

# MARIN OPERATIONAL AREA

## COVID-19 AFTER ACTION REPORT/ IMPROVEMENT PLAN



## RECORD OF CHANGES

Any updates, corrections, or other changes to this document will be reflected in the table below. Updates to the Improvement Plan will handled separately, since that is a working document used to track progress.

Date of Change	Section	Summary of Change	Change Made By (Title and Name)
10/25/22		Initial release	

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## ► What is an After-Action Report / Improvement Plan?

Following a significant incident that triggers the activation of the Marin Operational Area (Marin OA) Emergency Operations Center (EOC), the Marin County Office of Emergency Services (Marin County OES) may conduct an After-Action Review to gauge the effectiveness of response efforts. This process results in an After-Action Report and Improvement Plan (AAR/IP) that summarizes and analyzes the incident that triggered the Marin OA EOC activation. The AAR/IP documents and evaluates response actions and subsequent impacts to the incident; suggests modifications to plans and procedures to improve future response actions; and identifies training, equipment, supplies, and other resources needed to close gaps and improve future response activities. AAR/IPs are also used to evaluate emergency management plans and personnel capacity to implement these plans during incidents.

For widespread incidents and those with significant impacts, such as the novel coronavirus (COVID-19), Marin County OES may invite stakeholders across public, private, and nonprofit sectors to participate in an AAR/IP process that includes an After-Action Meeting (AAM) to validate AAR/IP findings. This meeting deliberately includes stakeholders who represent disproportionately impacted populations that may be particularly vulnerable to impacts caused by an emergency incident that triggered Marin OA EOC activation.

This AAR/IP evaluates Marin OA's response to COVID-19 from March 4, 2020 (when the Marin OA EOC was activated) to December 17, 2021 (when the Marin OA EOC transitioned to relatively normal operations) and continued COVID-19 related operations transitioned entirely to Marin Health and Human Services. References in this document to the County of Marin signifies county government with its seat in San Rafael, CA; Marin County refers to a geopolitical boundary, and the Marin OA refers to the County of Marin and all political subdivisions within the geographic boundaries of Marin County, including cities, towns, and special districts. Note: Throughout this document, acronyms are spelled out in their first instance (followed by the lettered acronym) in each main section. See Appendix A: Acronyms and Abbreviations.

The Improvement Plan (IP), which details the process, timeline, and progress of addressing areas which are identified in this AAR as needing improvements, is not a part of this document. The IP is a working document and is tracked by OES. Please contact OES if you have any questions.

**The AAR/IP captures what happened during the incident, what effective response activities should be reinforced and repeated, and what gaps should be addressed to bolster successful responses to future incidents.**

# ►Handling Instructions and Point of Contact

The Marin Operational Area (Marin OA) COVID-19 After-Action Report and Improvement Plan (AAR/IP) is available to the public. A digital form is available on the County of Marin Office of Emergency Services website; it also can be made available on request. Reproduction of this document, in whole or in part, without prior written approval from the Marin County Office of Emergency Services (Marin County OES) is prohibited.

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# Executive Summary

Every American, including those in Marin County, California, has been impacted in some way by the ongoing novel coronavirus (COVID-19) pandemic. Caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the virus was first identified in December 2019 in Wuhan, China, and quickly spread globally with devastating impacts. According to the World Health Organization, COVID-19 has resulted in over 6 million deaths globally<sup>1</sup> as of June 1, 2022, and passed 1 million deaths in the US<sup>2</sup> as of May 17, 2022. It is not an understatement to suggest that COVID-19 has impacted the physical, psychological, social, and economic well-being of virtually everyone. As such, it has necessitated a closer examination of how governments prepare for, respond to, and recover from long-lasting, widespread public health emergencies.

According to the California Department of Public Health (CDPH), Marin County has experienced the fewest COVID-19 deaths per 100,000 population when compared with other California counties. As of April 2022,<sup>3</sup> Marin County's population has the highest percentage of its eligible population with at least one dose of the vaccine (98%), when compared to the other eight Bay Area counties. In addition, government and public health officials in the County of Marin have deliberately focused response efforts on traditionally vulnerable populations that are often more vulnerable to the impacts of public health emergencies. The success of these efforts would not have been achievable without the collaboration and dedication of community partners across the entire Marin Operational Area (Marin OA). This deliberate focus has resulted in higher vaccination rates among minority populations across the Marin OA compared to national averages. Across Marin County, 98% of Asian populations have been vaccinated (compared to 85% nationally); 73% of Black or African American populations have been vaccinated (compared to 57% nationally); and 98% of Hispanic or Latino populations have been vaccinated (compared to 65% nationally)<sup>4</sup>. While one death is too many, these results showcase the success of Marin's collaborative response to COVID-19.<sup>5</sup>

**Across the nine Bay Area counties, Marin has the lowest number of deaths per 100,000 population and the highest percentage of eligible population that has been at least partially vaccinated.**

The Marin OA COVID-19 After-Action Report and Improvement Plan (AAR/IP) evaluates the Marin OA's response activities for the period spanning March 4, 2020 (when the Marin OA Emergency Operations Center [Marin OA EOC] was activated in response to COVID-19), to December 17, 2021 (when the Marin OA EOC was essentially demobilized). Following the Marin OA EOC deactivation, County of Marin Department of Health and Human Services (Marin HHS) has absorbed COVID-19 response activities into day-to-day operations.

<sup>1</sup> World Health Organization Weekly Epidemiological Update on COVID-19, May 29, 2022, retrieved June 27, 2022, <https://www.who.int/publications/m/item/weekly-epidemiological-update-on-covid-19---1-june-2022>

<sup>2</sup> World Health Organization COVID-19 Data Dashboard, retrieved June 27, 2022, <https://covid19.who.int/region/amro/country/us>

<sup>3</sup> ABC7 News; retrieved April 10, 2022, <https://abc7news.com/feature/coronavirus-cases-covid-19-map-bay-area-covid/9891245/>

<sup>4</sup> Kaiser Family Foundation, retrieved April 17, 2022 [https://www.kff.org/coronavirus-covid-19/issue-brief/latest-data-on-covid-19-vaccinations-by-race-ethnicity/#:~:text=Across%20the%2038%20states%20for,for%20Black%20people%20\(57%25\).](https://www.kff.org/coronavirus-covid-19/issue-brief/latest-data-on-covid-19-vaccinations-by-race-ethnicity/#:~:text=Across%20the%2038%20states%20for,for%20Black%20people%20(57%25).)

<sup>5</sup> This AAR/IP does not reflect the number of COVID-19 cases among inmates incarcerated at San Quentin State Prison located in Marin County, as that facility is beyond the direct control of County of Marin government.

Conducted under the direction and guidance of the Marin County Office of Emergency Services (Marin County OES) in conjunction with Marin HHS, this AAR/IP includes both quantitative and qualitative data gathering and analysis that resulted in the identification of strengths (planning and response activities to be sustained and built on), as well as actionable areas for improvement that can mitigate harm, expedite a stronger response and recovery, and ultimately, result in a more resilient community.

This AAR is deliberately focused on Marin's response and factors which are generally under the county's control and not on aspects which are the province of state, national, or international agencies. Marin has very limited ability to directly influence how those levels respond – though the county has provided considerable input into AARs at those levels.

## OVERVIEW OF STRENGTHS AND AREAS FOR IMPROVEMENT

The AAR/IP identifies specific strengths to sustain and support, as well as opportunities for improvement for the future. Strengths listed are memorialized in this document into best practices, and opportunities for improvement are identified to remediate emergency planning and response gaps so communities across Marin County are more resilient to future disasters. It is recommended that findings be used to inform the County of Marin's policies, plans, processes, and organizational culture, as well as its emergency training and exercise program.

**Existing and new relationships, as well as a dedicated core workforce that labored in a rapidly changing, high-stress environment, were integral to successful response and recovery efforts across the Marin OA.**

An overview of high-level themes that were identified are outlined in this section. While these themes are also detailed in specific strengths and areas for improvement later in the report, some sweeping programmatic changes may need to be implemented to adequately address all topics.

**SUCCESSFUL COORDINATION STRENGTHENED RESPONSE PARTNERSHIPS.** Throughout the COVID-19 response, the Marin OA EOC fostered a collaborative environment across the entire Marin OA. The entire County of Marin response team, including responders in the integrated Marin HHS Department Operations Center (DOC)/Marin OA EOC and field responders, worked to ensure external partners, including local jurisdictions, healthcare/public health partners, and local and private organizations, were supported throughout the operation. Not only did a collaborative environment support response efforts in the short-term, but it also strengthened and developed partner relationships for future coordination. Building on these established relationships helps to maintain strong partnerships and develop new connections.

**INTEGRATED OPERATIONS AND COORDINATED RESPONSE CAPABILITIES.** The well-integrated operation was able to continuously pivot the response to optimize response outcomes during fast-paced and constantly changing operations. This was accomplished in part due to a small and nimble Policy Group, composed of senior decision makers and subject matter experts, meeting regularly to enact and implement key policy and operational decisions. The integration of the Marin OA EOC with the Marin HHS DOC also created opportunities for coordinated resource utilization and synchronized information sharing.

**FLEXIBILITY LED TO CREATIVE PROBLEM SOLVING.** The COVID-19 response was nontraditional in many ways, forcing responders to be flexible not only in their response structure but also in their acquisition of resources. The successful integration of the HHS DOC into the Marin OA EOC supported adaptability in response operations, such as the development of an innovative project tracking spreadsheet to support maintenance of a common operating picture and facilitation of smooth information exchange. Increased flexibility promoted solutions-oriented problem-solving including procurement of resources through unique channels, such as through preexisting private sector relationships, previously unorganized volunteers, and 3D printing capabilities. Leveraging flexible solutions during times of uncertainty fosters creativity, strengthens response relationships, and provides an opportunity to expand response outcomes.

**STAFFING PROGRAM STRUCTURES REQUIRES OVERHAUL.** The COVID-19 response highlighted the critical need for improving staffing capabilities during future incidents. Staffing in this context includes organized volunteer utilization; systems for requesting, fulfilling, and tracking personnel; staff training, recruitment, and retainment; and utilization of temporary staffing agencies. The ongoing and long-lasting nature of the response led to high numbers of staff turnover, burnout, and the need for increased numbers of additional responders, typically filled by the Disaster Service Worker (DSW) program. Requests for DSWs often went unanswered by some departments, leading other departments to bear an undue staffing burden. This is likely because the DSW culture does not appear to be fully integrated within the County of Marin staffing structure to sufficiently support emergency response operations, especially for an ongoing operation. Adjusting the program to develop a practical structure will require programmatic changes within the entire County of Marin government, involving the Chief Administrative Officer and all 22 department directors.

This systematic, county-wide change may include development of a proportional County of Marin Disaster Staffing Plan to accommodate critical disaster response and recovery roles and should consider the planning for, and use of DSWs in disaster operations. In a future Disaster Staffing Plan, the number of DSWs provided by each department during an incident should be determined by the size of the department, to ensure all departments are equally contributing. It is the ultimate responsibility of the department directors to plan for and manage internal continuity of operations during an incident while a portion of department staff are serving as DSWs.

The Disaster Staffing Plan should also consider other staffing needs, such as staff tracking, staff onboarding, and staff training procedures. Tracking of staff positions is not currently a clearly identified procedure and became labor intensive for the Marin OA EOC Planning Section during the COVID-19 response. Similarly, assigned DSWs were often unprepared due to non-standardized and unclear onboarding procedures, little to no prior training, and frequent rotations through positions.

