearly 150,000,000 individual resources to hundreds of members of the EMS System/Healthcare Coalition to facilitate ongoing and expanded treatment of COVID-19 positive patients.
- Collected, analyzed, synthesized and distributed information to inform resource distribution decisions, policies and regulations, support State and County decision-making, and inform the facility-specific decisions by system/coalition members.
- Issued regulatory and policy directives to improve the efficiency of system/coalition member operations or waived requirements to reduce facility/provider burdens in light of the effects of COVID-19.
- Provided resources to and supported inter-agency coordination in the planning and set up of alternative care/surge sites (ACS) and decedent operations and then facilitated patient/decedent transfers between hospitals/healthcare facilities, ACS locations, and with the Medical Examiner-Coroner.
- Provided resources to and supported inter-agency coordination in the planning and set up of County- and Community Organized Relief Effort (CORE)-operated testing and vaccination sites, isolation and quarantine sites, and provided ongoing staffing support to those operations.
- Coordinated ambulance service and patient transport for *Project Roomkey*.
- Provided medical/EMT staffing for the *Housing for Health Street Medicine Wellness Intervention Program* for people experiencing homelessness.

**Summary of Demonstrated Strengths**

- The EMS Agency had a robust preparedness program prior to pandemic that had focused on all preparedness lifecycle activities, including planning, organizing, equipping, training and exercising which gave it a leg up in responding to the pandemic.
- Agency personnel felt their leadership sufficiently communicated with them regarding the impacts of the pandemic on Agency operations and

**Summary of Demonstrated Strengths (Cont.)**

potentially on their positions, actions the Agency was taking, and resources available to support employees.

- The collaborative approach to decision-making demonstrated by both the EMS Agency's administrative leadership and its medical leadership is to be commended. Agency leadership preferred to engage peers and subordinate advisors in decision-making and policy development.
- The Agency developed and utilized daily, multi-weekly, and weekly (as appropriate) Coordinated Action Plans (CAPs). Although there were some areas for improvement, the EMS Agency's CAPs were typically substantive, up-to-date, and developed at appropriate frequencies to match the needs of the evolving situation.
- The EMS Agency was a trusted resource to stakeholders, communicating the most up-to-date information as it became available.
- Of its own volition and despite being taxed in many other ways, the EMS Agency stepped up to support decedent operations beyond its traditional limited role. If the Agency is to continue this role in future emergencies, it should consider adding those capabilities to its existing emergency plans.
- While the Agency's pre-existing resource request process did not foresee the volume and complexity of the resource needs brought on by the pandemic, the Agency quickly adapted its process and revised its documentation to address the resource management challenges it was facing at the time.
- The Agency's decision to push resources to provider agencies rather than waiting on resource requests proved to be both popular and the most effective way to get critical resources to stakeholders in the least amount of time. Almost no resource went unused.
- Disaster Resource Center (DRC) hospitals were integral to the success of the EMS Agency's resource management strategy. The ten (10) DRCs that served as distribution centers exceeded expectations by establishing warehousing, inventory, storage, and distribution programs that effectively got critical resources to end users in their geographic areas.
- The EMS Agency created spreadsheets and algorithms to inform the equitable distribution of scarce resources. Most stakeholders felt the distribution of resources was fair and equitable.
- The Disaster Staging Facility (DSF)/warehouse team did an exceptional job of managing the volume of resources received and distributed over the course of the pandemic. In the absence of existing systems, they

created user-friendly and rudimentary but dependable tools and processes that facilitated effective inventory management.

- The DOC Operations and Logistics Sections, along with the Medical and Health Operational Area Coordination (MHOAC) and Regional Disaster Medical and Health Coordination (RDMHC) Programs, did a valiant job of seeking out, coordinating, and acquiring staff for facilities in need; doing the up-front leg work to ensure requests were reasonable, accurate and contained all required supporting documentation to be fulfilled by the State.
- The EMS Agency, the MHOAC and RDMHC Programs coordinated internally and worked together to achieve the objectives of the State's medical and health mutual aid system at a local (county) and regional level.
- The Agency created vendor lists for scarce supplies intended for use by EMS System/Healthcare Coalition members, as well as recommendations for acquiring or renting supplies and equipment as a kind gesture to help the Agency's partners in any way possible.
- Through years of effort, the EMS Agency had established excellent and close relationships with most members of the EMS System/Healthcare Coalition, including hospitals, EMS providers, MHOAC member departments/agencies, and the associations that represented those and other healthcare stakeholders.
- Stakeholders applauded the EMS Agency's coordination and conduct of informative and interactive conference and video calls amongst EMS System/Healthcare Coalition members on a regular and ongoing basis during the pandemic.

**Summary of Areas for Improvement**

- Department of Health Services (DHS) plans inaccurately implied the EMS Agency was responsible for DHS-wide emergency management and that the EMS Agency DOC was the DHS-wide DOC, which created confusion both internally and with partner agencies.
- The EMS Agency does not have the authority to enforce some of the policies it creates.
- The objectives in the EMS Agency's Coordinated Action Plans were not developed using the "SMART" methodology and thereby made it difficult to determine if the Agency's end goals were being achieved across Operational Periods.
- Employees risked burnout because protocols related to mental and emotional health were not prioritized or enforced. Additionally, the failure to appoint a Safety Officer or assign those responsibilities placed

**Summary of Areas for Improvement (Cont.)**

the Agency's personnel and operations at risk during a time of increased threat.

- The EMS Agency had ceded its public information responsibilities to its parent department, the Department of Health Services, which left it at the mercy of DHS when its policies were brought into question by the media, County Board of Supervisors, and others, which could then only be addressed by its Director who was already stretched thin.
- The EMS Agency's current approach to communications with EMS System/Healthcare Coalition members is too rooted in informal relationships rather than a reliable structure. Additionally, the lack of an up-to-date and automated facility contact database jeopardized communications and coordination with EMS System/Healthcare Coalition members.
- Frequent and sometimes duplicative (with other agencies) information and data requests, such as polls and surveys, were frequently burdensome to stakeholders.
- There was a lack of situational awareness between the EMS Agency DOC and its DSF/warehouse. The DSF/warehouse was also significantly understaffed.
- Inconsistent shift change procedures sometimes impacted the continuity of efforts and situational awareness across shifts and also fueled conflicts regarding priorities and procedures across shifts.
- Members of the EMS System/Healthcare Coalition, as well as stakeholders outside of it, were initially unclear about what resource request process or mutual aid channel to follow to acquire resources.
- There was minimal documentation kept for the purposes of resource tracking and return, which made it difficult to verify resource usage and recoup resources needing to be returned.
- The time and effort put into the planning, resourcing, and operations of most alternative care/surge facilities was not commensurate to their ultimate value to the pandemic response.
- The RDMHC program needs more staff to meet the demand for resources, information, load balancing, and consultation during emergencies.
- Lack of transparency into the State's resource allocation and distribution processes made it difficult for Region I and Los Angeles County to anticipate deliveries/deployments and track resources.
- The EMS Agency could have facilitated more cross-sector communications and coordination to help arbitrate conflicts.

- A joint training and exercise program for Medical and Health Operational Area Coordination (MHOAC) program departments had not been created prior to the pandemic affecting the preparedness of the collective MHOAC program during the response.
- DRC hospitals carried a significant portion of the EMS Agency's proactive resource management strategy without resources or guidance from the EMS Agency.

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# I. Introduction

## EMS Agency Overview

The Los Angeles County Emergency Medical Services (EMS) Agency serves as the lead agency for the EMS system in the County and is responsible for coordinating all system participants in its jurisdiction, encompassing both public and private sectors. The system participants with which the EMS Agency coordinates includes EMS providers (e.g., fire department-based EMS services, private EMS providers), hospitals, clinics, and other affiliated healthcare entities (i.e., surgical centers, dialysis centers, urgent care centers, home healthcare/hospice, and skilled nursing/long-term care facilities[1]). Los Angeles County has one of the largest EMS systems in the nation and, as one of the first to be developed, is known nationally and worldwide as a leader in the field of prehospital care. The system utilizes over 18,000 certified EMS personnel employed by fire departments, law enforcement, ambulance companies, hospitals and private organizations to provide lifesaving care to those in need 24 hours a day, seven days a week.

The EMS Agency is responsible for planning, implementing, monitoring and evaluating the effectiveness of the EMS system in Los Angeles County. In California, counties have been given the primary responsibility for assuring that EMS systems are developed and implemented and for designating a local EMS agency to oversee said systems. The role of the EMS Agency includes establishing policies, addressing the financial aspects of system operation, and making provisions for the collection, analysis, and dissemination of EMS related data to system participants and other partners. In addition, the EMS Agency is responsible for establishing operational policies and procedures; designating EMS base hospitals, and specialty care centers, such as trauma centers; developing guidelines, standards and protocols for patient treatment and transfer; implementing a prehospital Advanced Life Support (ALS) program; certifying and accrediting prehospital medical care personnel; and approving EMS personnel training programs.

As part of its responsibility, the EMS Agency also facilitates disaster preparedness, response and recovery activities for healthcare entities in the County. The disaster preparedness, response and recovery work is accomplished through Hospital Preparedness Program (HPP) activities as well as administration of the local Medical Health Operational Area Coordinator (MHOAC) and Regional Disaster Medical Health Coordination (RDMHC) Programs, which are both elements of the statewide medical and health mutual aid system. The EMS Agency's response to COVID-19 focused primarily on coordination activities with hospitals (including thirteen [13] Disaster Resource Centers [DRCs][2]), EMS provider agencies, the Community Clinic Association of Los

[1] Traditionally, the EMS Agency supports skilled nursing and long-term care facilities during emergencies along with other healthcare facilities. As will be discussed in this report, the Los Angeles County Department of Public Health (DPH) assumed this responsibility during the pandemic.

[2] Los Angeles County's DRC hospitals include: California Hospital, Cedars-Sinai Medical Center, Children's Hospital Los Angeles, Henry Mayo Newhall, Kaiser-Sunset, LAC-Harbor-UCLA, LAC-USC Medical Center, Long Beach Memorial Medical Center, PIH Health Whittier Hospital, Pomona Valley Medical Center, Providence St. Joseph Medical Center, St. Mary Medical Center, and UCLA Medical Center.

Angeles County (CCALAC), and the California Association of Health Facilities (CAHF) as it related to pre-hospital treatment policies, resource coordination, information management, and load balancing. Much of that emergency work over the course of the pandemic was accomplished through a team of dedicated staff assigned to the EMS Agency's Department Operations Center (DOC)—renamed the Medical Coordination Center (MCC) following the period reviewed by this report.

The EMS Agency is an agency under the Los Angeles County Department of Health Service (DHS), which also operates multiple public hospitals and clinics in the County. DHS, along with its sister departments, the Los Angeles County Department of Public Health (DPH) and the Los Angeles County Department of Mental Health (DMH), are collectively organized into the Los Angeles County Alliance for Health Integration (AHI).[3] The EMS Agency, under its authority for the MHOAC program, coordinates closely with DPH, DMH, as well as with DHS' administration (commonly referred to as Health Services Administration [HSA]).

## Incident Context

The COVID-19 pandemic is an ongoing global pandemic of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). The World Health Organization declared a Public Health Emergency of International Concern for COVID-19 on January 30, 2020 and later declared a pandemic on March 11, 2020. As of the time of this report, nearly 200 million cases had been confirmed worldwide with more than 4.2 million deaths attributed to COVID-19, making it one of the deadliest pandemics in history.

Ten of the first twenty confirmed COVID-19 cases in the United States occurred in California, one of the first of which was confirmed at Los Angeles International (LAX) Airport on January 22, 2020. As the disease rapidly spread throughout the State, the Governor proclaimed a State of Emergency on March 4, 2020, which remained in effect beyond the period reviewed in this report. A mandatory statewide stay-at-home order was issued on March 19, 2020 that was not terminated until January 25, 2021. On June 18, 2020, the Governor ordered a statewide mask mandate requiring citizens to wear masks or other coverings in most public spaces with a few exceptions.

A second and more severe wave of COVID-19 infections then occurred in late December 2020 through February 2021. On December 30, 2020, a confirmed case of a new, more contagious SARS-CoV-2 variant, known as the Epsilon Variant, was reported in California and over the months that followed it became the dominant strain among those infected. As multiple vaccines were approved and distributed for emergency use, the number of infections decreased by nearly 90% between January and June 2021. On June 15, 2021, the State fully reopened the economy citing positive statistics and improving data trends. However, even with California's relatively high vaccination rates, multiple subsequent and more contagious variants (e.g., "Omicron Variant") would result in additional surges in infections amongst the unvaccinated population,

[3] The AHI—formerly the Los Angeles County Health Agency—was created in February 2020 by the Los Angeles County Board of Supervisors to align and efficiently implement prevention, treatment, and healing initiatives that require the collaborative contributions of the three County health departments (i.e., DHS, DPH, DMH).

which occurred after the period covered by this report. As of this report, California had reported more than four million confirmed cumulative cases and nearly 65,000 deaths in the state.

The pandemic resulted in significant social and economic disruption, including the largest global recession since the Great Depression. It led to widespread supply shortages exacerbated by panic buying, agricultural disruption and food shortages, and the closure or cancellation of public events, schools, and businesses worldwide. Misinformation, particularly circulated through social media and mass media, became rampant. As it related to the Los Angeles County EMS system, the pandemic created an unprecedented demand on the healthcare system, which was exacerbated by limited supplies of critical resources and personnel, alternate standards of care and the need for expansion/surge facilities, and regularly changing practices and policies as information about the virus, new strains, and ebbs and flows in the infection rates frequently changed. During the timeframe reviewed by this report (January 2020 – April 2021), the EMS Agency essentially experienced the pandemic in three phases:

- **Phase I:** The initial response to the pandemic, which was characterized by changing and conflicting information, supply shortages, and a slow build-up of cases with peaks the EMS System/Healthcare Coalition was able to weather.
- **Phase II:** Beginning in mid-October 2020, the number of COVID-19 cases began to skyrocket at a rate nearly five-times (5x) the average of the previous nine months and continued to a peak in late-December 2020 and early January 2021. This peak genuinely stressed the EMS System/Health Coalition in Los Angeles County for the first time; requiring changes to standards of care, resource prioritization, and implementation of steps along the continuum of crisis care. While supplies were more accessible, the number of cases quickly consumed them creating additional resource shortages, which were then exacerbated by staffing shortages in the healthcare/medical field.
- **Phase III:** As vaccines were approved for emergency use in December 2020, and widespread distribution began soon thereafter, the number of new weekly cases declined by ninety-eight percent (98%) between January and June 2021. This third phase allowed the health and medical field to recoup, review capabilities, and stock up on supplies. Most surge operations and emergency policy directives were rescinded during this time.

The pandemic continued to progress beyond the timeframe reviewed for this report. However, the processes and systems instituted by the EMS Agency to support the EMS System/Healthcare Coalition during the aforementioned three phases, continued to prove effective and useful during future peaks in cases caused by new variants up to the writing of this report.

## Report Purpose

This report is intended primarily for use by the EMS Agency to memorialize the actions taken by the Agency in response to the pandemic, and to review the actual or perceived effectiveness of those actions. This report was intended to be somewhat of a self-assessment process guided and facilitated by the authors. Therefore, it was with the advantage of hindsight that EMS Agency personnel and stakeholders from the EMS system and partner organizations in Los Angeles County were able to identify lessons, alternate approaches, or opportunities for improvement

derived from their reflections and, to a lesser extent, the observations of the authors. Those items are included as *Notable Strengths* or *Areas for Improvement* in each topical category of the report, as appropriate, and are intended for the EMS Agency's awareness and consideration. They do not imply an error occurred or a corrective action is necessary, but rather suggest alternate perspectives. Likewise, this report does not bind the EMS Agency to any corrective actions, but is intended to inform the Agency's improvement planning goals and objectives moving forward.

## Report Structure

This report is organized into four sections:

1) This introductory section.
2) A timeline of major events and actions that tells the EMS Agency's story chronologically over the period of time covered by this report. The timeline is intended to be a quick reference that illustrates the momentum, magnitude, and duration of the EMS Agency's response and recovery efforts. The entries are not intended to represent every action the EMS Agency took, but rather items of significance.
3) A selection of narratives organized into five (5) categories that tell the EMS Agency's story more in-depth by topic, and present notable strengths and areas for improvement related to those categories. Each entry in the aforementioned timeline is color-coded to match the associated topical categories and detailed narratives in Section 3, which is organized into the following five categories:
    I. Operational Response
    II. Policy, Priorities and Information Management
    III. Resource Management
    IV. Medical Health Operational Area Coordinator (MHOAC) and Regional Disaster Medical Health Specialist (RDMHS) Programs
    V. EMS System/Healthcare Coalition Support

    Each individual narrative within a category in Section 3 is intended to provide a stand-alone understanding of a topic. The authors of this report anticipated that readers will likely review the specific sections most applicable to their purpose and/or interests. As such, each narrative may provide background on the EMS Agency's circumstances to put topics in context and defines acronyms on the first use. Narratives do not, however, reiterate other narratives; though cross-references to other narratives are provided to direct the reader's attention to additional information or context, as necessary.
4) A brief conclusion.

In addition to this report, the EMS Agency was also provided a template Improvement Plan (IP), which included a listing of the areas for improvement and associated recommendations included in this report, which it may choose to populate with the corrective actions it intends to implement, based on this report's findings, to improve its future emergency preparedness.

# Methodology

This review is intended to be a useful tool for identifying the EMS Agency's strengths and opportunities for improvement up to a certain point in time; in this case, from the start of the pandemic through April 2021. The approach employed by the CPARS Team included research, data gathering and interviews, feedback, and re-evaluation mechanisms. The mechanism for the EMS Agency to provide CPARS with feedback on the developing report was of particular importance because: 1) the results of the EMS Agency's response and recovery efforts were still evolving during the writing of this report; and 2) EMS Agency personnel had equally valuable insights into the Agency's response as did the CPARS Team.

### Research Phase and Work Plan Development

During the first phase of this effort, the CPARS Team reviewed thousands of documents provided by the EMS Agency and others gathered through open-source research. CPARS also issued a survey open to all EMS Agency employees to solicit their feedback on a variety of topics related to the Agency's response efforts and employee support programs. The review at this phase of the effort helped the CPARS Team develop a baseline understanding of the EMS Agency's response upon which to structure more direct data gathering efforts. CPARS then developed a data gathering Work Plan identifying information gaps and proposed strategies for addressing the gaps (i.e., who needed to be engaged, how, and when) including the lines of questioning and topics necessary to complete the EMS Agency's COVID-19 story. The Work Plan was presented to the EMS Agency for review.

### Individual and Group Interviews

Based on the Data Gathering Work Plan, the CPARS Team conducted 10 group interview sessions with more than 40 EMS Agency staff, conducted multiple one-on-one follow up interviews, and issued a number of email requests for information between October and November 2021. All sessions were conducted virtually. Some individuals participated in more than one session in order to contribute perspectives on multiple topics. The purpose of all engagements was for participants to tell their story from their perspective so the CPARS Team could fully and accurately document the EMS Agency's response and recovery efforts. Because a significant amount of documentation was reviewed in preparation for these engagements, questioning was typically very specific and intended to fill information gaps.

### EMS System/Healthcare Coalition Workshops

In November and December 2021, CPARS facilitated four (4) workshops on behalf of the EMS Agency to solicit feedback on the EMS Agency's performance during the pandemic from the members of the EMS System/Healthcare Coalition it serves. Respectfully, the EMS Agency recused itself from participation in the workshops to give participants an opportunity to speak openly and honestly without fear of rebuttal or retaliation. Separate workshops were held for the following groups:

1) EMS Providers (public and private sector)
2) Hospitals (public and private sector)
3) Public Agencies that Participate in the MHOAC Program (e.g., DPH, DMH, City of Long Beach Department of Health and Human Services [LBHHS], City of Pasadena Public Health Department, Los Angeles County Office of Emergency Management [OEM])

4) Other Affiliated Healthcare Facilities (i.e., clinics, surgical centers, urgent care centers, dialysis centers, home healthcare/hospice)

Each workshop focused on gathering feedback on the EMS Agency's performance during the COVID-19 pandemic up until April 2021 as it related to three topics: a) information management and coordination; b) resource management and coordination, and c) sector-specific policies and protocols. The workshops offered a forum for vetting, considering, and discussing shared experiences and lessons related to each sector's engagement with the EMS Agency during the pandemic. The results from these external perspectives gathered through the four workshops are presented under *Category 5: EMS System/Healthcare Coalition Support*.

**Report Development**

During this phase, the CPARS Team analyzed the data and information gathered. Since the CPARS Team was comprised of members with a wide variety of experiences and expertise, collective discussion often resulted in better conclusions or solutions than its members would have reached individually. In some cases, this team dialogue led to the re-evaluation of data/information or additional research or data gathering. The EMS Agency was also provided an opportunity to vet the facts presented in the report and offer additional feedback, but respectfully did not challenge the analyses or any of the conclusions presented. The integrity and independence of the review was of utmost importance to the CPARS Team. Each comment/question received from the EMS Agency was reviewed and adjudicated by the CPARS Team. Ultimately, and after multiple rounds of review, the completed report was provided to the EMS Agency on April 21, 2022.

## Assumptions

- The COVID-19 global pandemic presented unprecedented conditions for this generation of EMS Agency personnel and partners in the healthcare community. While response and recovery plans existed, some requirements could not have been anticipated. As a result, this report evaluates the EMS Agency's response against its own intended outcomes. The EMS Agency and other representatives told the authors what they hoped to achieve, how they intended to achieve it, and whether they felt they met the objective(s). It was essentially the CPARS Team's role to lead the EMS Agency and its partners through a self-assessment process and to create an open and effective environment for doing so.
- This report does not focus on any one individual, program, or division. Rather, the report attempts to focus on strengths and opportunities for improvement applicable across the entire EMS Agency organization. None of this report is intended to find fault or construe blame.
- Results found in this report are based on individual recollections of what occurred, when, why, and how. The authors have attempted to present information objectively, but also recognize individuals' perceptions were, in many cases, just as important as reality. Those engaged in this process were always encouraged to share their story from their personal perspective.
- Where there were differing perspectives among the stakeholders, this report attempts to capture the spectrum of recollections related to the given topic, but does not make a determination as to which perspective or recollection was "right" or "wrong."

- All claims related to physical health, psychological or emotional feelings or distress were assumed to be legitimate.
- Anonymity was essential to obtaining the unvarnished and candid input of those engaged. It was also important in the writing of this report to maintain an Agency-wide perspective not construed as any one person's perspective. As such, the topical narratives have not been written to cite their sources unless specifically necessary.
- Where documentation offered sufficient insight into what happened, the CPARS Team did not reiterate those topics in interviews and may not have engaged individuals in further discussion; assuming individuals' recollections were clearer and more complete when they documented them than they would have been at the time of this report's data collection phase (nearly two years after the start of the pandemic).
- The narratives in this report are a result of those interviewed and the documentation reviewed and are not inclusive of every involved department/group/individual.
- Effects of the pandemic and the EMS Agency's response to them were still evolving at the time of this report's completion and some long-term implications of the pandemic and the Agency's response and recovery may not be known for years, if ever. The authors have attempted to identify these situations where appropriate and it may be necessary for annexes to be added to this report in the future.

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# II. Timeline of Events and Actions

The following timeline illustrates the momentum, magnitude, and duration of the EMS Agency's response and recovery efforts. Entries are not representative of every event that occurred or action the EMS Agency took, but rather items of significance. Each entry in the timeline is color coordinated to the associated topical categories in Section 3, which includes summary narratives, demonstrated strengths, and associated considerations for improvement.

| Events/Actions | Date | Events/Actions |
|---|---|---|
| State of California Proclamation of Emergency | 03/04/20 | |
| | 03/05/20 | EMS Agency begins "pushing" Personal Protective Equipment (PPE) from its warehouse to EMS System/Healthcare Coalition members. |
| EMS Agency Policy #1142 notifies EMS providers of the 11 prehospital care policy waivers they may request during COVID-19. | 03/12/20 | |
| | 03/13/20 | Presidential Declaration of National Emergency |
| Public closures begin. | 03/16/20 | |
| | 03/16/20 | EMS Agency DOC is activated to Level I. |
| EMS Agency Medical Director begins weekly update calls with healthcare entities. | 03/16/20 | |
| | 03/16/20 | Long Beach Convention Center is established as a second Disaster Staging Facility (DSF) to support the "push" of PPE resources to EMS System/Healthcare Coalition members. |
| California's Governor issues mandatory "Stay-At-Home" Order. | 03/19/20 | |
| | 03/20/20 | CDPH releases AFL 20-26 providing hospitals a temporary waiver of regulatory requirements due to COVID-19. |
| California receives Presidential Declaration of Major Disaster. | 03/22/20 | |
| | 03/26/20 | EMS Agency begins supporting County Quarantine and Isolation sites |
| County DHS and OEM distribute information regarding how to track costs and provide tracking codes. | 03/27/20 | |

**Timeline Color Coding Key**

| | |
|---|---|
| General Event/Incident (Not EMSA Specific) | Resource Management |
| Operational Response | MHOAC & RDMHC Programs |
| Policy, Priorities & Information Management | EMS System/Healthcare Coalition Support |

| Events/Actions | Date | Events/Actions |
|---|---|---|
| | 03/27/20 | U.S. Naval Medical Ship *Mercy* arrives in Port of Los Angeles. |
| USNS *Mercy* Agency Representatives integrate into the MAC to coordinate patient transfers. | 03/28/20 | |
| | 03/30/20 | COVID-19 Polling begins daily at 15:00 hours. |
| EMS Agency DOC is fully activated and develops first Coordinated Action Plan (CAP). | 03/30/20 | |
| | 04/02/20 | Decedent preparedness planning with hospitals begins |
| Support begins for programs focused on people experiencing homelessness (in coordination with LAHSA and the City of Los Angeles) | 04/03/20 | |
| | 04/06/20 | COVID-19 ICU Surge Capacity weekly polling begins each Monday at 10:00 hours |
| Weekly Decedent Management polling begins on Tuesdays at 10:00 hours | 04/08/20 | |
| | 04/11/20 | CDPH Releases AFL 20-36.1 providing guidance for the handling of used N95 respirators so they can be decontaminated and reused. |
| Los Angeles Surge Hospital (LASH) becomes operational. | 04/13/20 | |
| | 04/16/20 | Mobile Medical System (MoMS) is deployed to Huntington Hospital. |
| EMS Agency issues Policy #845 to guide decisions related to the evaluation and transport of patients with mild respiratory illness during COVID-19. | 04/19/20 | |
| | 04/21/20 | EMS Agency approves Local Optional Scope of Practice (LOSOP) to expand EMT, Advanced EMT, and paramedic treatment options at static locations. |
| Number of new weekly COVID cases nearly doubles from the previous week (3,293 to 6,174) | 04/26/20 | |
| | 04/30/20 | County Testing Sites become operational for the general public. |
| Daily DOC Meetings/Briefings transition from Noon to 16:30 hours | 04/30/20 | |

**Timeline Color Coding Key**

| | |
|---|---|
| General Event/Incident (Not EMSA Specific) | Resource Management |
| Operational Response | MHOAC & RDMHC Programs |
| Policy, Priorities & Information Management | EMS System/Healthcare Coalition Support |

| Events/Actions | Date | Events/Actions |
|---|---|---|
| | 05/01/20 | FDA grants an emergency-use authorization (EUA) to Remdesivir. |
| USNS Mercy Agency Representatives in the MAC are demobilized. | 05/07/20 | |
| | 05/15/20 | LACoFD transitions operations of County drive-through Testing Sites to personnel coordinated by the EMS Agency. |
| Coordination begins with Imperial County to support transfers of COVID-19 patients to Region I (Los Angeles County). | 05/26/20 | |
| | 05/30/20 | Protests for Civil Justice begin throughout Los Angeles County. |
| Number of new weekly COVID cases nearly doubles from the previous month (6,174 to 10,232). | 05/31/20 | |
| | 06/01/20 | An additional staff member is assigned to the RDMHC program as a DSW to assist the RDMHS who is quickly becoming overwhelmed |
| EMS Agency pauses transfers from Imperial County to Los Angeles County to determine availability and strategy. | 06/05/20 | |
| | 06/08/20 | EMS Agency reopens Los Angeles County to transfers from Imperial County. |
| MoMS is demobilized from Huntington Memorial Hospital and deployed to Pomona Hospital. | 06/17/20 | |
| | 06/18/20 | California institutes a mandatory face covering requirement. |
| EMS Agency makes all private hospitals responsible for coordinating transportation for all transfers. | 07/18/20 | |
| | 07/19/20 | Number of new weekly COVID cases hits first peak of 22,690. |
| EMS Agency begins responding to State Operational Area Polls at 10:00 hours every Monday and Thursday. | 07/24/20 | |
| | 08/20/20 | County DHS issues additional instructions and project codes to capture costs for specific programs. |
| California Governor issues “Blueprint for a Safer Economy” guidelines, metrics, and tiered rating system. | 08/28/20 | |

**Timeline Color Coding Key**

| | |
|---|---|
| General Event/Incident (Not EMSA Specific) | Resource Management |
| Operational Response | MHOAC & RDMHC Programs |
| Policy, Priorities & Information Management | EMS System/Healthcare Coalition Support |

| Events/Actions | Date | Events/Actions |
|---|---|---|
| | 09/08/20 | DOC action planning transitions from daily to twice weekly on Mondays and Thursdays. |
| Number of new weekly COVID cases reaches a low of 5,951. | 09/13/20 | |
| | 09/17/20 | Cal/OSHA issues benefits communication requirements for all employers (public and private). |
| CA Emergency Medical Services Authority (EMSA) approves the EMS Agency's LOSOP request to allow paramedics to administer the COVID-19 vaccine. | 09/21/20 | |
| | 09/21/20 | Paramedic Training Program for vaccine administration is launched. |
| The MoMS is demobilized from Pomona Hospital and returned to the DSF. | 09/24/20 | |
| | 10/01/20 | Federal allocations of Remdesivir stop and hospitals can now purchase unrestricted quantities directly from suppliers. |
| CDPH approves Program Flexibility requests for County Operations/Co-Operated Facilities, including LAC/Harbor UCLA Medical Center, LAC/Rancho Los Amigos National Rehabilitation Center, LAC+USC Medical Center, and LAC/Olive View-UCLA Medical Center. | 10/1/2020 – 10/08/2020 | |
| | 10/05/20 | DOC Action Planning transitions from twice weekly to weekly on Mondays. |
| Number of new weekly COVID cases skyrockets over a month from 6,636 to 31,915. | 10/18/20 – 11/29/20 | |
| | 11/16/20 | California updates mandatory face covering requirements. |
| California issues Limited Stay-at-Home Order. | 11/19/20 | |
| | 12/03/20 | DOC Action Planning transitions from weekly back to twice Weekly (Mondays and Thursdays). |
| Hospitals and EMS providers feel the effects of the growing peak in cases (e.g., exceeded capacity, resource shortages, load balancing, diversion, crisis care, Program Flex). | 12/07/20 | |

**Timeline Color Coding Key**

| | |
|---|---|
| General Event/Incident (Not EMSA Specific) | Resource Management |
| Operational Response | MHOAC & RDMHC Programs |
| Policy, Priorities & Information Management | EMS System/Healthcare Coalition Support |

| Events/Actions | Date | Events/Actions |
|---|---|---|
| | 12/07/20 | Since the start of the pandemic 155 Healthcare Facilities in Los Angeles County have requested Program Flex waivers from CDPH and 94 were approved. |
| First doses of vaccine begin to arrive in Los Angeles County. | 12/13/20 | |
| | 12/18/20 | EMS Agency COVID Surge Directive #1: EMS Transport of Patients 17 Years and Younger to Pediatric Medical Centers. |
| EMS Agency COVID Surge Directive #2: DNR and POLST patients requesting only comfort-focused care will not be transported. | 12/21/20 | |
| | 12/22/20 | EMS Agency COVID Surge Directive #3: Suspension of All EMS Provider Service Area Boundaries. |
| EMS Agency COVID Surge Directive #4: EMS Offloads of ALS and BLS Patients to ED Waiting Rooms. | 12/23/20 | |
| | 12/23/20 | EMS Agency COVID Surge Directive #5: Diversion of ALS Patients Due to ED Saturation Extended from 1 Hour to 2 Hours. |
| CDPH AFL 20-21 issued: Crisis Care Continuum Guidelines. | 12/28/20 | |
| | 12/28/20 | DOC hours of operation increased to 8am – 6pm everyday because of the COVID surge. |
| Number of new weekly COVID cases reaches a second peak of 103,991. | 12/28/20 | |
| | 01/01/21 | County DMH Order to transport behavioral health holds (5150s) to certain psychiatric urgent care centers. |
| EMS Agency COVID Surge Directive #6: EMS Not to Transport Cardiac Arrest Patients that Don't Experience ROSC in the Field, and #7: Only Administer Supplemental Oxygen when Saturation is Below 90%. | 01/04/21 | |
| | 01/05/21 | CDPH issues CDPH Hospital Surgery Health Order. |
| EMS Agency begins supporting County Vaccination Sites. | 01/05/21 | |

**Timeline Color Coding Key**

| | |
|---|---|
| General Event/Incident (Not EMSA Specific) | Resource Management |
| Operational Response | MHOAC & RDMHC Programs |
| Policy, Priorities & Information Management | EMS System/Healthcare Coalition Support |

| Events/Actions | Date | Events/Actions |
|---|---|---|
| | 01/10/21 | EMS Agency will receive $30,000 from CDPH for training for Paramedics to administer the vaccine. |
| Number of new weekly COVID cases steadily declines each week and ultimately by 98% (from 103,991 to 1,524). | 1/11/21 – 05/23/21 | |
| | 01/19/21 | EMS Agency issues Policy #1143 to provide instructions regarding patient management and destination decisions (diversion). |
| CDPH Hospital Surgery Health Order rescinded. | 02/05/21 | |
| | 02/21/21 | EMS Agency COVID Surge Directives #1, #2, #6, and #7 are rescinded. |
| DOC Action Planning transitions from daily back to twice weekly on Mondays and Thursdays. | 02/22/21 | |
| | 03/15/21 | DOC Action Planning transitions from twice weekly back to weekly on Mondays. |
| EMS Agency priorities transition toward demobilization and return of resources. | 03/22/21 | |
| | 04/01/21 | EMS Agency DOC is deactivated. |
| California “Reopens” With businesses at full capacity and most restrictions lifted for those vaccinated. | 06/15/21 | |
| | 06/27/21 | As of June 27, 2021, there had been a total of 1,249,065 total confirmed COVID-19 cases in Los Angeles County and nearly 24,474 deaths. |

**Timeline Color Coding Key**

| | |
|---|---|
| General Event/Incident (Not EMSA Specific) | Resource Management |
| Operational Response | MHOAC & RDMHC Programs |
| Policy, Priorities & Information Management | EMS System/Healthcare Coalition Support |

# III. Narratives and Analysis

## Category 1: Operational Response

As defined in this report, operational response includes the actions, processes, and resources employed by the EMS Agency that enabled it to do its job during the pandemic—manage crises, coordinate resources and information, establish emergency directives. For the Agency to perform those functions, foundational actions and programs had to be in place. Therefore, the narratives in this category describe the organizational structure established by the EMS Agency to manage its response to the COVID-19 pandemic, the role pre-existing emergency planning and preparedness played in dictating the organization's capabilities, and identifies the programs used to sustain emergency operations. This section assesses the Agency's use of protective measures, continuity strategies, human resources (HR) policies, public information, and fiscal management protocols that enabled the Agency's emergency operations, including keeping the Agency itself operating during the pandemic, and positioned it toward recovery or a return to normal operations. Many of the operational response practices discussed in this section continued to be employed by the EMS Agency beyond the time reviewed in this report, as the Agency continued to address the pandemic impact on the medical/healthcare sector and will continue supporting efforts to return to normal or a new normal for months and potentially years after the publishing of this report.

### 1.1 Summary

**Emergency Preparedness**

As an element of a heavily regulated industry, the EMS Agency is the author of, a party to, or the beneficiary of many policies and standards directed at governing the healthcare and medical industry during times of crisis. A wide range of policies address medical treatment and transport, standards of care, facility requirements, and other aspects of pre-hospital and hospital-based emergency healthcare. Many of those regulations and guiding principles come from the federal government (e.g., Hospital Preparedness Program [HPP], Centers for Medicare and Medicaid Services [CMS]), the State of California (e.g., California Department of Public Health [CDPH], California Emergency Medical Services Authority [EMSA], California Division of Occupational Safety and Health [Cal/OSHA]), and local sources (e.g., EMS Agency, DPH Health Facilities Inspection Division [HFID]). The industry has also adopted general emergency management best practices and principles, such as those in the National Incident Management System (NIMS) and California's Standardized Emergency Management System (SEMS). The healthcare field has modified some of these generic standards to meet the needs of the industry. For example, it made alterations to the five (5) functional elements of the Incident Command System (ICS) structure to accommodate medical and health needs, which the industry refers to as HICS or "Hospital (Healthcare) Incident Command System." Additionally, some regulations required a baseline for training and exercises among healthcare facilities. For example, the HPP grant and *The Joint Commission* (hospital accreditation body) required hospitals to participate in regular emergency preparedness drills and trainings. Prior to the pandemic, these policies had driven actions that already put the EMS Agency and its EMS System/Healthcare Coalition members ahead of many other critical sectors when it came to emergency preparedness. This is not to say

that any of them foresaw the nature or complexities of the global COVID-19 pandemic, but they were at least better positioned to effectively respond than many others.

As it specifically relates to the EMS Agency's emergency preparedness prior to the pandemic, the Agency had a long history of planning, organizing, equipping, training, and exercise. As an annex to its *Los Angeles County Medical and Health Operational Area Coordination (MHOAC) Program Plan*, the EMS Agency had led the County through the development of an *Emerging Infectious Disease (EID) Healthcare System Annex Concept of Operations (CONOPS)* that was developed in 2016 and revised in 2018. The EID CONOPS outlined roles and responsibilities and goals and objectives for a coordinated healthcare sector response to three (3) potential scenarios:

- Low Healthcare Burden–High Acuity: Ebola-like Scenario
- Moderate Healthcare Burden–High Acuity: SARS-like Scenario
- High Healthcare Burden–High Acuity: Pandemic Influenza-like Scenario

The EID CONOPS was later complemented by the completion of its umbrella plan, the *Los Angeles County MHOAC Program Plan* in November 2019. The purpose of the MHOAC Plan was to provide guidance to the departments that participate under the MHOAC program during times of emergency, including the EMS Agency, County DPH, DMH, and OEM, Long Beach Health and Human Services (LBHHS), and Pasadena Public Health Department [PPHD]). The MHOAC Plan planning process also included a Threat and Hazard Identification and Risk Assessment (THIRA) component that had opened the EMS Agency's eyes to vulnerabilities and needs in the healthcare sector to which it had otherwise been unaware. Although none of these plans completely predicted the magnitude and effects of the COVID-19 pandemic, EMS Agency staff agreed that they established the foundation upon which the Agency built or customized its emergency operations for COVID-19. The only element of the MHOAC Plan program that had yet to be implemented prior to the pandemic was a training and exercise component. The training element was postponed for the first year of the pandemic, but the EMS Agency was planning to pursue training objectives in 2021 and 2022.

The EMS Agency had also developed a Department Emergency Plan (DEP) per the instructions and template provided by County OEM. The DEP had last been updated in June 2019. The challenge with its DEP was that the EMS Agency was tasked with developing a DEP for DHS as a whole; not specifically for the EMS Agency. This created one of the challenges facing the EMS Agency as an element of a parent organization, DHS. DHS has a history of appointing the EMS Agency as the lead for "Department" emergency programs, but the EMS Agency does not have the authority nor bandwidth to manage programs across all DHS elements. DHS' sister departments, DPH and DMH, for example, have their own specific emergency plans, Department Operations Centers (DOCs), Building Emergency Coordinators (BECs), and emergency programs that are operated on a department-wide level. As a result, the DEP developed by the EMS agency for DHS is in parts, only focused on the EMS Agency's emergency operations, and in others is a quagmire of EMS Agency and unattributed DHS responsibilities. For example, the EMS Agency DOC is referred to as the DHS DOC, but it certainly is not operated as such. Similarly, the EMS Agency BEC program, which is tasked with managing building life/safety and evacuation programs, is referred to as the DHS BEC program; and in some cases, the program exhibits authority over non-EMS Agency facility planning. Meanwhile some other elements of DHS, like

County-operated hospitals and clinics, have their own BEC programs (or equivalents) that don't require the involvement of the EMS Agency; so, the EMS Agency BEC program is not always department-wide as plans would lead one to believe. As *Category 5: EMS System/Healthcare Coalition Support* of this report cites, some of the EMS Agency's peer departments that were familiar with its DEP were confused by the roles listed in the plan versus those playing out during the pandemic. Clarifying emergency management roles and responsibilities across all DHS programs and even all AHI departments/agencies will be critical for facilitating more effective operations in the future. Additionally, the DEP can become a more useful tool for the EMS Agency if the Agency is able to focus the plan on its emergency operations rather than trying to piecemeal strategies together from across DHS just to meet a county reporting requirement. Each element of DHS should have a separate DEP since they each operate mostly autonomous of each other. This would allow the EMS Agency to include specific processes related to its management of information and resources, establishment of policies and priorities, management of documentation, etc. in its own plan. That information was largely missing at the start of the pandemic and had to be created amid crisis, which is why most EMS Agency staff reported not using the DEP.

Beyond planning, the EMS Agency also had a history of exercises. At least annually, the Agency participated in the Statewide Medical and Health Exercise organized by CDPH for the healthcare sector, which typically involved responses to major Mass Casualty Incidents (MCIs). During these and other exercises (e.g., medical response surge exercises, Coalition Surge Test [CST] exercises, warehouse trainings), the Agency activated its DOC and engaged senior leadership who willingly participated. As an example of the importance of exercises, the EMS Agency explained that in a previous exercise, the Los Angeles City and County Fire Departments had identified concerns related to Advanced Life Support (ALS) and Basic Life Support (BLS) ambulance diversions during an emergency; which foreshadowed the same issues encountered during the pandemic and led the Agency to issue special COVID-19 Surge Directives #4 and #5 (explained further in *Category 3: Policy, Priorities, and Information Management*). A gap in pre-pandemic exercising identified by the EMS Agency, was that the public health and medical/healthcare aspects of the sector were typically bifurcated in exercises, which is not particularly surprising considering they're administered by different agencies. For example, DPH had conducted pandemic-related exercises with public health partners, but healthcare, treatment, and transport providers had not been involved as exercise objectives did not address the "medical" side of the sector.

Lastly, prior to the pandemic, the EMS Agency would conduct DOC team meetings every other month. This helped to keep DOC staff familiar DOC procedures and their unique responsibilities. DOC Section Coordinators were also required to complete a series of section-specific trainings as prerequisites for serving in those roles. Overall, the Agency's pre-pandemic emergency preparedness efforts gave it a leg up in responding to the pandemic. Lessons from its pandemic experience that reflect on the Agency's emergency preparedness will only help it to be better prepared for the inevitable emergencies of the future.

**Department Operations Center (DOC)[4] Role**

The EMS Agency operates a DOC to manage and facilitate its emergency responsibilities related policymaking, indent prioritization, EMS System/Healthcare Coalition coordination, information and resource management, documentation, and fiscal management. The EMS Agency DOC was activated on March 16, 2020 and remained activated beyond the time reviewed by this report. The DOC was typically activated during normal business hours, five (5) days a week, with only a few exceptions during COVID surges (e.g., the DOC operated 7 days/week during the 2020/2021 winter surge), holidays, and special situations when it also had weekend operations or extended its operations to ten (10) hour shifts.

The Agency's DOC is organized by the five (5) traditional ICS functions (i.e., Management, Planning and Intelligence, Operations, Logistics, and Finance and Administration) and employs traditional ICS principles (e.g., incident action planning [which the Agency referred to as its Coordinated Action Plan], span of control, modular organization, top-down expansion, unity of command, unified command). Individuals assigned supervisory positions in the DOC were previously trained in ICS principles and DOC operations. The staffing plans for DOC shifts were developed by the Planning and Intelligence Section. Typically, each Section was staffed with at least two (2) personnel on a daily basis; typically serving as the Section Coordinator and Deputy Coordinator; allowing for leadership and operational continuity during times when one needed to step away or was preoccupied with other responsibilities. As needed, surge staffing was provided to help achieve the objectives assigned to the Section in the Coordinated Action Plan (CAP) (more information related to CAPs is included in *Category 2: Policy, Priorities, and Information Management*). The DOC Sections tended to manage their responsibilities more in a group or team fashion than according to ICS units, branches, or groups. This allowed the Sections to tackle issues collectively, made maintaining situational awareness easier, and allowed the Sections to adapt to the frequently changing demands and situations arising from the pandemic.

One issue that complicated the operations of the Agency's DOC is the same one discussed in the previous "Emergency Preparedness" section. The Department Emergency Plan indicated that the EMS Agency DOC is the DOC for all of DHS, which would assume it included organizational elements for, and managed operational missions associated with HSA and other DHS facilities (e.g., County-operated hospitals and clinics), which it does not. It was understood by Agency DOC personnel that the EMS Agency DOC only served the EMS Agency, but contradictory plans confused the delineation of responsibilities. In a similar fashion, the DEP stated that representatives from HSA's Human Resources and Finance Divisions might fill seats in the EMS Agency's DOC on behalf of the Department. That would again assume the EMS Agency DOC is establishing personnel and fiscal policies for DHS as a whole. Just the opposite is what played out; the EMS Agency DOC received personnel and fiscal directives from HSA and implemented them within the EMS Agency accordingly. At times HR and Finance Division representatives deployed to the EMS Agency DOC, but they were only administrative-level personnel briefly

[4] The EMS Agency DOC was renamed the Medical Coordination Center (MCC) after the period of time reviewed in this report.

tasked to help the EMS Agency navigate policies internally; not intended to facilitate department-wide HR or fiscal policies from the EMS Agency DOC.

The DEP fails to acknowledge and institutionalize a practice that had begun approximately five (5) years earlier during the hospital strike of 2015. At that time, DHS' Chief Operating Officer (COO) who was particularly keen on emergency management, established an HSA-level command center to organize and handle the emergency functions of DHS' administration. While that practice had not been documented as of early 2020, it was a practice that was still employed by HSA during the pandemic. It made sense that HSA would operate a command-level operations center/capability at the highest-level and that each of its subordinate agencies/facilities would operate their own DOCs (or equivalents) that reported to the HSA command center. This would also alleviate the confusion in existing plans that the EMS Agency DOC was essentially filling the void created by the lack of an HSA DOC or command center. While this confusion did not necessarily impact the operations of the EMS Agency DOC during the pandemic—as EMS Agency staff seemed clear about their role and mission—it did result in some confusion among external agencies and DHS' departments within the AHI, which required re-educating by the EMS Agency. For example, both the EMS Agency DOC and HSA sometimes reported to the County EOC on the status of DHS operations without first coordinating with each other. Without a clear delineation of responsibilities, the County EOC wasn't sure which organizational element should be responding to its inquiries.

The remainder of this report will explore the operations and effectiveness of the EMS Agency DOC in more detail, as it played a role in nearly every aspect of the Agency's response to the pandemic.

**Protective Measures**

The EMS Agency established the following standing health and safety measures as part of each Coordinated Action Plan (CAP) developed by the DOC:

- Each staff member to monitor their personal health and well-being by performing personal health screening before reporting to the DOC and throughout their shift. Report any influenza like symptoms such as fever, fatigue, sore throat, headache, shortness of breath, etc.
- Disinfect workstations before and after shift.
- Practice social distancing by maintaining at least 6 feet between staff members or wear surgical mask if unable to maintain the 6 feet distancing.
- Sanitize or wash hands frequently and avoid touching your face.
- Maintain accountability to your supervisor at all times, report issues or safety concerns immediately.
- Always maintain an emergency exit in the event of the need to evacuate to a rally point.
- All personnel should be on alert for fatigue and stress—take frequent breaks, hydrate, and eat. Watch for signs of stress. Report injuries to your immediate supervisor.
- Watch for slips, trips, and falls. Watch footing, work in well-lit areas, and move cautiously on unstable surfaces.

One of the perks of being an agency staffed predominantly by medical professionals is that there is a general feeling that everyone is playing a role in safety and that everyone is at least able to monitor their own activities and address their own health and safety needs. At the same time, one could argue that if "everyone was responsible" then in fact "no one was actually responsible," which may have been the case at the EMS Agency. The Agency never appointed a Safety Officer or Wellness Officer (as described in the "Employee Support" section below) as part of its organizational structure or, at minimum, assign the responsibilities to another position in the organization.[5] While the above protective measures were appropriate there was no way to evaluate whether they were followed as no position was tasked with monitoring or enforcing safety and health behavior or tracking safety incidents. The only anecdotal data available to determine how well health and safety protocols were followed is the fact that few employees called out sick and no major injuries were reported. Whether the Agency was just fortunate or safety and health protocols were followed by all employees could not be determined. At the time of this report, the Regional Disaster Medical and Health Specialist (RDMHS) was transitioning out of his role and into a new safety officer-oriented role, which might be evidence a void existed during the pandemic that was then being addressed.

The EMS Agency's primary offices and headquarters are located in a leased building in Santa Fe Springs. As part of its own health and safety program, the building owners implemented social distancing requirements on elevators and in shared spaces, closed communal areas, required face coverings, placed signage to encourage health-conscious practices, and enhanced facility cleaning and disinfection. In conjunction with the building owners, the EMS Agency installed sanitation stations with cleaning supplies throughout its offices and encouraged employees to frequently clean workstations. Prior to the vaccine becoming available, the EMS Agency had also instituted temperature screenings at the DOC and Medical Alert Center (MAC) per DHS guidance.

To support social distancing, the Agency also permitted employees to work from home when able. However, the Agency never instituted a blanket work-from-home policy as many other organizations did. This is primarily because the Agency's emergency responsibilities necessitated in-person, on-site operations and EMS Agency personnel were considered essential workers. Approximately 50% of the Agency's staff continued to work on-site for the duration of the pandemic and the other 50% employed a hybrid model working a combination of on-site and at home. Most Agency staff voiced that they felt comfortable reporting for duty knowing that their peers were mostly former medical professionals who knew how to remain safe and healthy. However, several also desired a more formal remote work policy that would have required only certain staff to work on-site; thereby reinforcing social distancing. The Agency's emergency operations, particularly in the DOC and MAC, continued with mostly in-person operations for the period covered by this report. Staff in other programs were allowed to work from home as approved by their supervisors and to the degree their job assignments allowed. Eighty-five (85%) of employees that responded to a survey, reported that they had access to all the equipment and

[5] A Health and Wellness Unit was briefly established under the DOC Logistics Section, but it was never staffed and ultimately disappeared from staffing plans.

resources needed to work during that time, whether on-site or remotely, including both safety resources like PPE and business/functional resources like computers.

At the Agency's Disaster Stating Facility (DSF)/warehouse, the DSF Manager assumed the role of Safety Officer at that location. The excessive movement of heavy equipment, trucks and vehicles necessitated the need for a formal Safety Officer function at that location. Just-in-time training on safety protocols was provided to DSF/warehouse staff as needed. Fortunately, there were no major injuries reported associated with warehouse operations through April 2021.

The HSA Employee Health Services Division had responsibility for other organizational health and safety standards. For example, HSA was responsible for tracking vaccination status, tracking test results, conducting contact tracing, and notifying personnel of potential exposure per its contact tracing activities. Several employees voiced concerns about the quality and timeliness of these HSA services, but because they did not reside with the EMS Agency, they were not reviewed further. The HSA was also offering vaccines for personnel at multiple locations as of the writing of this report.

**Continuity of Operations**

The EMS Agency did not have a formal Continuity of Operations (COOP) Plan prior to the pandemic addressing continuity treatments for essential functions in the event facilities/ equipment, information/software, or personnel were impacted by an incident. Instead, it had a series of spreadsheets that listed the Agency's essential functions, but provided no other information for sustaining those functions such as resource and personnel requirements, alternative procedures, etc. The EMS Agency did review its essential function spreadsheets in February and March 2020 and added some COVID-specific tasks associated with each function. It also expanded the spreadsheets to identify the role of each Agency division/team in maintaining those essential functions considering the yet unknown pandemic scenario. The spreadsheets were also expanded to identify essential staff needed to perform each function. While its COOP planning could have been better, the Agency took tangible steps at the onset of the pandemic to consider its essential functions and provide some additional resources and information for ensuring the continued performance of those functions in the face of the growing spread of COVID-19.

Fortunately, despite being a small department that could have easily been debilitated by absenteeism caused by the pandemic, the Agency's staff and operations weathered the pandemic quite well. There were, of course, cases of absenteeism at various stages of the pandemic as some staff had to quarantine, some became ill (either with COVID-19 or something else), or others had to care for loved ones. However, the Agency was able to manage those occasional absences and back-fill appropriately. While a great deal of the Agency's focus transitioned to emergency operations, the Agency still maintained its other essential functions at near normal capacities. Only the Agency's Paramedic Training Institute (PTI) cancelled some in-person classes during the pandemic, changed the format of some trainings, or moved trainings to a virtual environment to accommodate the impacts of the pandemic.

Nearing the end of the period reviewed by this report (April 2021), many organizations, including those in the health and medical sector, were beginning to experience serious staffing shortages as personnel left positions, transitioned to new careers, relocated, or retired. The EMS Agency anticipated some significant staff departures coming its way that could potentially affect operations. As has been noted elsewhere in this report, the EMS Agency was primarily staffed by former nurses and medical professionals who wanted to remain in the medical/health sector but transition away from direct patient care. Interestingly, the pandemic resulted in large numbers of medical and health professionals that had burned out on patient care and were looking for other opportunities in the field. As a result, the EMS Agency was receiving dozens of unsolicited inquiries from professionals seeking new opportunities away from patient care. The Agency was literally receiving hundreds of applications for each position it had open. Unlike most organizations and businesses facing post-pandemic realities, the EMS Agency felt confident it would have sufficient interest in its position openings and access to qualified personnel to sustain its operations well into the future.

**Employee Support and Communications**

As a subordinate organization of County DHS, personnel policies and employee support needs were managed by HSA versus by the EMS Agency directly. Therefore, matters related to employee pay, leave, and benefits were beyond the scope of this review. The authors of this report conducted a survey of EMS Agency employees to determine their satisfaction levels with the Agency's communications and support for employees during the pandemic. The Agency received high marks for its communications with employees during the pandemic. Over 70% of those surveyed felt the Agency did an exceptional or near exceptional job in communicating the risks of the pandemic and the state of operations to employees. Likewise, nearly 70% felt their supervisor or manager provided clear direction, support and communications regarding job duties and expectations during the pandemic.

However, it was noted that the Agency did not designate a health and wellness officer—like a Safety Officer—to look out for the psychological and emotional needs of staff. Without such a position to remind workers to take a break or step away from their desks for hydration and nourishment, many employees pushed themselves, often to the edge of burnout. Multiple employees shared that staff members frequently did not stop for lunch. On the other hand, some staff explained that many EMS Agency staff—with prior experience as first responders and/or in hospital emergency departments—were naturally inclined to work that way without concern for themselves. Multiple DOC CAPs specifically stated, "All personnel should be on alert for fatigue and stress—take frequent breaks, hydrate, and eat. Watch for signs of stress. Report injuries to your immediate supervisor." While the policy was appropriate, there was no one assigned to enforce it. Supervisors also pointed out that crisis counseling was made available to employees through County DMH as well as DHS' Employee Health Services Division. It may have been beneficial to have someone monitoring the habits of EMS Agency staff who could also intervene when appropriate, to encourage mental and emotional care.

**Public Information**

The EMS Agency is not a "public-facing" entity and does not have its own Public Information Officer (PIO). These duties fell to its parent department, DHS. Throughout the pandemic, HSA

was responsible for relaying information to the public along with other County departments (e.g., DPH has its own public information staff and is considered "public facing"). The EMS Agency was only responsible for communicating directly with members of the EMS System/Healthcare Coalition as it does regularly. EMS Agency representatives attended some press conferences coordinated by HSA, DPH, and/or the Medical Disaster Coalition Advisory Committee (DCAC), but only in a supporting role.

The EMS Agency was also confronted with questions from MHOAC departments and elected officials (e.g., County Board of Supervisors) related to its response. These inquiries had to be fielded by the Agency's Director in the absence of a PIO. It was mentioned by multiple personnel that it was a continuous battle to educate peer agencies and elected officials on how the medical and health sector operates.

Anticipating that a spike in patients would likely overwhelm the County's hospital system during the 2020/2021 winter surge, the Agency took steps to mitigate these impacts by revising 9-1-1 transportation policies to reflect the grim new realities in which not all patients could be provided equal access to the full continuum of care. The Agency issued seven (7) COVID-19 Surge Directives related to this topic between December 18, 2020 and January 4, 2021. Oxygen was rationed, for example, services areas were suspended, and certain patient characteristics were now factored into decisions to transport (e.g., Do Not Resuscitate (DNR) orders). The directives made local and national news. On January 4, 2021, for example, The Los Angeles Times ran the headline, "Ambulance crews told not to transport patients who have little chance of survival." On January 5, 2021, NPR's website posted the article, "LA County Paramedics Told Not to Transport Some Patients with Low Chance of Survival" and CNN ran the story "Human Disaster unfolding in LA will get worse, experts say," which cited EMS Agency policies.

The EMS Agency's actions can be complicated and easily misunderstood by those not familiar with the operating environment. Without a PIO, the Agency didn't have a trained and experienced public information expert capable of clarifying the Agency's actions or proactively creating messages to address potentially controversial decisions. As the previous "DOC Role" section discussed, a DHS PIO was housed in the EMS Agency DOC at various times during the pandemic, but this infrequent engagement did not address the Agency's public information concerns or desires for clarification and messaging. While HSA and DPH have always led the public information campaign for the Agency in the past—and to the EMS Agency's satisfaction and contentment—the COVID-19 response blurred some of those traditional lines.

**Fiscal Management**

Most sources of disaster-related funds require that their allocation be tracked and monitored separately from existing monies for routine services. The California Code of Regulations states that "local agency costs or expenditures are eligible for state financial assistance (as well as federal assistance) provided such expenditures relate directly to an eligible disaster event."[6]

[6] California Code of Regulations Title 19, Public Safety, Division 2, Office of Emergency Services, Chapter 6, Disaster Assistance Act

Fiscally mature jurisdictions will set themselves up for maximized reimbursement possibilities by ensuring disaster financial tracking capabilities are in place before a disaster strikes and that procurement processes comply with State and federal requirements. As with HR matters and public information, the EMS Agency's designation as a subordinate agency to DHS influenced its engagement in fiscal management issues.

Typically, an independent Local EMS Agency (LEMSA) coordinates and communicates with its County EOC regarding fiscal issues. This relationship between the EMS Agency and LA County EOC/OEM had actually been practiced through training and exercises in the past. Using that experience, the EMS Agency DOC Finance Section would typically track all costs related to its emergency operations (e.g., labor, materials/supplies, force account equipment, equipment purchases, equipment rentals and contract services) and would then forward that information to the County EOC/OEM Finance Section for possible reimbursement through State, federal, insurance, and private sector sources. In addition, the DOC Finance Section would provide direction to the rest of the EMS Agency on how to properly track costs, cost codes, purchasing limits, and summarize costs for reporting to the DOC Finance Section. Historically, the EMS Agency followed this process, however, with the COVID-19 pandemic, this process became more complex as HSA took the lead for fiscal management on behalf of the entire department. Instead of the EMS Agency DOC Finance Section facilitating financial matters related to the Agency's response, the DOC Finance Section was tasked with implementing the fiscal directives of HSA. HSA was then coordinated and communicated with the County EOC/OEM related to cost recovery.

HSA maintained all the decision-making responsibilities, which relegated the EMS Agency's Finance Section to a minimal role. The EMS Agency DOC only tracked financial data related to EMS Agency costs associated with the Hospital Preparedness Program (HPP) ($1,120,304.40 as of the time of this report) and the California Hospital Foundation and Trust (CHFT) ($4,161,692 as of this report). HSA administered funds coming from the *COVID-19 Recovery Fund* and the *Provider Relief Fund* and provided guidance to agencies within DHS, including the EMS Agency, on the types of purchases that could be made with those resources. The EMS Agency had to submit its project cost ideas to HSA for approval before the funds were directed to the EMS Agency for the approved projects. The EMS Agency submitted an estimated $2,365,549 of costs to HSA for approval that were ultimately approved and funded.

HSA provided direction and guidance on cost codes to use to track costs and types of purchases eligible under each funding source. The DOC Finance Section did not track personnel costs related to the Agency's involvement in the pandemic response, as that too was handled by HSA. The only funding sources the DOC Finance Section had full control over were the HPP and CHFT. For those funding sources, the EMS Agency created its own internal tracking codes to easily identify which costs were associated with each of the funding sources and any outstanding balances. Any EMS Agency COVID-related projects associated with these funds were meticulously tracked and documented.

As a result of the delineation in financial responsibilities between the EMS Agency and HSA, the DOC Finance Section did not maintain a complete financial picture of the EMS Agency's response;

nor did Agency leadership. The DOC Finance Section did not know the total amount of EMS Agency personnel related costs nor, more specifically, the EMS Agency personnel costs that were submitted to the State and/or FEMA via the County EOC/OEM. HSA had not provided the Agency an accounting of those costs or a summary of any anticipated reimbursements. If and when reimbursement is received from the State or FEMA, the DOC Finance Section would not be aware of them in advance. They also didn't know if the funds would go back to an EMS Agency fund, DHS fund, or County general funds. Likewise, when Agency leadership was queried regarding this topic, they too could not categorize the financial impacts of the pandemic on the Agency. They had simply been assured by HSA that there was nothing to worry about. It seemed to the authors that it would be difficult, however, to lead an Agency and plan for the future without a complete understanding of the Agency's current or future fiscal situation.

## 1.2 Notable Strengths

***Strength 1.2.1:*** The EMS Agency had a robust preparedness program prior to pandemic. The Agency had focused on all preparedness lifecycle activities, including planning, organizing, equipping, training and exercising. Internally, the Agency had established training requirements for its DOC supervisory positions and had required their participation in regular DOC team meetings. Additionally, the Agency had been an active participant in the annual Statewide Medical and Health Exercise, in addition to supporting EMS System/Healthcare Coalition members in the conduct of their own training and exercise events to meet regulatory requirements. Overall, the Agency's pre-pandemic emergency preparedness efforts gave it a leg up in responding to the pandemic through an effective emergency operation.

***Strength 1.2.2:*** Compliments are owed to most EMS Agency staff for taking personal responsibility for their health and safety during the pandemic as indicated by EMS Agency leadership and through employee surveys. Staff at all levels and across all divisions took the COVID-19 threat seriously. In most situations, they appeared to abide by health and safety policies and recommendations and took advantage of the health services and resources available to them. The health and medical field is one obviously at high-risk of COVID-19 exposure, but despite those concerns, EMS Agency staff continued to work on-site to sustain the Agency's emergency operations in support of the health and safety of the people of Los Angeles County.

***Strength 1.2.3:*** As evidenced in their survey responses, Agency employees felt EMS Agency leadership and supervisors did an excellent job of communicating with them during the pandemic. This included feeling that leadership sufficiently communicated regarding the impacts of the pandemic on Agency operations and potentially on their positions, actions the Agency was taking, and the roles employees would play, and resources available to support employees (primarily through HSA). Additionally, employees felt like the Agency had prioritized their well-being.

***Strength 1.2.4:*** The DOC Finance Section developed detailed MS Excel spreadsheets to track HPP and CHFT related funds, purchase orders (POs), and to appropriately categorize services and supplies using proper coding for all costs the Agency had a direct purview over. Additionally, the DOC Finance Section regularly participated in EMS Agency DOC briefings to ensure they were

working with current financial information and guidance from HSA. DOC Finance Section staff should be commended for performing as well as they did, given the bifurcated EMS Agency and HSA responsibilities, the previous lack of Finance-specific training, and the absence of a DHS finance representative in the DOC.

## 1.3 Areas for Improvement

***Area for Improvement 1.3.1:*** DHS plans inaccurately imply the EMS Agency is responsible for DHS-wide emergency management and that the EMS Agency DOC is the DHS-wide DOC, which created confusion both internally and with partner agencies.