### **EXPANSION OF GRASSROOTS PREPAREDNESS ORGANIZATIONS WILL SUPPORT VULNERABLE POPULATIONS**

**SERVICE DELIVERY IN FUTURE INCIDENTS.** Community Response Teams (CRTs) led boots-on-the ground community outreach during the COVID-19 response. This initiative was targeted to reach the demographic groups experiencing the greatest health inequities and disproportionate negative impacts from COVID-19. Expanding and aligning local organizations to focus on providing disaster readiness and response information and resources to vulnerable communities can expand the reach of the Marin OA EOC service delivery. This may include aligning messaging of CRTs across the Marin OA, coordinating CRT programming with Neighborhood Response Groups (NRGs), and partnering with community-based organizations to identify opportunities for expansion into underrepresented communities without existing grassroots organizations.

**COMPREHENSIVE INFORMATION TECHNOLOGY (IT) INTEGRATION INTO BOTH FIELD AND EOC RESPONSE MAY IMPROVE RESPONSE OUTCOMES.** While the County of Marin's IT professionals were valuable in supporting response needs, enhanced integration - both within individual IT teams and within the Marin OA EOC - may further improve response outcomes. The County of Marin hosts three separate IT departments, all with unique capacities and capabilities. Integrating the teams during times of crisis or developing a unique "EOC IT team" which is dedicated to the Marin OA EOC may help with after-hours requests for support and general functionality needs for response personnel. A dedicated "EOC IT team" also allows IT professionals to be integrated in response operations early in the incident to support proactive IT solution generation. Systematic changes across the three departments which house IT units (Information Systems and Technology, Sheriff's Office, and HHS) may need to be implemented to fully execute this increased integration. In addition to a deployable IT team, IT needs to be integrated into the Marin OA EOC operation at a more strategic level. An IT professional involved in the formation of planning within the response at the EOC will provide valuable guidance and help to direct initiatives that will benefit the whole of the response.

# ► Introduction

The Marin Operational Area (Marin OA) novel coronavirus (COVID-19) After-Action Report/Improvement Plan (AAR/IP) was developed by the County of Marin with the support of Tamarack Management (MGMT), an independent emergency management consulting firm.<sup>6</sup>

Tamarack MGMT supported the Marin OA COVID-19 AAR/IP by:

- Developing data collection tools and processes to ensure streamlined capturing, sharing, and storing of relevant data, documents, resource materials, and digital files.
- Facilitating virtual forums and tools (i.e., group stakeholder interviews and an online survey instrument) that included public- and private-sector stakeholders and representatives of community-based and nongovernmental organizations across the Marin OA to elicit, gather, and analyze qualitative COVID-19 response-related experiences and opinions.
- Compiling, organizing, and analyzing research findings to identify response strategies and strengths to be sustained and built on, as well as areas for improvement to help the Marin OA respond more effectively in the future.

## PURPOSE, OBJECTIVE, SCOPE

The purpose of this Marin OA COVID-19 AAR/IP is to evaluate the effectiveness of Marin OA's response activities for the period spanning March 4, 2020 (when the Marin OA Emergency Operations Center (Marin OA EOC) was activated in response to COVID-19), to December 17, 2021, when the Marin OA EOC transitioned to relatively normal operations. It is important to note that this evaluation period includes the date range for the COVID-19 Delta variant wave from August 1, 2022, to October 15, 2021, according to the California Department of Public Health (CDPH). The objective of this AAR/IP is to identify, analyze, and summarize Marin OA's planning and response strengths to sustain and build on, as well as opportunities for improvement gleaned from lessons learned. Ultimately, it is anticipated these findings and recommendations will be integrated into Marin OA's emergency plans, strategies, policies, culture, and training to mitigate and prevent harm, and to build a more resilient community.

As more fully described in the "Methodology" section of this report, qualitative input was gathered by Tamarack MGMT from seven (7) group interviews that included fifty-six (56) stakeholder participants. Marin County Office of Emergency Services (Marin County OES) facilitated an additional five (5) group interviews which included twenty-two (22) additional stakeholder participants. An online survey was also shared through both the Marin County OES and the County of Marin Department of Health and Human Services (Marin HHS) that yielded 284 respondents. Group interview and survey participants reflected a cross-section of stakeholder participants identified by Marin

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<sup>6</sup> Note: While a "mid-term" AAR was completed before Tamarack MGMT was engaged, that document was found to be cursory and incomplete, and should no longer be referenced.

OA leadership and included those with direct response and leadership roles across the public and private sectors, as well as those from community-based and nongovernmental organizations.

## ACKNOWLEDGEMENTS, ASSUMPTIONS, LIMITATIONS

The Tamarack MGMT team acknowledges the following assumptions and limitations regarding the development of this AAR/IP. They are not listed in any deliberate or consequential order.

- A widespread, rapidly evolving, and enduring public health emergency, such as the COVID-19 pandemic, is characterized by a significantly longer response and recovery timeline and broader geographic reach than most disasters.
- This AAR/IP focuses on response actions and operations. While it includes some broad emergency recovery concepts, it does not account for every recovery function.
- This AAR/IP chronicles major milestones across the evaluation period, particularly those reported publicly and those that appear in Marin OA EOC Emergency Action Plans (EAP) and Situation Reports (SitReps).
- This AAR/IP may include issues the COVID-19 pandemic did not cause, but which the pandemic illuminated or exacerbated. Some challenges may have been resolved or worsened following the evaluation period covered by this report.
- Individuals and organizations involved in the COVID-19 response may include those not typically involved in emergency management planning and response efforts.
- Rates of COVID-19 infection among those working in the Marin OA EOC may have impacted staffing capacity and response coordination during the evaluation period.
- Not all recommendations for improvement offered by interview and survey participants may be in the County of Marin's control or influence to effectuate.
- The focus of this AAR/IP is on items that are under the direct control or influence of the County of Marin. Other impacting circumstances outside of this direct control may be acknowledged.
- This AAR/IP does not include findings specific to independent organizations or individuals that do not have broader public health applications across the Marin OA.
- The information offered through interviews and surveys were assumed to be accurate reflections of what actually happened during the evaluation period covered in this document.
- The cross-section of Marin OA stakeholders who participated in interviews and/or the survey includes both those traditionally involved in government's emergency response operations, and those from private and community-based organizations with a direct public interface, but who may not traditionally be involved in emergency response operations.
- The estimated number of primary survey recipients (those to whom Marin County OES/Marin HHS distributed via email) is  $\cong 2,000$ ; however, the number of survey recipients who received it secondarily

(passed to them from primary recipients) is unknown. Thus, the response rate (14.2% - 284 respondents) is based only on the estimated initial 2,000 invitations to participate.

- Duplication among survey respondents was possible because the survey was distributed by Marin County OES/Marin HHS to individuals who likely appeared on multiple email lists, those who may have served in multiple capacities in the Marin OA EOC, and/or if respondents received and responded to the survey from multiple different email addresses. This may have skewed the 14.2% survey response rate.
- Some information included in this AAR/IP reflects data/information that falls outside of the evaluation period (e.g., more recent vaccination rates, number of subscribers to the County of Marin COVID-19 email list, etc.).
- Information used for this AAR/IP was not intended to serve as the basis of a comprehensive forensic analysis of the County of Marin and its partners' response to COVID-19. Rather, it was used to build context around the findings throughout this AAR/IP. Further analysis may be needed to verify or corroborate findings.

## METHODOLOGY

This AAR/IP was developed in collaboration with the Marin County OES and Marin HHS. The Tamarack MGMT team gathered, reviewed, and analyzed both quantitative and qualitative information that included:

- Materials to which the Marin County OES offered access through the Marin OA EOC's emergency management software (WebEOC);
- Existing County of Marin emergency planning documents;
- Press releases issued by the County of Marin;
- News reports issued across the Marin OA and the Bay Area;
- Interviews among response-focused stakeholders from County of Marin agencies and external partners identified by leadership;
- Notes from interviews conducted by Marin County OES among additional response-focused stakeholders; and
- Survey responses among stakeholders from County of Marin agencies and external partners identified by leadership.

Tamarack MGMT provided several draft versions of this AAR/IP for review by Marin County OES and Marin HHS to guide recommendations and identify any remaining issues or items for inclusion. After completing this AAR/IP, Tamarack MGMT conducted an After-Action Meeting (AAM) with critical partners identified by Marin OA leadership to validate AAR/IP findings and recommendations, and to further refine the document, accordingly. A brief overview of the AAM can be found in Appendix B: After-Action Meeting.

## Material Review

The following types of materials were reviewed for situational context related to the Marin OA's COVID-19 response:

- Marin OA EOC Emergency Action Plans (EAPs)
- Situation Reports (SitReps)
- County of Marin Emergency Management Planning documents
- Public information documents
- Public health orders
- News reports
- Websites (local, regional, state, federal)
- YouTube (Marin HHS)

See Appendix C: Document Catalog for a detailed list of the primary documents and sources reviewed in the preparation of this AAR/IP.

## Facilitated Interviews

This AAR/IP incorporates qualitative input gathered from group interviews conducted virtually among stakeholders who were integral to Marin OA's COVID-19 response. Marin County OES, in conjunction with Marin HHS, identified the mix of stakeholder interview participants, grouped by functional area. Interview participants included personnel who filled positions in the Marin OA EOC and field operations, as well as private sector and healthcare entities, and nongovernmental and community-based organizations.

Interviews offered valuable anecdotal evidence among those who played a role in the COVID-19 response. The group interview construct elicited interactive, organic discussions, and prompts were designed to stimulate stakeholders' views about operational response strengths and areas for remediation. Seven (7) group interviews, including fifty-six (56) stakeholder participants, were conducted by Tamarack MGMT (independent perspective); and five (5) group interviews, including twenty-two (22) stakeholder participants, were conducted by Marin County OES (internal perspective).

### Tamarack MGMT conducted interviews focused on:

- Management and Policy
- Finance and Logistics
- Planning
- Business Community and Marin Recovers
- Medical / Health
- Support Services

- Community Communications and Community Education

### Marin County OES conducted additional interviews focused on:

- Community Response Teams
- Marin County Office of Education
- Access and Functional Needs Workgroup
- San Rafael Emergency Manager
- Management and Policy Supplemental

Interviews were conducted between April 4 - April 22, 2022. Tamarack MGMT's due diligence yielded a greater understanding of stakeholder participants' response roles and informed discussion prompts tailored for each interview group. These group interviews, which averaged ten (10) people each, were scheduled for a minimum of sixty (60) minutes and a maximum of ninety (90) minutes if participants wanted to continue the discussion. While interviews included some standardized questions that spanned all group interviews, the majority of discussion prompts were tailored for each specific group to most effectively target their roles and responsibilities over the evaluation period.

To elicit candid input, interviewees were assured of anonymity, such that no comments were specifically attributed to any one person without their express permission. Candor was encouraged to obtain an accurate accounting of events. An experienced facilitator led the interviews and indicated that the focus of discussion should be on actions and items the County of Marin may be able to accomplish, rather than issues with a broader reach and outside of the County of Marin's control and/or influence. As no interview sessions were electronically recorded, interviews were captured in real-time with a note-taking tool, which was visible to interviewees during the conduct of each group interview. The purpose of this tool was to verify or correct the accuracy with which input was documented.