***Reference(s):*** *Department of Health Services Department Emergency Plan (DEP)*

***Analysis:*** DHS is comprised of multiple elements, including HSA and County-operated hospitals and clinics. HSA has a history of appointing the EMS Agency as the lead for "Department" emergency programs, but the EMS Agency does not have the authority nor bandwidth to manage programs across all DHS elements. As such, the Agency was tasked with developing a DEP for DHS as a whole; not specifically for the EMS Agency. As a result, the DEP developed by the EMS Agency for DHS is in parts only focused on the EMS Agency's emergency operations and in others is a quagmire of EMS Agency and unattributed DHS responsibilities. In addition, the DEP indicated that the EMS Agency DOC was the DOC for all of DHS, which would assume it included organizational elements for, and managed operational missions associated with, HSA and other DHS facilities, which it did not. It was understood by EMS Agency DOC personnel that the EMS Agency DOC only served the EMS Agency, but contradictory plans confused the delineation of responsibilities. Clarifying emergency management roles and responsibilities across all DHS programs and even all AHI departments/agencies will be critical for facilitating more effective operations in the future.

***Recommendations:***

1. The EMS Agency and HSA should confer to delineate their emergency roles and responsibilities and their operating structures (e.g., formalize the HSA command center concept).
2. The current DHS DEP should be split into multiple plans; a DEP for the HSA, a separate plan for the EMS Agency, and potentially other emergency plans (or equivalents) for other DHS operated facilities. The HSA DEP should explain how the Department's administration coordinates with its subordinate agencies/facilities, manages policy, and how it facilitates department-wide administrative and fiscal responsibilities. The EMS Agency DEP should better define the EMS Agency's emergency mission and include processes for accomplishing agency-specific policy and priority setting, information and resource management, coordination with system/coalition members, documentation, etc.

***Area for Improvement 1.3.2:*** A joint training and exercise program for MHOAC departments had not been created and implemented prior to the pandemic affecting the preparedness of the collective MHOAC program during the response.

***Reference(s):*** *Los Angeles County MHOAC Program Plan, Training and Exercise*

***Analysis:*** The *Los Angeles County MHOAC Program Plan* was only finalized a few months before the first cases of COVID-19 began in the United States. Not surprisingly, there was not enough time between those two dates to develop and implement a training and exercise program for MHOAC member departments/agencies (e.g., County DPH, DMH, OEM, and LBHHS and PPHD). While the partners had previously worked closely together and all participated in the annual Statewide Health and Medical Exercise, a joint and recurring training and exercise program focused on emergency coordination among the partners had not been established. Most notably, the public health and medical/healthcare components of the sector had typically been trained and exercised separately; partially because each is administered by a different agency in Los Angeles County (DPH and the EMS Agency, respectively). So, when DPH had conducted pandemic-related exercises with public health partners in the past, the medical/healthcare side and the EMS Agency, had not typically been included. Likewise, the EMS Agency's training and exercise programs that focused on EMS System/Healthcare Coalition members seldomly included the other MHOAC member departments/agency. As a result, there was some confusion among MHOAC members regarding their roles and responsibilities and especially the processes for effectively coordinating, particularly in the early months of the pandemic. As of this report, the EMS Agency had assigned a member of its DEC Program to develop a training and exercise program to support the *MHOAC Program Plan*.

***Recommendations:***

1. With the MHOAC member departments/agencies, develop a Multi-Year Training and Exercise Plan (MYTEP) or Integrated Preparedness Plan (IPP) specifically in support of the *County MHOAC Program Plan* to include a progressive and routine schedule of trainings and exercises.
2. MHOAC member departments/agencies should collectively contribute time, resources, and funding to the shared training and exercise program established in the MYTEP/IPP.
3. The EMS Agency DEC Program staff member tasked with establishing the MHOAC training and exercise program should serve as Program Manager.

***Area for Improvement 1.3.3:*** Because the EMS Agency did not appoint a Safety Officer (or equivalent) to its ICS structure or assign those responsibilities to a position in the structure, the Agency's management and enforcement of health and safety protective measures was inconsistent.

***Reference(s):*** *Incident Command System (ICS) Structure, Safety Officer*

*Coordinated Action Plans, ICS Form 208 Safety Message/Plan*

***Analysis:*** One of the perks of being an agency staffed predominantly by medical professionals is that there is a general feeling that everyone is playing a role in safety and

that everyone is at least able to monitor their own activities and address their own health and safety needs. That sentiment may have led to a false sense of security. If "everyone was responsible" then in fact "no one was actually responsible." The Agency never appointed a Safety Officer (or equivalent; for example, Wellness Officer as described in the "Employee Support" section and in *Area for Improvement 1.3.4* below) as part of its organizational structure or, at minimum, assign the responsibilities to another position in the organization. While the protective measures identified in the Agency's *ICS Form 208 – Safety Message/Plan* were appropriate, there was no way to evaluate whether they were followed as no position was tasked with monitoring or enforcing safety and health behavior or tracking safety incidents. While the Agency reported few cases of ill or injured employees, there was no way to determine whether the Agency was just fortunate or whether safety and health protocols had been followed.

***Recommendations:***

1. During future activations, the EMS Agency should appoint a qualified Safety Officer (or equivalent) or assign the Safety Officer responsibilities to a position in its ICS/DOC structure.
2. Individuals intended to fill the Safety Officer role (or equivalent) should receive Safety Officer-specific training in advance.
3. The Safety Officer function (or equivalent) should be defined in the Agency's DEP and should detail the many responsibilities of the position (e.g., working with all sites on safety, developing site-specific safety plans, actively monitoring behavior, enforcing safety protocols, acquiring safety resources).

***Area for Improvement 1.3.4:*** Employees risked burnout because protocols related to mental and emotional health were not prioritized or enforced.

***Reference(s):*** *EMS Agency DOC Organization, Roles, and Responsibilities*

***Analysis:*** While Coordinated Action Plans encouraged employees to "be on alert for fatigue and stress—take frequent breaks, hydrate, and eat," no one was actually assigned to oversee employee health and wellness activities. As such, EMS Agency staff at various locations pushed themselves to the brink of exhaustion, later requiring extended periods of recouperation. While many employees blew this off as just "the way they are," it nonetheless created an organizational risk that could have impacted the Agency. The EMS Agency is a small organization with significant responsibilities. It does not have the depth of bench to weather staff absenteeism or underperformance because of mental or emotional strain.

***Recommendations:***

1. As either part of the DOC Safety Officer's responsibilities or as part of a new or separate Wellness Officer position, the Agency should assign a position to oversee employee health and wellness during emergency activations. These responsibilities should be codified in plans and supporting resources developed as necessary.

***Area for Improvement 1.3.5:*** The EMS Agency does not have a PIO and has ceded its public information responsibilities to HSA.

***Reference(s):*** *EMS Agency DOC Organization, Roles, and Responsibilities*

*Department Emergency Plan (DEP)*

***Analysis:*** Prior health and medical emergencies did not require the EMS Agency to interact with the media or public, and the Agency comfortably leaned on HSA to perform that role in those past situations. But COVID-19 may have changed the landscape moving forward. During the pandemic, EMS Agency policies and actions became headline news, but the EMS Agency did not have an internal way of directly addressing those issues. Controlling public information during times of crisis is handled best by a trained and dedicated PIO. Whether it be proactively addressing policies and actions, marketing services or capabilities, or defending actions and the Agency's reputation, it is important that the Agency have some control over its public persona. Like other DHS subordinate agencies, the EMS Agency may wish to have its own PIO capability, with at least one person focused on public information who can coordinate with HSA and other departments, but remain steadfast and faithful to the EMS Agency mission. That position could also field questions coming from elected officials (e.g., County Board of Supervisors) and peer agencies on behalf of Agency leadership.

***Recommendations:***

1. The EMS Agency should consider the addition of a PIO to its employee roster.
2. If chosen, the PIO should be weaved into the Agency's emergency organization and plans per ICS principles.
3. EMS Agency plans should be revised to address the Agency's public information strategy and how it is integrated into the Action Planning Process.
4. Tools should be developed for PIO use in emergency situations, including templates for talking points, press releases, and media packets.

***Area for Improvement 1.3.6:*** When the DHS Finance Division determined it no longer needed ICS 214 Forms to support timekeeping, the EMS Agency then abandoned using ICS 214 Forms altogether.

***Reference(s):*** *ICS Form 214 – Activity/Unit Log*

***Analysis:*** The importance of maintaining individual and/or group activity logs (ICS Form 214) had been covered in EMS Agency DOC training, was captured in documentation, and was reinforced by County EOC/OEM training. The relevance of the 214 Form goes beyond timekeeping, but is an important tool for memorializing actions taken and for keeping personnel efficiently on task. However, once the DHS Finance Division determined 214 Forms were no longer needed for timekeeping at the onset of the pandemic response, the EMS Agency just stopped using 214 forms despite their many other purposes. At first glance, this may have seemed logical to cut down on the amount of paperwork, but by only using timecards, the EMS Agency missed out on the vital role 214 Forms play in managing information, actions, and tasks still needing to be completed. That information

would have been useful to this After-Action Report, for example, and would have been essential to reimbursement submittals to federal, state, insurance companies and private sector entities.

***Recommendations:***

1. Regardless of their role in timekeeping (or lack thereof), EMS Agency personnel should continue to use and train on ICS 214 Forms for maintaining a log of actions taken, resources employed, decisions made, etc. during emergency activations.

***Area for Improvement 1.3.7:*** Some Purchase Orders were bundled with different types of purchases making it difficult to isolate costs associated with a specific item or service.

***Reference(s):*** *Purchase Orders/Financial Documentation*

***Analysis:*** The DOC Finance Section tracked costs for all purchases associated with HPP and CHFT funds and the Agency's general budget. Each cost was matched to an approved PO. DOC Finance Section staff mentioned that some of the POs contained many items bundled together with one single amount associated with all items. It was then difficult for staff to identify the specific costs for certain items when the amount was hidden in the total cost. It required significant work for the DOC Finance Section staff to pull out these separate costs. Using bundled POs may also make it more difficult when submitting for cost recovery with State and federal agencies in the future. FEMA and CalOES want to see specific costs for each resource purchased and may reject items when bundled into a single amount.

***Recommendations:***

1. Ensure that bundled Purchase Orders include not only the total amount of the Purchase Order but also the individual, line-item costs for each item being procured.
2. Consider using separate POs for different categories of purchases instead of bundling multiple categories of purchases into one PO.

# Category 2: Policy, Priorities and Information Management

The EMS Agency's efforts in response to the pandemic were driven by a series of policy and prioritization decisions. The Agency DOC, MHOAC and RDMHC programs then worked in support of said policies and the decision-making process that was unique to the COVID-19 response. Those policies were informed by critical information requirements gathered through multiple sources. In turn, information related to the Agency's policies and strategies also had to be shared with partners. As a result, information management and information sharing were key functions that informed decision-making and drove the response efforts of the EMS Agency as well as the EMS System/Healthcare Coalition members it supports. Much of that activity was facilitated by the DOC's Planning and Intelligence (P&I) Section. The P&I Section provides stakeholder situational awareness (what has/is happening, when, and where), analysis (what the data means and how the incident is expected to evolve), and documentation of all aspects of the incident to capture the chronology of the indent's evolution and response efforts over time. This section of the report describes how policy decisions were made. Additionally, it addresses how well data and information was gathered, utilized, and disseminated to orchestrate and maintain a unified and efficient response to the pandemic.

## 2.1 Summary

### Decision-Making

There are essentially two types of executive decisions made at the EMS Agency:

- Operational and administrative decisions affecting the Agency itself, its mission and priorities, which are made by the Agency Director.
- Regulatory and medical decisions affecting the operations of the members of the EMS System/Healthcare Coalition, which are supported and regulated by the EMS Agency, which are made by the Agency's Medical Director.

It is safe to say that both types of decisions were made in an informed and collaborative manner throughout the pandemic. Beginning with operational and administrative decisions, the EMS Agency in Los Angeles County is somewhat unique in that it is independent and autonomous of the County's DPH. In most California counties, the LEMSA is governed by a DPH that has direct oversight over its policies and operations. The Los Angeles County EMS Agency still falls under the purview of DHS, however, DHS' Chief Deputy Director, Clinical Affairs—to whom the EMS Agency Director reports—has always trusted in and allowed the leadership of the EMS Agency to direct and govern itself. That continued throughout the pandemic, which allowed the Agency Director to make operational decisions and coordinate decisions with appropriate external partners on an as needed basis (e.g., County Unified Coordination Group [UCG], Los Angeles County Public Health and Medical Disaster Coalition Advisory Committee [DCAC]).

The EMS Agency Director, Assistant Director of EMS Programs, Nursing Director Disaster Programs, and the Agency's Assistant Director essentially composed the "policy group" for the Agency. When questioned about whether this was a unique arrangement for the pandemic, they shared that the group's collaboration had been institutionalized over a long-time and that their collective role in the pandemic wasn't deliberately orchestrated, but just occurred as a natural progression of their daily collaboration. While the group agreed the Agency Director had ultimate

authority, they also concurred that nearly every decision was made in a collaborative, consensus-driven manner. The rapport, trust, and openness that existed within and amongst the group members was evident to the authors of this report.

On the regulatory and medical side of decision-making, the Agency Medical Director worked side-by-side with the Assistant Medical Director as it became necessary to implement special COVID-19 medical directives (addressed in the next section). Although the Medical Director/Assistant Medical Director were fully authorized to make policy decisions on their own, like the administrative policy group, the Medical Director/Assistant Medical Director consulted with other Medical Doctors (MDs) employed by the Agency in decision-making, including the Agency's Director of Education and Innovation, PTI Medical Director, and EMS Educators/Continuing Education Specialists. This was particularly important in the early stages of the pandemic as much was unknown about the virus and decisions had to be extrapolated from the minimal scientific research available at the time. While guidance from the CDC, CDPH, the World Health Organization (WHO) and others was reviewed and considered, the collective thinking of these medical experts helped ensure the novel data was being interpreted correctly and was being effectively applied to Los Angeles County. The team of medical experts even reached out to other states, such as the New York Department of Public Health, to inquire about decisions it was making regarding standards of care and the distribution of resources. As the pandemic progressed, this collaborative environment was equally important as then the workload and demand on the Medical Director program expanded, requiring assistance from every MD on the Agency's payroll. As the "Information Sharing and Dissemination" section of this chapter explores, the Medical Director/Assistant Medical Director hosted regular meetings with members of the EMS System/Healthcare Coalition focused on unique regulatory and medical issues affected by the pandemic. The system/coalition members engaged as part of this review, spoke highly of the Agency's medical leadership and voiced confidence in them.

The Agency's administrative leadership/policy group and medical leadership did not work independently during the pandemic. Although empowered to make decisions respective to their areas of authority, they collectively and regularly consulted with each other to ensure all elements of the Agency were operating "on the same page." Moreover, the Agency's leadership empowered and trusted the personnel under them to effectively implement their policies without meddling in the tactics. As this report explores, the EMS Agency's DOC took the initiative to build tools and systems, coordinate with stakeholders, acquire resources, and perform other tasks necessary to achieve the Agency's mission/goals. One reason this was necessary and important was because of the Agency's small size. With only approximately 150 personnel, the Agency had an enormous mission to accomplish with very few people. Had leadership or individual personnel intervened in each other's efforts, the Agency wouldn't have had the bandwidth to accomplish as much as it did. Further demonstrating the competency of employees, the DOC often proposed Agency goals and objectives to the policy group, which was receptive and often approved the proposed courses of action. The DOC staff understood what authorities had been delegated to it and respectfully consulted with the Director or policy group as needed. In many cases, the acting DOC Manager was one of the policy group members (e.g., Nursing Director, Assistant Director). This not only demonstrated the commitment of the

Agency's leadership to the emergency operation, but also facilitated timely executive decision-making.

**Pandemic Mission/Operational Goals**

The EMS Agency's DOC and the Agency's overall operational response existed to support field operations established to meet the emergency needs of the EMS System/Healthcare Coalition and support the missions of other agencies in safeguarding the people of Los Angeles County. As mentioned throughout this report, the EMS Agency did this by facilitating coordination amongst departments/agencies/organizations, gathered and disseminated information to inform decision-making, acquired and allocated critical resources and personnel, and elevated policy and regulatory issues.

The EMS Agency does not operate pre-hospital or healthcare programs that directly treat patients (with the exception of a small non-emergency patient transport program). Rather, the Agency supports, regulates, and enables those programs, which are operated and implemented by EMS System/Healthcare Coalition members or partner organizations (e.g., DPH). As such, this report is only focused on the effectiveness of the EMS Agency's role in emergency operations—those functions just named that enabled emergency programs and services—but it does not evaluate the tactical effectiveness of the programs and services as implemented by EMS System/Healthcare Coalition members or partner organizations. For context, it is nonetheless important to acknowledge the multitude of programs and services considered mission priorities that the EMS Agency supported over the course of the pandemic as listed below:

- Provided nearly 150,000,000 individual resources to hundreds of members of the Los Angeles County EMS System/Healthcare Coalition to facilitate ongoing and expanded treatment of COVID-19 positive patients. As *Category 3: Resource Management* of this report addresses in more detail, this included:
    - Acquiring, inventorying, storing, prioritizing and distributing resources and pharmaceuticals from the State and other sources and pushing them on a proactive basis or in response to individual requests from system/coalition members.
    - Requesting, deploying, and coordinating personnel from the State and other sources.
    - Coordinating volunteers and donations to meet the resource needs of system/coalition members.
    - Acquiring services or referring system/coalition members to service providers to meet emergency needs (e.g., laundry services).
    - Providing lists of vendors and referral services to system/coalition members.
- Collected, analyzed, synthesized and distributed information to inform resource distribution decisions, policies and regulations, to support State and County decision-making, and to inform facility-specific decisions by system/coalition members (see the remaining sections of this chapter for more information).
- Issued regulatory and policy directives to improve the efficiency of system/coalition member operations or waived requirements to reduce facility burdens resulting from COVID-19 (see the next section, "*Medical and Policy Directives*," for more information).

- Worked with the County Medical Examiner-Coroner to issue decedent management guidelines for healthcare partners and coordinated decedent/morgue resources on behalf of system/coalition members.
- Provided resources to and supported inter-agency coordination in the planning and set up of alternative care/surge sites (ACS), and then facilitated patient transfers between hospitals/healthcare facilities and the ACS, which included:
    - Los Angeles Surge Hospital (LASH) at the former St. Vincent Medical Center in the Westlake neighborhood of Los Angeles.
    - U.S. Navy Medical Ship *Mercy*, berthed at the Port of Los Angeles.
    - Federal Medical Station (FMS) at the Los Angeles Convention Center (never opened).
    - State surge facilities at Pacifica of the Valley Hospital in Sun Valley and Pacific Gardens Medical Center in Hawaiian Gardens.
- Provided resources to and supported inter-agency coordination in the planning and set up of County- and Community Organized Relief Effort (CORE)-operated testing and vaccination sites, and provided ongoing staffing support to County-operated sites through its contract with Heluna Health (including coordinating scheduling, payroll, etc.), including:
    - Nine (9) County-operated testing sites (i.e., Martin Luther King Jr. Hospital, Los Angeles Forum, South Bay Galleria, Bellflower City Hall, East Los Angeles College, Pomona Fairplex, San Gabriel Valley Airport, Antelope Valley Mall, College of the Canyons).
    - Seven (7) County-operated vaccination sites (i.e., Pomona Fairplex, Los Angeles Forum, Six Flags Magic Mountain Theme Park, California State University Northridge, Balboa Recreation Center, Downey Point of Dispensing [POD], El Sereno POD).
    - Nine (9) CORE-operated[7] testing and vaccination sites (i.e., Palmdale, Pomona, Redondo Beach, Santa Clarita, Monterey Park, Los Angeles, Bellflower, Inglewood, El Monte).
- Coordinated ambulance service and patient transport for *Project Roomkey*.
    - A collaborative effort by the State, the County, and the City of Los Angeles, as well as Los Angeles Homeless Services Authority (LAHSA) and other non-profit service providers, which supplied temporary emergency shelter in hotel and motel rooms for vulnerable people experiencing homelessness.
- Provided medical/EMT staffing for the *Housing for Health Street Medicine Wellness Intervention* program through its contract with Heluna Health (including coordinating scheduling, payroll, etc.).
    - LAHSA, with staffing support from LAFD, LAPD and Heluna (via the EMS Agency), conducted more than 10,500 street medicine wellness checks on people experiencing homelessness to include screening for symptoms, testing for COVID-19, triaging patients as needed, and providing PPE.

[7] Community Organized Relief Effort (CORE) is a non-profit organization that partners with community-based organizations and local governments, which operated fixed and mobile vaccination and testing sites serving hard-hit and vulnerable populations.

**Medical and Policy Directives**

In June 2020, CDPH issued its *California State SARS-CoV-2 Crisis Care Guidelines*. The guidance was "anchored in best practices from across the country and guided by ethical principles and a commitment to equity, it provides a framework to help health care facilities and county health departments plan for the potential of a COVID-19 surge that is overwhelming."

CDPH defined crisis care as "…resources become constrained, from facilities to supplies to staffing, systems shift from conventional care into contingency care. Crisis care falls at the far end of the spectrum, when resources are scarce and the focus shifts from providing the best care for the individual patient to delivering the best care for the patient population."

While the pandemic was initially stressful and strained resources through much of 2020, Los Angeles County didn't find itself in dire circumstances until the peak in cases during the 2020/2021 winter surge. Prior to that, the healthcare coalition had been able to manage the case load with the additional resources (e.g., tents, ventilators) and PPE supplies provided through the State and EMS Agency. That strain went into overdrive in December 2020. In an effort to assist with the overcrowded conditions at hospitals across the County, the EMS Agency issued seven COVID-19 Surge Directives between December 18, 2020 and January 4, 2021. It was the first time up until that point that the Agency felt it was necessary to issue special COVID-19-specific directives. The Agency's Medical Director said these measures were needed, "due to the severe impact of the COVID-19 pandemic on EMS and 9-1-1 receiving hospitals." Anticipating that a spike in patients would likely inundate hospital systems following the Christmas and New Year's holidays—thereby overwhelming personnel and resources—the Agency made efforts to mitigate these impacts with the following:

**Directive #1 – Issued December 18, 2020**
Effective immediately, and until further notice, patients who are 17 years and younger (as compared to 14 and younger under normal standards), regardless of provider impression, shall be transported to Pediatric Medical Centers if transport time from the incident to the PMC is within 30 minutes.

**Directive #2 – Issued December 21, 2020**
Effective immediately, and until further notice, all 9-1-1 patients who have a Do Not Resuscitate (DNR) order, including a Physician Order for Life-Sustaining Treatment (POLST) requesting only comfort-focused care, and whose acute needs are related to end-of-life care, will not be transported by 9-1-1 providers to an acute care facility.

**Directive #3 – Issued December 22, 2020**
The EMS Agency is suspending all Service Area boundaries (allowing EMS providers to transport patients outside their normal service areas) as a continued effort to assist with the current overcrowding of emergency departments in Los Angeles County.

**Directive #4 – Issued December 23, 2020**
Effective immediately, in an effort to reduce ambulance patient offload times (APOT), EMS providers will off load their patients to the waiting room with notification of the triage nurse for patients meeting ALL of the following criteria: APOT estimate >/= 30

minutes; Age >/= 18 years old; Normal mental status; Normal vital signs; Ambulatory with steady gait; Not suicidal; No chest pain, syncope or acute neurologic symptoms.

**Directive #5 – Issued December 23, 2020**
Effective immediately, guidelines for Hospitals Requesting Diversion of ALS Patients is revised to allow a longer period of diversion due to ED Saturation. The current 1-hour period of diversion has been extended to 2 hours.

**Directive #6 – Issued January 4, 2021**
Adult patients in blunt traumatic and non-traumatic out-of-hospital cardiac arrest shall not be transported if return of spontaneous circulation (ROSC) is not achieved in the field.

**Directive #7 – Issued January 4, 2021**
Given the acute need to conserve oxygen, effective immediately, EMS providers should only administer supplemental oxygen to patients with oxygen saturation levels below 90% (as compared to 95% on a normal basis).

All directives were rescinded within a few weeks as resources became sufficient to go back to routine operations. Directive #3 remained in effect the longest until January 31, 2021.

There were also a series of policy changes enacted to assist with the COVID-19 surge. Policy 855 aimed to manage 9-1-1 ambulance resources during periods of prolonged ambulance patient offload delays at hospital emergency departments (Eds) by coordinating resources through a regional *EMS/Fire Department Response Framework: Hospital EMS Surge Assistance Plan*. The policy allowed for the establishment of Ambulance Receiving Sites (ARS); a temporary designated area outside a hospital's emergency ambulance entrance, created with tents, canopies or other overhead structures. Patient care in the ARS was the responsibility of the hospital, allowing EMS providers to return to service as soon as possible.

Treatment protocol #1245 was an "ever changing document" which aimed to find the balance between providing patient care while also ensuring the safety of healthcare workers. During the 2020/2021 winter surge, for example, there was an acute awareness that if providers themselves came down with COVID-19 there would be a shortage of medical workers. Policy #1245 outlined guidelines for interacting with patients in severe respiratory distress or respiratory failure, including PPE requirements: "Assume that all patients, regardless of dispatch complaint, may have COVID-19. Minimum recommended PPE for ALL patient encounters is a surgical mask, eye protection, and gloves."

In April 2021, the EMS Agency sought an "expanded scope for paramedics to deliver and assist with the delivery of non-IV medications in stationary care sites." Under that scenario, "EMTs and paramedics would receive education by staff onsite and will be overseen by onsite registered nurses and physician medical directors" in an effort to augment hospital staff. Some of these actions, especially those perceived to be affecting patient care, were widely covered by the media (see *Category 1: Operational Response* for more information related to media coverage).

**Action Planning (Coordinated Action Plans)**

Beginning March 30, 2020, the EMS Agency DOC formalized its activation and began developing daily Coordinated Action Plans (CAPs)—the Agency's equivalent of ICS Incident Actions Plan (IAPs) with a department-specific/DOC focus. The DOC transitioned from daily CAPs to twice weekly CAPs (Mondays and Thursdays) on September 8, 2020, and weekly CAPs (on Mondays) as of October 5, 2020. Despite the change in CAP frequency, the Operational Period designated in each CAP remained only one day. The EMS Agency's intention was that the Operational Period actually cover the entire time between the development of CAPs. Therefore, the intended Operational Period was considered the 3 – 7 days between CAPs even though the DOC was operating at a lower activation level with fewer in-person staff (i.e., more virtual/remote operations). Appropriate for the evolving situation, the DOC then transitioned back to daily CAPs during the 2020/2021 winter surge from November 23, 2020 to February 22, 2021. After February 22, 2021, as cases and demand for service diminished, the DOC retuned to weekly CAPs through the duration of the operation reviewed by this report.

Each CAP typically consisted of the following elements:

- ICS Form 201 – Situation Briefing/Summary
- ICS Form 202 – Incident Objectives
- ICS Form 203 – Organizational Assignment List
- ICS Form 204(s) – Assignment List(s) (for "operational" assignments only)
- Applicable attachments (e.g., infection rates and statistics, maps, patient transfer data, alternate care/surge site status reports, polling results).

The DOC's objectives, captured in each CAP on the ICS Form 202, were organized around five (5) categories, which correlated with the DOC's documented "Standing Objectives," and remained in effect throughout the duration of the pandemic:

- Situational Awareness/Analysis
- Determine Priority of Incident(s) and Develop/Advise/Support Policy-Level Decisions
- Acquire/Allocate Resources
- Crisis Information Management
- Management

The DOC then created objectives for each Operational Period associated with each category above. While the objectives were customized at the start of the pandemic and were reviewed and modified during it, they remained largely consistent for the duration of the operation. DOC and Agency leadership felt the objectives were sufficient to guide the EMS Agency's long-term response, but the objectives were not developed using the "SMART" methodology (Simple, Measurable, Action-Oriented, Achievable, Time/Task Oriented) per ICS standards. Instead, the DOC preferred to capture what it referred to as "daily objectives" or what the authors would refer to as "tasks/activities" as part of the ICS Form 202's "Command Emphasis" Section or in the ICS Form 201's "Current and Planned Actions, Strategies, and Tactics" Section. The tasks and activities (a.k.a. "daily objectives") captured in those sections were viable and typically articulated a detailed run down of the Agency's intended activities for the Operational Period. These daily activities were always updated in each CAP, although they too lacked some of the

details of a SMART objective (typically the "time" deadline). The authors found the "daily activities" to generally be reactive to the situation versus proactive. Because the standing/ umbrella objectives were not SMART and were only altered in minor ways during the pandemic, it seemed the EMS Agency did not have a vision of where it wanted to go (its terminal objective) or what objectives it was working toward across Operational Periods. Instead, it seemed to be reacting to the immediate needs of the situation. The authors inquired as to how the Agency was measuring progress towards its overall mission (i.e., they were fighting many battles but were they winning the war?). Agency personnel were confident in their approach and felt comfortable with the level of detail in their CAPs, which they felt effectively helped them achieve results. It is perhaps only with the benefit of hindsight that the authors may have identified some opportunities to improve CAP effectiveness.

Throughout the pandemic, the EMS Agency's MAC also developed daily IAPs focused solely on its unique operations beginning March 23, 2020 and transitioned to weekly IAPs beginning November 10, 2020, which continued through the review period for this report. The MAC IAPs used the same format as the DOC CAPs. While the use of IAPs was a great business practice to keep the MAC mission-oriented, its IAPs took more the form of a COVID-19 operations manual than an action plan for an Operational Period. The MAC IAPs grew to include lists of COVID-specific policies, actions items, and supporting documentation to inform the work of the MAC during the pandemic. There was definitely a need and purpose for that information and the MAC is to be commended for compiling that information; it just wasn't the traditional content found in an IAP with the purpose of directing specific actions within a timeframe or Operational Period. A better title for these valuable documents may have been an "Alternate Operations Plan" or "COVID-19 Operations Guide").

**Data Collection/Information Gathering**

COVID-19 taxed the healthcare system in Los Angeles County in a myriad of ways. With limited resources—including PPE, staffing, ventilators and hospital beds—there was a need for constant tracking and updating of situational awareness. Traditionally during a disaster, the EMS Agency's DOC P&I Section would use ReddiNet® to conduct polling on an as needed basis to assess situational status depending on the incident. However, due to the complex nature of the COVID-19 pandemic, there was a need for constant data analysis and a Data and Modeling Unit was thereby created within the DOC's P&I Section.

To meet the data demands necessitated by the COVID-19 response, the EMS Agency created and administered several data collection tools to inform situational awareness and planning. These included healthcare provider polls and surveys, as well as daily patient transfer numbers.

*Healthcare Provider Polls*

The Operational Guidelines within the *Los Angeles County Healthcare Coalition Overview* state that when an event/emergency occurs that is significant enough to impact the medical and health system of the County, the EMS Agency will conduct an assessment poll of hospitals using ReddiNet to determine the impact on each facility and its ability to continue operations, and the estimated number of victims it might receive. Accordingly, over the course of the pandemic, the

EMS Agency issued regular ReddiNet polls requesting data from hospitals to gain situational awareness.

- *HAVbed Polls:* Used twice daily at all times, the EMS Agency/DOC continued using HAVbed polls throughout the pandemic to determine the status of healthcare provider beds and ventilators. The HAVbed poll continued to be issued twice a day at 9:00 am and 9:00 pm and asked hospitals to respond with the number of available beds in various hospital departments, the number of ventilators available, and if the hospital had a mass decontamination capability.
- *COVID 19 Hospital Daily Assessment Poll:* A COVID-19 hospital assessment poll was issued daily beginning in late March 2020 at 9:00 am and asked twenty (20) questions covering topics such as the number of patients who had been tested for COVID-19 but were awaiting results, number of confirmed COVID-19 patients who had been admitted, number of COVID-19 tests that had been sent out, and the total number of patients on ventilators.
- *Biosurveillance Poll:* The EMS Agency continued issuing the four (4)-question poll each day at 8:55 am as it did every day to assess the number of ED visits, number of ED admissions, number of Intensive Care Unit (ICU) admissions, and number of ED deaths in each 24-hour period.
- *COVID-19 ICU Surge Capacity Poll:* Another four (4)-question poll issued weekly on Mondays at 10:00 am to determine a hospital's surge capacity in regards to its ICU, ventilators, non-ICU patients, and how many anesthesia machines were in the facility and if they have been converted for use as ventilators.
- *Decedent Management Poll:* A four (4)-question weekly poll administered on Tuesdays at 10:00 am to assess: 1) how many decedents a facility was holding, 2) how many available decedent spaces a facility had including both regular morgue and alternate surge decedent storage, 3) whether the facility was having any difficulty with mortuaries picking up decedents, 4) and the issue and mortuary name if problems were being encountered.

*Surveys*

The EMS Agency also issued several surveys to partner agencies to assess needs and available resources, including:

| Date | Respondent | Survey |
|---|---|---|
| 3/31/20 | Ambulatory Surgery Centers | The number of anesthesia machines available. |
| 4/1/20 | Private EMS Agencies | If private ambulance companies had available ventilators. |
| 5/19/20 | Long-Term Care Facilities | LTC Decedent Survey to assess whether LTCs were experiencing difficulty with mortuaries picking-up decedents. |
| 6/24/20 | EMS Providers | Provider Agency Isolation Gown Survey to assess if EMS providers needed more isolation gowns and the quantity needed (58 respondents). |

| Date | Respondent | Survey |
|---|---|---|
| 7/9/20 | Hospitals and EMS Providers | Fit Testing Supplies for N95 Respirators. This survey contained questions on fit testing and supplies and asked respondents if they were currently experiencing any difficulty in obtaining fit testing supplies (50 respondents). |
| 8/31/20 | Hospitals | COVID-19 Rapid Turnaround Testing Capacity. County DHS was trying to understand the availability of rapid PCR COVID-19 testing (≈ 24-hour turnaround) at all hospitals. DHS understood that by not having in-house rapid PCR COVID-19 testing capabilities, and by relying on contracted commercial labs (e.g., Quest/Lab Corp) with long turnaround times, there was a negative impact affecting timely discharge, overuse of PPE, over-isolation/difficulty cohorting patients, etc. By completing the survey, participants were asked to help DHS understand the scope of this problem and provide input on how to ensure access to timely testing at all hospitals. |
| 12/22/20 | Hospitals | The number of available cots and temporary beds at the 13 DRC hospitals. |
| 1/9/21 | Ambulatory Surgery Centers | As hospitals were experiencing a shortage of Propofol, the survey asked if ASCs had any to spare or if they knew of a vendor who had a supply for purchase. |
| Undated | Ambulance Receiving Stations Sites | For a specific set of hospitals, two questions were presented:<br>1. Do you have a tent on your campus near the emergency department that could be used as the Ambulance Receiving Site (ARS)?<br>2. If yes, a) How many cots/patients would your tent accommodate? B) What equipment/supplies would you need to open up an ARS—do you need cots, access to oxygen, HVAC to warm the tent. Any other items? |

Additionally, the EMS Agency administered surveys to EMS providers and law enforcement for vaccine planning in December 2020. These surveys sought to identify the total number of employees at organizations and the number of employees who encountered and provided care to patients. Out of 58 respondents there were 15,846 total employees, with 13,236 in the highest risk category that encountered or provided care to patients.

The Law Enforcement Vaccination Planning Survey assessed the total number of employees at organizations and the number of employees who came into contact with the public. In January 2021, the Law Enforcement Vaccination Planning Survey was updated to ask if law enforcement agencies had a plan for vaccinating employees, the plan details, and the approximate number of employees who would accept the vaccine.

Although the EMS Agency's polls and surveys were important and provided valuable information, they only represented one agency's efforts to get information from EMS System/Healthcare Coalition members. DPH, CDPH, and others were also issuing polls and requesting to collect

information from system/coalition members, which resulted in duplicative requests in some cases. As one can tell just from the number of polls and surveys discussed in this section, it was a lot for EMS and healthcare providers to respond to. *Category 5: EMS System/Healthcare Coalition Support* of this report describes the sentiments of the EMS and healthcare providers in having to respond to so many polls and surveys, including duplicative ones.

**Information Sharing and Dissemination**

As previously defined, Los Angeles County's EMS system is comprised of the EMS Agency, more than sixty (60) EMS providers (public and private), seventy-eight (78) hospitals, numerous other non-acute healthcare sectors (e.g., clinics, surgery centers, dialysis centers), CCALAC, and CAHF, among others. In addition to gathering data from these partners and assisting with resource requests, the EMS Agency was also responsible for distributing critical information throughout the pandemic.

From the beginning of the pandemic, a significant objective for the EMS Agency was gathering, organizing and disseminating critical medical/health information to healthcare partners and provider agencies. This took the form of conference calls, memoranda, and emails. It was critical to disseminate information about new treatments and therapeutics, medical directives, and operational information to all sector partners. Sources of information came from the EMS Agency, CDPH, DPH, and the MHOAC and RDMHC programs. The information was constantly evolving as new guidance would emerge. Having frequent and multiple lines of communication were necessary to ensure stakeholders received the most up-to-date information in a convenient manner. The regularly assigned EMS Agency liaisons to each sector (e.g., hospitals, EMS providers, other affiliated healthcare facilities) were determined by the Agency to be best suited to distribute information to, and coordinate with, their assigned sectors.

*Meetings*

Each sector liaison from the EMS Agency hosted regular meetings (via conference calls or video teleconference) with stakeholders from the various sectors, including Regional hospital CEOs, hospital Emergency Management Officers (EMOs), EMS providers, MHOAC members, RDMHC members (other counties), and other healthcare sectors, to discuss what was happening, review the latest guidance and directives and answer any questions that stakeholders would have. For example, on March 26, 2020, the EMS Agency held a Zoom® call with Home Healthcare/Hospice (HHH) partners to go over new guidance regarding masks, operational closures, ReddiNet usage, and the *Health Care Surge Planning Guide*. The meeting was followed by an email summarizing the guidance and the issues. It was indicative of many calls and the distribution of information facilitated by the EMS Agency throughout the pandemic.

The EMS Agency's Medical Director led a regular call with fire departments/EMS providers and base hospitals that would take place via Zoom® weekly on Mondays and provided updates on important issues such as the latest on the outbreak, data monitoring, testing, and time for open discussion/questions.

The EMS Agency also convened a leadership committee of regional hospital CEOs, CDPH, the EMS Agency, and the MHOAC to facilitate information sharing. The "Regional Hospital Leadership

Committee" meetings were led by the Agency Director. The meetings were touted as a good tool for discussing policy and resource needs at the highest levels.

*Emails*

The EMS Agency sector liaisons would email their sectors on a regular basis regarding such things as therapeutic treatments (such as Bamlanivimab), antigen tests, and vaccine distribution. Medical Directives and EMS Agency memoranda were also disseminated via email. The Agency felt that emails were an effective way to push comprehensive and timely COVID-19 information out to stakeholders.

However, not all email addresses were accurate and not all emails were received. The EMS Agency maintained an MS Excel database which it called "healthcare coalition" with points of contact and contact information for 200+ affiliated healthcare facilities. Unfortunately, many emails were frequently returned. Maintaining up-to-date contacts and contact information for each healthcare facility via this manual and labor-intensive process became one of the Agency's greatest communication challenges.

*ReddiNet®*

ReddiNet is a commercial product that facilitates information exchange among hospitals, EMS, paramedics, law enforcement, and other healthcare system professionals over a reliable and secure network. It has multiple modules that address topics including bed capacity, mass casualty incident (MCI) management, ED status, resource requests, evacuation status, etc. ReddiNet is a tool the County has used for decades and many EMS System/Healthcare Coalition members are very familiar with it. It was the preferred platform for data gathering and information dissemination between the EMS Agency and system/coalition members. Over the course of the pandemic, ReddiNet continued to be a useful tool for communication and information dissemination. Most users found it to be both reliable and user-friendly and preferred it over other more manual processes (e.g., email).

**Support for Decedent Operations**

According to the *2013 Mass Fatality Guide for Healthcare Entities*, the EMS Agency's role during a mass fatality event was similar to its day-to-day responsibilities for mass casualty incidents; focusing on notifications, information sharing, resource coordination, movement/ transportation coordination, and the tracking of deceased persons.

Decedent management was not a typical duty handled by the EMS Agency, but one it would become more involved with than ever before during the pandemic. Seeing the impacts of COVID-19 play out around the world, the EMS Agency thought it could be of greater assistance in this area. As a result, decedent management was assigned to the DOC's Planning Section with the Planning Section Coordinator becoming the liaison with the County Medical Examiner-Coroner.

The EMS Agency's initial efforts related to decedent management were in line with normal duties and responsibilities: providing information and guidance to the health sector partners, identifying resources available to hospitals and affiliated care sites to handle decedents, and supporting related resource requests. Due to the severity of the growing number of deceased during the

2020/2021 winter surge, the EMS Agency jumped in further by coordinating more directly with the Medical Examiner-Coroner on behalf of system/coalition members to find available space. The problem was twofold, the volume of deceased continued to increase at a rapid rate and mortuaries weren't able to pick up decedents at the pace they normally would.

*Hospitals*

On April 20, 2020, the County Medical Examiner-Coroner issued *COVID-19 Decedent Management Guidelines for Hospitals* regarding decedent care for positive and presumptive COVID-19 cases. The guidance document was developed with the input of the EMS Agency and DPH. Guidelines were issued in regards to decedent handling and storage, death certificates, and the reporting of COVID-19 associated deaths.

In April 2020, the EMS Agency also issued a survey to 77 hospitals to determine which hospitals had a morgue and, if so, their total morgue capacity. The survey also asked whether hospitals had an alternative morgue location and/or means of storage identified in the hospital's mass fatality plans. Nineteen (19) hospitals (25%) reported they were having difficulty with mortuaries picking up decedents. The reported difficulties included:

- "There is a delay in pick up and in communications when making arrangements together with family members"
- [Mortuaries] "are at capacity"
- "Mortuary personnel are afraid of COVID exposure"
- "Mortuaries stated the county is telling them not to pick up any COVID-19 patients, that we must call the Coroner"
- [Mortuaries] "not having the proper PPE for pickup"

During the winter 2020/2021 winter surge, the guidance was modified to reflect the expanded role the EMS Agency was taking on. On December 24, 2020, the guidance was modified from "Medical Examiner-Coroner may be able to assist with decedent storage in exigent circumstances" to "If you have exhausted all other avenues of procurement of decedent storage space, including but not limited to reaching out to mortuaries, refrigerated truck companies, etc. and have activated your mass fatality plan procedure, you may submit a resource request via ReddiNet for review." Additionally, the Planning Section Chief was listed as a contact to assist hospitals with decedent storage issues. On ReddiNet, the EMS Agency developed a resource request poll to determine how many deceased remains a hospital was holding and would forward that information to the Medical Examiner-Coroner for its consideration.

The EMS Agency also created a log to track decedent information. In its "Hospital Decedent Storage Request Log," the EMS Agency tracked the name of the hospital, the total number of decedent spaces, the number of decedents being held there, the number of refrigerated trailers in use, and the date the information was forwarded to the Medical Examiner-Coroner. The EMS Agency also created lists of refrigerated storage containers and mortuary services so that hospitals could connect with them directly.

*Other Affiliated Sites*

The EMS Agency also issued a decedent management survey to SNFs in May 2020 to ascertain if SNFs were experiencing any difficulty with mortuaries picking up decedents. Only one (1) of the 138 respondents were experiencing difficulties at the time. The survey also asked whether facilities had a decedent storage plan and details about those plans. Facility Management Protocols were developed for clinics and SNFs in January 2021 to outline how those sites could request resources for fatality management purposes.

**Inter-Agency Coordination**

In addition to local members of the EMS System/Healthcare Coalition, it was a necessity for the EMS Agency to establish and maintain coordination with other appropriate entities throughout the course of the pandemic, including DPH, CDPH, OEM, and liaisons from Alternative Care Sites (ACS) such as the U.S. Navy. This took the shape of many formal and informal relationships with multiple lines of communication amongst and between the agencies, including through the MHOAC/RDMHC programs, which is addressed under *Category 4* of this report.

*Los Angeles County Department of Public Health*

The EMS Agency coordinated with DPH on a regular basis during the pandemic. The EMS Agency Assistant Director and Nursing Director served as the primary liaisons to Public Health. The EMS Agency would coordinate with DPH on the management of isolation and quarantine sites, and would also work directly with different DPH divisions, particularly the Healthcare Facilities Inspection Division (HFID), Acute Communicable Disease Control (ACDC) Division, and the Emergency Preparedness and Response Division (EPRD) on a case-by-case basis. The EMS Agency participated in the DPH COVID-19 Vaccine Work Group, which was convened to assist with planning for the distribution of the COVID-19 vaccines. The MHOAC would also coordinate with DPH as a member of the MHOAC program as it related to information and resources.

The EMS Agency maintained a strong and collaborative relationship with DPH. Though at times, some EMS Agency staff felt frustrated at the lack of timely or accurate information or support provided by DPH to accomplish projects. To some degree this was understandable as DPH was the lead agency for the pandemic response and was stretched thin on many fronts. Nonetheless, the EMS Agency felt that it stepped up to support DPH with many of its missions and thereby deserved timely input.

*California Department of Public Health/Emergency Medical Services Authority*

The EMS Agency had to coordinate with CDPH and the EMSA on multiple fronts: a) EMSA was the primary State agency providing the push of resources (e.g., PPE, ventilators) to the EMS Agency for distribution to local EMS and healthcare providers; b) the health and medical mutual aid program the EMS Agency administers locally and for Region I reports up to, and is under, CDPH/EMSA's purview; c) some pre-hospital EMS Agency Directives that affected hospitals needed to be coordinated with EMSA; and d) healthcare coalition members often came to the EMS Agency with questions regarding CDPH/EMSA guidance, waivers, or requirements. Because of that necessary level of coordination, in December 2020, CDPH embedded Agency Representatives in the EMS Agency DOC to work on these issues side-by-side with Agency

personnel and to help coordinate and clarify protocols with EMS System/Healthcare Coalition members, other state agencies (e.g., CalOES), and other local stakeholders (e.g., DPH).

*Alternate Care/Surge Sites*

The EMS Agency, through the MAC, coordinated with several ACSs for the transfer of patients. The U.S. Navy was the lead for the USNS *Mercy* Medical Ship. The U.S. Navy deployed two representatives to the MAC prior to the arrival of the Mercy and during its time in port. The Navy Agency Representatives used a conference center adjacent to the MAC as their work area. From there, they would facilitate numerous calls between the MAC and treatment centers requesting patient transport to/from the USNS *Mercy*. Coordination and communication worked very well with the Navy in the MAC.

Other ACSs (e.g., LASH) did not deploy agency representatives to the MAC, resulting in more overt challenges coordinating patient transfers. Their reasoning for this was two-fold: 1) the ACSs had more limited staffing than the U.S. Navy, and 2) they had concerns around limiting coronavirus spread at the MAC. The result was that there were often delays reaching ACS representative and conditions would often change by the time the MAC was able to contact the ACS, creating an immediate need to reassess or modify strategies.

*Los Angeles County Office of Emergency Management*

The County Emergency Operations Center (CEOC) had in-person operations for most of the pandemic response. As a result, the EMS Agency had an Agency Representative deployed to the CEOC's Medical and Health Branch. That representative, along with others from DPH, DMH, etc., were able to communicate directly regarding county-wide strategies and UCG decisions. While the Agency Representatives were not empowered to make decisions on behalf of their respective departments/agencies, they liaised with their departments/agencies and communicated the results in-person to facilitate necessary coordination.

In addition, the MHOAC program, as part of the County-level health and medical mutual aid program, reported information to the CEOC on a regular basis, including providing information to the State regarding the status of the County's medical and health efforts. For example, CDPH required each county to complete a monthly survey between August 2020 – February 2021, which was sent to OEM, but most of the content was provided by the MHOAC and EMS Agency. Questions were related to the contact tracing workforce, availability of testing sites, containment plans, isolation and quarantine resources, non-pharmaceutical interventions, disease transmission investigations, and whether a county had a COVID-19 response action plan. The EMS Agency was responsible for answering the questions related to testing, isolation and quarantine. As *Category 5* of this report describes in more detail, both the CEOC and EMS Agency viewed their communications as strong and well-coordinated.

## 2.2 Notable Strengths

***Strength 2.2.1:*** The collaborative approach to decision-making demonstrated by both the EMS Agency's administrative leadership and its medical leadership is to be commended. High-stress emergency situations often create a "go it alone" mentality, but that was not demonstrated at

the EMS Agency. Although authorities were clearly delineated, Agency leadership preferred to engage peers and subordinate advisors in decision-making and policy development. This was not something put in place or forced upon them because of the pandemic, but rather flowed naturally without special consideration from years of business practice and because of the trusted relationships and rapport that had developed over time.

***Strength 2.2.2:*** The EMS Agency, and specifically its Medical Directors and executives (policy makers), dedicated themselves to a cycle of constant learning throughout the pandemic, as they struggled to ensure the health and safety of both system patients and providers. Responding to the novel virus required a vigilant dedication to the constant stream of news, developing guidance, and scientific research from the CDC, DPH, the Food and Drug Administration (FDA), academic literature, case studies and best practices from other impacted health systems. Under incredible duress and in time-sensitive circumstances, the EMS Agency did an admirable job of making fair, ethical and equitable decisions relevant to the care and transport of patients and the distribution of resources in this particular "disaster" scenario.

***Strength 2.2.3:*** The EMS Agency is to be commended for developing and utilizing daily, multi-weekly, and weekly (as appropriate) Coordinated Action Plans. The action planning process can be resource intensive at times and during an activation that lasted as long as the pandemic, the momentum of most other organizations, including emergency-oriented ones, often diminishes. That is usually illustrated through less reliable or less substantive action plans, redundant plans that aren't updated, or significantly decreased frequently (e.g., monthly, every other month). Although there were some areas for improvement, the EMS Agency's CAPs were typically substantive, up-to-date, and developed at appropriate frequencies to match the needs of the evolving situation. The Agency's operations were certainly more effective and efficient because of this important planning process and the resulting plans.

***Strength 2.2.4:*** Creating a robust Data and Modeling Unit in its DOC P&I Section was a critical step for maintaining situational awareness and for understanding and tracking the metrics and impacts of COVID-19 through the health and medical system. COVID-19 was a novel virus and understanding and predicting the impacts of the virus on the County required sophisticated data analysis and modeling. The addition of this unit also demonstrated a mastery of ICS that allowed the EMS Agency to customize its ICS structure to the needs of the emergency in a modular manner that is encouraged by ICS and proved effective.

***Strength 2.2.5:*** The EMS Agency was a trusted resource to stakeholders, communicating the most up-to-date information as it became available. Using the staff regularly assigned as sector liaisons to disseminate pandemic related information and facilitate information exchange was useful for continuity and leveraged existing relationships.

***Strength 2.2.6:*** Of its own volition and despite being taxed in many other ways, the EMS Agency stepped up to support decedent operations beyond its traditional limited role. Along with the Medical Examiner-Coroner, the Agency contributed to guidance documents, conducted polling, developed lists of available resources for hospitals (e.g., refrigerated storage companies, mortuaries), and acquired resources to support hospitals that needed decedent storage

assistance. This was noted as a best practice for communications with partners in the March 2021 MHOAC Survey developed at the request of the State. From the early days of the pandemic, the EMS Agency worked with hospitals and other system/coalition members to provide guidance regarding decedent management and to ascertain resource availability in anticipation of shortages and surges.

***Strength 2.2.7:*** The EMS Agency maintained strong and multi-layered relationships with partner agencies throughout the pandemic. Its deployment and use of Agency Representatives was an essential means of communicating with many of its peer agencies and unique or specialty services that were established in the County just for the pandemic. Likewise, the Agency's ability to receive and host Agency Representatives again demonstrated a mastery of the expandable nature of ICS, but also allowed it to integrate external partners and information into its decision-making, information and resource management efforts.

## 2.3 Areas for Improvement

***Areas for Improvement 2.3.1:*** The objectives in the EMS Agency's Coordinated Action Plans were not developed using the "SMART" methodology and thereby made it difficult to determine if the Agency's end goals were being achieved across Operational Periods.

***Reference(s):*** *ICS Action Planning Process*

*Department Emergency Plan, June 27, 2019*

***Analysis:*** DOC and Agency leadership felt the CAP objectives were sufficient to guide the EMS Agency's long-term response, but the objectives were not developed using the "SMART" methodology (Simple, Measurable, Action-Oriented, Achievable, Time/Task Oriented) per ICS standards. The DOC instead captured what it referred to as "daily objectives" (a.k.a. tasks/activities) as part of the ICS Form 202's "Command Emphasis" Section or in the ICS Form 201's "Current and Planned Actions, Strategies, and Tactics" Section. The authors found the "daily activities" to typically be reactive to the situation versus proactive. Because the standing/umbrella objectives were not SMART and were only altered in minor ways during the pandemic, it seemed the EMS Agency did not have a vision of where it wanted to go (its terminal objective) or what objectives it was working toward across Operational Periods. Instead, it seemed to be reacting to the immediate needs of the situation. How was the Agency measuring progress towards its overall mission (i.e., they were fighting many battles but were they winning the war)? Agency personnel were confident in their approach and felt comfortable with the level of detail in their CAPs, but utilization of SMART objectives may have helped the Agency to better understand its long-term mission and measure progress toward achieving that mission.

***Recommendations:***

1. Conduct more ICS/action planning training to improve the Agency's understanding of the action planning process, purpose, and tools for effective planning.
2. Update the Department Emergency Plan or create a supplemental document with instructions for developing actions plans.

3. Consider employing the SMART objective methodology for creating incident objectives in the future.

***Area for Improvement 2.3.2:*** The effort put into the planning, resourcing, and operations of most alternative care/surge facilities was not commensurate to their ultimate value to the pandemic response.

***Reference(s):*** *Alternate Care/Surge Facilities*

***Analysis:*** The EMS Agency supported the establishment of multiple alternate care/surge facilities, including the Los Angeles Surge Hospital, Federal Medical Station, State surge facilities, and the USNS Medical Ship *Mercy*. The EMS Agency contributed time, resources, and staffing to the planning for, and operations of, these sites intended to alleviate the burden on the EMS and health/medical system. The Agency then supported the operations of these sites by facilitating patient transfers from hospitals and other care centers to the surge facilities. Unfortunately, the patient transfer criteria were too strict to allow the surge sites to be of any value to hospitals. Most surge sites were not optimally resourced with supplies, equipment, or personnel. Hospitals were then referring ineligible patients that were turned away, which exacerbated hospital frustrations. The MAC then spent countless hours trying to coordinate patient transfers to these sites that ultimately didn't happen. In the end, some of the surge sites never opened (e.g., Federal Medical Stations) and others were dramatically underutilized; sometimes supporting less than 10% of their intended capacity. The decisions to establish alternate care sites were beyond the control of the EMS Agency. However, as an advocate of the County's health and medical stakeholders and as an Agency with a unique perspective into the integration of these sites into the health/medical response, the Agency felt it was important to communicate that alternate care/surge sites were not an effective solution for COVID-19. The Agency and the EMS System/Healthcare Coalition felt like they were ultimately a waste of time and resources. There was consensus amongst those engaged in this review that only hospitals, clinics, urgent cares, and other existing infrastructure can effectively manage patient care. They felt the resources intended for stand-alone alternate care sites should have been provided to hospitals and other existing facilities so they could have expanded their own operations even further (well beyond what tents and the Mobile Medical System [MoMS] could achieve) and thereby, better treat their patients.

***Recommendations:***

1. As an advocate for the EMS System/Healthcare Coalition, the EMS Agency may wish to voice concerns or dispute future plans to establish stand-alone alternate care/surge sites when existing infrastructure is operational, accessible, and is capable of being expanded.
2. Advocate for the reallocation of resources and personnel intended for stand-alone alternate care/surge sites to instead go to hospitals and other existing facilities so they can further expand their own operations on-site.

***Areas for Improvement 2.3.3:*** Coordination was affected when ACS Agency Representatives were not located on-site.

***Reference(s):*** *Agency Representative Protocols*

***Analysis:*** Due to staffing limitations and COVID-19 restrictions it may not have been realistic to have ACS liaisons on site at the EMS Agency and with the MAC to assist with patient transfers. However, it is worth noting that the process worked effectively with the U.S. Navy, which deployed representatives, as opposed to the other ACSs. Communication and coordination was more efficient and timely with the U.S. Navy representatives than with other ACS locations.

***Recommendations:***

1. When possible, encourage Agency Representatives from critical facilities to co-locate with the MAC to help coordinate patient transfers. This would ensure a smoother continuity of coordination for the transfer of patients as well as patient tracking.

***Areas for Improvement 2.3.4:*** Frequent and sometimes duplicative (with other agencies) information and data requests, such as polls and surveys, were at times burdensome to stakeholders.

***Reference(s):*** *Polls and Surveys*

***Analysis:*** Frequent polling and surveys were essential to the EMS Agency's ability to gain situational awareness, assess the needs and resources in the County, and inform decisions. They were equally as essential to other government and regulatory agencies. And stakeholders were responsive to EMS Agency polling and survey requests. However, it was noted in workshops with EMS System/Healthcare Coalition members that polls were frequently changing, most polls from disparate agencies were duplicative and uncoordinated, and the time it took to accurately populate polls was excessive under the pressures of the situation. The EMS Agency tried to coordinate polling efforts with CDPH, but was met with little to no support. While this issue is somewhat beyond the EMS Agency's control, the Agency's perceived involvement in the problem affects its relationship with hospital stakeholders. Some hospitals already admitted to "guesstimating" their poll data because of limited time, staffing, or other competing demands. When asked what the polling data was used for, all but a few hospitals could explain what the polling results were used for and what benefit it offered the hospital to respond. In the future, the EMS Agency must consider these perceptions and challenges or otherwise risk diminished response rates and data integrity. Hopefully with the support and coordination of it partners (e.g., CDPH), the EMS Agency will be able to participate in coordinated, simplified, and consistent polling methods.

***Recommendations:***

1. The EMS Agency should be aware that multiple entities are requesting similar information from healthcare providers, and it is burdensome. Consider collaborating or consolidating data requests when possible and early in an operation.

2. Query system/coalition members regarding the polls they are receiving and ask their opinion regarding options for reducing the polling burden (e.g., flexible deadlines, different formats, reduce duplicative questions).
3. Be sure system/coalition members are aware of the purpose of the surveys to improve response rates and also demonstrate the benefits of completing the surveys to the survey-takers; illustrating how they directly benefit from completing a poll/survey.

***Areas for Improvement 2.3.5:*** Lack of an up-to-date and automated facility contact database jeopardized communications and coordination with EMS System/Healthcare Coalition members.

***Reference(s):*** *Contact Lists/Database*

***Analysis:*** Maintaining an updated contact list for hundreds of sites is a significant undertaking and can be very time intensive when done manually, especially to maintain contact information for organizations where there is frequent staff turnover. As noted by multiple EMS Agency personnel, this challenge had been identified pre-pandemic by a contractor who was working for DPH and suggested a database option that is easier to maintain. Even with automation and technology, maintaining an updated contact list will likely remain a challenge as facilities will continue to have turnover, limited resources and may not be able to easily update their contact information. As *Area for Improvement 5.3.1* addresses, the EMS Agency is then dependent on informal relationships rather than a reliable structure to facilitate information sharing and emergency operations.

***Recommendations:***

1. Resume efforts to develop an automated/technology-based contact database. Consider utilizing a system that would allow outside agencies to update their information directly in the system.
2. Convene a working group or allocate time at future meetings to discuss this challenge with system/coalition members and develop a collaborative plan to address the challenge (e.g., consider the frequency of updates, means, reminders and notifications, and communication channels).
3. Consider how the EMS Agency, DPH, CDPH and other agencies can collaborate to improve the contact lists maintained by each department.

**Area for Improvement 2.3.6:** The role the EMS Agency played in supporting and facilitating decedent operations is not codified in plans and procedures.

***Reference(s):*** COVID-19 Decedent Management Guidelines for Hospitals

Mass Fatality Guide for Healthcare Entities

Department Emergency Plan

**Analysis:** Typically, the EMS Agency plays a very limited role in decedent operations and doesn't get as involved in planning, polling, information sharing, and resource management as it did during the pandemic. As an EMS Agency employee noted in a survey: "[the EMS Agency] was able to pull together as a team and effectively address known areas and develop policies procedures for items that we had no idea that we would

need to address. For example, tracking and assisting the coroner with decedents." The role the EMS Agency took on during the pandemic was not anticipated nor codified in plans.

***Recommendation:***

1. With the County Medical Examiner-Coroner, determine whether the EMS Agency should continue supporting decedent operations during future mass fatality incidents in a similar fashion to the functions it performed during the pandemic.
2. If the Agency maintains some responsibilities for decedent operations, update the Department Emergency Plan and other procedures to include those responsibilities and the processes for facilitating such activities.

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## Category 3: Resource Management

Effective resource management is critical for the success of an emergency response and recovery operation. It also represents a majority of the EMS Agency's responsibility to the EMS System/Healthcare Coalition in times of emergency. If the COVID-19 pandemic created a unique and unprecedented emergency environment, then in no way was it more so than its effects on resources and logistics. For the first time in modern history, the pandemic resulted in a global shortage of all types of supplies; of which PPE and medical/health resources were among the hardest hit. Not only was the supply of resources affected, but so too were the methods of delivery. This category of the review addresses the EMS Agency's ability to identify resource needs, acquire, distribute, and track resources on behalf of system/coalition members to support healthcare operations, agency operations, and treat those affected by the pandemic.

The ability to procure vital resources is facilitated by pre-planning that provides for pre-event acquisition protocols, strategic stockpiles, or earmarks emergency funding and identifies dependable sources of resources to ensure supply chain agility in a dynamic and large-scale emergency. The EMS Agency is the conduit for pursuing medical and health resources from the State, and beyond, when needs cannot be fulfilled within the County. This is in keeping with California's Standardized Emergency Management System (SEMS), the National Incident Management System (NIMS), and the California Health and Medical Mutual Aid Program. Utilization of these resource systems allowed organizations like the EMS Agency to meet emergency needs and assure fair and effective prioritization for competing needs.

From the start of the pandemic through March 8, 2021, the EMS Agency had entered a total of 1,765 resource requests into SalesForce® (the State's resource management system) for a total of 144,382,325 individual resources. As of that time, 114,239,833 resource needs had been fulfilled (79%) and 20,834,243 (14.4%) were still backordered. Of the 1,765 resource requests:

- 715 had been partially fulfilled (40.5%)
- 707 were completely fulfilled and closed (40%)
- 133 were cancelled or denied (7.5%)
- 62 were still under review (3.5%)
- 62 were unfulfilled and closed (3.5%)
- 55 were referred or had been sent to another entity (3.2%)
- 31 were in draft form or still being populated (1.8%)

These figures only address resources related to the formal requests the Agency received from EMS System/Healthcare Coalition members, but does not include all the additional resources the Agency proactively pushed from the State (or other sources) without requiring a request.

A critical part of the EMS Agency's resource management program is facilitated by the MHOAC and RDMHC Programs. They accounted for the entry and management of many of the aforementioned resource requests. Because of the importance of those two programs, and for the sake of this report, the review of the MHOAC and RDMHC programs is addressed separately in the next section (Category 4). This section identifies where those programs were connected to the Agency's overall resource activities, but the details are provided in the next section.

RESOURCE MANAGEMENT

## 3.1 Summary

**Resource Needs**

During the sixteen (16) months covered by this report, the EMS Agency acquired and distributed an estimated 150+ million resources to EMS System/Healthcare Coalition members. Most of those resources fell within the categories listed below with examples provided where applicable. Essentially, the below items became the language of the EMS Agency on a daily basis as it responded to resource requests, foresaw resource shortfalls, and pushed resources from the State and other suppliers.