Ultimately, interview input was integrated into the AAR/IP as either a strength or an opportunity for improvement, accompanied by observations, analysis, and recommendations. See Appendix D: Interview Participants for additional details about interview groups.

## Online Survey

A single online survey was designed to collect input from Marin OA employees and community volunteers identified by Marin County OES and Marin HHS. Circulated from April 25 to May 5, 2022, the survey was designed to complement the open-ended, qualitative input gathered during group interviews, and to capture opinions in a largely quantitative format. Survey questions were structured in a multiple-choice format, many of which included a Likert scale. The survey also included some open-ended questions. This deliberate design was used to balance the ways input was gathered to yield expedited, readily quantifiable data for analysis.

The forty (40) question survey was developed in a Survey Monkey tool by Tamarack MGMT and was distributed widely by Marin County OES and Marin HHS staff to about 2,000 initial (primary) partner recipients. These initial survey recipients were encouraged to further invite others in their spheres of influence to participate in the survey (secondary recipients). A total of 284 responses were recorded representing a 14.2% response rate, based on distribution to the approximate 2,000 primary survey recipients. Tamarack MGMT was unable to discern the degree

to which this response rate reflects primary vs. secondary survey recipients who responded. Generally, response rates are typically higher among those internal to an organization (40-50%) and lower among external audiences/partners (10-15%).

Several factors can influence survey response rates, such as:

- Survey length (amount of time it takes to complete);
- Survey complexity (which can result in abandonment before it is completed);
- Perceived degree of relevance to prospective survey participants;
- Duration of the response period and time of year (which can be influenced by holidays, vacations, and other out-of-office periods);
- A variety of stakeholder types to whom the survey is distributed (to achieve a representative sample); and
- The number of times/variety of channels through which survey recipients are prompted to participate (as different audiences tend to access different information channels).

The primary recipients to whom Marin County OES and Marin HHS directly distributed the online survey included those listed below. This does not account for secondary survey recipients/participants (those who received the survey subsequently from the primary recipients).

## Internal Partners

- Policy Group
- Marin OA EOC Staff
- Field Operations Staff
- Marin County Board of Supervisors

## External Partners

- Marin County business community
- Community organizations
- Community Response Team leads
- Group living facilities
- Hospitals
- Other healthcare providers
- Federally Qualified Health Centers (FQHC)
- Cities and towns
- Schools
- Those who supported field operations outside of the Marin OA EOC at:
  - Vaccination sites
  - Testing sites

- Isolation, quarantine, and vulnerable population housing

See Appendix E: General Survey Analysis for more information on survey results. Specific survey findings are integrated throughout this AAR/IP to corroborate and support analysis that leads to identified strengths to sustain and build on, as well as recommended areas for improvement.



# Situation

The novel coronavirus (COVID-19) is considered the deadliest infectious disease outbreak in recent American history, with the Centers for Disease Control and Prevention (CDC) reporting as of May 17, 2022, more than 1 million American deaths claimed by the pandemic; this surpasses the estimated 675,000 US fatalities from the 1918 influenza pandemic. Efforts to control the spread of the 1918 influenza were limited to non-pharmaceutical interventions, such as isolation, quarantine, good personal hygiene, disinfectants, and limitations of public gatherings. Many of these same self-protective measures were adopted during the COVID-19 pandemic, with the addition of vaccines and other healthcare treatments.

## MARIN OPERATIONAL AREA AND EMERGENCY MANAGEMENT

Marin County is located on northern California's Pacific Coast, just north of San Francisco and is part of the metropolitan San Francisco Bay Area. As mandated by the California Emergency Services Act (Chapter 7, Division 1, Title 2 of Government Code) the Marin County Office of Emergency Services (Marin County OES) serves as the liaison between the State and the 11 cities/towns and 300+ special districts comprising the Marin Operational Area (Marin OA). The City of San Rafael is the County of Marin seat and is home to the largest population in the county, constituting more than 23% of the population of 262,321 across the Marin OA.

The Marin County OES provides emergency management services for the Marin OA; it coordinates emergency operations activities among all local jurisdictions and develops written guidelines for the prevention, preparedness, response, recovery, and mitigation of disasters, as well as planned events. When one of several triggers is met, a decision is made to activate the Marin OA Emergency Operations Center (Marin OA EOC). The Marin County OES notifies the Director of Emergency Services, who determines Marin OA EOC activation status and if warranted, activates at the determined level. The Marin OA EOC facilitates a coordinated response through the manager of the Marin County OES, emergency management staff, and representatives from organizations assigned with emergency management responsibilities. Marin OA EOC staffing levels vary by emergency.

### DEMOGRAPHIC SNAPSHOT

#### Marin County Population: **262,321 (US Census, 2020)**

- 1% American Indian and Alaska Native
- Less than 1% Native Hawaiian and Other Pacific Islander
- 3% Black or African American
- 4% Two or more races
- 7% Asian
- 16% Hispanic or Latino
- 71% White (not Hispanic or Latino)
- 21% speak a language other than English at home
- 23% aged 65+ years (the largest population of this age group among Bay Area counties)

## MARIN OA EOC RESPONSE STRUCTURE

The Marin OA EOC has adopted and uses the Federal Emergency Management Agency's (FEMA) National Incident Management System (NIMS), Incident Command System (ICS), and California Governor's Office of Emergency Services' (Cal OES) Standardized Emergency Management Systems (SEMS). As a SEMS participant, the County of Marin acts as an Operational Area (OA) that includes all local governments – both municipal and special districts. The Marin County OES supports coordination of emergency management activities across the Marin OA and oversees the unincorporated areas' efforts. SEMS also functions as a method for resource requests, such that requests from local governments across the OA are channeled to the Marin OA EOC and subsequently, to the Cal OES Coastal Region and ultimately, to the Cal OES in Sacramento (the State capital) if necessary.

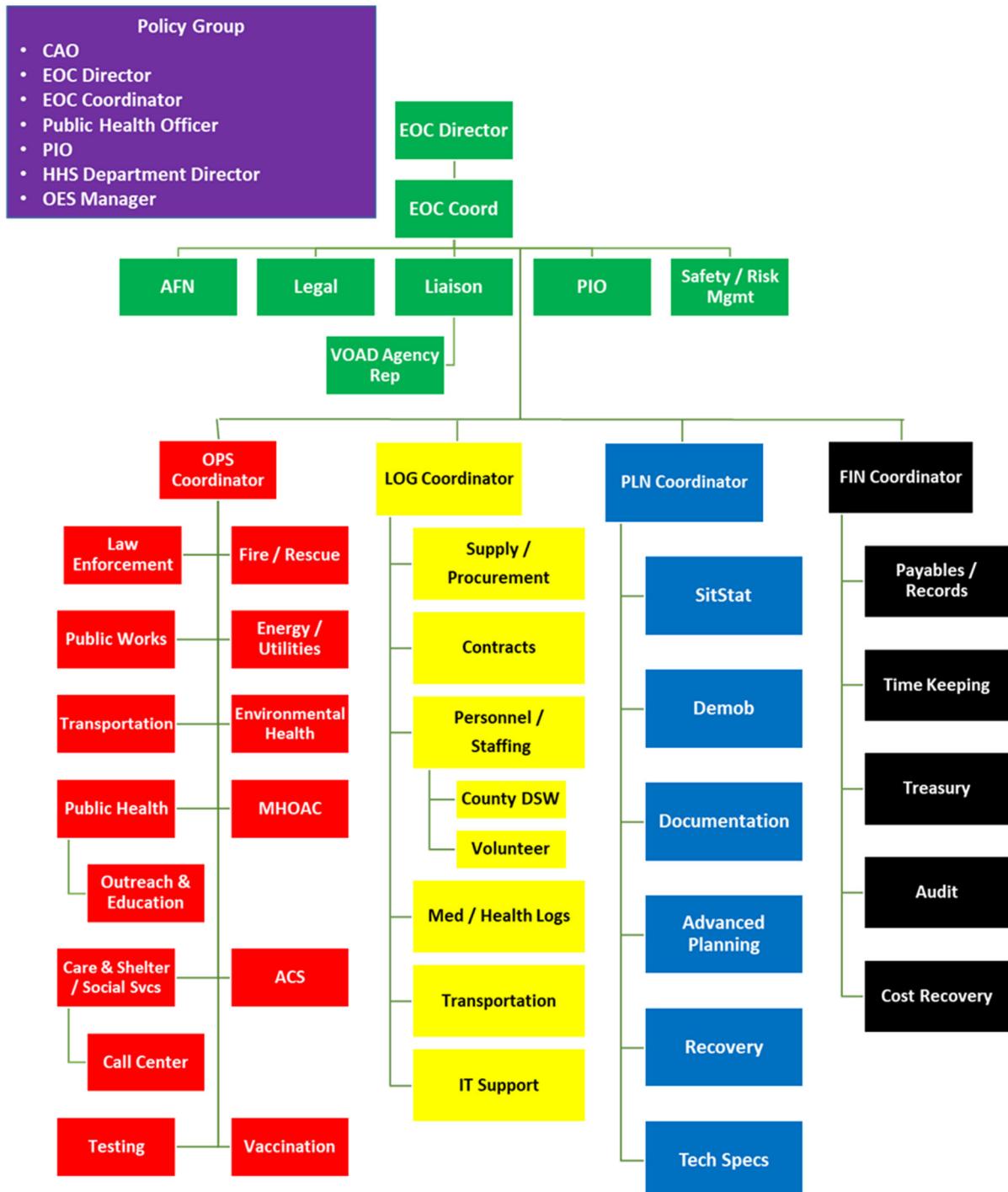
The Marin OA EOC groups resources and capabilities into functional areas most frequently needed in emergency responses, including COVID-19. The Marin OA EOC structure included both a Liaison and a Voluntary Organization Active in Disasters (VOAD) representative, in addition to a dedicated Public Information Officer (PIO) and a communications support team. Individuals serving in these roles were critical to the development and distribution of accurate information to all demographic groups across the Marin OA. The purpose was to encourage compliance with public health orders, safety measures, and to communicate the importance and availability of COVID-19 tests and vaccines.

Importantly, the Marin OA EOC adapted its structure to meet the changing needs of the response by adding Operations branches for alternate care sites, social services, testing, and vaccination when needed. This flexibility proved effective for gaining improved situational awareness and driving a highly efficient response. See Figure 2, which depicts the Marin OA EOC Organization Chart.

**FIGURE 1: MARIN COUNTY EMERGENCY OPERATIONS CENTER**



FIGURE 2: MARIN OA EOC ORGANIZATIONAL CHART



# NUMEROUS FACTORS FUELED A COMPLICATED RESPONSE

## Unknowns and Fears

Early interventions associated with limiting the spread of COVID-19 were complicated by a lack of understanding about the virus's cause, means of transmission, necessary quarantining periods, population risk factors, prevention, and appropriate treatments. While the Marin OA EOC was activated in early March 2020, coordination and response efforts were frequently challenged – sometimes daily – because of emerging information and findings, conflicting direction, and communications shortcomings from federal and state agencies. Rapidly changing protocols issued by the CDC, the National Institutes of Health (NIH), and the California Department of Public Health (CDPH) along with the guidance from the federal and state governments frequently required rapid local and regional operational modifications.