**Equipment**

- Body bags, morgue resources
- Durable Medical Equipment (DME)
- Hospital/ICU beds, cots
- Nasopharyngeal swabs
- Needles, syringes, intravenous (IV) pumps
- Oxygen and oxygen resupply (bottled/tanks, mass concentrators, home oxygen concentrators)
- Telemetry monitors
- Thermometers
- Ventilators (Ventec One-Circuit Unified Respiratory System [VOCSN], LTV Brand [portable, advanced ventilation system])

**Facilities**

- Mobile Medical System (MoMs) and MoMs Strike Team (a state-of-the-art portable medical facility with two big rig trailers and a tent system)
- Quarantine and Isolation (QI) Sites (facilities, ingress/egress, utilities, supplies/resources, staffing)
- Refrigerated Trailers (for temporary morgue space)
- Tents/Shelters for Surge Capacity (Blu-Med, Western, Alaskan)
- Testing Sites (facilities, ingress/egress, utilities, supplies/resources, staffing)

**Personal Protective Equipment (PPE)**

- Face coverings, masks, and shields
- Gloves, gowns, goggles
- Hand sanitizer/disinfectant wipes

**Personnel**

- Healthcare Personnel/Surge Staffing (Certified Nursing Assistant [CNAs], Emergency Medical Technicians (EMTs), Licensed Vocational Nurses [LVNs], Nurses [clinical, ICU, Multiple Sclerosis, telemetry], Respiratory Care Practitioner [RCPs], Respiratory Therapists [RTs])
- Manual Labor and Logistical Staffing (Drivers, Warehouse workers, Mortuary workers)

**Pharmaceuticals/Immunotherapies**

- Broad Spectrum Antiviral Medication (Remdesivir)

- Convalescent Plasma Donations (experimental treatment through the National Institutes of Health [NIH])
- Immunosuppressive/Anti-parasite Drugs (e.g., Hydroxychloroquine)
- Monoclonal Antibodies (e.g., Regeneron, Bamlanivimab, Etesivimab)
- Vaccine (Pfizer, Moderna, Johnson & Johnson, AstraZeneca)

**Services:**

- Vapor Phase Hydrogen Peroxide Respirator and Mask Decontamination Services
- U.S. Army Corps of Engineers (USACE) Assessment Teams
- Dialysis Community Response Needs Teams

**Testing Kits**

- BinaxNow

**Resource Management Process and Organization**

Prior to the pandemic, the EMS Agency had only received occasional resource requests over the last two (2) years. Those requests never strained the Agency, and its previously defined resource management process was sufficient to address the demand. Per its pre-existing resource request process, the Agency assigned all resource requests to a single person within its DOC Logistics Section. Within a few weeks of the start of the pandemic, prior to the EMS Agency DOC even becoming fully activated, the Agency recognized a need to change its strategy based on the growing number of resource requests. The Agency first added its sector liaisons (typically Program Managers assigned to specific sectors) into the process. Resource requests from hospitals were sent to one person, clinics to another, and so on. However, this ultimately proved inefficient because some sectors were making many more requests than others (i.e., hospitals), which still overwhelmed some of the sector liaisons while leaving others untapped. At that point, the Agency realized a more team-oriented approach was needed. Teams were assigned to each day of the week and covered all resource requests received on those days, collectively. While they still demonstrated and contributed their sector-specific expertise, the team was then available to equally balance the number of requests amongst all Logistics Section members. The Agency's documented process was also updated to add ReddiNet as the most likely portal through which the Agency would receive requests. As time passed, additional sectors were added as needed and assigned to team members as they were identified (e.g., doctors' offices). The Agency's resource request process is illustrated on the next page.

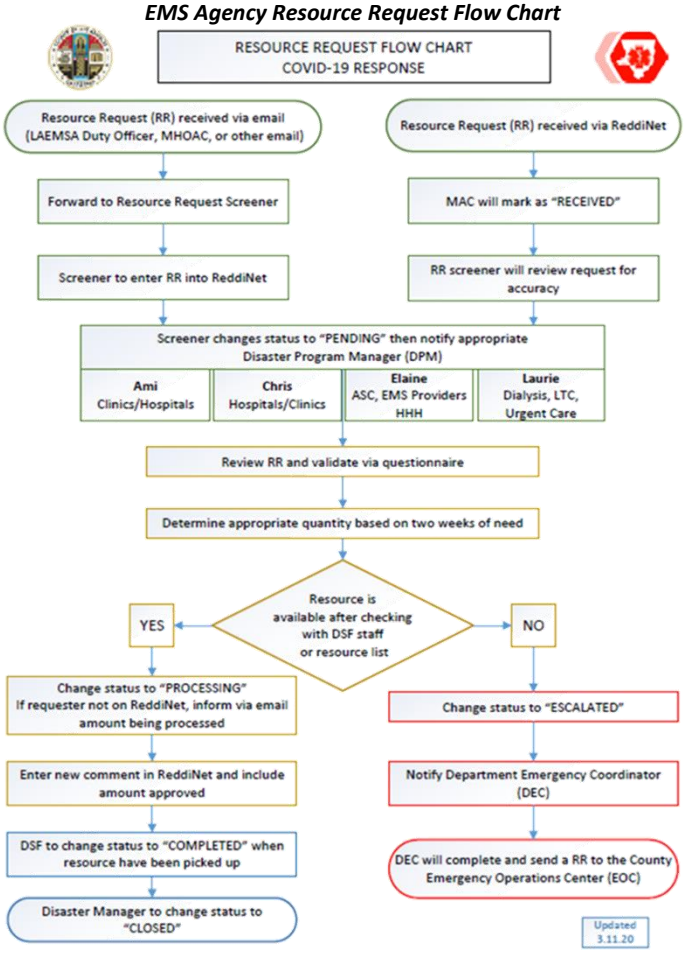
In addition to the DOC Logistics Section, the DOC Operations Section also played a large role in logistics and resource management. This is common in the EOC/DOC environment and with organizations that don't have a direct tactical/field mission, such as the EMS Agency. The Operations Section, in coordination with the Logistics Section, took responsibility for certain aspects of the Agency's resource management program. In particular, the Operations Section provided support to the non-EMS System/Healthcare Coalition entities that were part of the response, including the Disaster Staging Facilities (DSFs) (e.g., EMS Agency warehouse in Santa Fe Springs and Long Beach Convention Center [LBCC]), Quarantine and Isolation (Q&I) sites, testing sites, and alternate care/surge sites. In addition, the Operations Section helped to facilitate personnel resource requests when they were received (e.g., by helping to manage the

contract with Heluna Health) and coordinated training when it was needed to use a resource (namely N-95 Mask Fit Test Training and Nasopharyngeal Swab Training).

The MAC and CDO were also part of the Operations Section. Other than needing to surge its staffing for a few shifts during the height of the 2020/2021 winter surge, the MAC/CDO did not otherwise need to increase its operations or change its processes due to the pandemic. As *Category 2: Policy, Priorities and Information Management* of this report addressed, the MAC integrated Agency Representatives from the U.S. Navy into its operations during the initial phase of the pandemic and also established liaison functions with other alternative care sites. Other than that, there were only minor changes to its processes, including: adding a preliminary screening process to patient transfer requests to determine eligibility, working with hospitals more closely on transfer and diversion policies, conducting webinars to educate stakeholders on the ACS transfer process, and needing to support smaller hospitals with more transfer/diversion requests than usual. Some transfers took a long time to coordinate and it was difficult to connect with authorized physicians, but that was also commonplace prior to the pandemic. Because ACS sites were not on the county system the transfer process with those sites was slowed as the MAC had to handle them manually. Additionally, the MAC/CDO developed a patient tracking list piecemealed from ReddiNet's reunification module that worked well to keep track of patient movements. The only challenge voiced by the MAC/CDO team was that its night shift team didn't always get updates or briefings from the day shift, which sometimes left the team scrambling to catch up.

The volume of resource requests and the severity of the situation created a lot of stress for those managing resources. Multiple staff members shared that verbal altercations occurred. Some supervisory positions didn't agree on approaches or priorities. Sometimes one supervisor, for example, would instruct one thing and the next preferred something different. Like the MAC/CDO shift change challenge, a greater focus on coordination across Operational Periods and shifts could have improved operations and reduced tensions. Nonetheless, the Logistics and Operations Sections and the MAC/CDO utilized good business practices to facilitate communications and coordination, including the daily DOC meetings, working in-person as a team for the entire time covered by this report, and conducting resource management-focused meetings three times (3x) daily.

***EMS Agency Resource Request Flow Chart***



**Prioritization and Allocations**

The pandemic resulted in a supply shortage across the globe as the entire world tried to acquire the same PPE and healthcare-related resources (e.g., face masks, sanitizer, disinfectants, ventilators, medications). The pandemic left the healthcare system in crisis; hospitals with limited staff working in over-capacity facilities, interrupted critical item supply chains, and federal and state agencies struggled to direct palliative and preventative measures. This situation emphasized the importance of being able to prioritize scarce resources to those functions and organizations that equitably serve the greatest need.

On March 26, 2020, the Los Angeles County COVID-19 UCG established "Medical Supply Resource Distribution Priorities for PPE" and created four (4) tiers targeting different sectors:

- Tier 1 – Health Care Workers
- Tier 2 – Public Safety
- Tier 3 – Service Providers (homeless shelters, domestic violence shelters and board and care facilities)
- Tier 4 – Critical Infrastructure (city, county and special districts)

The UCG also established a PPE Work Group in the County EOC under its Logistics Section to oversee the provision of supplies to each of these tiers. The EMS Agency was assigned responsibility for Tier 1 – Health Care Workers (hospitals, clinics, EMS providers, public health, long-term care and skilled nursing facilities, ambulatory surgery centers, dialysis centers, urgent care, doctors' offices, and residential care/ adult and senior care facilities). All resource requests for scarce resources followed an established process. When a *Resource Request* for a scarce resource was submitted to the EMS Agency DOC—with most requests being for a scarce resource—an *Allocation of Scarce Resources Assessment Worksheet* would be completed by the DOC Operations, Planning or Logistics Section. The resource request would be scored. The DOC Manager would make the final decision on whether the resource request would be filled or not based on the score.

Algorithms were created by the DOC to prioritize the allocation of scarce resources (typically 60% to hospitals and 40% EMS providers, CCALAC, and others). In addition, the EMS Agency created additional prioritization tiers for hospitals and clinics to further inform allocation decisions to these facilities:

- Tier 1 – Trauma Centers, DRCs, CCALAC
- Tier 2 – Hospitals with Emergency Departments
- Tier 3 – All other HPP hospitals
- Tier 4 – All other hospitals

In a little over two weeks in March and April 2020, the EMS Agency built a series of elaborate spreadsheets to facilitate prioritization decisions. The spreadsheets factored in criterion such as burn rate, size, capacity of the healthcare facility, call volume, department size, HPP tiers, and polling data results. To address the ventilator shortage, for example, the Agency created a *Ventilator Triage Tool*. Hospitals that had used 70-80% of their ventilators would be eligible for resources if they provided their ventilator "burn rate." The outputs of the Triage Tool were considered along with the facility's priority tier, and resources were pushed accordingly. The draft

prioritization tools were reviewed by EMS Agency leadership, DOC and DSF staff for accuracy and fairness. Minor edits were made as needed. Once the Agency approved and implemented the tools, they were put in effect through the entire timeframe addressed by this report. And the Agency remained confident in the results produced by the tools. Whatever the spreadsheets identified as priorities informed the Agency's allocation decisions. There was no second guessing or questioning. While the data populated into the tools changed on a regular basis, the tool itself (e.g., algorithms, weighting scales) did not change and the EMS Agency had intentions of using the tools for future emergencies.

The challenges experienced with the prioritization process often resulted from external factors. For example, in polls, hospitals frequently confused licensed beds with staffed beds, which affected the results of the prioritization tool. LTC/SNF sites often exaggerated their numbers to inflate the need or magnify the supply shortage. Additionally, media and political pressure sometimes pressured the Agency to change its priorities. For example, there was negative media coverage regarding the supplies provided to a particular hospital in the City of Los Angeles. There was a push to move that hospital to a higher priority tier and its was seriously considered by EMS Agency leadership. However, it was later recognized that the data and prioritization strategies being employed were fair and reasonable and the hospital in question remained in its assigned tier.

The EMS Agency had discretion to send extra supplies to facilities if necessary and as available. Resource requests not filled out correctly were not entered into the prioritization process for scarce resources until specific information was provided. In the future, the Agency is considering requiring specific Essential Elements of Information (EEI) before a resource request will be considered. Of the 1,765 resource requests the County eventually populated into Salesforce, 946 were categorized as "Urgent" (53.6%), 420 as "Emergency" (23.8%), and 399 as "Sustainment" (22.6%) requests. Ultimately, the Agency's prioritization process was applied to its push of resources to healthcare facilities. No longer requiring resource requests, the Agency still used the outputs from its prioritization spreadsheets to inform "push" allocation decisions (e.g., quantities, receiving locations).

**Acquisition Strategies**

The scarce resources and high demand resulted in the EMS Agency using multiple strategies to acquire the needed resources. In addition to using the County's existing inventories of emergency supplies, essential items were procured from vendors with existing County Purchase Orders or contracts, small purchases through vendors like Amazon, donations from individuals, companies and non-governmental organizations, and from the State of California. Due to the scope of this disaster, a variety of approaches were required that typically would not be needed for a smaller or more traditional disaster. This multi-faceted approach allowed the County to acquire most of the resources EMS System/Healthcare Coalition members needed instead of relying on only existing stock and Pos.

*State Allocations*

The vast majority, an estimated 95%, of the resources received in Los Angeles County for the medical and health sector were allocated from the State of California; typically, a joint effort

between CDPH and CalOES. The State used its massive purchasing power to acquire resources at a scale Los Angeles County could not match. The State was also the recipient of Federal supplies, including resources from the Strategic National Stockpile (SNS). The State both pushed resources to Los Angeles County and responded to resource requests. *Category 4: MHOAC and RDMHC Programs* of this report, provides greater detail on the process used to request resources, including personnel, from the State. Using its own prioritization and allocation tools, the State pushed resources to Los Angeles County without having to be asked. In turn, the EMS Agency pushed them to its stakeholders using the previously discussed prioritization and allocation processes. Many of the supplies received from the State were good and both the County and end users were happy to have anything they could get. But some shipments had quality issues, such as deteriorated elastic straps on surgical masks, products that were past their expiration dates, inoperable ventilators or ones that needed to be immediately serviced, etc. As *Category 4* also explains, the shipments often came without any information as to the type or the quantity of the supplies. The EMS Agency's DSF staff had to break down shipments to determine what types of resources were included and the quality of the supplies before the supplies could be repackaged and distributed to healthcare providers.

The State was also relied upon for filling most requests for personnel. Again, *Category 4: MHOAC and RDMHC Programs* of this report goes into more detail. One reason it was necessary for the State to do so is that the State implemented a new volunteer program at the start of the pandemic known as the California Medical Corps, which essentially absorbed all the volunteers the County had registered locally through its Disaster Healthcare Volunteers (DHV) program. Another reason is that most sources of surge personnel were members of State or Federal teams, were from out-of-state sources or were clinical staff from staffing registries, including Disaster Medical Assistance Teams (DMATs), Disaster Mortuary Assistance Teams (DMORTs), California National Guard, and the U.S. Department of Defense.

*Federal Resources*

A few resources were either provided or funded directly through the Federal government. County DHS is one of the few local health agencies in the country that receives its federal funding and support directly from the U.S. Department of Health and Human Services (HHS) without having to be funneled through the State. During the pandemic, the HHS/Assistant Secretary for Preparedness and Response (ASPR) provided a few direct funding opportunities, primarily through the HPP grant program. In total, approximately 20 hospital surge tents, a small amount of PPE, and Powered Air Purifying Respirator (PAPR) supplies and accessories were provided through direct Federal funding/supply to the County.

*Purchases/Contracting*

The EMS Agency made approximately $1 million in purchases to acquire supplies for the EMS System/Healthcare Coalition or to support its logistical mission; a very small amount considering the magnitude of the operation. Approximately $75,000 of the purchased amount was attributed to grant funding and the remainder was charged to the Agency and then forwarded to DHS for accountability and potential cost recovery. Items procured by the

Agency were in line with other common necessities triggered by the pandemic: face masks, ventilator parts, packing supplies, janitorial services, disinfectant and cleaning supplies.

Additionally, HSA had staffing contracts with Public Health Foundation Enterprises (dba Heluna Health) that were expanded and used during the pandemic to provide personnel for testing sites, and quarantine and isolation sites. The Heluna contracts were later used to also provide staffing for the DSF/warehouse. Over the course of the pandemic, these contracts were used to acquire hundreds of personnel needed to operate critical health response sites. Administration of the contracts was time-consuming on the part of the EMS Agency (namely the DOC Operations Section) as it had to determine staffing needs at each site; requested the appropriate quantities of personnel; ensured staff had the skills, credentials and met the necessary prerequisites; developed staffing and shift schedules for each site; managed payroll; and addressed any staffing issues or problems that arose. The multiple agreements with Heluna Health amounted to over $12 million in total value. As of April 2021, the Agency had attributed approximately $4 million in costs to the Heluna contract.

*Donations*

The EMS Agency received nearly $3 million in donated PPE and other supplies from NGOs, private companies, and individuals that were used to augment the resources allocated to healthcare providers. The Agency's DSF staff vetted the donations before accepting them, tracked receipts of the donations, assigned a market value for each donated item, and distributed suitable donations to facilities or organizations needing them. All the donations management activities were accomplished without the aid of a pre-existing donations plan or policy[8]. If the EMS Agency was contacted regarding a donation—typically as a referral from the County CEO's Office or OEM—it determined what product it was, how it could be used, and which facilities could use it. Some donations also came in the form of services. For example, an EMS Fellowship Program fellow who happened to be working with SpaceX facilitated a connection between SpaceX and hospitals to have SpaceX help evaluate their oxygen supply and distribution systems. Likewise, several nursing schools offered staff and students as volunteers, with nurse instructors observing and supervising students. A monetary value was not applied to these services, but the EMS Agency helped to connect service donors with recipients in need.

All donations that were accepted and received were distributed to end users, except for a few supplies that were not under Emergency Use Authorization (EUA). However, those supplies were still donated to other causes able to use them. These donations were welcomed and appreciated by the County, however, the DSF staff was, at times, burdened with the management of the extra resources. The DOC's Logistics Section would typically check on the status of donations on a daily basis and spent on average an hour per week tracking donated items and sending thank you letters to the donors. Some donors attached additional conditions to their donations, which required more Agency time to address. One

[8] The County of Los Angeles has a *Donations Management Annex* as a component of its *Emergency Response Plan*. This Plan would be followed in the County EOC, but it is not specific to any one agency (i.e., EMS Agency).

organization, for example, required a thank you letter, a photo op with Agency leadership, and a press release or website posting acknowledging the donation prior to providing the resources. Agency leadership felt that none of the conditions they experienced were unreasonable considering the value and need for the items being donated and the generosity of the donors. Fortunately for the DSF and DOC staff, EMS Agency or DHS administration handled these additional requirements when connected with donations.

*Vendor Lists*

There were ultimately some needs the EMS Agency couldn't meet on behalf of EMS System/Healthcare Coalition members. As resources became more available further into the pandemic, the Agency developed vendor lists to assist system/coalition members in seeking out resources on their own for their facilities. The EMS Agency provided references via Google, Amazon, and other online sources, vendor catalogs, and compiled referrals to develop the lists, which were then widely distributed for the use of system/coalition members.

**Distribution Strategies**

Using a concept applied during the H1N1 response and later integrated into the County's *Medical Countermeasures (MCM) Plan*, the EMS Agency chose to employ a "hub-and-spoke" model for allocating resources to healthcare providers in the County. Ten (10) of the County's thirteen (13) Disaster Resource Center (DRC) hospitals accepted the task of serving as distribution centers for healthcare providers in their geographic area. The DRCs received a majority of the County's HPP funding for these types of purposes. Additionally, the County's MCM Plan, as previously mentioned, had already identified DRCs as potential distribution centers in the event of a biological attack requiring mass prophylaxis or other response; so, it was a concept the DRCs were familiar with. The EMS Agency accepted resources at its DSF warehouse or at LBCC (once activated). Those two sites then broke down and repackaged resources and distributed them to the receiving DRCs. The EMS Agency then assigned provider agencies to a DRC in their area as the source for their resources. DRCs then set up receiving, inventory, storage, and distribution processes that allowed them to provide resources to the end-user organizations. As *Category 5: EMS System/Healthcare Coalition Support* of this report explores, the DRCs did an outstanding job of managing distribution activities, but they did desire more guidance and tools from the EMS Agency to perform in that capacity, rather than having to improvise as they did.

Some system/coalition members were required to pick up their supplies from the DSF warehouse or LBCC. Most of those were affiliated partners representing clinics, home healthcare/hospice, surgical centers, urgent care, etc. Additionally, all provider agencies had to coordinate their own pick-ups from DRCs. As provider agencies expressed in a series of workshops, they used any and all means necessary to pick up supplies (e.g., personal vehicles, rented vehicles, delivery services). Although minor opportunities to improve efficiency and effective existed, the overall "hub-and-spoke" distribution strategy worked exceptionally well with both the quantity of resources and end-users that were supported throughout the pandemic.

**Disaster Staging Facilities (DSFs)/Warehouses**

The EMS Agency operated one DSF; it's day-to-day warehouse in Santa Fe Springs. A second DSF was established at the Long Beach Convention Center (LBCC), but was managed by the Los Angeles County Fire Department. The EMS Agency deployed Agency Representatives to advise and facilitate information sharing with the LBCC Incident Management Team (IMT), but the operation remained largely autonomous from the EMS Agency. The DSFs/warehouses served as the hubs for all medical and health resources received in the County. At the onset of the pandemic, the Agency's Chief of Disaster Response was reassigned to lead the warehouse operation and to oversee a small group of 4 – 5 DSF employees. One seasoned staff member retired soon thereafter, leaving the DSF unit immediately understaffed. Additionally, most of the staff assigned to the DSF was older, yet the work was very physical and labor intensive. The original plan of reaching back to the DOC for additional DSF staff didn't work because of limited availability across the Agency. The limited DSF staff worked long hours to support the emergency response. During one of the first peaks in the pandemic in the spring of 2020, the small DSF team loaded 107 pallets of supplies and pushed them out to DRCs in just one day. Impressively, the turnaround time for the DSF to receive, inventory, breakdown, repack, and deploy a truck full of resources was typically between 3-24 hours. The heavy workload for this limited staff was further illustrated by how much propane the staff used to move the supplies with propane-powered equipment—the DSF exceeded its annual propane budget in one month. The DSF was in particular need of warehouse staff, forklift operators, and administrative support. At times when the DSF was particularly short staffed, then it just forwarded pallets to DRCs without breaking them down first and DRCs were then left with the burden of also breaking down the pallets. Eventually, a receptionist was assigned to the warehouse office to alleviate managing the phones and some additional staffing was brought in via the Agency's contract with Heluna to provide additional manual labor.

About a month into the DSF operation in Santa Fe Springs, the County arranged to use LBCC as an alternate site to focus only on pushing out supplies. The Santa Fe Springs DSF/warehouse continued to push resources and support pick-ups as needed. These two operations were separate. Occasionally, the DSF/warehouse team would be briefed by the LBCC IMT and/or the EMS Agency Representative deployed there, regarding levels of inventory, but communications were not consistent. The LBCC operation was short-lived, closing in June 2020.

All resource requests were filtered first through the DOC before the DSF/warehouse would act on them. Once the resource request was vetted, and scored, the EMS Agency DOC would determine an appropriate quantity based on two weeks of need and would then coordinate with DSF staff regarding the availability of the resource in the warehouse. If the resource was available in the current warehouse inventory, DSF staff would fulfill the resource request and package or palletize the resources for pick-up by the requestor. If the resource was not available in the warehouse, the resource request would be escalated through the MHOAC/RDMHC programs. Later, the DSF/warehouse transitioned to more of a "push model" for deploying resources. Once that happened, the DSF team was empowered to make use of the prioritization tools (spreadsheets) that had been created and deployed resources accordingly; without needing to go through the DOC for approval.

DSF/warehouse staff also managed the Mobile Medical System (MoMS), which was initially located at Huntington Hospital and then moved to Pomona Hospital and back and forth a few times. In between each deployment, the MoMS needed to be rehabbed by the DSF/warehouse staff. Likewise, when the MoMS was deployed, a team of warehouse staff would accompany it to make sure it was set up and connected properly to facilitate operations. The MoMS mostly sat unused at Huntington Hospital and served as an infusion center at Pomona Hospital. Ultimately, the DSF/warehouse staff felt that MoMs was an underutilized asset during the pandemic response.

DSF/warehouse staff felt that the communication and coordination between them and the DOC needed improvement. When the DOC transitioned to partially virtual operations, the DSF team felt that their connection was lost. This switch disrupted the battle rhythm the two entities had established and staff felt they were no longer getting direction from the DOC in a timely manner. While briefings were held between the DOC and DSF/warehouse team, the limited staffing at the DSF meant that DSF staff could not always attend these briefing. The DOC instead sent Situation Reports to the DSF and the DSF sent weekly inventory updates to the DOC, but those communications didn't have the same effect as previous recurring engagements.

**Resource Management Software/Systems**

Inventory control at the DSF/warehouse was rudimentary. The warehouse and EMS Agency as a whole, lacked an inventory management system throughout the pandemic. It had been a work in progress for many years, but the Agency had never been able to settle on an appropriate product. Unfortunately, the system it was used to working with, ReddiNet, did not offer an inventory management component.[9] As it had done with other processes, the DSF team created a manual workaround of spreadsheets to sustain its operations. A "Desk Procedure" was developed detailing how to use the MS Excel spreadsheets to track all resources. To complement the "Desk Procedure," the DSF developed resources to support its implementation, including templates for shipping labels, packing lists, and pallet labels, which linked to the spreadsheets via a "mail merge" function—none of which existed prior to the pandemic. Depending on manual spreadsheets rather than "real-time" inventory systems resulted in slower processing times, items not being tracked, and quantity discrepancies between the DOC and warehouse. DSF/warehouse staff spent considerable time identifying quantities in stock before pushing supplies out. As this report was being developed, the EMS Agency had finally selected an inventory management system and was in the process of procuring it.

Other software systems used by the EMS Agency for resource management during the pandemic included ReddiNet and SalesForce. ReddiNet provided a way for provider agencies, namely hospitals, to coordinate and communicate with the EMS Agency. Provider agencies entered and submitted their resource requests via ReddiNet, which the EMS Agency then had immediate access to. Following the State's rollout of SalesForce as its resource management software

[9] Meanwhile, while it was transitioning to a new public facing patient tracking system, the MAC/CDO was able to jerry-rig the Reunification Module of ReddiNet to create a patient tracking system for alternate care/surge sites not on the County system.

(discussed further in *Category 4: MHOAC and RDMHC Programs*) a bridge was created between ReddiNet and SalesForce that allowed the County to escalate resource requests from ReddiNet to the Region or State.

**Demobilization and Replenishment**

The pandemic was still ongoing beyond the time reviewed by this report. As such, few demobilization efforts had yet begun. Nonetheless, in a few cases, the EMS Agency was working to have equipment returned. For example, per the request of the State, it needed unused ventilators to be returned as well as tent systems that were no longer being used for surge capacity. Most facilities were feeling reluctant to return any supplies, so more time was being given to them as of this report. The EMS Agency was providing guidance on how facilities could acquire or rent additional supplies to ease their concerns regarding returning supplies.

Accounting for supplies was also largely dependent on the tracking done by DRCs, which were given no instructions or tools. Overall, EMS Agency staff explained that the paper trail was very inconsistent, which was making it quite difficult to demobilize and recall few, if any resources. To whatever degree it would be able to recoup supplies and equipment, the EMS Agency was prepared to ship them back to the State. As for its tent systems, DRCs were first recalling and collecting them from provider agencies in their geographic area, and then DRCs were shipping them back to the DSF. Costs associated with wear and tear were covered by the County, but damage was being charged back to the facility that used the tents. This process was in its infancy during the time covered by this report.

At the time of this review, the DSF/warehouse was also in the initial stages of considering how to replenish its resources. There were multiple strategies being proposed and debated.

## 3.2 Notable Strengths

***Strength 3.2.1:*** Although initiated outside of the EMS Agency, the Agency contributed to the creation of the Operational Area/County's *Medical Supply Resource Distribution Priorities*, which were approved by the County's UCG. The EMS Agency became responsible for coordinating resources for the highest tier group identified—healthcare facilities and workers. Additionally, the EMS Agency contributed to a County PPE Working Group in the early stages of the pandemic, to assist with the acquisition and allocation of scarce resources. This was the first time in memory the County had established a UCG and the EMS Agency played an active role in contributing to and implementing its policies.

***Strength 3.2.2:*** The EMS Agency had a formalized and documented resource request process in place prior to the pandemic. However, that process did not foresee the volume and complexity of the resource needs brought on by the pandemic. The EMS Agency quickly adapted its process and revised its documentation to address the resource management challenges it was facing at the time. This included changing its assignments, creating a team of resource request processors, incorporating technology, and increasing staffing to meet the demand.

***Strength 3.2.3:*** In a short amount of time, the EMS Agency created spreadsheets and algorithms to inform the equitable distribution of scarce resources. In about two weeks, the Agency created tools that were well thought out, included relevant prioritization factors, were capable of addressing the volume of resources being managed, and compared the variety of organizations needing them in a fair manner. As needed, additional tools/spreadsheets were created to inform the allocation decisions around specific types of resources (e.g., ventilators). As *Category 5: EMS System/Healthcare Coalition Support* of this report describes, almost all stakeholders felt the distribution of resources was fair and equitable. The EMS Agency stood by the algorithms throughout the pandemic and was so confident in them that it planned to apply them in future emergencies.

***Strength 3.2.4:*** The Agency's decision to push resources to provider agencies rather than waiting on resource requests proved to be both popular and the most effective way to get critical resources to stakeholders in the least amount of time. Once again, the EMS System/Healthcare Coalition lauded the Agency's proactive efforts. By applying a hub-and-spoke model found in pre-existing emergency plans, the Agency was able to facilitate an efficient and very effective distribution of resources to end users over the course of many months. Almost no resource went unused, which should have been the case in all jurisdictions as hundreds of thousands of lives were on the line.

***Strength 3.2.5:*** The Agency's administrative and DOC leadership did not micromanage the Agency's resource management process or the tools the Agency created to facilitate the process. Elsewhere, the pandemic created countless examples of agency leadership and elected officials who felt existing systems and plans could not work during the pandemic and perhaps only they knew the best ways to proceed, which often resulted in inefficiencies and chaos. Agency and DOC leadership trusted in their plans and the capabilities of their staff. They rarely questioned the decisions and actions of their operators. Even when gaps were identified (e.g., resource inventory and prioritization tools), they trusted in the tools their staff developed to address the gaps. Not surprisingly, the staff were completely capable and the resource management operation was more effective and efficient than many others in the public sector.

***Strength 3.2.6:*** The DSF/warehouse team did an exceptional job of managing the volume of resources received and distributed over the course of the pandemic. Like other aspects of the Agency's resource management capability, they lacked the technology to streamline their operations. Not letting that stop them, they created user-friendly and rudimentary but dependable tools and processes that facilitated inventory management. They employed the prioritization tools provided by the DOC to inform deployments. To complement its new procedures, the DSF developed resources to support implementation, including templates for shipping labels, packing lists, and pallet labels, which linked to the spreadsheets via a "mail merge" function—none of which existed prior to the pandemic. Their work was not only mentally and emotionally stressful, but physically demanding. The team regularly worked long hours to breakdown deliveries, inventory assets, and effectively deploy them or manage pick-ups. The hard work of a small and dedicated team did not go unnoticed.

***Strength 3.2.7:*** Assigning a receptionist to the DSF/warehouse office was a simple action, but dramatically improved the operations of the DSF by freeing up the very limited staff to focus on managing the massive logistics operation rather than responding to hundreds of inquiries and requests from the DOC and others. The Agency should consider institutionalizing this practice whenever the DSF is activated for a large emergency.

***Strength 3.2.8:*** The DOC Operations and Logistics Sections, along with the MHOAC and RDMHS, did a valiant job of seeking out, coordinating, and acquiring staff for facilities in need. Although most personnel came from the State, the EMS Agency team did the leg work up front to ensure requests were reasonable, accurate and contained all required supporting documentation. They even searched locally to see if they could meet the request to the degree possible (e.g., volunteers). At the height of the 2020/2021 winter surge, seventy-two (72) facilities had requested staffing support and almost all had their requests at least partially fulfilled.