## Isolation and Anxiety

As shelter-in-place (SIP) orders were instituted, particularly when information about transmission was still limited, people across the Bay Area quickly developed anxiety associated with isolation and worries about limits and/or exhausted supplies of some personal and household items (e.g., toilet paper, cleaning/disinfectant products, pantry items with long shelf lives).

Feelings of anxiety were exacerbated by the huge economic impact of the pandemic on both businesses and individuals. Government mandated SIP orders coupled with long-term economic uncertainty led to many business closures, therefore resulting in historic unemployment rates and personal economic hardships. Several short-term programs were put into place to assist residents both on a local and a national level. Programs such as the eviction moratorium and one-time stimulus checks provided immediate relief but did not eliminate long-term pressure for those facing unemployment or other loss of income.

As a result of “cabin fever,” people flocked to Marin County beaches, which further complicated disease containment and caused confusion among those who complied with SIP orders. Shortages of personal protective equipment (PPE) negatively impacted hospitals and other healthcare facilities (including nursing homes), healthcare workers, and first responders who faced higher rates of exposure to the virus.

*“There was a time early in the response when hospitals and healthcare providers reused face masks; this was an unprecedented, precautionary measure that resulted from not knowing if and when adequate supplies would become available.”*

—Healthcare interview participant

## Outside Influences

Across the period evaluated in this AAR/IP (and reportedly up to and including the time of this document's release), COVID-19 infections (including several variants) skyrocketed and quickly overwhelmed the containment and response capacity at San Quentin State Prison, located in Marin County. It is important to note that response activities at the prison are beyond the domain and control of the County of Marin government.

Rates of infection included prisoners (some of whom were released into the community without Marin County OES collaboration or advance notice), prison staff (who do not reside on prison property), and visitors (before visitations were paused). In turn, this fueled disease spread among the non-incarcerated community across Marin County. This spike in the number of individuals infected at the prison spilled over into the community, directly impacting healthcare resources across the Marin OA, especially among first responders and transport vehicles (ambulances), hospital bed capacity, and associated PPE and related supplies.

Conversely, the Association of Bay Area Health Officials (ABAHO), including County of Marin health officials who participated in several ABAHO groups (public health, vaccine administration, public information, etc.), did collaborate to develop consistent approaches, directives, and messaging across the Bay Area as the situation evolved. The ABAHO was integral to response actions that were implemented, such as SIP orders for the Bay Area, which set the standard for the rest of California.

## Change in Presidential Administrations

The change in presidential administrations (from Trump to Biden) during the pandemic also introduced chaos and confusion on the political, healthcare, and emergency management landscapes, particularly regarding COVID-19 related policy changes and public information regarding masking and other infection-mitigation measures. Additionally, changes in presidential administrations impacted policies and processes associated with reimbursement rates (effective during emergency declaration periods) and the ability to access supplemental funding to support response activities. While many of the changes were positive, they contributed to the overall entropy of the response.

## Competing Priorities

During the COVID-19 response, the Marin OA EOC experienced competing incidents that exacerbated the limited availability of some essential resources. This included the limited availability of responders, and County of Marin workers engaged in Marin OA EOC activations for public safety power shutoffs (PSPS) (October 2020 and July 2021), racially focused public protests after the murder of George Floyd (June 2020), contentious election rallies (November 2020), an atmospheric river (October 2021), and several wildfires.

*"By all accounts, the COVID-19 outbreak at San Quentin has been the worst epidemiological disaster in California's correctional history."*

-Presiding Justice J. Anthony Kline, 1st District Court of Appeal

All incidents that occurred within the Marin OA were managed by the Marin OA EOC concurrently with the ongoing COVID-19 response. Although this stretched limited resources, it allowed the coordination of policy decisions, staffing, resources, public information, etc. Utilizing ICS principals, the Marin OA EOC is nimble enough to expand and contract based on the needs of the community allowing for a unified response no matter the potential operational challenges.

## MARIN OA EOC TRIGGERS FORMAL RESPONSE TO COVID-19

Response activity to COVID-19 was fast and furious in the Marin OA EOC, beginning in March 2020. This cadence escalated, particularly as news evolved from the federal government about how the disease is transmitted, who is at greatest risk of serious illness and hospitalization, and the shifting availability of limited resources (e.g., PPE, sanitation supplies, tests, ventilators, negative pressure hospital rooms, etc.).

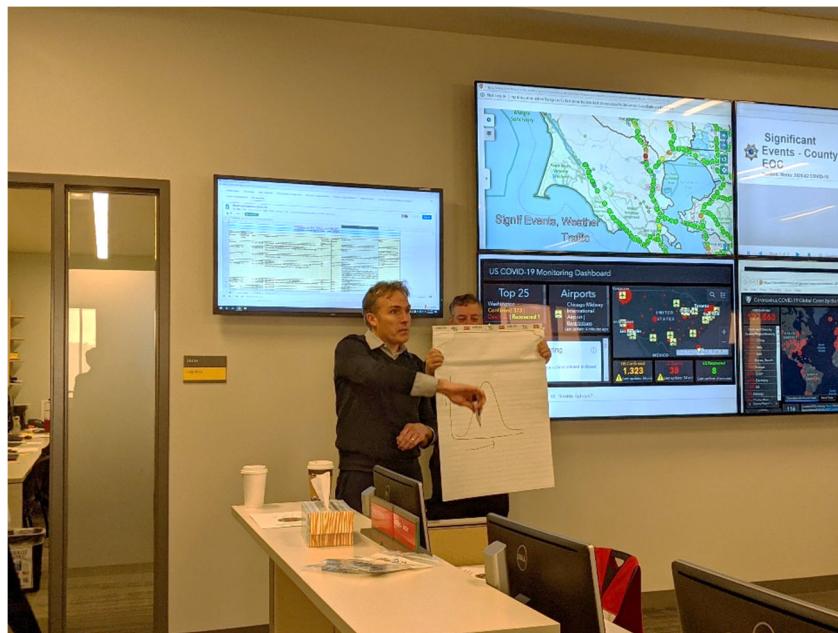
Initially, the Marin OA EOC was staffed in-person to address COVID-19. However, because the means of transmission and self-protection were not well established early in the pandemic, the rates of infection among those working in close proximity indoors quickly increased, including in the Marin OA EOC. The decision was made to transition to a largely virtual EOC. This proved initially challenging, as not all staff were equipped with laptops, and many were unaccustomed to a remote work environment that relied on Microsoft Teams as a virtual meeting space.

The Marin OA fully integrated operational area responsibilities which included, but were not limited to, enforcement action around COVID-19 response; support of field response, such as testing sites, vaccine clinics and quarantine sites; allocation of scarce resources, such as PPE and testing materials; policy direction; and a robust public information response. Some departmental operations centers were consolidated directly into the Marin OA EOC, especially those related to public health and expanded social services to support those most impacted by COVID-19.

### Evaluation Period Response Snapshot as of December 17, 2021

- 655 of days of consecutive Marin OA EOC activation
- 1897 workers signed into the Marin OA EOC activation
  - 540 worked more than 20 shifts
  - 263 worked more than 50 shifts
  - 112 worked more than 100 shifts
- 293 Marin OA EOC Emergency Action Plans (EAP) developed
- 316 Situation Reports (SitReps)
- 86% of the population was vaccinated

**FIGURE 3: PUBLIC HEALTH OFFICER DR MATT WILLIS BRIEFING THE EOC ON THE NEED TO 'FLATTEN THE CURVE'**



## COLLABORATION, COORDINATION, COMMUNICATION

Amid staff shortages across numerous response functional areas, County of Marin employees became quickly immersed in a wide variety of response activities. This often required staff “repurposing” and “just-in-time” training. Existing personnel skills were leveraged to find new workaround solutions; meanwhile, collaboration and coordination with both internal and external partners expanded significantly in an “all-hands” environment. Existing relationships were clearly impactful and important to successful response efforts. New relationships within the County of Marin government and among external community stakeholder groups were essential and strengthened around the common goal of saving lives and staying safe.

Regionally, Bay Area-wide efforts to collaborate through the ABAHO and other officials proved to be effective. Neighborhood-level response initiatives, including in communities with concentrations of vulnerable populations, such as the Canal District, demonstrated the equity approach across the Marin OA. Public information was coordinated through a Joint Information Center (JIC) and was distributed in multiple languages to guide people on ways to stay safe and minimize the risk of exposure. Messaging also focused on how people and businesses could access financial assistance and understand public health orders about public venue closures and reopenings, where to find accessible testing and vaccination (including mobile units), the availability of food delivery services to vulnerable populations, and beyond.

## RESPONSE RESULTS

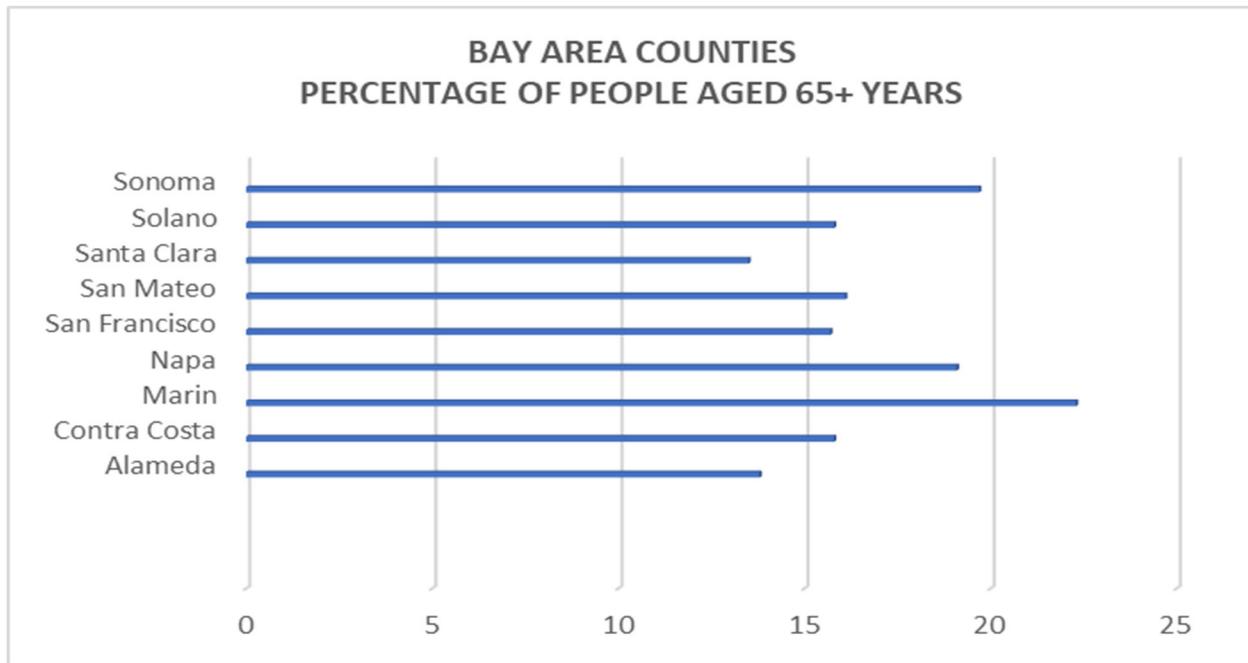
The Marin OA has experienced the fewest COVID-19 deaths per 100,000 population and the highest percentage of its population vaccinated across Bay Area counties, according to the CDPH. These life-saving results demonstrate relative success in the Marin OA's efforts to minimize the loss of life due to COVID-19. This is particularly noteworthy, since among the nine Bay Area counties, Marin County has the highest percentage of people aged 65 years and older (22.3%). Among all 58 counties in California, Marin County is ranked #14 in the percentage of people in this age group,<sup>7</sup> which is considered at higher risk of health complications and hospitalization from COVID-19.