***Strength 3.2.9:*** Creating a vendor list for critical supplies intended for EMS System/Healthcare Coalition members, as well as recommendations for acquiring or renting supplies and equipment as resources were being recalled, were not requirements of the Agency, but simply kind gestures to help the Agency's partners in any way possible through difficult times. Such actions cemented the EMS Agency as a trusted and conscientious partner in disaster response.

**Strength 3.2.10:** ReddiNet and SalesForce were both valuable tools used to facilitate resource management. Even more valuable was the interface created between the two software systems to allow resource requests populated in ReddiNet to be elevated to the Region or State via SalesForce. While some challenges remained, the interface saved hundreds of hours of time when resource request needed to be elevated.

## 3.3 Areas for Improvement

***Area for Improvement 3.3.1:*** There was a lack of situational awareness between the DOC and the DSF/warehouse.

***Reference(s):*** *Incident Command System (ICS)*

*DSF/Warehouse Communications*

***Analysis:*** The DSF/warehouse is an extension of the EMS Agency DOC Logistics Section (essentially considered a "unit" under ICS), but felt uninformed or out of the communications loop regarding the DOC's priorities, objectives, timelines and Operational Periods. Communications between the DOC and the warehouse were difficult due to the limited availability of warehouse staff and situational awareness improved once the DOC started issuing Situation Status Reports and assigned a receptionist to handle incoming calls to the warehouse. The root cause for this deficiency was the lack of any shared real-time platform between the DOC and the warehouse. Each entity operated separately and only shared information during briefings or through Situation Status Reports. The EMS Agency's new inventory management system may help bridge this gap,

but so too can other emergency management software systems or more rudimentary ICS communications practices.

***Recommendations:***

1. Research software that might be used to link the DSF with the DOC and/or evaluate the full capabilities of the inventory resource management software the Agency is acquiring to see if it can be used to provide a shared platform between the DOC and the warehouse.
2. Continue to conduct ICS training that focuses on communications and coordination between the elements of an ICS structure, whether co-located or distanced.

***Area for Improvement 3.3.2:*** Inconsistent shift change procedures sometimes impacted the continuity of efforts and situational awareness across shifts and also fueled conflicts regarding priorities and procedures across shifts.

***Reference(s):*** *Incident Command System (ICS)*

*Department Emergency Plan (DEP)*

***Analysis:*** During this review, EMS Agency personnel shared concerns about the continuity of information, priorities, and processes across shifts following staffing changes. Several personnel commented that processes and priorities often changed depending on which supervisor was overseeing a function at the time (e.g., DOC Section, MAC/CDO, DSF/warehouse). Staff often felt that the priorities being implemented and processes being followed were the preferences of the supervisor, rather than a formalized continuum spanning the entire operation. As a result, multiple staff shared that verbal altercations sometimes occurred between supervisors or between supervisors and staff as frustrations arose because of changing priorities and processes. One supervisor would want to instruct one thing and the next preferred something different. This is partially attributed to the lack of documented and formalized resource management processes that existed prior to the pandemic. It is also linked to inconsistent shift change procedures. The MAC/CDO acknowledged, for example, that its day-shift sometimes failed to fully inform and transition the night-shift. This left the night-shift scrambling to catch up on current activities, policies, and situational awareness. To reduce potential conflicts and improve overall operations, a greater focus on shift changes and coordination across Operational Periods will be necessary during future emergency responses.

***Recommendations:***

1. Develop a shift change procedure, and associated tools to implement the process, as part of the Agency's operational structure and document the process in the EMS Agency Department Emergency Plan.
2. Continue to conduct ICS training that focuses on communications and coordination during transitions between shifts/Operational Periods.

3. Continue to document emergency procedures (resource management related and others) to ensure the continuity of priorities and processes across shifts/ Operational Period and reduce the likelihood of rogue or personal-preference processes and priorities.

***Area for Improvement 3.3.3:*** The DSF/warehouse was significantly understaffed.

***Reference(s):*** *DSF/Warehouse Staffing Plans*

***Analysis:*** At the beginning of the pandemic, DSF/warehouse staff managed warehouse operations with a small group of staff (4-5 employees). To complicate situations, one senior staff retired right before the pandemic. Warehouse staff were pulled in many directions. They needed to receive, inventory, breakdown, repackage, and distribute all shipments in a short amount of time. They also needed to stay connected to the DOC, which included participating in DOC briefings and meetings, and had to manage donations. Although some support was ultimately acquired through the contract with Heluna, the DSF staff was overwhelmed for much of the pandemic response.

***Recommendations:***

1. Develop staffing plans for different DSF/warehouse levels of operation using staff from other EMS Agency or DHS functions (i.e., as Disaster Service Workers) or on-contract third-party providers.

***Area for Improvement 3.3.4:*** Resource requests that did not include Essential Elements of Information (EEI) dramatically slowed the resource fulfillment process.

***Reference(s):*** *Resource Request Form*

***Analysis:*** As described in the "Prioritization and Allocation" section under this category, Logistics Section staff had to regularly reach out to resource requestors for additional information to properly process requests. This took up time and effort that could have otherwise been spent acquiring and mobilizing resources. Before a resource request can be filled the EMS Agency DOC needs to know:

- What is the purpose of the resource, its intended use/mission, and urgency?
- What is needed to address the use/mission?
- How much is needed and in what unit of measure?
- Where and when is the resource needed, including points of contact and delivery or pick up instructions?
- Any ancillary services or needs (e.g., transportation, communications equipment, fuel, and lodging)?
- Other special considerations (e.g., storage requirements, security, safety measures, licenses/credentials, language capabilities, cultural/demographic sensitivities, etc.)?

***Recommendations:***

1. Review the Resource Request Form and ReddiNet's Resource Request Module and update these as necessary to capture the essential elements of information.

2. Ongoing training for EMS System/Healthcare Coalition members should continue to reinforce the resource request process (e.g., ReddiNet, forms, points of contact, timelines) and the importance of providing all EEI to expedite fulfillment.

***Area for Improvement 3.3.5:*** There was minimal documentation kept for the purposes of resource tracking and return, which made it difficult to verify resource usage and recoup resources needing to be returned.

***Reference(s):*** *Resource Management Process*

***Analysis:*** The DSF/warehouse kept fairly good records of what resources it received from the State and which DRCs it distributed resources to. However, the DSF-to-DRC allocation represented only one step in the distribution process. The DRCs then developed and employed their own processes for distributing resources to provider agencies in their geographic area. This was at no fault to the DRCs as they weren't provided guidance or tools to manage their leg of the distribution process and were instituting processes at their own discretion. Some DRCs did a better job than others of documenting resources they deployed to provider agencies in their area.

Similarly, the DSF/warehouse didn't maintain complete records of resources that were picked up from the warehouse versus those that were pushed out. Personnel interviewed as part of this process commented that there was no process for the sign-out of equipment and that no policies existed related to signing agreements or contracts with those receiving resources. Toward the end of the period reviewed by this report, the EMS Agency was initiating some actions to reclaim resources and equipment that it had previously distributed. Because of the inconsistent paper trail, the Agency was having difficulty accounting for resources to recoup (i.e., determining which organizations got what resources). Although the Agency was not particularly concerned with cost recovery (disaster reimbursement), an accurate accounting of resources will be a requirement for eligibility for future cost recovery efforts. Any lack of documentation is almost an immediate loss of eligibility for State or federal cost recovery. As a general good business practice and to support future cost recovery activities, the Agency should have a formal documentation process in place for resource tracking (chain of custody) and to support the recovery of those resources.

***Recommendations:***

1. Develop a resource tracking/documentation process, and associated tools to implement the process, as part of the Agency's resource management program and document the process in the EMS Agency Department Emergency Operations Plan.

2. Determine if the Agency's forthcoming inventory management system will be able to track resources to the end user even if resources are not deployed from the DSF/warehouse (e.g., via DRCs instead).

***Area for Improvement 3.3.6:*** Resource requestors sometimes overstated their needs, understated their supplies, or changed their "burn rates" to receive greater priority in resource allocation decisions.

***Reference(s):*** *Facility Polling*

*Resource Prioritization/Allocation Tools and Spreadsheets*

***Analysis:*** A critical component in implementing scarce resource prioritization strategies is accurately determining the need based on multiple factors. Accurate "burn rates," supply status, and metrics to justify need are what the EMS Agency used to project resource requirements, estimate shortages, and allocate scarce resources. The Agency frequently received overestimated burn rates or other exaggerated figures from various healthcare facilities. By doing so, facilities cost the EMS Agency time because it had to investigate clear inaccuracies and, in the event of hoarding, it takes supplies away from facilities that need the resources the most.

***Recommendations:***

1. Communication is perhaps the only way to help curtail this behavior. Through messaging and training, continue to communicate on a regular basis the importance of submitting accurate data and the consequences of providing inaccurate information.

***Area for Improvement 3.3.7:*** EMS Agency emergency plans do not address donations management.

***Reference(s):*** *Department Emergency Plan (DEP)*

***Analysis:*** Although there is a Donations Annex to the County's ERP, the EMS Agency's DEP did not address how donations should be handled or managed. The absence of such information resulted in the DOC and DSF/warehouse staff having to fill the void by improvising protocols. As mentioned in the "Donations Management" section above, DSF/warehouse staff were asked to vet the donations, determine how the donation could be used, receive the donation, and then distribute the donations. Donations (and volunteer) management can require an equal amount of effort as normal resource management activities. Donations also require special considerations, policies, tracking, and planning. While the Agency successfully navigated these issues during the pandemic—because the quantity of donations was low—the Agency may not wish to rest on its laurels during future emergencies.

***Recommendations:***

1. Coordinate with County OEM to clarify the scope of the County's Donations Annex and see how it can facilitate donations management to better support the EMS Agency.
2. Create a Donations Annex to the EMS Agency DEP detailing all the processes necessary to manage donations during an operation.

***Area for Improvement 3.3.8:*** The Mobile Medical System (MoMS) was an underutilized asset during the pandemic.

***Reference(s):*** *N/A*

***Analysis:*** The MoMS is a valuable EMS Agency and County resource. The treatment trailer has pop-outs that provide 1,000 square feet of space for 11 treatment bays and two procedural beds with equipment for digital x-ray, cardiac monitoring/defibrillation, ventilation, ultrasound, bedside laboratory capability, medical oxygen administration, and suctioning. The support trailer holds all the necessary equipment and supplies to make the treatment trailer operational, which can provide care for hundreds of people during a disaster. With the lack of space, personnel and equipment at hospitals during the pandemic, one would think that MoMS would have been heavily utilized. It was not. The MoMS was acquired specifically with disasters in mind to expand health care capabilities. During the pandemic, MoMS was used at Pomona Hospital as an infusion center so infusion patients would not have to enter the hospital and it went largely unused at Huntington Hospital. Unfortunately, the full capabilities of MoMS were not used to provide other services.

***Recommendations:***

1. Investigate why MoMS was not more effectively used or desired by hospitals during the pandemic (e.g., required too many staffing resources, too expensive, takes up too much space).
2. Develop scenarios for how the MoMS can be used and educate hospitals more on this valuable resource.
3. Ensure the MoMS is always maintained, resourced and ready for deployment.

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## Category 4: Medical Health Operational Area Coordination (MHOAC) and Regional Disaster Medical Health Coordination (RDMHC) Programs

The Medical Health Operational Area Coordinator (MHOAC) Program is authorized by the California Health and Safety Code §1797.153. The MHOAC position within each county (a.k.a. Operational Area) represents the county's single point of contact for accessing the state's medical and health mutual aid program and is responsible for monitoring and ensuring adequate medical and health resources are in place during a local emergency. The MHOAC is responsible for planning and facilitating the strategic deployment of necessary emergency medical and health resources by coordinating resources within and outside of the county and coordinating information among health care entities through situation reporting, as necessary. During non-emergency operations, the MHOAC supports preparedness activities amongst and within the EMS System/Healthcare Coalition in Los Angeles County (e.g., mitigation, disaster planning, advisory services, training, exercises). Once the EMS Agency DOC is activated, the MHOAC program staff is traditionally integrated into the DOC or may also be deployed to the County EOC.

The Regional Disaster Medical and Health Coordination (RDMHC) Program is staffed by the Regional Disaster Medical and Health Specialist (RDMHS) position, which is a grant-funded position in each of California's six (6) Mutual Aid Regions established by Health and Safety Code §1797.152. Much like the MHOAC, the RDMHS coordinates disaster information and medical and health mutual aid and assistance. Where the MHOAC's purview is focused only on the needs of stakeholders in the County of Los Angeles, the RDMHC purview is one step up; focused on the coordination of information and resources within the Mutual Aid Region—which consists of multiple counties—or in support of other affected Mutual Aid Regions. Los Angeles County is part of California's Mutual Aid Region I, which also includes Orange, San Luis Obispo, Santa Barbara, and Ventura Counties. The RDMHC directly supports all five (5) counties in the region. During non-emergency operations, the RDMHC supports preparedness activities amongst and within each of those five counties, and once the EMS Agency DOC is activated, the RDMHS is traditionally integrated into the DOC (on behalf of the region) or may also be deployed to the CalOES Southern Region EOC (REOC).

The Los Angeles County EMS Agency houses both the Los Angeles County MHOAC and the Region I RDMHC/S. The MHOAC is funded by the County general fund as a requirement of the California Health and Safety Code and the RDMHS, as a State asset, is funded by EMSA. The MHOAC and RDMHC responsibilities in Los Angeles County are both integrated with, and sometimes separate from, the EMS Agency's emergency mission. In many ways, both functions directly support the EMS Agency's information and resource management responsibilities. When it comes to coordinating with other counties or entities beyond Los Angeles, then their role extends beyond the EMS Agency's purview. As a critical element and responsibility of the EMS Agency's emergency operations in most cases, this section reviews the role of the MHOAC and RDMHC functions in Los Angeles County during the COVID-19 pandemic.

## 4.1 Summary

**Programmatic Impacts**

In November 2019, the EMS Agency completed a multi-year effort to develop a *Los Angeles County MHOAC Program Plan* with its peer MHOAC departments/agencies (e.g., County DPH, DMH, OEM, and LBHHS and PPHD). The plan outlined the responsibilities of the MHOAC program and the processes required to facilitate the program across all involved departments/agency, including activation procedures, mutual aid facilitation, reimbursement requirements, representation in operations centers, communications, etc. The plan was a valuable tool for the MHOAC program members during the pandemic. Some minor lessons from the pandemic were incorporated into a new iteration in October 2021.

The EMS Agency Director is technically identified as Los Angeles County's MHOAC. The functions and responsibilities of that position have of course been delegated to staff members within the Agency. A team of staff from the Agency's Disaster Programs fill the role on an as needed basis during non-emergency conditions and they all work collectively during emergencies. As a self-funded responsibility, the Agency surges staffing to support the needs of the MHOAC program during emergencies. For example, during the pandemic, two (2) staff members primarily filled the role on a day-to-day basis, but many elements of the Agency's DOC provided support and contributed to the MHOAC responsibilities, particularly those in the DOC Operations and Logistics Sections. This flexibility allowed the Agency to expand and contract the MHOAC program to meet the needs of the County throughout the pandemic.

The RDMHS position, on the other hand, is a specific position funded by the State, but housed in the EMS Agency. As such, there are fewer options to expand the program when it is taxed. The pandemic, particularly during the 2020/2021 winter surge, considerably taxed the position. As the pandemic was beginning to experience its first peaks in the summer of 2020, the single RDMHS position was quickly overwhelmed. Of its own accord, and as allowed by California's Disaster Service Worker (DSW) authorities, the EMS Agency assigned an additional staff member to the RDMHC program to assist the RDMHS around June 1, 2020. Unfortunately, as time progressed, other divisions of the EMS Agency began to be taxed by the growing outbreak. As such, the temporary DSW worker had to be pulled to support the MAC. Generously, the DSW worker remained dedicated to the RDMHC program and committed his overtime hours to providing ongoing support to the program. While this helped, this still left the RDMHC program short staffed during much of the pandemic, particularly during its greatest peak in the winter of 2020/2021. A positive improvement coming out of the pandemic was that EMSA recognized both the importance of the RDMHC program and, in highly populated and complex regions such as Region I, acknowledged that one (1) RDMHS position was insufficient in emergencies. As of the timing of this report, EMSA was in the process of increasing the RDMHC funding to the EMS Agency to hire a second, full-time RDMHS for Region I.

Regardless of their capacity, both the MHOAC and RDMHC programs were consumed by COVID-related activities during the pandemic. Both programs suspended all their routine preparedness activities at the onset of the pandemic (i.e., Operational Area and Regional, respectively, planning, training, and exercise activities, and facilitation of intra- and inter-regional

agreements). Informative and preparedness related quarterly meetings/calls transitioned into COVID-specific weekly briefings and coordination meetings for county and regional stakeholders, respectively. In early April 2021, both the MHOAC and RDMHC programs were slowly reinstating some of their pre-COVID preparedness activities.

**Resource Coordination and Support**

During past emergencies, the MHOAC had always spent time seeking out needed resources from within Los Angeles County before escalating requests to the Region or State. California's mutual aid system is designed to find the most appropriate resources from the closest source before pursuing resources from farther away. The COVID-19 pandemic, however, created a global shortage of health, medical, and PPE resources and personnel that instinctively meant that resources within Los Angeles County were either non-existent or insufficient to satisfy the demand created by the pandemic. For the first time in its memory, the MHOAC program assumed resources were not available locally (within the County) and focused all its efforts only on escalating resource requests to the Region and/or State. This is not to say that the EMS Agency never looked for or found resources from within Los Angeles County, but that responsibility was pulled from the MHOAC program and was assigned to the DOC Logistics and Operations Sections as the availability of resources within Los Angeles County was minimal (as described further in *Category 3: Resource Management*).

In a similar fashion, the RDMHS typically assumed most resource requests could not be satisfied even from within the five (5)-county region and usually escalated them to the State. Prior to doing so, the RDMHS vetted the resource requests to help ensure they would pass muster at the state-level. The RDMHS spent a little more time looking for resources from within his area of authority (Region I) than the MHOAC did. The RDMHS shared that highly-specialized equipment and personnel that were not being requested in large quantities were often available from within the Region. However, much of his time was spent managing information and coordinating inter-regional patient transfers (described in the next section).

One of the initial challenges both the MHOAC and RDMHC programs encountered was determining which types of organizations and requests were considered eligible for the health and medical mutual aid program. This is a similar issue to that addressed from the requestor's perspective (of being confused/unsure) in *Category 5: EMS System/Healthcare Coalition Support* of this report. During more traditional emergencies this was rarely an issue as there was a typical group of requestors and types and quantities of resources being requested. In this case, the EMS Agency received resource requests from non-traditional organizations, like dentists' offices and group homes, claiming to be eligible medical/healthcare facilities. Fire departments, for example, who's EMS programs were eligible for resources through the medical/health mutual aid system, tried to squeeze in resource requests needed for all their apparatus and fire engineers, which actually needed to go through fire/rescue or emergency management mutual aid systems. Additionally, resource requests were sometimes unrealistic in the quantities they requested (e.g., hundreds of nurses, tens of thousands of supplies). The MHOAC staff was not intimately involved in resource eligibility or allocation/prioritization decisions, but elevated concerns to the DOC, which in turn elevated them to Agency executives or Medical Directors, as needed. The MHOAC staff was confident in the decisions of their leadership and executed the decisions as directed.

The MHOAC staff was more involved in advising decisions specifically related to issues affecting MHOAC-member agencies.

Focusing only on elevating resources requests, the MHOAC program initially spent a great deal of its time transferring resource requests from the County's information/resource management platform (ReddiNet) to a manual process used by the State (ICS Form 213-Resource Request [RR]). Approximately 192 of these forms were escalated to the Region/State between February and April 23, 2020. The MHOAC staff recalls this process being cumbersome, time-consuming, and difficult to track or maintain. Further bringing the manual process into question, only approximately 30% of the 192 resource requests had been partially or fully filled by the end of April 2020. As *Category 3: Resource Management* of this report explores in greater detail, the State quickly recognized the challenges of the manual process and began an effort to transition to an automated system, SalesForce.

The MHOAC and RDMHS staff recall the transition to SalesForce being difficult, but worth it. During that time, the MHOAC staff participated in a SalesForce Working Group so they could contribute ideas and Los Angeles County's perspectives to the State's rollout. In the summer of 2020, as SalesForce was being rolled out, an interface between SalesForce and ReddiNet had yet to be created. As such, the MHOAC program had to continue the process of manually transcribing resource requests from ReddiNet into SalesForce (rather than the ICS-213RR forms). The State later commissioned a software "bridge" to be built between SalesForce and ReddiNet so that resource requests populated into ReddiNet locally would be automatically transitioned into SalesForce when they needed to be elevated. That effort was not completed until October 2020. Once the interface was created, the MHOAC program still had to check each resource request in SalesForce to make sure it had been properly translated across systems. Any documents that had been uploaded with the resource request (required of all personnel requests) were lost in transmission and had to be manually uploaded by the MHOAC staff into SalesForce. On average, the MHOAC staff stated that process typically took 10 – 15 minutes per request. As of this report, the MHOAC program had uploaded 1,765 requests into SalesForce. Nonetheless, the MHOAC staff explained that the amount of their time consumed with processing resource requests prior to and after the complete rollout of SalesForce dropped from 85%-95% pre-SalesForce to approximately 50% afterwards.

The MHOAC staff stated that hospitals were the best at submitting resource requests through ReddiNet. They were the most familiar with the system and the essential elements of information (EEI) required. Other sectors needed more assistance and the MHOAC team spent approximately 20 – 25% of its time reaching out to those recipients to clarify their needs. The State also improved its process of reviewing resource requests over the duration of the pandemic. Initially, the State would either return an incomplete or unclear resource request through the RDMHS then to the MHOAC or would seek additional information from the MHOAC. In turn, the MHOAC would have to contact the requestor for more information, which would add time and create an unnecessary "middleman" step in the process. This frustrated the MHOAC team at the time. However, the State later began contacting most requestors directly when there was an information gap so the requests could be clarified and approved right then and there.

As resources were deployed by the State and other sources to the County, the resources did not always match the original resource requests or the manifests provided by the State upon deployment. This made it very difficult, if not impossible, for the MHOAC to track mobilized resources, particularly personnel. Sometimes personnel, for example, would show up at a requestor's location without prior warning. At times they matched the requestors' need and sometimes they didn't. It wasn't uncommon for some mutual aid staff to show up, reportedly become uncomfortable with the operating environment, and leave to never return. While most resource and personnel requests were satisfied to some degree—although it often took longer than anticipated or lower quantities were provided than requested—it was difficult to determine metrics regarding fulfillment because of the lack of accurate paperwork and tracking. One benefit was that nearly every requestor recognized the gravity of the situation and was happy to receive whatever they got. The MHOAC program did its best to provide feedback regarding the State's processes and performance through the RDMHS.

One curios part of the State's response to COVID-19 is that both the MHOAC and RDMHC staff mentioned the State was very secretive about its resource allocation decisions. The RDMHS had the impression the State felt RDMHS and MHOAC personnel would "rig the system" to their benefit and were therefore excluded from the decision-making process. This may have contributed to the lack of awareness of what resources were ultimately deployed to the Region (for the RDMHS' awareness) and to the County (for the MHOAC's awareness), which challenged both programs' ability to track resources and determine fulfillment rates.

**Load Balancing/Inter-County Transfers**

The RDMHC staff spent a good portion of their time coordinating inter-county patient transfers within Region I and with neighboring regions, particularly Region VI to the east. To accomplish this, the RDMHS worked closely with the EMS Agency's MAC, which handles patient transfers and load balancing on a daily basis. For the most part, the RDMHS reported that the process ran smoothly across county lines. The RDMHS reported that the hospitals within Region I were generous in accepting patients regardless of whether they were insured. One thing that initially challenged inter-county patient transfers was the Governor's original "tiered" pandemic severity index that preceded the "Blueprint for a Safer Economy." Under the Governor's original severity index, a variety of metrics were used to determine a county's severity level, which in turn informed what businesses/community services were allowed to be open and how they would operate. Many of the factors in that rating system related to the number of COVID-specific hospitalizations in a county proportionate to the number of staffed beds it had and the population. Hospitals, and their associated counties, were concerned with accepting transfers because it could affect their county's severity rating. It was a concern beyond the scope of this review, but a unique consequence of public policy.

To coordinate transfers across mutual aid regions (i.e., with Region VI), the RDMHS coordinated with the State's contracted All Access Transfer Center (AATC); a private entity that essentially performs the same functions as the MAC, but for California's EMSA. The RDMHS noted that Region I, and Los Angeles County in particular, were not particularly good members of the AATC for the benefit of Region VI counties looking to transfer patients to Region I. The workload and short-staffing of the Region I RDMHC program and the pandemic surge being experienced by

hospitals within Region I, meant that the RDMHS and Region I hospitals were, regrettably, less than responsive to AATC requests. Nonetheless, there were examples of Los Angeles County receiving patients from Region VI, particularly from Imperial County. In late May/early June 2020, Imperial County was in dire need of medical and healthcare support. Imperial was hoping to expand alternate care sites and increase staffing levels, but needed to transfer patients to Los Angeles County in the interim. For a brief time (June 5 – 8, 2020), the EMS Agency, with approval from EMSA, suspended transfers from Imperial County to analyze the local COVID situation and make plans for Imperial County transfers. Los Angeles County identified 14 hospitals willing to accept patients. By July 9, 2020, Los Angeles County had accepted 39 transfers from Imperial County.

As reported by the RDMHS, the RDMHC program spent approximately 60% of its time coordinating resources, transfers, and information on behalf of Los Angeles County, and about 10% of its time on each of the other four (4) counties in Region I.

**Information Sharing and Inter-Agency Coordination**

In its respective—and sometimes overlapping—roles as the Region I RDMHC and the Los Angeles County MHOAC, the County EMS Agency had a significant role in information sharing and inter-agency coordination.

*MHOAC*

According to the *County MHOAC Program Plan*, one of the key duties and responsibilities for the Los Angeles County MHOAC is to maintain communication, coordination and collaboration with MHOAC program partners (e.g., EMS Agency, County DMH, DPH, OEM, LBHHS, PPHD). During an emergency response, the MHOAC is responsible for communicating the medical and health status and needs within the County to local, regional, and state governmental agencies and officials, including CDPH, EMSA, CalOES, local hospitals, EMS providers, and other healthcare entities and providers. The MHOAC leads the coordination of MHOAC partners and reporting requirements for the purposes of providing information to the State.

The MHOAC was responsible for providing a Situation Report (SitRep) to the State on a weekly basis. This took the shape of a fillable PDF form that had last been modified in 2011. The SitRep asked the MHOAC/County to report on a variety of indicators, including:

- The current OA medical and health system condition (ranging from black, indicating "significant assistance required from outside the jurisdiction/OA" to green, indicating "normal operations")
- Prognosis: no change, improving or worsening
- Current Situation, Priorities, Critical issues or Actions Taken
- Healthcare Facilities System Status
- General Infrastructure Damage as it relates to the Medical Health System

In addition to completing the SitRep PDF form, the MHOAC staff created a MS Word document titled "LACMHOAC 2019 Novel Coronavirus Situation Summary," which was customized from the State's standard SitRep to better report on, and detail, the impacts of the pandemic on the County's MHOAC partners, including reporting on the current situation, priorities, critical issues,

and actions taken. The MHOAC staff emailed the documents to partners for their updates and inputs prior to submission to the State. This could be challenging as some partners were more responsive and detailed than others. The MHOAC had to spend time "nudging" departments for information. The MHOAC staff then compiled the data into a single report for the State and RDMHS. The State set the frequency for SitRep submissions, initially requesting them daily, then twice a week, or less frequency depending on the severity of COVID-19 in the region or State. The SitReps were very detailed and consumed a great deal of time on the part of the MHOAC.

The State later began requesting simplified OA "temperature check" reports. This was a brief reporting tool that asked respondents to provide ratings related on a number of key indicators including "Hospital Care Facility Staffing Score," "Hospital Capacity," "Patient Movement," details on hospitals of concern, unmet needs, and overall status. The MHOAC and RDMHC programs both commented that the "temperature check" reports were a more valuable and straightforward tool to support decision-making and were considerably less time consuming to populate.

*RDMHC Program*

The two RDMHS staff served as an information source to the State medical and health response system and worked closely with multiple partners, including CDPH and EMSA, in the dissemination of information and data collection. As an example of the intense volume of information sharing and inter-agency coordination that occurred, the RDMHS Quarterly Report submitted to CDPH's Medical and Health Coordination Center (MHCC) for April–- June 2020 reported the following:

- The RDMHC was contacted by the state for additional information regarding unusual events or emergency system activation within the region 107 times.
- The RDMHC program was requested to act as a conduit to share information with Operational Areas (counties) within the region 637 times.

The next quarterly report for July – September 2020 reported the following:

- The RDMHS was contacted by the state for additional information regarding unusual events or emergency system activation within the region 68 times.
- The RDMHC program was requested to act as a conduit to share information with Operational Areas within the region 986 times.

Critical information sharing often took place over conference calls during which the RDMHS served as a liaison between the State and county MHOACs. The RDMHS facilitated the calls, which generally occurred on a weekly basis, with Region I MHOACs discussing how they could collaborate and share ideas, especially considering the resource challenges they were facing.

The RDMHS also participated in multiple calls with the State each week. As an example of the volume of calls, during the week of December 13-19, 2020, the RDMHS participated in the following calls:

- MHCC Operational Briefings (daily)
- RDMHS Check-in Call with the State (twice a week)
- Statewide Coordination Call (twice a week)

- EMS Agency DOC Call (weekly)
- Region I MHOAC call (weekly)
- Los Angeles County MHOAC Call (weekly)
- Los Angeles County EOC Call (Daily)
- Local Health Departments (LHD) COVID Vaccine Planning Meeting (weekly)
- Awardee COVID Vaccine Planning Webinar (one occurrence)

Per the RDMHS, 40% of their time was spent on State calls, 20% on inter-regional calls, and 20% on electronic communications, leaving approximately 20% for their previously discussed resource management and load balancing activities.

## 4.2 Notable Strengths

***Strength 4.2.1****:* While the delineation of roles between the RDMHS and MHOAC was not clearly defined and understood by all members of the EMS System/Healthcare Coalition, the EMS Agency, the RDMHS and the MHOAC staff did a great job coordinating internally and working together to achieve the objectives of the State's medical and health mutual aid system at a local (county) and regional level. To some degree, the MHOAC and RDMHC programs were somewhat ancillary to the mission of the EMS Agency given to the Agency by county ordinance. Nonetheless, the EMS Agency invested in, and felt ownership of, the programs as if they were inherent components of its mission. This was demonstrated through the level of integration and coordination between the MHOAC and RDMHC programs and the rest of the EMS Agency.

***Strength 4.2.2****:* The MHOAC and RDMHC programs helped to facilitate more than 1,700 resource requests related to nearly 150 million individual resources. Depending on the time during the pandemic, those requests were sometimes manual or had to be transcribed across systems, and all of them had to be vetted for accuracy, EEI, practicality, and appropriate supporting information. The pool of MHOAC and RDMHC staff at the EMS Agency was small, so its ability to manage that volume of requests is incredibly impressive. Considering more than 80% of those requests were then partially or completely filled during the time covered by this report, validates that the work done by these two programs, at such a high rate of speed, was reliable.

***Strength 4.2.3****:* The communications requirements placed upon both the MHOAC and RDMHC programs—whether it be formal reporting or participating in or facilitating meetings/calls—typically came at the direction of the State. While there was some redundancy in these many meetings, calls and reports, the RDMHS and MHOAC staff nonetheless kept track of all these requirements, met the requirements, and one might argue even exceeded the requirements by providing valuable information and advice all while handling an evolving situation. There were no miscommunications or omissions of note.

***Strength 4.2.4:*** Adjusting the battle rhythm for MHOAC and RDMHC meetings/calls to be responsive to State reporting requirements and to align with the ebbs and flows of the COVID response, demonstrated flexibility and allowed the program to scale its operations depending on the needs of the situation at the time.

## 4.3 Areas for Improvement

***Area for Improvement 4.3.1:*** The RDMHC program needs a greater number of staff to meet the demand and volume for resources, information, load balancing, and consultation during emergencies.