See Figure 4 for the percentages of people aged 65+ years of age across all Bay Area counties, and Figure 5 for the Bay Area rates of COVID-19 infection and vaccination.

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<sup>7</sup> Index Mundi, California Population 65 years and over, percent by County, retrieved May 10, 2022, [lindexmundi.com/facts/united-states/quick-facts/california/percent-of-population-65-and-over#chart](https://www.indexmundi.com/facts/united-states/quick-facts/california/percent-of-population-65-and-over#chart)

**FIGURE 4: PERCENTAGES OF PEOPLE AGED 65+ YEARS IN BAY AREA COUNTIES**



Source: [Index Mundi](#)

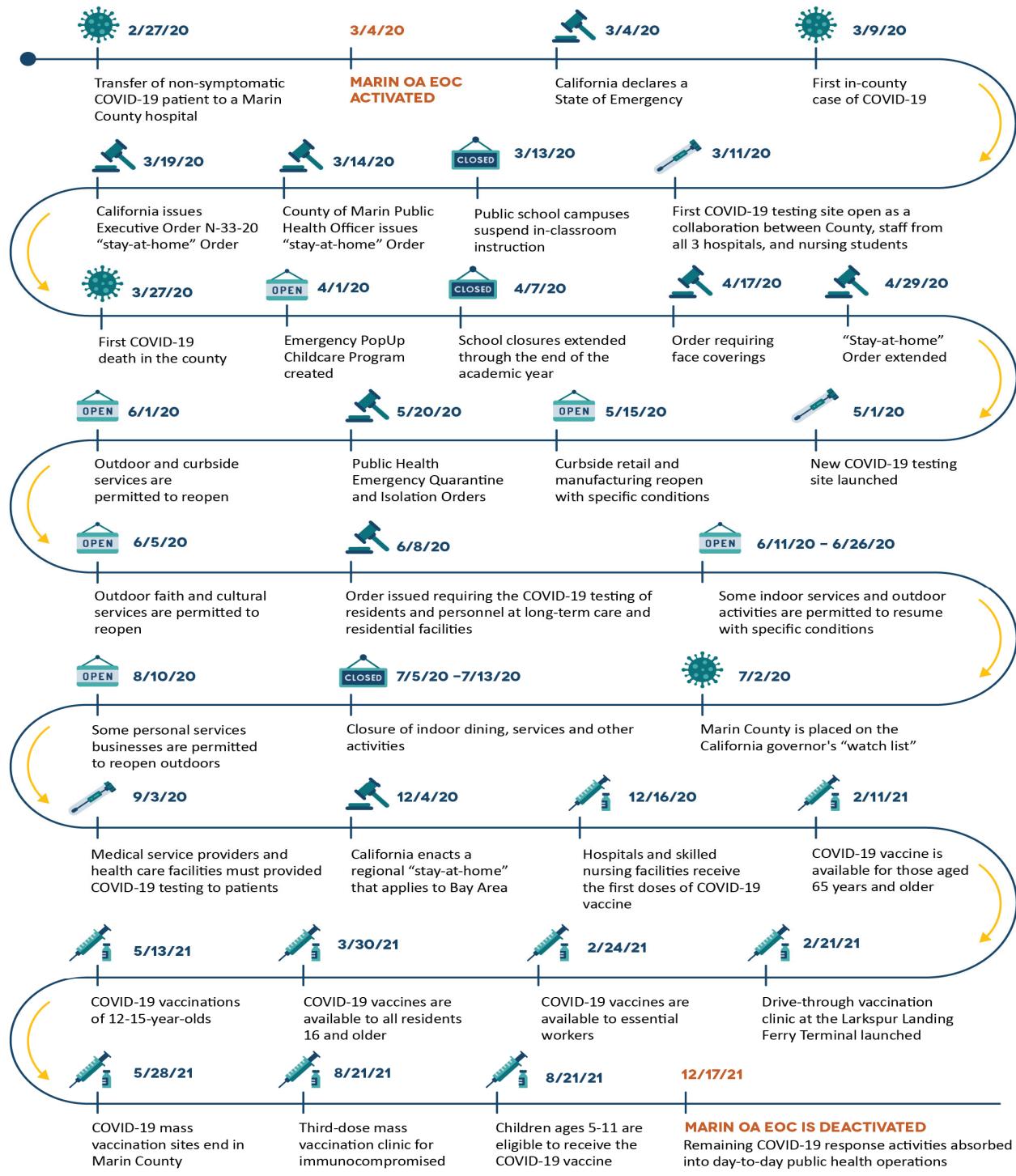
**FIGURE 5: BAY AREA RATES OF COVID-19 INFECTION AND VACCINATION**

Rank from fewest # of deaths per 100k (1 = fewest deaths)	Bay area county	Delta wave deaths Per 100k	Winter 2020-2021 wave deaths per 100k	Vax rate (% of residents fully vaccinated, including those not boosted)	Rank from greatest percentage vaccinated (1 = most vax'd)
5	Alameda	10.3	46.9	82.1%	6
8	Contra Costa	15.1	44.3	82.9%	5
1	Marin	2.3	35.1	86.2%	1
6	Napa	11.6	42.7	76.6%	7
4	San Francisco	9.6	43.8	84.0%	3
2	San Mateo	3.7	46.0	83.7%	4
3	Santa Clara	6.9	67.2	85.1%	2
9	Solano	17.0	36.2	67.4%	9
7	Sonoma	13.9	34.0	76.5%	8

Source: California Department of Public Health as reported in [SF Gate](#), March 9, 2022

## COVID-19 TIMELINE OF KEY EVENTS IN THE MARIN OA

FIGURE 6: SELECTED COVID-19 TIMELINE<sup>8</sup>



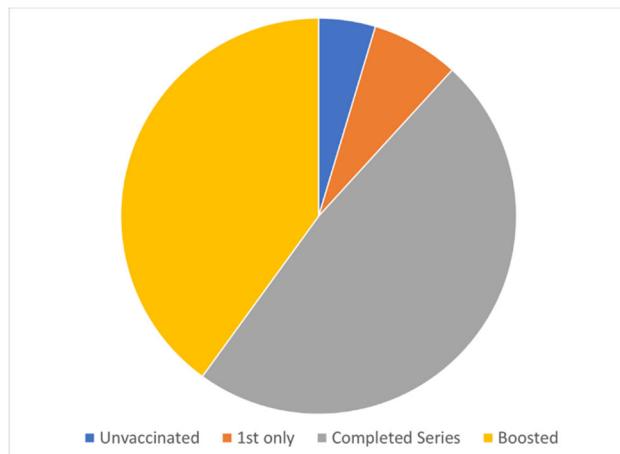
<sup>8</sup> A complete timeline can be found in Appendix F.

## SELECTED COVID-19 STATISTICS

FIGURE 7: FATALITY RATES BY TIME PERIOD IN MARIN COUNTY

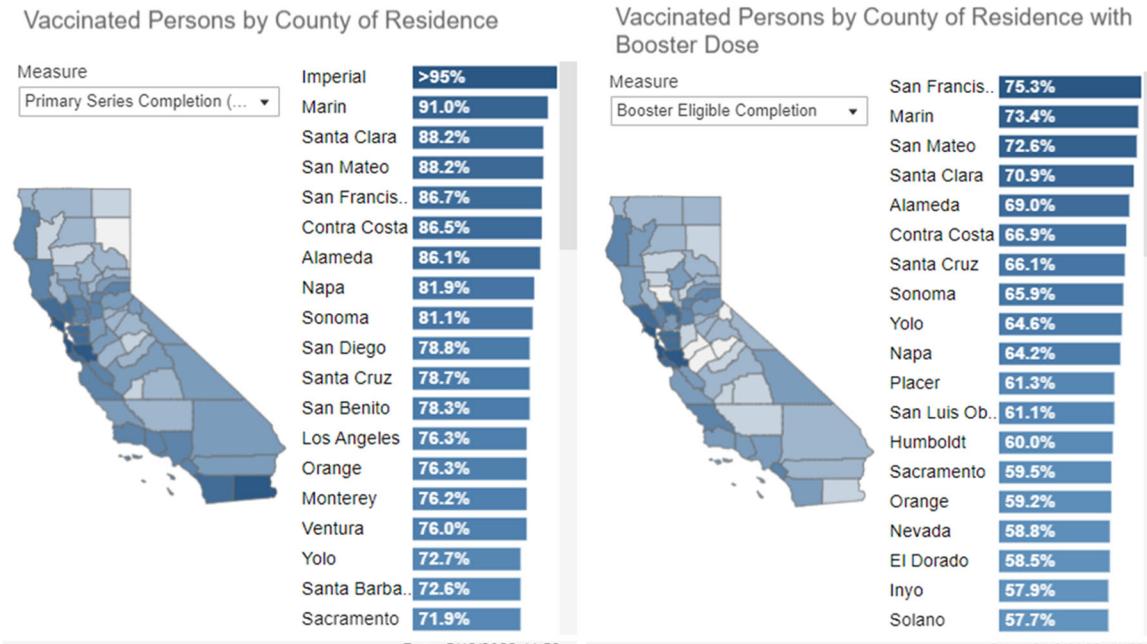
Period	Covid-19 Mortality Rate per 100,000 Residents 18+	Covid-19 Death Count	Case Count (PCR only and antigen-only detected positives)	Case Fatality Rate	Average Age	Facility Resident	Proportion Unvaccinated	Comorbidities	% Boosted	Days between first positive and Death	Days between series completion and death
Pre-Vaccine (3/1/20 – 1/14/21)	67.9	141	9554	1.48%	82	72%	20%	100%	N/A	19.4	N/A
Pre-Delta (1/15 – 6/30/21)	22.6	47	2834	1.66%	84	45%	26%	100%	N/A	23.3	N/A
Delta (7/1 – 12/21/21)	7.2	15	5374	0.3%	77	20%	27%	53%	0%	15.4	154

FIGURE 8: VACCINATION STATUS OF MARIN COUNTY POPULATION  
as of 12/20/2021



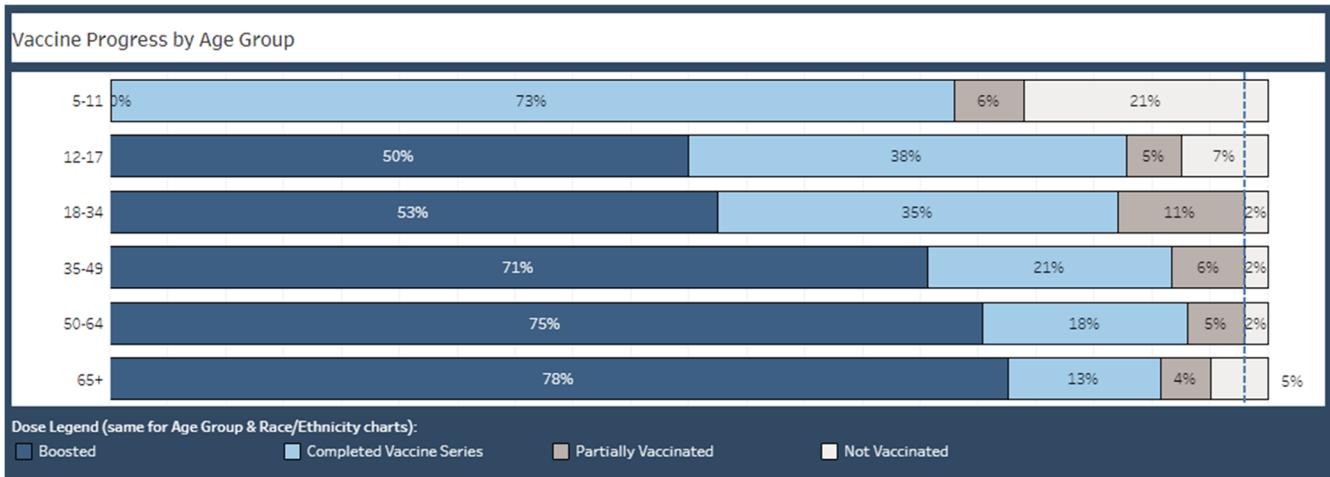
Source: Marin HHS Marin County COVID-19 Update May16, 2022