***Reference(s):*** *CDPH Staffing Plans and Funding for RDMHC Programs*

***Analysis:*** The volume of activity and demand for service on the RDMHC program exceeded the capacity of the one full-time RDMHS and the part-time DSW staff member the EMS Agency provided as support.

***Recommendation:***

There are no recommendations for this Area for Improvement as the State had already taken action to increase funding for an additional full-time RDMHS in Los Angeles County.

***Area for Improvement 4.3.2:*** Situation reporting was time consuming and burdensome.

***Reference(s):*** *State Situation Report Templates and Reporting Requirements*

***Analysis:*** The SitRep template required by CDPH (MHCC) was a standard, outdated form created for a "traditional" emergency situation. Los Angeles County's MHOAC staff are to be commended for supplementing the State's SitRep with a more effective, incident-appropriate report that was more valuable to the response at hand. Additionally, the State's SitRep, created in 2011, was not user-friendly, with limited formatting capabilities. Work on the State's SitRep template had to begin so far in advance of its submission deadline that the information submitted was typically outdated by at least a day or more by the time the report was submitted. Additionally, partners were sometimes unable to provide input because of the many other priorities they were juggling.

***Recommendations:***

1. CDPH should review the effectiveness of its SitRep template for the MHOAC and RDMHS programs and consider updates where appropriate.
2. For unique incidents of extended duration, like the pandemic, the State should consider developing a unique SitRep template as it did well into the pandemic with the "temperature check" reports, but should then discontinue the preceding and obsolete reporting tools for the duration of the emergency.
3. Working with State and regional level partners, the EMS Agency should assess the utility, frequency and burden of the SitRep reports considering all the different reporting mechanisms that were required by response partners. Consider whether there are options for making the reporting less burdensome (e.g., technology) or whether staffing and assignments can be modified to reduce the burden.

***Area for Improvement 4.3.3:*** The lack of transparency into the State's resource allocation and distribution processes made it difficult for Region I and Los Angeles County to anticipate deliveries/deployments and track resources.

***Reference(s):*** *State of California Resource Management Practices*

***Analysis:*** As mentioned by both the MHOAC and RDMHC staff, the State was very secretive about its resource allocation decisions. Regardless of the cause or justification, this made it very difficult for the Region and County to anticipate and prepare for resources deliveries or deployments of personnel. As was mentioned, resources deployed by the State did not always match the original resource requests or the manifests provided by the State upon deployment. This left the EMS Agency pushed back on its heels; unable to answer the questions of requestors or inform them of deliveries, left its warehouses scrambling to determine what they received, whether recipients matched needs, and how best to allocate supplies for local distribution. It also made it very difficult, if not impossible, to track mobilized resources, particularly personnel, and to establish and evaluate metrics regarding fulfillment. The MHOAC and RDMHC programs are outcroppings of the State-created and administered medical and health mutual aid system; they should be integrated into State decision-making or, at minimum, at least be aware of it.

***Recommendations:***

1. The State of California, particularly CDPH and CalOES, should review the transparency of their resource management programs and consider ways to improve transparency for their own teams responsible for administering State decisions at regional and local levels (i.e., RDMHC and MHOAC).
2. The EMS Agency should advocate to the State for said transparency in preparation for and during future emergency operations.

# Category 5: EMS System/Healthcare Coalition Support

In November and December 2021, four (4) workshops were facilitated on behalf of the EMS Agency to solicit feedback on the Agency's performance during the pandemic from the members of the EMS System and Healthcare Coalition that it serves. Respectfully, the EMS Agency recused itself from participation in the workshops to give participants an opportunity to speak openly and honestly without fear of rebuttal or retaliation. The authors of this report conducted separate workshops for the following groups:

1) Hospitals (public and private sector)
2) EMS Providers (public and private sector)
3) Other Affiliated Healthcare Facilities (i.e., clinics, surgical centers, urgent care centers, dialysis centers, home healthcare/hospice)
4) Public Agencies that participate in the MHOAC Program (e.g., County DPH, DMH, OEM, and LBHHS and PPHD)

Each workshop focused on gathering feedback on the EMS Agency's performance during the COVID-19 pandemic through April 2021 as it related to three topics: a) information management and coordination; b) resource management and coordination, and c) sector-specific policies and protocols. The workshops offered a forum for vetting, considering, and discussing shared experiences and lessons related to each sector's engagement with the EMS Agency during the pandemic. The participants were also given an opportunity to submit feedback to the authors via a survey and feedback form. The results from these external perspectives gathered through the four workshops are presented in this section. It is important to note that the opinions expressed in the workshops and through feedback forms, and thereby in this section, are in many cases captured verbatim from the participants. The degree to which the comments are true and accurate was not questioned because more important was what can be learned and implied from them. However, the authors only included comments that were collectively echoed by multiple stakeholders and did not include any that appeared to be a single person's perspective.

## 5.1 Summary

### Hospitals

There are seventy-eight (78) hospitals that are Hospital Preparedness Program participants in the County of Los Angeles, which includes seventy (70) hospitals with emergency services that receive 9-1-1 transports and eight (8) other acute care hospitals without emergency services. Of the 78 hospitals, thirteen (13) are designated as Disaster Resource Centers (DRCs). Each DRC serves as an umbrella for a group of hospitals, clinics and provider agencies in its geographic area and assists those partners in the planning for and coordination of responses to emergency situations, of which the COVID-19 pandemic was one. Although the EMS Agency is primarily focused on facilitating and regulating pre-hospital treatment and transport, as the administrator of the statewide medical/health mutual aid program for the County (through the MHOAC and RDMHC programs), the EMS Agency is equally as involved in assisting hospitals—but not regulating them—in emergency situations. A good portion of the EMS Agency's activities throughout the pandemic were dedicated to hospitals, including coordinating resources and personnel, load balancing and diversion management, and information sharing. Appropriately,

many hospitals participated in the workshop, which was intended to solicit their feedback regarding the EMS Agency's response to the COVID-19 pandemic.

Information Sharing & Guidance

Generally, all participating hospitals felt their communication and coordination with the EMS Agency was strong. Hospitals frequently stated the EMS Agency was very responsive to individual requests. As other stakeholder groups in this chapter will note; maintaining contacts, contact information, and relationships with the EMS Agency can be difficult because of hospital turnover and reassignments. For example, multiple hospitals mentioned that their Emergency Management Officer (EMO)—typically the designated point of contact to the EMS Agency—turned over multiple times over the course of the pandemic. In some cases, hospital staff wasn't even aware of the change. As such, hospitals acknowledged they sometimes fell short of updating the EMS Agency with new points of contact. As *Area for Improvement 5.3.1* found, however, the EMS Agency has a history of operating on informal, personal relationships. Its experience during the pandemic might trigger the institutionalizing of a more formal communications process.

The EMS Agency typically held weekly calls with hospitals (and some other invited stakeholders) every Monday during the pandemic. These calls were touted by many as exceptional. Many stakeholders commented that other counties held no such coordination or information sharing calls and they wished Los Angeles County's calls could have been regional (inter-county) or at least emulated by the other counties. In general, the hospitals were pleased with the frequency and content of communications. They complimented the County's use of technology, particularly Zoom®, to make the calls interactive and more productive. The biggest criticisms of the calls were that:

- Sometimes the number of statistics provided on the calls was overwhelming. While some liked the level of details and others found it to be onerous, the recommendation was made to only speak to the statistics at a high-level and then make the details available online or distribute them via email for those wishing to have more details.
- Document management related to the calls was lacking significantly. Agendas were rarely sent out before calls and notes/minutes were almost never distributed afterwards. Many hospital representatives were unable to attend every call, but were then unable to catch up on what they had missed because notes were not available.
- Hospitals wanted more and better information related to post-exposure guidelines (e.g., contact tracing, quarantine, duration, etc.). All parties acknowledged that information was very unclear in the beginning of the pandemic as little was known about COVID-19. The information shared by the EMS Agency was reported to be very good and reliable with this one exception.

Without compare, the biggest criticism from hospitals focused on the number and complexity of data gathering polls issued by the EMS Agency, CDPH, and other stakeholders. Hospitals felt the polls were frequently changing, that most polls from disparate agencies were duplicative and uncoordinated, and the time it took to accurately populate polls was excessive under the pressures of the situation. The EMS Agency tried to coordinate polling efforts with CDPH, but was met with little to no support. While this issue is somewhat beyond the EMS Agency's control, the

Agency's perceived involvement in the problem affects its relationship with hospital stakeholders. Undoubtedly, the EMS Agency needed data on the local situation and resource needs to support policy and resource allocation decisions. Many other county and regional entities touted the EMS Agency's data as some of the most reliable and comprehensive. However, ongoing perceptions of the validity and value of the polls could affect the quality of future data. Some hospitals already admitted to "guesstimating" their poll data because of limited time, staffing, or other competing demands. Like the resource burn-rate calculator referenced in the next section, hospitals were concerned with underestimating their needs or the pandemic impacts in their polls and often opted to inflate information to provide a buffer. Similarly, hospitals that reported accurate numbers felt they were punished when it came resource allocation decisions. When asked what the polling data was used for, all but a few hospitals could explain what the polling results were used for and what benefit it offered the hospital to respond. In the future, the EMS Agency should consider these perceptions and challenges or otherwise risk diminished response rates and data integrity. Hopefully with the support and coordination of it partners (e.g., CDPH), the EMS Agency will be able to participate in coordinated, simplified, and consistent polling methods.

Resource Management

When asked "When resources were in shortest supply, how would you rate the EMS Agency's timeliness/effectiveness in providing the resources you requested or distributing those being pushed to you (e.g., PPE)," 66% of participants responded "somewhat" timely and effective, and 29% responded "timely and effective." Through discussions, most hospitals seemed pleased with and voiced gratitude for the EMS Agency's handling and distribution of resources throughout the many phases of the pandemic. Ninety-five percent (95%) said the EMS Agency's resource prioritization and distribution process was fair and equitable. A few of the strengths they cited, included:

- The policy of pushing resources rather than waiting for resources requests was resoundingly popular amongst hospitals and supported by all.
- The process of picking up resources from the EMS Agency warehouse or DRC worked very well. Hospitals felt the DRCs were up to the challenge and the hub-and-spoke strategy thereby worked successfully.
- Although there were a few exceptions, generally, hospitals felt the supplies and staffing provided by the State and coordinated through the EMS Agency were of good quality and capability and satisfied critical needs.
- ReddiNet was easy to use and effectively facilitated both information sharing and resource requests.
- The EMS Agency was effective in helping to facilitate county service contracts such as overflow contracts for transportation resources needed to transport the deceased.

While the EMS Agency's overall resource support to hospitals was lauded as successful, suggestions for improvement were also received. Some of those are highlighted below:

- Hospitals were skeptical of self-reporting protocols that informed resource allocation decisions. While they weren't sure any other options exist, they felt some of their peers may have abused the "honor system" approach to position themselves to receive more, different, or more timely resources.

- The resource burn-rate calculator created by the EMS Agency for hospitals was particularly confusing and should be simplified. Hospitals were concerned they would miss out on distributions or not have enough supplies if they used the burn-rate calculator incorrectly. They admitted to some cases of exaggerating numbers to acquire more resources (which may have led to the aforementioned concerns about the "honor system").
- If possible, hospitals requested that ReddiNet be updated so that resource requests identify where or to whom the resource request has been forwarded/referred so the requestor has situational awareness and can follow up with the supplier if needed. Related, hospitals said it was cumbersome to have to continuously go back into ReddiNet to manually check the status of resource requests. They inquired as to whether it was possible to include a text or email update option when the status of resource requests changed.
- Also related to ReddiNet, hospitals requested that the EMS Agency increase the number of "drop down menus" and options within drop down menus related to the essential elements of information required in resource requests. Hospitals often received emails requesting more information, which delayed the acquisition of resources. More drop-down lists may help them to better complete requests the first time around.

A number of hospitals explained that many of the products, equipment, and resources used to respond to the pandemic were highly technical or nuanced for a very specific purpose. As such, they needed to be designated and delivered to specific facilities that needed and were able to use them. There was a perception among multiple hospitals that received resources they could not use that the EMS Agency took a "one-size-fits-all" approach when distributing those technical resources and equipment. Multiple hospitals explained that they were unable to use certain resources that were allocated to them because they were models intended for a finite purpose that the hospital either didn't perform or was not performing at the time. For example, they stated that not all ventilators, masks, or oxygen systems are the same or can't be used at all locations. There was a sense that the DSF may not have known the difference between the equipment/resources well enough to distribute them to the appropriate hospitals or that hospitals had not been properly queried on their needs. What likely happened is that, in an attempt to get resources to end users as quickly as possible, the DSF unloaded and repacked them for distribution as quickly as possible with very limited staff. One could argue the DSF should have taken more time to review and inventory each asset and customize the deliveries more effectively, but that would have been at the expense of time, which did not exist. The DSF also likely assumed that at least some facilities within each DRC's service area would need the resource. So even if it wasn't used immediately, it wouldn't be long before a facility would need it.

As could be expected with an emergency of the pandemic's nature, size, and complexity, initial distributions of supplies were often received by hospitals with mixed reviews. For example, initial testing kits were distributed with the wrong swabs and/or applicators so they couldn't be used. Initial PPE supplies were not always of the best quality or were provided in limited sizes (e.g., only "small" gloves). There was a desire amongst some hospitals for improved quality control measures in the initial stages of the pandemic at the EMS Agency DSF/warehouse.

Some surge capabilities at hospitals worked exceptionally well. So well, that multiple hospitals claimed their throughput or capacity actually improved during the height of the pandemic surges because of the resources provided to them in the form of tents, surge supplies/resources, funding, and staffing. As those resources were pulled or were required to be returned after surges subsided, those same hospitals claimed their efficiency diminished. As summed up by one hospital, "…once tents were gone, policies expired, staffing shortages came back, [hospitals] were back to experiencing major delays."

Hospital-Specific Issues

Hospitals experienced both operational and "buy-in" difficulties implementing some of the EMS Agency's policies. About half the hospital participants felt the EMS Agency policies came too late as they had already taken action prior to the EMS Agency releasing a policy (e.g., updates to the *Hospital/EMS Surge Assistance Plan for the COVID-19 Response* [Reference 855]). The policies then validated the actions the hospitals had already taken. On the other hand, about half the hospitals felt their situation was not fully understood by the EMS Agency. They explained that they were essentially responding to a Mass Casualty Incident (MCI) around the clock and didn't feel they had the time to implement or inquire about EMS Agency directives. As a result, they may not have fully applied the resources or effort to implementing the policies, particularly Directive #4 regarding waiting room off-loading by EMS providers. In the next workshop summery, you will read about EMS providers who were frustrated by hospitals not following all EMS Agency policies. They felt hospitals were intentionally challenging them or consuming EMS resources. To the contrary, hospitals felt EMS providers and the EMS Agency weren't fully aware of the burdens hospitals were facing. As it related to Directive #4, in particular, hospitals explained they were operating beyond capacity and could not have allowed EMS providers to off load patients and leave them unattended in waiting rooms. This was not, however, the only point of conflict between the hospitals and EMS providers. Hospitals felt like EMS providers were either being given priority or were hoarding oxygen when it was in short supply. Since EMS providers should have supplies of bottled oxygen and hospitals were dependent on built-in systems, they felt they should have received priority for oxygen bottles as a back-up to their taxed oxygen systems. In either case, the EMS Agency could have served as arbiter or facilitator in bridging the communications between the sectors under its purview.

Hospitals had a similar feeling on the EMS Agency's diversion policy. While the diversion plan allowed hospitals to divert Advanced Life Support (ALS) calls to other hospitals, hospitals were required to continue receiving Basic Life Support (BLS) patients. In those cases, they felt like they were just as burdened by the number of non-life-threatening patients as they were ALS patients. Hospitals needed an option to completely, albeit temporarily, turn off the inflow of patients so they could get a handle on the COVID situation and impacts on existing patients. Another option hospitals felt was too quickly dismissed was the need for them to transport hospital patients to LTCs/SNFs. That was almost immediately determined to be a non-starter, but hospitals felt pressured to release patients to longer-term facilities so they could accept more acute cases. Regardless of whether complete hospital diversion is possible when all hospitals in a region are under surge conditions or whether transfers to LTCs/SNFs was an option, the hospitals nonetheless felt like their concerns fell on deaf ears related to some of these policy decisions. And it did not help the situation that surge hospitals (e.g., LASH, USNS Mercy) were trumpeted

as "saving-grace" resources, but were ultimately and essentially worthless to hospitals because their patient acceptance criteria were too strict.

**EMS Providers**

There are over sixty (60) EMS providers (public and private sector) in Los Angeles County. These include many municipal fire departments—such as the Los Angeles Fire Department, Burbank Fire Department, Long Beach Fire Department—as well as many private ambulance companies. All of them agreed that the pandemic put an incredible strain on ambulance services and the EMS staff providing care. For example, during the surge periods of the pandemic, they felt it was impossible to keep up with the calls for service. Even when their medical protocols were modified, challenges persisted. There were also perceived differences between the experiences of municipal and private service providers. For example, the public providers felt more protected against potential liability issues, where the private providers were more concerned about the threat of lawsuits given the situational complexities.

Information Sharing & Guidance

The EMS Agency has a strong working relationship with its EMS providers and that was evidenced by the responses regarding communications, in which the Agency received perfect scores. All the respondents to a survey concurred that the information provided by the EMS Agency was timely and very valuable, and 100% of the respondents also felt that when engaging with the Agency they were communicating with the right people. The Monday conference calls the EMS Agency hosted with hospitals and EMS providers were singled out by some as being very effective and instrumental to their situational awareness.

While the communication methods and content were highly praised, the implementation of the messages that were conveyed proved challenging. The seven COVID-19 Surge Directives issued between December 18, 2020, and January 4, 2021, were "effective immediately"—a dictum that many of the EMS providers shared was problematic. While they acknowledged it was better for the EMS Agency to act than not, the EMS providers felt advanced notification was at least a professional courtesy they deserved. First, it was hard to make such significant changes quickly (e.g., multiple shifts of staff had to be trained on the new policies, resources needed to be allocated reactively). For example, Directive #3 which suspended all service area boundaries was "not an easy pivot" according to multiple workshop attendees. In Directive #4, EMS providers were given authority to off load some patients to hospital waiting rooms in an effort to get ambulances returned to service more quickly. But the EMS Agency had no regulatory authority over the hospitals, which EMS providers felt in turn, modified their behaviors such that the assumed criteria from the directive could not be met. For example, it was mentioned that hospitals would remove seats from waiting rooms to prevent EMS providers from leaving a patient unattended. The previous narrative explained the hospital perspective; many hospitals felt they couldn't handle any more patients and certainly not ones left unaccompanied. In some cases, hospitals acknowledged not following the policy. Nonetheless, without effective enforcement of the directives, implementation was at times impossible because the Agency only has authority over the EMS providers and not the hospitals. Los Angeles County's EMS Agency, like other local EMS agencies, does not have regulatory authority over hospitals. That authority

rests with CDPH Licensing and Certification. As a result, the EMS Agency's policies were perceived favorably, but the lack of enforcement diminished their value.

Resource Management

One of the first things EMS Providers noted about resource management, was the initial confusion regarding whether first responders should be submitting resource requests for PPE and other related supplies through the medical/health mutual aid chain (administered through the EMS Agency), discipline-specific mutual aid chains (facilitated by discipline-specific [e.g., law, fire, public works] mutual aid coordinators) or the emergency management chain (administered through City and County EOCs). Since each mutual aid program is operated independently in California, there was a potential for duplication or omissions of requests. So initially, EMS providers (and potentially other first responders) were not sure to which one they should submit resource requests for PPE, tests, vaccines, etc. Ultimately, it was agreed EMS providers would go through the health/medical mutual aid chain via the EMS Agency, because they are part of the pre-hospital treatment system, but all other first responders, including non-EMS personnel from fire departments, would go through their unique mutual aid chains or via the California Master Mutual Aid Agreement (City and County EOCs). In the case of law enforcement in Los Angeles County, DPH worked with agencies directly to provide resources. EMS providers praised the system operated by the EMS Agency as discussed below, but initial direction regarding which route to use would have alleviated some initial frustrations.

The EMS Agency received high marks for its distribution of PPE and the DRC hub-and-spoke distribution model. Multiple workshop participants pointed out a "great system of distribution of PPE" and "great organization of distribution points." In response to the question, "When resources were in shortest supply how would you rate the EMS Agency's timeliness/effectiveness in providing the resources you requested or distributing those pushed to you (e.g., PPE)," 22% of respondents said somewhat timely and effective, while 78% said very timely and effective. When asked to rate the typical responsiveness of the EMS Agency/MHOAC Program to acknowledge resource requests, 40% said it took a reasonable amount of time, while 60% said it was done very quickly. And 100% of respondents stated that the allocation and prioritization of resources appeared fair and equitable. Fire/EMS services went through the medical/health mutual aid program administered by the EMS Agency for acquiring resources. Other first responders (e.g., law enforcement agencies) went through other systems or received resources from DPH. The Fire/EMS participants in the workshop voiced gratitude for being able to utilize the health/medical system administered by the EMS Agency while their peers may not have fared as well through other systems.

EMS Provider-Specific Issues

A challenge identified by multiple EMS providers was a need to improve ambulance diversion strategies, especially around areas that border neighboring counties that may not be operating under the same policies (e.g., diversion). Multiple private sector ambulance providers offer services across counties and in the border lands between counties. They often found that policies in effect in Los Angeles County were not the same in neighboring jurisdictions. This was the case with diversion. When one county went on diversion, but another did not, then EMS providers

experienced significant challenges allocating resources and responding to calls in those bordering areas.

Implementation of the directives, especially Directive #4, was also problematic and this was echoed numerous times in the workshop and through the feedback received. There were many stories of hospitals subverting EMS Agency policy and then the EMS providers felt "blamed" for the delays, but they also felt there was only so much they could do to mitigate the situation. Moving forward, the EMS Agency needs greater authority if such workarounds by the hospitals are to be avoided or it needs to work more closely with HFID for coordinated enforcement. Currently, the Agency can only report something as a licensing issue, but threat carries little weight.

**Other Affiliated Healthcare Facilities**

In addition to EMS providers and hospitals, there are a wide range of affiliated medical/health providers within the EMS System/Healthcare Coalition in Los Angeles County. These affiliated care sites that number in the hundreds include clinics, surgical centers, dialysis centers, urgent care, home healthcare/hospice, skilled nursing facilities and long-term care facilities.[10]

These affiliated healthcare facilities faced distinct challenges when compared to their peer hospitals and EMS providers. Affiliated sites are often smaller, stand-alone sites with very finite purposes that may not have extensive staff or resources available. In many cases, these facilities are not part of a larger network or association advocating on their behalf or sharing information with participating members. Their role in the continuum of care is not as well understood by the public, elected officials, policy makers and even some within the medical and health community. As such, affiliated sites often felt left out of the larger conversation—both actually and metaphorically—regarding COVID-19 policies, resources, and information. With limited staff it became burdensome on these facilities to assign someone to information collection and/or to pick-up allocated resources.

Information Sharing & Guidance

The primary challenge faced by most of the affiliated facilities centered on the flow of information, or their perception of the lack thereof. Where many hospitals and larger care centers may have had an entire team or at least a dedicated position for information collection that was not the case at many of the smaller sites.

When asked in the workshop what they would recommend the EMS Agency do differently in the event of future pandemics or emergencies, the responses generally included: "provide more information via email blasts and website updates;" "be proactive and communicate more often;" "improve communication platforms;" "better coalescing of information;" and "[provide] readily available resources/guidelines on the website." The volume of information related to COVID-19

[10] Typically, Skilled Nursing Facilities (SNFs)/Long-Term Care (LTC) facilities would be engaged as a part of this group as a day-to-day responsibility of the EMS Agency, however, during the pandemic, Los Angeles County DPH assumed responsibility for supporting SNF/LTC facilities, so they were not included in this portion of the review.

and patient care, particularly in the early months when the disease and its transmission mechanisms were not well-understood, necessitated near constant communication with the care sites, but the channels for communication proved challenging. As discussed in earlier sections of this review, the EMS Agency is not a public facing agency. DPH updated the COVID-19 content on its website on a daily basis, but there was confusion and frustration among stakeholders in this group that customized information for their use did not appear on the EMS Agency website (which is managed by HSA).

Additionally, participants felt there was an inconsistent level of support offered across facilities in the same sector. For example, some clinics got information and resources while others didn't or some dialysis centers versus others, and so on. Some HHH providers, for example, felt that they received sufficient support while others weren't aware support was even available. Most felt that support was actually more consistent before the pandemic than during it. They felt lines of communications that previously existed appeared to be blurred during the pandemic and the prioritization of hospitals and EMS providers over these other affiliated facilities left them feeling like an ancillary service provider. For example, multiple affiliated facilities participated in weekly Hospital/DRC conference calls hosted by the EMS Agency. While those calls were considered informative, they weren't focused on other affiliated facility issues. Likewise, the calls often spoke of large resource allocations for hospitals, but then affiliated facilities were told resources weren't available for them. Most participants noted that the level of information or resource support was wholly dependent on personal relationships with the EMS Agency. Essentially, if you knew someone at the EMS Agency and had a close relationship, you likely got what you needed. If you didn't have that relationship, you were likely on your own. In some cases, the participants felt a stronger connection to LA County OEM and DPH than they did with the EMS Agency and it was all dependent on informal relationships.

Workshop participants also expressed challenges with the contact lists maintained by the EMS Agency. Some lamented that the information was not current and the "wrong person" was receiving emails; in some cases, someone who was no longer in the position. However, participants also acknowledged that because their organizations were often understaffed, they were not able to always keep the EMS Agency in the loop with updated contact information.

ReddiNet, the online communication tool that the EMS Agency utilized during the pandemic to send out information requests (polls) and receive resource requests, was largely underused by affiliated facilities. Some had never heard of it; others found it time-consuming and confusing to use because of their limited exposure to it.

<u>Resource Management</u>

When asked "When resources were in shortest supply, how would you rate the EMS Agency's timeliness/effectiveness in providing the resources you requested or distributing those being pushed to you (e.g., PPE)," 44% of participants responded somewhat timely and effective, while 56% responded <u>not</u> timely nor effective. This is a stark contrast to the other groups engaged in this review that illustrates a perceived difference in how the EMS Agency was addressing these affiliated facilities versus more traditional EMS/healthcare stakeholders under its purview.

The workshop stakeholders requested a clarification in roles between DPH and the EMS Agency. Most assumed DPH was responsible for policy, but the EMS Agency was limited to providing supplies. One participant aptly stated: "I think that there is a misunderstanding of the role of the EMS [Agency]. EMS is supposed to be a last resort for supplies after each facility has reached out to their own vendors and local resources. They did supply a list of vendors and also a list for staffing, but it seems that [affiliated facilities] expected the EMS would do the negotiating for them. I think the reality is that we also have to do our part in coordination with the EMS [Agency]. Several facilities mentioned they had ReddiNet, but didn't know how to use it. The resources are there to learn." Feedback from the participants reinforced these sentiments. For example, many were grateful for the vendor list provided by the EMS Agency, but voiced an expectation that the EMS Agency would be more supportive with acquisition. Likewise, as mentioned above, many were aware of ReddiNet, but not of the training and resources available to guide their use of the system. It is clear that greater communication between the EMS Agency and this sector and a better understanding of roles and expectations would help clarify some of the challenges confronted during the pandemic.

In the early months of the pandemic—March and April 2020—there was a universal shortage of supplies. Participants acknowledged that some of their frustrations directed at the EMS Agency's distribution efforts were largely due to a lack of available resources, which were beyond the Agency's control. Later in the pandemic, when resources were more readily available, participants expressed increased satisfaction with the EMS Agency's actions. However, participants did discuss the challenges associated with having to pick up resources from a single warehouse in Los Angeles County, rather than being served by a local distribution site (e.g., DRC). Most facilities had to go to the EMS Agency's one warehouse in Santa Fe Springs versus being able to pick-up resources from closer facilities like DRCs, as hospitals and EMS providers were able to do.

Healthcare Facility-Specific Issues

Because of the variety of stakeholders included under the affiliated facilities umbrella there was a wide range of facility-specific issues voiced during the session. Several hospice centers shared the difficulties they encountered when trying to find mortuaries with availability. The process was incredibly time consuming; sometimes taking more than two days. Then the receiving mortuary might not have been one the family had desired leading to additional complications. The hospice providers stated it would have been helpful to have some entity tracking and sharing mortuary availability data, as they were unaware that the EMS Agency was working on this issue and providing decedent planning and support services.

A representative from a surgical center shared that they had trouble enforcing mask mandates early in the pandemic. Even though the guidance was in place, one surgeon resisted and demanded to "be shown where it says that." The surgical center representative was unsure where to look or who to ask for guidance and wished that this information had been pushed out to their organization. In general, most providers felt the response measures they implemented were either internally driven or supported by other regulatory authorities (e.g., AFLs from CDPH, decedent plans, state waivers, telehealth).

The prevailing opinion in the workshop was one of "being the little guy" on a healthcare spectrum full of "big guys." Many participants shared that not only are hospitals and some clinics the largest and most prestigious stakeholders in the arena, but they also had associations and lobbyists working on their behalf. Clinics, for example, were represented by CCALAC, which had a close relationship with the EMS Agency and was able to facilitate the provision of information and resources to its member clinics. Clinics typically felt that they got a lot of direct support thanks to the work being done by CCALAC on their behalf. On its own, for example, CCALAC with the DRCs coordinated resource distribution to 360 sites and 60+ of its member organizations. But other affiliated facilities felt they shared the commonality of being perceived as "minor" contributing members even though they represent an enormous "slice of the health care pie." Because they are not united formally or informally, they do not speak with a collective voice nor does their voice get amplified.

**MHOAC-Member Departments/Agencies**

The EMS Agency is the local and regional administrator of California's medical and health mutual aid system for Los Angeles County and California's Mutual Aid Region I, respectively. The EMS Agency accomplishes this task through the MHOAC and RDMHC programs, respectively. As has been presented throughout this report, all pre-hospital, hospital, and other healthcare providers are considered part of the health and medical mutual aid network and are supported locally by the EMS Agency. Public sector health and medical agencies, administrators, and regulators are also considered part of that mutual aid network. These include public health departments, mental health departments, other government healthcare agencies, and the emergency management offices/departments that help to facilitate mutual aid across all disciplines throughout the State. In Los Angeles County this is a relatively small group as most health-related programs are administered at the County-level. In this case, the group that was engaged in this workshop that represents this sector of the of EMS System/Healthcare Coalition includes: the EMS Agency, County DPH, DMH, and OEM, and LBHHS and PPHD.

Information Sharing & Guidance

The County Emergency Operations Center (CEOC)—administered by Los Angeles County OEM—initially expected the EMS Agency DOC to serve as the DHS DOC and represent all of DHS per plans (as discussed in *Category 1: Operational Response*). In the first few weeks of the pandemic, the CEOC expressed confusion regarding which entities within DHS were represented by the EMS Agency. Once the CEOC came to realize the EMS Agency DOC was only representing the EMS Agency and the health/medical mutual aid system, the CEOC reached out to DPH, DMH, LBHHS, and PPHD to also have representation (virtually or in-person) in the CEOC's Health and Medical Branch. This partially explains why the CEOC initially felt the EMS Agency DOC was reactive and slow to provide information or provided incomplete information; because it was being asked for information that it did not have or was not privy to. One other reason for this mentioned by the workshop participants, were initial concerns about sharing personal or confidential information. This is quite common in emergencies involving sensitive subject-matter. Responders tend to err on the side of under-sharing when they have initial concerns about what is appropriate to share. There was a perception that this concern may have initially hindered information sharing. Delineating what information is confidential (e.g., personal protected information), who has the authority to speak on what data, and who has a need-to-know are all decisions needing to be

made quickly and effectively to ensure an effective emergency response. This changed as the pandemic progressed and the stakeholders later stated the EMS Agency DOC was responsive with information, statistics about the status of the system/coalition, and data analytics. They agreed the EMS Agency became one of their most trusted and reliable sources of information. For example, the CEOC, LBHHS, and PPHD singled out the daily spreadsheets with hospital data that were shared with them via the EMS Agency DOC. They also noted that the conference calls hosted by the EMS Agency, the MHOAC, and RDMHS were all well organized and presented valuable information.