**FIGURE 9: COMPARATIVE VACCINATION STATUS OF CALIFORNIA COUNTY POPULATIONS  
as of 05/16/2022**



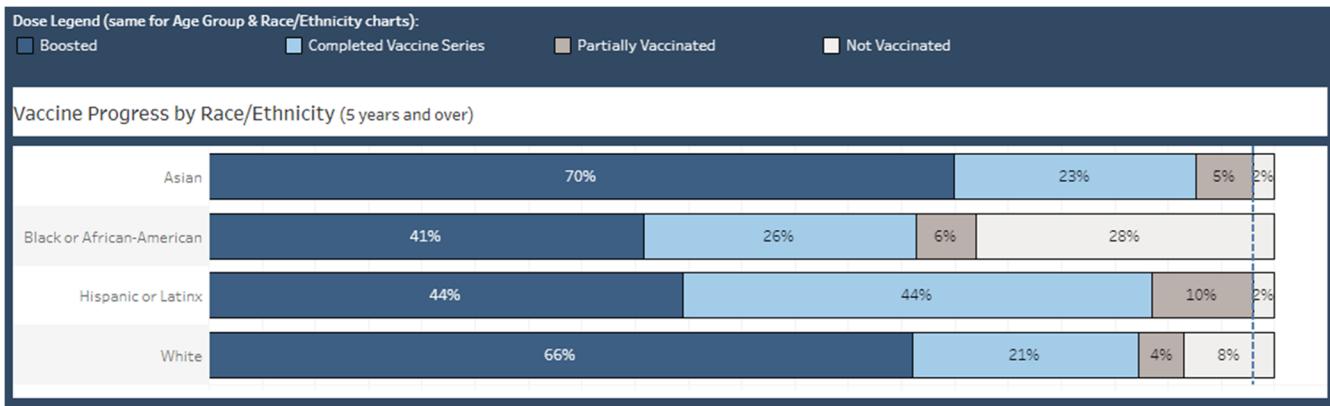
*Source: Marin HHS Marin County COVID-19 Update May16, 2022*

**FIGURE 10: VACCINATION PROGRESS OF MARIN COUNTY BY AGE  
as of 05/13/2022**



Source: Marin HHS Marin County COVID-19 Update May16, 2022

**FIGURE 11: VACCINATION PROGRESS OF MARIN COUNTY BY RACE  
as of 05/13/2022**



Source: Marin HHS Marin County COVID-19 Update May16, 2022

# ► Findings

## OVERVIEW

Findings identify and describe the Marin Operational Area's (Marin OA's) response efforts to the novel coronavirus (COVID-19) through the Marin OA Emergency Operations Center (Marin OA EOC) from March 2020 until December 2021. Specifically, this section of the After-Action Report and Improvement Plan (AAR/IP) identifies preparation and response strengths to sustain and build on, as well as opportunities for improvement going forward. The goal of this AAR/IP is to memorialize strengths into best practices and to remediate emergency planning and response gaps so communities across Marin County are more resilient to future disasters. It is recommended that findings be used to inform the County of Marin's policies, plans, processes, and organizational culture, as well as its emergency training and exercise program.

These findings have the benefit of hindsight and lessons learned over the 21-month evaluation period and the 6 months that have passed since then. It is important to acknowledge that some identified areas for improvement represent challenges or gaps that the County of Marin may not be able to control, influence, or accomplish. Additionally, it should not be assumed that identified areas for improvement imply that community partners and individuals did not do their best with the available resources and information during pandemic response.

## ORGANIZATION

This AAR/IP's findings are grouped by categories and then are further organized by strengths and areas for improvement. However, this AAR/IP goes beyond the traditional Federal Emergency Management Agency's (FEMA) Homeland Security Exercise and Evaluation Program construct for AAR/IPs, as it includes recommendations to sustain and build on the strengths identified. Each area for improvement includes recommended actions to complement the Marin OA's existing emergency response capabilities, rectify identified gaps, and increase the preparedness and resilience of Marin's residents, businesses, community-based and nongovernmental organizations, and visitors.

## Staffing

### Strengths

The Marin OA demonstrated the following strengths related to **Staffing**.

- S 1. NEW GROWTH OPPORTUNITIES.** During the COVID-19 response, some County of Marin staff members who were cross-trained in new functions realized new, satisfying career growth opportunities.

FIGURE 12: VACCINATION SITE STAFF



#### Analysis:

- Pre-COVID-19, some County of Marin employees reported job burnout. Training in new functions provided new excitement to some employees and enabled the County of Marin to retain some staff who may have otherwise sought employment elsewhere.
- Because park visitation was paused during the response period, the County of Marin Parks Department staff were "repurposed" to other roles outside of their usual job descriptions. County of Marin Parks Department staff were placed in positions such as with the Marin Recovers group and field operations, such as staffing testing sites. The County of Marin Parks Department was instrumental in many of the field operations because of this temporary re-purposing. Similarly fire departments were able to provide additional staffing by bringing in seasonal staff during the off season and accelerating the onboarding of new paramedics.
- While not part of the paid county workforce, the Marin Medical Reserve Corps (MRC) provided invaluable staffing to the response especially in the call center and vaccination areas.

#### Growth and Sustainment Recommendations:

- Ensure staffing decisions for an emergency response account for professional development opportunities and capabilities beyond regular day jobs. Consider providing questionnaires to potential staff to gather information about existing specialized skills in addition to interest in various types of activities.

- Consider what internal functions may be paused during various emergency responses and how personnel who typically fill those jobs can be repurposed during emergency response/recovery. Develop plans and training to these alternate functions.

## Areas for Improvement

Moving forward, the Marin OA can improve on the following areas related to **Staffing**.

### I 1. UNCLEAR EMERGENCY ROLES. There is a lack of definition of emergency staff roles, responsibilities, and activities. Field staff felt unprepared to meet specific operational needs to improve accessibility for the access and functional needs populations.

#### Analysis:

- On an operational level, many County of Marin departments reported difficulty maintaining daily job responsibilities and work in the Marin OA EOC during the COVID-19 response. This was attributed, in part, to high pre-pandemic job vacancy rates. There were many conversations between department directors regarding who was responsible for what function and task.
- Individually, among survey respondents who worked in or supported Marin OA EOC functions,  $\cong 21\%$  indicated they were not informed of their roles, duties, and expectations, while 18% indicated they did not understand where their position was in the reporting structure. Additionally,  $\cong 31\%$  indicated they were not provided appropriate job aids (e.g., checklists and reference materials) before their first assigned shift.
- Among survey respondents who worked in or supported Marin OA EOC functions,  $\cong 24\%$  indicated they felt prepared to participate in their role, while  $\cong 30\%$  indicated they did not receive excellent just-in-time training for their Marin OA EOC position. Among all survey respondents,  $\cong 48\%$  indicated they have never been asked to participate in a disaster exercise specific to their role/s in the COVID-19 pandemic; and  $\cong 61\%$  indicated they had never participated in any Marin OA EOC activations before COVID-19.
- There was a lack of standard information provided to staff when they were deployed for Disaster Service Worker (DSW) roles. For example, Job Action Sheets (JAS) were available for only a select few positions, hindering the ability to easily learn the position for a new employee. A lack of JAS also prevents the standardization of the role with employee rotation.
- Field staff did not have all the necessary training to meet specific operational needs that could improve accessibility for people with access and functional needs. Staff used the training and resources with which they were familiar and had access, but these did not support a whole-community approach.
- Among survey respondents with field operations roles,  $\cong 35\%$  reported they have not been offered or participated in training for the emergency operations position or DSW position; and  $\cong 25\%$  reported that they have not been offered or participated in Incident Command Systems (ICS) or National Incident Management System (NIMS) training.

#### Improvement Recommendations:

- Develop and implement a coordinated DSW training program that is implemented during non-crisis periods. The training program focuses on what skills may be required for positions employees might fill during response based on the roles and responsibilities of their day-to-day job.

- Develop and implement a DSW request and fulfillment system. This system not only manages DSW staff availability, but also manages where individual DSWs are deployed. This system also manages DSW alerting procedures and provides specific instructions to DSWs on reporting times, locations, what to bring, and general job expectations based on assignment.
- Strengthen the County of Marin's DSW policy by training all levels of staff on expectations and disaster-specific roles. This will help to ensure a sufficient staffing capability in the Marin OA EOC, complemented by an expedient hiring process for temporary emergency workers.
- Develop department-specific Continuity of Operations Plans (COOP) that include critical functions and reduced capacity work plans.
- Develop/update a Disaster Staffing Plan that identifies and prioritizes staff roles that should (and should not) be assigned to DSW positions.
- Integrate access and functional needs awareness into DSW training so employees are prepared to serve the entire Marin OA during disaster response.

**I 2. NONUNIFORM DEPARTMENTAL STAFFING. There was a lack of buy-in among County of Marin department directors to support requests for Disaster Service Worker (DSW) personnel and resources, as several departments resisted fulfilling nontraditional roles, even as staff skills/resources were transferrable to other roles needed for a rapidly escalating response.**

**Analysis:**

- DSW culture does not appear to be integrated to adequately support emergency response, and outside assistance is often unavailable. The mechanism to request and align skill sets among staff for specific tasks was not consistently effective, leading to DSWs who reported for duty, but were unable to complete their assignments. Most requests for DSWs required specific advocacy to each department director and manager before releasing staff for an assignment, often day-to-day. While certain employees may be essential to the operations of their department, they may also have valuable skills important to response activities and should still participate in the DSW program. Many interviewees, however, did not agree and felt they should not have to report for DSW duty due to their specific expertise and role in their department. In some cases, employees served as DSWs and continued to support their own departments full time.
- Some County of Marin department directors were not engaged early in the event and did not have the same understanding of the event that Marin OA EOC staff and other response personnel had. As a result, many were reluctant to share their subordinate staff to support response efforts outside of their traditional duties. In addition, some departments were unable to release specialized staff due to departmental response staff shortages. Competing for the limited, highly trained staff that was needed in both response roles and departmental operational roles left shortages in both places. Department director and manager buy-in is needed to support their employees in a Marin OA EOC, and potential field roles, during a disaster.
- There was no singular voice from Marin OA EOC that served to request additional staff, leading to a lack of clarity in expectations/requests. Further, given the uncertainty associated with COVID-19, employees might have been fearful to work in-person or may have been intimidated to work in a response role if

they had limited or no prior training. It was speculated that mid-managers were protective of their direct reports and did not allow them to engage in DSW work.

- Among survey respondents who worked directly in the Marin OA EOC or who supported its functions, ≈ 76% agreed/strongly agreed that their skills and expertise were appropriately utilized. Meanwhile, ≈ 28% indicated they did not believe Marin OA EOC staffing was sufficient, overall.

**Improvement Recommendations:**

- Develop a proportional County of Marin Disaster Staffing Plan, approved by the Marin County Board of Supervisors (BOS) and the County Administrator's Office (CAO), to accommodate critical disaster response and recovery roles, including DSW assignments. DSW service is mandatory, and the number of DSWs provided by each department during an incident will be determined by the size of the department.
- Socialize new Disaster Staffing Plan with all 22 department directors to ensure understanding and communicate expectations during incident response. This includes preparing to manage internal department continuity of operations during an incident while a portion of department staff are serving as DSWs.
- Develop DSW recognition and rewards program, approved by and with the full support of the BOS, CAO, and all department directors, to spotlight outstanding DSWs during both non-crisis periods and during deployments.
- Follow through on disciplinary action for employees who do not follow through on DSW assignments.
- Develop an inventory of potential DSWs (County of Marin employees) to integrate into a scheduling system for use during disaster response. The inventory includes skills that can be used to support appropriate response staffing such as different languages spoken, the ability to operate heavy equipment, and event planning.
- Develop and implement a coordinated DSW training program that is implemented during non-crisis periods. The training program focuses on what skills may be required for positions employees might fill during response based on the roles and responsibilities of their day-to-day job. This also includes cross-training staff in nontraditional roles to ensure that staffing the Marin OA EOC does not cause an undue burden on any single department.
- Develop departmental level standard operating procedures (SOPs) that are codified by the BOS to standardize the contribution of staffing for extended assignments of no less than one month at a time to allow for response staffing flexibility.

**I 3. STAFF BURNOUT. Competing response demands coupled with high rates of understaffed positions led to increased burnout and high rates of turnover, perpetuating additional burnout on available staff.**

**Analysis:**

- Experienced staff was needed for Marin OA EOC operations, field operations, and critical functions. Highly qualified staff members were frequently pulled between multiple tasks, resulting in disparate and often understaffed areas.

- Insufficient staffing and a mismatch among available personnel and job functions resulted in many inefficiencies, burnout, and turnover, particularly among healthcare workers. Many temporary "back-fill" workers needed full-time incomes and pursued them, thus exacerbating the staffing shortage.
- Some employees reported that Marin OA EOC leadership became data and results-driven, which caused worker frustration as they pivoted their focus to satisfying speed and quantity demands, instead of addressing needs most important to the response, such as working with vulnerable populations. For example, working with vaccine-hesitant populations may take additional time than engaging with populations actively seeking out vaccines.
- Among survey respondents who worked in the Marin OA EOC or supported its functions,  $\cong 32\%$  indicated they worked 51-200 shifts during the COVID-19 evaluation period,  $\cong 16\%$  worked 201-500 shifts, and  $\cong 19\%$  worked more than 501 shifts.

**Improvement Recommendations:**

- Develop and offer mental health support to all DSWs, particularly those working in high-pressure environments.
- Develop a more robust staffing plan to reduce burnout.
- Create a system and structure to support staff during and after a response.

**I 4. STAFF INCIDENT COMMAND SYSTEM (ICS) TRAINING. Many staff who worked in the Marin OA EOC had little or no ICS training, and many reported being confused about the inner workings of the emergency response.**

**Analysis:**

- Prior to COVID-19, ICS training was not mandatory for all staff and was typically limited to mid-level managers and leadership. Rank-and-file staff typically did not participate in ICS training, which led to confusion and lost efficiencies relative to staffing in the Marin OA EOC. Staff that had some ICS training sometimes lacked consistency when following guidelines. For instance, a singular person may have staffed multiple roles or was asked to assume a position for which they were not properly trained/equipped, or for which they did not have appropriate skills.
- Among survey participants who worked directly in the Marin OA EOC (virtually or in-person) or supported its functions,  $\cong 28\%$  indicated they had not been asked to participate in ICS or National Incident Management System (NIMS) training. This is especially noteworthy, since  $\cong 61\%$  indicated they had never participated in any Marin OA EOC activations before COVID-19.

**Improvement Recommendations:**

- Require ICS training for all employees consistent with the breadth and frequency that reflects their expected emergency response roles.
- Require position-specific training for Marin OA EOC partners in areas specific to their skills, roles, and responsibilities, as well as in other functional areas to create deliberate staffing redundancies, as appropriate.
- Test team proficiency through training and exercises that occur on a regular schedule.

- Open training dates to all County of Marin employees and require all department directors and managers to attend.
- Provide training to all potential Marin OA EOC workers on basic activation triggers and functions, as well as how they may be called on to support emergency response and recovery efforts.
- Develop specific Marin OA EOC operational plans that include position-specific guidance, as well as operational period structure and expectations.

**I 5. LABOR-INTENSIVE STAFF TRACKING. Tracking of staff positions is not a clearly identified procedure and became labor intensive for the Marin OA EOC Planning Section.**

**Analysis:**

- The Planning Section was challenged with documentation of staff assignments in Marin OA EOC Emergency Action Plans (EAPs). Specifically, there was confusion surrounding who was filling positions during each operational period. The documentation became a staff and labor intensive process for the Planning Team.
- Among survey respondents who worked in the Marin OA EOC or supported its functions, ≈ 18% indicated the message telling them to report to their assignment was not effective and/or did not include the essential information they needed. Meanwhile, ≈ 22% indicated they were not informed of their roles, duties, and expectations in the Marin OA EOC.

**Improvement Recommendations:**

- Develop or update Standard Operating Procedures (SOPs) for the development of EAPs that specify communication flows required to complete each EAP.
- Develop Marin OA EOC processes that enlist support from the Operations and Logistics Sections in the identification and tracking staffing of positions.
- Develop a functional staffing unit under the Logistics Section. Consider including position descriptions for staffing unit leader, medical staffing lead, contracted staffing lead, spontaneous volunteer staffing lead, etc.
- Research and employ an automated system to develop a staff inventory that includes potential staff, key skills and licensure, a mechanism to request and assign staff, and that builds staffing lists for Marin OA EOC documentation.

**I 6. ACTIVATION NOTIFICATION AND ONBOARDING. Activation procedures for Disaster Service Worker (DSW) staff were unclear, due to lack of specificity provided in initial emails. Frequent rotations between positions caused a reliance on just-in-time training and prevented the development of skills and experience, leading to decreased efficiency.**

**Analysis:**

- County of Marin employees were notified of activation status and reporting procedures for the Marin OA EOC or field operations via email. Not only were emails vague and lacking in specificity, but email inboxes also became quickly inundated and some important messages were often buried. In some instances, this delayed response activities.

- Staff that were assigned as DSWs were often assigned new positions, as opposed to positions to which they had been assigned previously. This drove a much higher just-in-time training requirement and lengthened the time between requests for personnel and when they could be functional in their assignment.
- Actions such as frequent turnover among positions and inconsistencies among those who worked in the Marin OA EOC resulted in downtime during necessary just-in-time training. This negatively impacted a seamless transition among staff shifts and did not uniformly support situational awareness and knowledge transfer. The Marin OA EOC created some standard operating procedures that were offered to new Marin OA EOC staff, but knowledge/application “uptake” during high-stress periods was challenging and time-consuming.
- There was a lack of standard information provided to staff when they were deployed for DSW roles. For example, job action sheets (JAS) were available for only a select few positions, hindering the ability to easily learn the position for a new employee. A lack of JAS also prevents the standardization of the role with employee rotation.
- Among survey respondents who worked in the Marin OA EOC (in person or remotely) or who supported its functions,  $\cong 18\%$  indicated the message telling them to report to their assignment was not effective and/or did not include the essential information they needed;  $\cong 23\%$  indicated the briefing before starting their assignment was not clear and complete;  $\cong 22\%$  indicated they were not informed of their role duties and expectations;  $\cong 31\%$  said appropriate job aids were not provided to them before or near the beginning of their first assigned shift;  $\cong 19\%$  said they did not understand what was expected of them;  $\cong 24\%$  said they did not feel prepared to participate in their role in the Marin OA EOC;  $\cong 30\%$  indicated they did not receive excellent just-in-time training for their position; and  $\cong 37\%$  indicated they were not provided mentoring support in the Marin OA EOC.

#### **Improvement Recommendations:**

- Develop and implement a coordinated DSW training program that is implemented during non-crisis periods. The training program focuses on what skills may be required for positions employees might fill during response based on the roles and responsibilities of their day-to-day job.
- Research, develop, and implement a DSW request and fulfillment system that not only manages DSW staff availability, but also manages where individual DSWs are deployed. This new system should also manage DSW alerting procedures and provides specific instructions to DSWs on reporting times, locations, what to bring, contact information, and general job expectations based on assignment.
- Conduct frequent, regular orientations/trainings on DSW expectations.
- Create JAS for each DSW position, coordinating with County of Marin employees who have served in these positions in the past.
- Create "ready-to-use" activation templates in the Marin OA EOC.
- Create and implement standards for shift-change transition based on best practices developed by staff members for the COVID-19 response to improve efficiency. This includes clear communication around expectation of transitions.

**17. INEXPEDIENT STAFFING. The emergency hiring of additional County Service Workers involved inefficient processes, making it exceedingly difficult to hire emergency workers. This complicated the speed with which the County of Marin could onboard newly hired emergency staff.**

**Analysis:**

- The County of Marin Human Resources (HR) Department was reportedly understaffed before COVID-19 and functioned under union restraints for the hiring process. HR achieved one temporary workaround, as the team worked with Kaiser to postpone new employee physicals. However, other hurdles persisted which slowed the hiring of emergency workers.
- Among survey respondents who worked directly in the Marin OA EOC or supported its functions, ≈ 28% indicated they did not believe Marin OA EOC staffing was sufficient, overall.

**Improvement Recommendations:**

- Develop Marin OA EOC operational expectations and procedures for HR roles and responsibilities.
- Evaluate the feasibility of a more robust volunteer program with the goal to augment staff shortages and ensure just-in-time training is developed for these positions.
- Update the existing Volunteer Management Plan to include coordination with existing community volunteer programs such as American Red Cross and Community Emergency Response Teams (CERT).
- Explore the integration of spontaneous volunteers into existing volunteer programs.
- Support the continued integration of organized volunteer programs such as the volunteer firefighter program, search and rescue teams (SAR), and Marin Medical Reserve Corps (MRC).
- Develop a comprehensive County of Marin Cost Recovery Plan that includes staff augmentation planning, such as use of volunteers and external staffing firms.
- Incorporate expedited emergency hiring provisions into future union contract negotiations.
- Define expedited HR hiring processes for use during surges. Consider including policies to address hiring in the middle of a pay period and pay scale adjustments for skilled or licensed staff.
- Establish pre-event contracts with vetted staffing firms.