While the CEOC was active with in-person operations, the EMS Agency deployed two (2) Agency Representatives to the Medical and Health Branch in the CEOC. These individuals served as liaisons between the EMS Agency DOC and the CEOC. A concern voiced by the CEOC, was that it felt the individuals deployed as Agency Representatives did not have the authority to speak on behalf of or commit EMS Agency resources. Because decisions were being made quickly and they needed "the right" people at the CEOC to contribute to those decisions in real-time, the CEOC was hoping for individuals with more authority that could make immediate decisions rather than those only empowered to serve as liaisons.

When asked to compare the value of the EMS Agency's information against other trusted sources, most participants stated that the EMS Agency was the most reliable source of information. As they were dealing with 58 counties, it is not surprising that the departments found the State to be less responsive and informative. They felt the EMS Agency was a better option, which got even better once a CDPH representative joined the EMS Agency DOC as a liaison; giving the EMS Agency access to even more information related to the State's efforts. DPH's Acute Communicable Disease Control (ACDC) Division also sent a liaison to the EMS Agency DOC, which was touted as an effective communications facilitator. This enhanced coordination based on pre-existing relationships within the two departments. As a result, the integration of liaisons/agency representatives was generally considered a positive that improved EMS Agency DOC deliverables and information.

From its sister agencies within AHI, both DPH and DMH stated that the three (3) DOCs, including the EMS Agency DOC, coordinated, shared information, communicated resource needs, and advised each other on a regular basis. They felt the relationship between the three was strong and effective. Although they also acknowledged some initial confusion regarding which department's DOC represented HSA (i.e., administrative level) and County-operated hospitals and clinics. An understanding has since been developed that each DOC is independent of each other and that the administrative level will set up its own decision-making and coordination body to whom the three DOCs will report.

<u>Resource Management</u>

The departments and agencies that participated in the workshop praised the EMS Agency's effective resource management approach, which they said allowed their departments/agencies to focus on "more pressing issues related to their specific missions." They stated that the "EMS Agency was very proactive in vetting resource requests and deconflicting requests/information," particularly during the 2020/2021 winter surge. They called out the DSF as a particularly efficient

element of the Agency's overall resource management program. They felt the EMS Agency built a great deal of credibility related to resource and information management during the pandemic that will position it for success well into the future.

Both Pasadena and Long Beach expressed having some anxiety when resources coming from the State were only delivered to the County and not their independent health departments. Particularly in the initial months of the pandemic, they were concerned whether they would get their allocations at all. But those fears quickly subsided as the EMS Agency and DPH did a good job, in their eyes, of making sure they were included in both decisions and allocations. They also felt it was helpful that the MHOAC Program was willing to enter their resource requests into Salesforce for them.

When asked about potential areas for improvement related to the EMS Agency's handling of medical and health related resources, the stakeholders cited the following:

- The departments were surprised by the number of EMS System and Healthcare Coalition members who seemed unfamiliar with the resource request process. In particular, which departments facilitate mutual aid/resource management and which avenues to pursue. The CEOC, DPH, and DMH stated that they were initially contacted by many EMS System and Healthcare Coalition members seeking resources who they then had to direct to the EMS Agency DOC. For example, the CEOC stated that many system/coalition members went to their local/city EOCs to acquire resources who then pushed the request to the CEOC, which in turn redirected it to the EMS Agency. On the other hand, the EMS Agency experienced a multitude of non-health/medical organizations that came to it for resources when they should have been going through their city/county EOC or equivalent. There was speculation as to whether these were deliberate attempts to circumvent the defined mutual aid systems, whether it was a training and education gap, or whether stakeholders were trying to find resources through any means available when they were in shortest supply. Within a few months, as word of the request process spread and as the EMS Agency began pushing resources, the number of misdirected inquiries declined.
- As previously mentioned, the EMS Agency shared vendor lists for supplies and personnel with members of the EMS System/Healthcare Coalition as well as with peer medical/ health and emergency management departments. While the vendor lists were a welcomed resource, the participating departments felt they could have been better vetted. They sometimes found vendors on the list that no longer existed, weren't accepting orders or had no supplies available, could not accommodate government acquisition processes, or had other challenges.
- When staffing requests were all funneled through the MHOAC/RDMHC programs and sent to the State, participants felt that also pit the requestors against each other as they competed for the same personnel from the same source. There may not have been another or better option, but the group encouraged the EMS Agency to consider a multitude of personnel sources in the future.

The concluding remarks from the participants were that they generally felt that if there was a scarce resource, the EMS Agency, in coordination with its partners, stepped up to better allocate resources to ensure the greater good (e.g., patient care).

Department/Agency-Specific Issues

The issues discussed during this portion of the workshop were not a direct result of the EMS Agency's activities, but are being included for general consideration.

DMH felt like mental health was not a high enough priority for the County. They felt that the mental health impacts of the pandemic, which were significant, were seen as a secondary priority by the County UCG and were thereby treated as such by all subordinate county departments and agencies. While this was not a result of EMS Agency actions, the medical/health mutual aid system facilitated by the EMS Agency also supports the mental health sector. The EMS Agency should always be prepared to support its mental health partners with their resource and staffing needs as the Agency would any other member of the EMS System/Healthcare Coalition.

As previously mentioned in this report, DPH took responsibility from the EMS Agency for supporting SNFs and LTCs during the pandemic (approximately 400 in Los Angeles County). In addition, DPH also assumed responsibility for supporting and coordinating with congregate care sites (non-medically licensed, private for-profit facilities) that numbered in the thousands in Los Angeles County. Congregate care sites were never a stakeholder group supported by the EMS Agency as part of the MHOAC Program or as part of the larger EMS System/ Healthcare Coalition. Despite that fact, DPH felt the EMS Agency should have better prepared it to not only support SNFs and LTCs, but also congregate care sites, which DPH was grouping in with SNFs and LTCs. In the EMS Agency's defense, its definition of SNFs/LTCs did not include the thousands of congregate care sites DPH considered part of that sector during the pandemic. In addition to homeless shelters and other facilities it had taken on, DPH felt overwhelmed and stretched thin. DPH felt the EMS Agency could have better transitioned it into its new role by providing more information on the SNF/LTC sector; perhaps better defining what facilities were classified as SNFs/LTCs versus congregate care sites. More importantly, it brings to light a concern voiced in the workshop that included "Other Affiliated Healthcare Facilities" (e.g., clinics, hospice/home healthcare, dialysis centers); how does the medical/health mutual aid system identify, integrate, and support hundreds to thousands of small, independent, unlicensed, private facilities?

One concern affecting resource management that was voiced by the participants was that the CEOC/County OEM does not have a plan for managing expenditures related to procured items. This should be an element of the County's resource management strategy as part of its Emergency Response Plan (ERP), but that portion of the County's ERP has not been developed. County stakeholders, including the EMS Agency (in other engagements), voiced concerns about the process for managing expedited procurements in an emergency, assigning the costs, and seeking reimbursement in the County. The EMS Agency should be aware of this current gap in the County's planning and should have procedures in place to manage external procurements (which were minimal during the pandemic) in the absence of County guidance in future emergencies.

## 5.2 Notable Strengths

***Strength 5.2.1:*** Through years of effort, the EMS Agency has established excellent and close relationships with most members of the EMS System/Healthcare Coalition, including hospitals, EMS providers, MHOAC member departments/agencies, and the associations that represent these and other healthcare stakeholders. Effective communications and coordination with these groups is built on personal, trust-based relationships.

***Strength 5.2.2:*** Although the EMS Agency's communications with Other Affiliated Healthcare Facilities was not as strong as other stakeholders in the sector, the EMS Agency was nonetheless viewed by Other Affiliated Facilities as a trusted-agent and reliable partner. The pre-existing relationships developed during prior disaster planning meetings proved essential and enabled consistent channels for information sharing for some members of this sector (e.g., clinics) during the pandemic.

***Strength 5.2.3:*** The EMS Agency has developed an incredible rapport with its EMS providers and a deep level of trust and respect has been established. Most of the EMS Agency's staff are former paramedics/EMTs, nurses, or other healthcare professionals. They are respected by the organizations the EMS Agency serves as peers who understand their circumstances and challenges. In many cases, the flow of communication and resources went smoothly because of this level of respect and rapport.

***Strength 5.2.4:*** Almost all external stakeholders engaged in this review process applauded the EMS Agency's coordination and conduct of informative conference and video calls amongst EMS System/Healthcare Coalition stakeholders on a regular and ongoing basis during the pandemic. Many stakeholders commented on how neighboring counties held no briefings or coordination calls at all. Despite the size of Los Angeles County and the number of stakeholders involved, these calls were typically managed effectively and achieved their information sharing objectives.

***Strength 5.2.5:*** Speaking to its reputation and capability levels, most stakeholders saw the EMS Agency as a more reliable source of accurate information than almost any other local, State, or federal entity. They felt the EMS Agency had more complete information that was directly applicable to their local situation than any other. In many cases, they also felt the EMS Agency data was more accurate than other agencies with more direct oversight of the data sources. The mechanisms the Agency used to collect, vet, and distribute information were viewed favorably among stakeholders.

***Strength 5.2.6:*** Receiving and deploying Agency Representatives or liaisons to and from partner organizations was viewed as an effective tool for improving the EMS Agency's deliverables. The EMS Agency deployed Agency Representatives to the CEOC and received Agency Representatives from DMH, DPH, the U.S. military, and others. Stakeholders benefited from these engagements by witnessing improved coordination on the part of the EMS Agency with its peers and then received more informed and accurate intelligence from the EMS Agency because of it. As part of this process, the EMS Agency just needs to ensure the representatives it deploys and those it receives are qualified and bear the appropriate authorities to achieve the objectives of the liaison

function. This is an approach that should be institutionalized as needed during all future emergencies.

***Strength 5.2.7:*** The recurring push of valuable and short-supplied resources to DRCs, which in turn distributed those resources to health facilities in their geographic area was one of the EMS Agency's greatest strengths during the pandemic as voiced by stakeholders. Other counties required health facilities to submit individual resource requests before deploying resources and stakeholders lamented those processes which delayed the receipt of critical resources. The EMS Agency realized resources needed to be in the hands of end-users as soon as possible. The Agency set aside administrative and bureaucratic processes while still maintaining a fair and equitable distribution of resources. Simply put, the EMS Agency earned the trust of stakeholders who did not question the Agency's prioritization or allocation decisions; they were simply grateful to have what they were given as quickly as they were.

***Strength 5.2.8:*** DRCs were also singled out as champions of the EMS Agency's resource management strategy. Although they are independent of the EMS Agency, the ten (10) DRCs that served as distribution centers exceeded expectations by taking on that responsibility for the healthcare facilities in their geographic area. Without guidance or tools from the EMS Agency, DRCs established warehousing, inventory, storage, and distribution programs that effectively got critical resources to those that needed them. They did so without the expectation of compensation or notoriety and while they too dealt with the tremendous demand for service and staffing shortages brought on by the pandemic. All stakeholders voiced thanks and compliments to those 10 DRCs.

## 5.3 Areas for Improvement

***Area for Improvement 5.3.1:*** The EMS Agency's current approach to communications with EMS System/Healthcare Coalition members is too rooted in informal relationships rather than a reliable structure.

> ***Reference(s):*** *EMS Agency Procedures for Communications and Stakeholder Engagement*
>
> ***Analysis:*** During all four workshops it became apparent that stakeholder communications with the EMS Agency were primarily rooted in personal, informal relationships between the facility and the EMS Agency. This was less of an issue for the larger, prominent members of the EMS System/Healthcare Coalition who are also more limited in number. Generally, hospitals, EMS providers, and the clinical and hospital associations spoke of strong and long-standing personal relationships with EMS Agency personnel, which facilitated coordination during the pandemic. At the same time, it was still noted by both larger facilities and the EMS Agency that staffing changes or reassignments often affected communications between the partners as contacts were lost or not updated.
>
> In the case of other affiliated facilities (e.g., clinics, HHH, SNF/LTC, dialysis centers, surgical centers, urgent care) that same informal communications approach was being applied, but less effectively. One challenge, in this case, is that the "other affiliated facilities" sector includes hundreds of facilities. They are often small and lesser known, if known by the EMS Agency at all. As the narrative in this chapter explored, that group felt particularly

subordinate or omitted from communications and coordination during the COVID-19 response. While it is commendable that the EMS Agency had established such strong personal bonds with many members of the EMS System/Healthcare Coalition, the system/coalition is too important to be dependent on personal relationships. There should be a more formal plan and mechanism for engaging and supporting members of the EMS System/Healthcare Coalition. Such a system would ensure basic challenges like updating contact information are addressed, while also ensuring that stakeholder communications and coordination are facilitated equitably across all stakeholder groups prior to and during an emergency response.

***Recommendations:***

1. The EMS Agency should review the options for institutionalizing a more formal strategy for ensuring communications with EMS System/Healthcare Coalition members that is independent of personal or informal relationships.
2. Once a strategy is selected, a formal plan should be developed and distributed for situational awareness.
3. The EMS Agency should employ a series of mechanisms (e.g., procedures, technologies, software) to ensure sufficient communications and access by all system/coalition stakeholders.

***Area for Improvement 5.3.2:*** The EMS Agency does not have the authority to enforce some of the policies it creates.

***Reference:*** *Los Angeles County Code of Ordinances*

***Analysis:*** When asked to provide a potential area for improvement for the EMS Agency, many EMS stakeholders commented on the EMS Agency's inability to enforce several of its policies, particularly those related to hospitals. Without effective enforcement of the directives, implementation was at times impossible because the Agency only has authority over the EMS providers and not the hospitals that were also affected by the policies. In other counties, the hospital and EMS enforcement body is typically within the same agency establishing policy. In the case of Los Angeles County, the hospital enforcement authority is housed in DPH HFID. As a result, the EMS Agency's policies were perceived favorably, but the lack of enforcement diminished their value. The Agency does not have the ability to expand the reach of its authority, nor would that be an appropriate recommendation. However, there is a flaw in the system that must be acknowledged; the hand-off of patients from EMS provider to hospital care during the COVID-19 surge was a quagmire that individuals struggled to navigate.

***Recommendations:***

1. The EMS Agency should consider forming a working group with representatives from DHS, DPH HFID and other relevant stakeholders to discuss lessons learned from the pandemic, particularly during the periods of time in which the directives were in place.
2. The EMS Agency should work with DPH HFID regarding potential enforcement options, particularly related to hospitals, when the policies are still being

developed. Once issued, a unified front should exist between the policymaker (EMS Agency) and the enforcement agency (HFID).

***Area for Improvement 5.3.3:*** Other affiliated facilities could have been better folded into the "ecosystem" of the continuity of care spectrum.

***Reference(s):*** *N/A*

***Analysis:*** The volume of information being requested and disseminated was overwhelming for many smaller, specialized affiliated facilities. They could benefit from additional guidance helping to delineate between the roles and responsibilities of DPH, DHS, and the EMS Agency. The confusion regarding where to look for specific guidance or assistance with resources led to frustration with the EMS Agency even when it was not its job to share such information.

***Recommendations:***

1. Explore the possibility of online or in-person trainings for interested parties to learn more about the various organizations involved in the delivery of care and public health services.
2. Review the system for updating and maintaining contact information for the EMS Agency's contact lists and consider if there are efficiencies that can be implemented.

***Area for Improvement 5.3.4:*** The EMS Agency could have facilitated more cross-sector communications and coordination to help arbitrate conflicts.

***Reference(s):*** *Sector-Specific Conference Calls*

***Analysis:*** As has been explored throughout this report, the EMS Agency did an effective job of hosting sector-specific conference calls as a means of disseminating information. Typically, separate calls were held with hospitals, EMS providers, and other stakeholder groups. These calls were typically facilitated by an EMS staff member assigned to the particular sector/group that was then not engaged in calls with other sectors/groups. Because these efforts were essentially stove-piped within the sector/group, some opportunities were missed to bridge the communications and coordination gap across sectors. The best example was the growing conflict that developed between hospitals and EMS providers related to off-loading patients in hospital waiting rooms. Each side viewed the other's actions with animosity and it created tension in the field between hospitals and EMS providers. This issue was brought up during EMS Agency calls with hospitals and then separately with calls held with EMS providers. However, neither hospitals nor EMS providers felt the EMS Agency identified the problem because action was not taken to arbitrate a solution between the two stakeholder groups. The EMS Agency is a respected partner in the County and its involvement in facilitating a dialogue and solutions would have been welcomed by both parties.

***Recommendations:***

1. The EMS Agency should establish a process for documenting calls/ communications with stakeholder groups (See *Area for Improvement 5.3.5*) and

use the results to analyze trends, issues, or potential conflicts across stakeholder groups.

2. The EMS Agency's role in hosting conference calls should not be limited to information distribution. It should also be seen as an independent, third-party capable of identifying, addressing, and resolving cross-sector challenges being encountered (i.e., serving as a facilitator and arbiter). That role should be translated into an agenda item for calls.
3. The EMS Agency should consider conducting more cross-sector calls with stakeholder groups who frequently coordinate (i.e., hospitals with EMS providers).

***Area for Improvement 5.3.5:*** The EMS Agency's documentation efforts related to sector/group conference calls was lacking (agendas, notes, virtual boards, recordings).

***Reference(s):*** *Sector-Specific Conference Calls*

***Analysis:*** Document management related to the EMS Agency's sector-specific conference calls was lacking. Agendas were rarely sent out before calls as were notes/minutes afterwards. Many representatives who were unable to attend every call, were then unable to catch up on what they had missed because notes were not available. Without agendas distributed in advance, stakeholders could not determine if their participation in the meetings were appropriate or necessary. Likewise, stakeholders felt the lack of agendas sometimes made it difficult for the facilitators to stay on topic. With regards to the lack of notes, the EMS Agency typically used Zoom® as its platform for conducting the meetings, which has the ability to automatically record meetings. Even if the Agency was too busy to create notes, it could have posted the recordings of the calls to a website or other file sharing platform so those unable to attend could listen to the meeting at a later date. Notes would be more ideal and user-friendly so, if possible, a note taker should be invited to calls to then produce and distribute notes within a few days.

In general, stakeholders requested that more information be posted on the EMS Agency's website or another file sharing platform related to all the documentation and data referenced during conference calls (versus via email). This could include meeting presentations, the agenda, notes, recordings, the data sources referenced during calls, and other associated documentation.

***Recommendations:***

1. The EMS Agency should institutionalize a documentation process related to its stakeholder conference calls that includes creating an agenda in advance and distributing notes/minutes afterwards.
2. The EMS Agency should review the options for making information, documents, and resources available to EMS System/Healthcare Coalition stakeholders in a more effective manner than sending emails. Options could include a website or a secure, file sharing platform. Once implemented, the tool should be built into the documentation process.

***Area for Improvement 5.3.6:*** DRCs carried a significant portion of the EMS Agency's proactive resource management strategy without resources or guidance from the EMS Agency.

***Reference(s):*** *Resource Distribution Center Plans and Procedures*

***Analysis:*** As *Strength 5.2.8* described, the 13 DRCs took on a responsibility as distribution centers for the healthcare facilities in their geographic area. This required them to establish warehousing, inventory, storage, and distribution programs that effectively got critical resources to those that needed them. More so, they did so without any guidance or tools from the EMS Agency. The EMS Agency simply asked the DRCs to serve as distribution centers in its hub-and-spoke "push" resource distribution model, and they happily obliged recognizing the gravity of the situation. While none of the DRCs publicly complained, they did voice some frustration that their role as distribution centers came without any tools, guidance, or resources. This required each DRC to improvise their own program, essentially overnight. They had to determine the facility, logistical, tracking, security, safety, loading/unloading, documentation, and other requirements on their own. The majority did an exceptional job, but challenges existed. For example, DRCs cited the vaccine distribution process as a challenge. Even though that process was led by DPH it used the model established by the EMS Agency. DRCs became responsible for vaccine integrity (cold storage), which was very time consuming and challenging. Additionally, documentation of resource distributions to end users was inconsistent across facilities and affected resource and fiscal accountability. DRCs wished they had been provided a toolkit of resources and guidance to have better performed their distribution center role.

***Recommendations:***

1. Anticipating that it will use a similar hub-and-spoke resource distribution strategy focused around DRCs in the future, the EMS Agency should engage DRCs to learn about their lessons and experiences in the resource management process during the pandemic.
2. The EMS Agency should use the results from those discussions (best practices and gaps) to build a toolkit for DRC use that includes tools and resources for the functions DRCs must perform when serving as a distribution center (e.g., inventory, facilities, storage, documentation).
3. The EMS Agency should also consider making experienced logisticians available to DRCs as advisors during the next activation. Experienced logisticians can typically be found in most large fire departments or other public safety and emergency management partners.

***Area for Improvement 5.3.7:*** Members of the EMS System/Healthcare Coalition, as well as stakeholders outside of it, were initially unclear about what resource request process or mutual aid channel to follow to acquire resources.

***Reference(s):*** *Resource Distribution Center Plans and Procedures*

***Analysis:*** In the initial months of the pandemic, there appeared to be many EMS System and Healthcare Coalition members who were unfamiliar with the resource request process. In particular, they seemed unclear as to which departments facilitate mutual aid/

resource management and which avenues to pursue. The CEOC, DPH, and DMH stated that they were initially contacted by many EMS System and Healthcare Coalition members seeking resources who they then had to direct to the EMS Agency DOC. Likewise, the EMS Agency was contacted for resources by many organizations that did not belong to the health/medical mutual aid program. While the situation improved over the course of the pandemic, it illustrated the need for ongoing and proactive training for all stakeholder groups and documentation related to the medical/health resource management process.

***Recommendations:***

1. Ensure the medical/health mutual aid and resource management process is effectively codified in local and County emergency plans and procedures, including the EMS Department Emergency Plan.
2. The EMS Agency should consider developing resource management training for the EMS System/Healthcare Coalition members or, at minimum, integrating it as a topic into existing training or other forums used to engage stakeholder groups.

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# IV. Conclusion

The word "herculean" is often used loosely to describe any response to a challenging situation. However, the true definition of herculean is reserved for those feats "of extraordinary power, extent, intensity, or difficulty."[11] The efforts put forth by the EMS Agency during the COVID-19 pandemic were, indeed, herculean and every EMS Agency employee is to be commended for the extraordinary work they accomplished over the course of the pandemic.

The pandemic created an unprecedented demand on one of the largest EMS/healthcare systems in the country; exacerbated by limited supplies of critical resources and personnel, the need to employ alternate standards of care and expansion/surge facilities, and adapt to regularly changing practices and policies as information about the virus, new strains, and ebbs and flows in infection rates frequently changed. The quick, momentous, and heartfelt response by EMS Agency personnel to address the many unique challenges posed by the pandemic was, and continues to be, remarkable.

Importantly, the EMS Agency had a robust preparedness program in place prior to the pandemic. It is because of this dedication to all preparedness lifecycle activities, including planning, organizing, equipping, training and exercising, that the Agency was well-positioned to respond. Additionally, through years of effort, the EMS Agency had established excellent relationships with hundreds of members of Los Angeles County's EMS System/Healthcare Coalition, including hospitals, EMS providers, MHOAC member departments/agencies, other affiliated healthcare facilities (e.g., surgical centers, dialysis centers, urgent care centers, home healthcare/hospice, skilled nursing/long-term care facilities), and the associations that represented those and other healthcare stakeholders. The Agency was considered a trusted agent and source of information and guidance. Many stakeholders viewed the EMS Agency as a more reliable source of accurate information than other local, state, or federal entities. Agency employees even felt that their own EMS Agency leadership and supervisors did an excellent job of communicating with them and prioritizing their well-being during the pandemic.

The Agency's decision to push resources to provider agencies rather than waiting on resource requests was perhaps its most pivotal decision during the pandemic. It also proved to be the most effective way of getting critical resources to hundreds of stakeholders in the least amount of time; ultimately distributing more than 150,000,000 individual resources to members of the EMS System/Healthcare Coalition, which certainly reduced suffering and saved countless lives.

The pandemic response also exposed some of the limits of the Agency's preparedness, emergency capabilities, and authorities. For example, without enforcement authority over some of its directives, implementation was at times challenging or impossible. Interacting with the media and distribution of public information—for the benefit of EMS System/Healthcare Coalition members and the public—was unchartered territory for the Agency. The success of the

[11] Merriam-Webster Dictionary, https://www.merriam-webster.com/dictionary/Herculean

Agency's resource distribution strategy was dependent on DRC hospitals that willingly established logistics programs without further guidance or support. There were opportunities to improve information sharing and situational awareness both internally and externally; and the Agency's informal relationships and approach to communications, while valuable, also created points of failure. At a higher-level, its own plans and those of its parent department, DHS, did not fully or accurately capture the emergency operations-related roles, processes, and organization of the EMS Agency.

Nonetheless, the employees of the Los Angeles County EMS Agency dedicated themselves to a cycle of continuous learning as they struggled to facilitate the medical and health mutual aid system in California's largest and most complex region throughout the pandemic; thereby ensuring the health and safety of both patients and EMS/healthcare providers. Under incredible duress, uncertainty, and in time-sensitive circumstances, the EMS Agency made fair, ethical and equitable decisions, which it then translated into effective application.

# Appendix A: Acronym List

| Acronym | Definition |
|---|---|
| AATC | All Access Transfer Center |
| ACDC | Acuta Communicable Disease Control Division (LA County Public Health) |
| ACS | Alternate Care Site |
| AFL | All Facilities Letter |
| AHI | Alliance for Health Integration |
| ALF | Assisted Living Facility |
| ALS | Advanced Life Support |
| AOD | Administrator-On-Duty |
| APOT | Ambulance Patient Offload Time |
| APRU | Advanced Provider Response Unit |
| ARDS | Acute Respiratory Distress Syndrome |
| ARS | Ambulance Receiving Spaces |
| ASC | Ambulatory Surgery Centers |
| ASPR | Assistant Secretary for Preparedness and Response (U.S. Dept. of Health & Human Services) |
| BEC | Building Emergency Coordinator |
| BLS | Basic Life Support |
| CAHF | California Association of Healthcare Facilities |
| CAIR | California Immunization Registry |
| Cal/OSHA | California Division of Occupational Safety and Health |
| CalMAT | California Medical Assistance Team |
| CalOES | California Governor's Office of Emergency Services |
| CAN | Certified Nursing Assistant |
| CAP | Coordinated Action Plan |
| CAPS | Coordinated Action Plans |
| CCALAC | Community Clinic Association of Los Angeles County |
| CDC | Centers for Disease Control and Prevention |
| CDO | Central Dispatch Office |
| CDPH | California Department of Public Health |
| CERT | Community Emergency Response Team |
| CHA | California Hospital Association |
| CHFT | California Health Foundation and Trust |
| CHW | Community Health Worker |
| CICS | Clinic Incident Command System |
| CMO | Chief Medical Officer |
| CMS | Centers for Medicare and Medicaid Services |
| CNG | California National Guard |

| Acronym | Definition |
|---|---|
| CONOPS | Concept of Operations |
| COO | Chief Operating Officer |
| CPCT/A | Certified Patient Care Technician/Assistant |
| CRF | COVID-19 Recovery Fund |
| CST | Coalition Surge Test |
| DCAC | LA County Public Health and Medical Disaster Coalition Advisory Committee |
| DEC | Department Emergency Coordinator |
| DEP | Department Emergency Plan |
| DHS | Los Angeles County Department of Health Services |
| DHV | Disaster Healthcare Volunteer |
| DMAT | Disaster Medical Assistance Team |
| DME | Durable Medical Equipment |
| DMH | Los Angeles County Department of Mental Health |
| DMORT | Disaster Mortuary Assistance Team |
| DMSU | Disaster Medical Support Unit |
| DOC | Department Operations Center |
| DoD | Department of Defense |
| DPH | Los Angeles County Department of Public Health |
| DRC | Disaster Resource Center (Hospital) |
| DSF | Disaster Staging Facility |
| DSW | Disaster Service Worker |
| ECMO | Extracorporeal Membrane Oxygenation System |
| ED | Emergency Department |
| EDR | Electronic Death Registration |
| EEI | Essential Elements of Information |
| EID | Emerging Infectious Disease |
| EMO | Emergency Management Officer |
| EMS | Emergency Medical Services |
| EMSA | California Emergency Medical Services Authority |
| EPRD | Emergency Preparedness and Response Division (LA County Public Health) |
| ESAS | Elective Surgery Acuity Scale |
| ESRD | End Stage Renal Disease |
| EUA | Emergency Use Authorization |
| FDA | Food and Drug Administration |
| FMS | Federal Medical Station |
| HCC | Health Care Coalition |
| HDMT | Hospital Disaster Management Training |
| HFID | Health Facilities Inspection Division (LA County Public Health) |
| HHH | Home Health/Hospice |
| HHS | U.S. Department of Health and Human Services |

| Acronym | Definition |
|---|---|
| HICS | Hospital/Healthcare Incident Command System |
| HO | Health Officer |
| HPP | Hospital Preparedness Program |
| HSA | Health Services Administration (LA County Health Services) |
| IAP | Incident Action Plan |
| ICF | Intermediate Care Facility |
| ICS | Incident Command System |
| ICU | Intensive Care Unit |
| IMT | Incident Management Team |
| IV | Intravenous |
| LACoFD | Los Angeles County Fire Department |
| LAHSA | Los Angeles Homeless Services Authority |
| LASH | Los Angeles Surge Hospital |
| LAX | Los Angeles International Airport |
| LBCC | Long Beach Convention Center |
| LBHHS | Long Beach Department of Health and Human Services |
| LEMSA | Local Emergency Medical Services Agency |
| LHD | Local Health Department |
| LOSOP | Local Operational Scope of Practice |
| LTC | Long-term Care Facility |
| LVN | Licensed Vocational Nurses (Entry-Level) |
| MA | Medical Assistant |
| MAC | Medical Alert Center |
| MCI | Mass Casualty Incident |
| MCM | Medical Countermeasures |
| MD | Medical Doctor |
| MHCC | Medical and Health Coordination Center (CA Dept. of Public Health) |
| MHOAC | Medical Health Operational Area Coordinator |
| MICN | Mobile Intensive Care Nurse |
| MOD | Medical Officer-on-Duty |
| MoMS | Mobile Medical System |
| MS | Multiple Sclerosis |
| NHICS | Nursing Home Incident Command System |
| NIMS | National Incident Management System |
| NP | Nasopharyngeal |
| NPI | Non-Pharmaceutical Interventions |
| OA | Operational Area |
| OARRS | Operational Area Response and Recovery System |
| OEM | Los Angeles County Office of Emergency Management |
| P&I | Planning and Intelligence Section |

| Acronym | Definition |
|---|---|
| PAPR | Powered Air-Purifying Respirators |
| PEH | Persons Experiencing Homelessness |
| PHERT | Public Health Emergency Response Team |
| PHFE | Public Health Foundation Enterprises/Heluna Health |
| PHOS | Public Health Ordering System |
| PI | Provider Impressions |
| PMC | Pediatric Medical Center |
| PO | Purchase Order |
| POD | Point of Dispensing |
| POLST | Physician Orders for Life-Sustaining Treatment |
| PPE | Personal Protective Equipment |
| PPHD | Pasadena Public Health Department |
| PT | Patient Transfers |
| PTI | Paramedic Training Institute (LA County EMS Agency) |
| Q&I | Quarantine and Isolation |
| RCFE | Residential Care Facility for the Elderly |
| RCP | Respiratory Care Practitioner |
| RDMHC | Regional Disaster Medical and Health Coordination |
| RDMHS | Regional Disaster Medical Health Specialist |
| REOC | Regional Emergency Operations Center |
| ROSC | Return of Spontaneous Circulation |
| RR | Resource Request |
| RT | Respiratory Therapist |
| SARS | Severe Acute Respiratory Syndrome |
| SEMS | Standardized Emergency Management System |
| SMART | Specific, Measurable, Action-Oriented, Realistic, Time/Task-Bound |
| SNF | Skilled Nursing Facility |
| SNS | Strategic National Stockpile |
| SOP | Scope of Practice |
| SPA | Service Planning Area |
| TA | Technical Assistance |
| THIRA | Threat and Hazard Identification and Risk Assessment |
| UCG | Unified Coordination Group |
| URM | Union Rescue Mission |
| USACE | U.S. Army Corps of Engineers |
| USNS | U.S. Navy Ship |
| VOCSN | Ventec One-Circuit Unified Respiratory System (Ventilator) |
| WHO | World Health Organization |