**18. OPERATIONS SECTION COORDINATOR. Operational coordination challenges arose from a lack of staffing in the critical position of the Operations Section Coordinator.**

**Analysis:**

- Marin OA EOC section coordinator positions are vital to the successful functioning of the EOC. Sometimes the nature of the response dictates that certain positions may not be filled, but in a response of the magnitude of COVID-19 the Section Coordinator positions are critical. By not staffing any section coordinator positions, the responsibility for those unfilled positions falls to the Marin OA EOC Coordinator. The EOC Coordinator has limited capacity to manage function-specific duties given their other responsibilities and cannot effectively manage section coordinator roles - particularly in a long-term emergency with widespread reach. This has the potential to significantly hamper the efficiency of the response.

- Early in the Marin OA EOC response operation, there was an individual assigned to the Operations Section Coordinator position, however they were not able to serve for the entirety of the COVID-19 response. Later, when response complexity increased and it would have been most critical to have someone in that role, there was no staff able and/or willing to fill the position. As discussed, the duties of the Operations Section Coordinator then fell to the EOC Coordinator – who must manage competing priorities for the overall response.
- Among survey respondents who indicated they worked in the Marin OA EOC (in-person or remotely) or who supported its functions,  $\geq 53\%$  indicated they wanted training in Marin OA EOC operations; meanwhile,  $\geq 21\%$  indicated they wanted EOC Operations Sections-specific training.
- Among survey respondents who indicated they worked in Marin OA EOC Operations Section functions,  $\geq 20\%$  worked in Public Health;  $\geq 27\%$  in the Vaccine Branch;  $\geq 6\%$  in Alternate Care Sites;  $\geq 4\%$  in Mass Care; and  $\geq 5\%$  as Medical Health Operational Area Coordinator (MHOAC).

**Improvement Recommendations:**

- Conduct section coordinator trainings to increase potential staffing options.
- Include staff who serve as section coordinators and other critical positions in non-activation strategic work such as plan development and capability planning to both increase their subject matter expertise and to benefit from their knowledge and expertise.
- Prioritize staffing of critical positions with capable staff.
- Request support of Marin OA EOC operations through Incident Management Assistance Teams (IMATs) teams, Emergency Management Assistance Compact (EMAC), or Emergency Management Mutual Aid (EMMA) requests.

## Vulnerable Populations Outreach and Service Delivery

### Strengths

The Marin OA demonstrated the following strengths related to **Vulnerable Populations Outreach and Service Delivery**.

**S 2. COUNTY SUPPORT OF COMMUNITY RESPONSE TEAMS.** The county's partnership with community-based organizations from early in the pandemic provided essential local support and response. The initiative eventually formed into the Community Response Team (CRT) program. It served as an effective two-way information sharing pathway between the Marin OA EOC and individual communities. The Marin OA EOC was able to gain information on community needs to inform key decisions while also disseminating critical disaster information.

**Analysis:**

- The county identified four (4) geographic areas of the county (CRT zones) which included the demographic groups experiencing the greatest health inequities and disproportionate negative impacts from COVID-19. The overall goal of the CRT program was to build a public health infrastructure in

partnership with the community to support response, recovery, and resiliency from public health threats and emergencies. The County of Marin worked with one lead agency in each CRT zone. The lead then engaged with government and other local partners to support response, information sharing, distribution of personal protective equipment (PPE) and testing kits. This provides resources directly to the most vulnerable communities, builds trust among stakeholders, and provides feedback directly back to the government about the needs of the community from the community.

- At the start of the COVID-19 response, Marin OA EOC took a top-down approach to working with community organizations, but as the response went on, and relationships grew with organizations, their approach changed. Marin OA EOC leadership learned to function in a collaborative, supportive role with CRTs, rather than using a top-down approach. This collaborative approach enabled interactive communication to flow that led to tailored services through trusted community agents. The change in approach was due to community organizations voicing their needs enough to be heard and County leadership adjusting their response tactics.
- Among all survey respondents, 14.5% indicated they were part of a community-based organization (CBO). Among all types of external stakeholders who participated in the survey, 91% agreed/strongly agreed information was in easy-to-understand formats; 90% agreed/strongly agreed they had access to the information needed to help other members of their community; 85% agreed/strongly agreed that having information in a variety of formats (online tools, written versions, social media, video briefings) helped them better share it with the community; and 88% agreed/strongly essential information was in the language their community needed.

**Growth and Sustainment Recommendations:**

- Maintain and improve the CRT program with funding and an ongoing commitment to elevate voices of CBOs. This includes coordinating CRTs to ensure their efforts are aligned to support a single pathway for messaging.
- Attend regular CRT meetings to enhance information sharing and relationship building, and provide support at meetings, when needed.
- Consider expanding the program to include the fifth CRT zone (Ross Valley, Corte Madera, Larkspur, San Anselmo, Fairfax).
- Coordinate with local Neighborhood Response Groups (volunteer, grassroots groups located in individual neighborhoods that prepare as a community for three specific disaster scenarios) to maximize community preparedness and resiliency for potential future events.

**S 3. COMMUNITY-BASED EDUCATION AND OUTREACH. There was strong collaboration and communication among departments as a result of a County of Marin employee in a Community Response Team (CRT) position that coordinated with Marin OA EOC operations. This resulted in effective community outreach.**

**Analysis:**

- A County of Marin employee served as a part of the community-based education and outreach team. This position liaisons with community-based organizations and local constituents. This proved especially important to satisfy health equity objectives.

- Among external partner survey respondents,  $\geq 82\%$  agreed/strongly agreed that information was provided in a form that was easy to share with members of the community;  $\geq 85\%$  agreed/strongly agreed that having information in a variety of formats (e.g., online tools, written versions, social media, video briefings) helped them to better share it with the community;  $\geq 88\%$  agreed/strongly agreed that information was provided in the language their community needed;  $\geq 78\%$  agreed/strongly agreed that information was provided in a culturally relevant manner, and  $\geq 80\%$  agreed/strongly agreed that they had access to the information they needed to help members of the community verify conflicting or out-of-date information.

**Growth and Sustainment Recommendations:**

- Maintain the community-based education position embedded in the Marin OA EOC structure and expand this staffing capability.
- Continue to develop a cadre of credible local messengers who have easy access to local information and can help inform targeted response and recovery efforts. This may require additional contracts (either activated or vetted and ready for activation) among representatives of community-based organizations (CBOs).
- Ensure the community-based education role is integrated in the Joint Information System (JIS) to help inform message development and dissemination that addresses targeted communities.

**S 4. EQUITY IN VULNERABLE COMMUNITIES. A designated County of Marin staff person serving in the community-based education role was complemented by voluntary and contracted representatives from community-based organizations (CBOs), all of whom were indispensable to community outreach and education.**

**Analysis:**

- A Voluntary Organizations Active in Disasters (VOAD) representative and a CBO representative were embedded in the Marin OA EOC operations.
- Among other community organizations, Canal Alliance Assistance Center provided translation support staff to increase community outreach and messaging, which led to greater success in contact investigations in the Canal community. The contact investigators also served as credible messengers, as they were often considered more approachable than government officials.
- County participation in meetings with leaders from CBOs and nongovernmental organizations (NGOs) that serve vulnerable individuals and families occurred regularly (often daily) throughout much of the response.
- Resource allocations enabled CBOs and NGOs to communicate with individuals and families via technology, flyers, etc., regarding self-protective measures and how to access food and funds to pay for essential services (e.g., rent and utilities).
- CBOs and NGOs serving vulnerable populations were also involved with multilingual outreach regarding testing and vaccinations; this was particularly beneficial in communities of people whose primary language is Spanish or Vietnamese.
- The County of Marin partnered with community organizations, like the non-profit Performing Stars, to bring resources to communities represented by local organizations. This allowed organizations' leaders

to determine the best use of resources to provide essential support to advance equity and inclusion. Partnering with community-based organizations was critical to assisting with activities such as community testing and vaccination operations, resident's bill paying support, food, and providing self-protective education in multiple languages.

- Among external partner survey respondents,  $\geq 82\%$  agreed/strongly agreed that information was provided in a form that was easy to share with members of the community;  $\geq 85\%$  agreed/strongly agreed that having information in a variety of formats (e.g., online tools, written versions, social media, video briefings) helped them to better share it with the community;  $\geq 88\%$  agreed/strongly agreed that information was provided in the language their community needed;  $\geq 78\%$  agreed/strongly agreed that information was provided in a culturally relevant manner; and  $\geq 80\%$  agreed/strongly agreed that they had access to the information they needed to help members of the community verify conflicting or out-of-date information.

**Growth and Sustainment Recommendations:**

- Add an Equity Officer position in the EOC to ensure focus on equity throughout the response operation.
- Define and expand the VOAD and community-based education role to continue to build response capacity from the neighborhood level to the Marin OA EOC.
- Ensure that Marin OA Emergency Operations Plan (EOP) and public communications plans are updated with an equity framework in planning and response.
- Continue to develop Marin OA EOC objectives and goals around targeted vulnerable populations.

**S 5. HEALTH EQUITY. Marin's response reflected a heavy focus and commitment to health equity through programs such as the Vaccine Interest Form (VIF), particularly in geo-demographic areas considered most vulnerable to COVID-19 infection and serious health complications.**

**Analysis:**

- The county developed a VIF that resulted in a database of Marin County residents. This database allowed the Marin OA EOC to target the most vulnerable populations.
- In keeping with its history of leveraging tools in novel approaches, Marin HHS epidemiological (EPI) staff partnered with the Marin OA EOC to develop data dashboards to track disease hotspots.
- Early in the event, the County of Marin increased the reach of public health services and information by connecting with key community groups in areas where vulnerable populations are concentrated. These community groups were effective "credible messengers" who were trusted among local people. This increased the "uptake" of key public health guidance and orders regarding self-protective measures, as well as testing and vaccine availability and importance.
- The County of Marin developed objectives that followed the SMART (Specific, Measurable, Achievable, Relevant, and Time-Bound) system to have a more equitable response.
- The County of Marin established a Community Advisory Board composed of stakeholders who served and represented diverse communities. This group was briefed on the County's SMART objectives, was informed of the development of objectives and strategies to increase equity and helped obtain buy-in across Marin OA communities.

**Growth and Sustainment Recommendations:**

- Consider institutionalizing the use of the Community Advisory Board as an ongoing practice beyond the pandemic. Engage Board members to inform Marin OA EOC's preparedness and response activities.
- Consider involving participating community members in training and exercises, where appropriate.

**S 6. FOOD PROVISIONS. County of Marin decision-makers focused operations on equity food distribution among vulnerable populations and elsewhere across the Marin OA.**

**FIGURE 13: FOOD DISTRIBUTION**



**Analysis:**

- County of Marin leadership encouraged department directors and managers to creatively problem-solve with outside partners, such as the business community and community-based organizations to ensure that the community, including home-bound populations, were provided food, especially during periods of quarantine.
- This creative problem-solving helped to address issues associated with any restrictions that would ordinarily limit food distribution to those considered income eligible. As a result, greater numbers of people were able to pick up food for their families or benefitted from home delivery if they lacked transportation or were home-bound.

**Growth and Sustainment Recommendations:**

- Develop processes to enable an expedient transition to innovative food delivery programs during emergencies.

- Create and institutionalize a standard operating procedure that identifies the steps and documentation needed to distribute food and water to any individuals during emergency response, regardless of typical income-qualifying and other restrictive criteria.

**S 7. ACCESS AND FUNCTIONAL NEEDS (AFN) COORDINATION. The Marin OA EOC, Marin HHS, and advocates/representatives who service AFN populations created mutually beneficial coordination systems, particularly through the AFN Workgroup.**

**Analysis:**

- The County of Marin partnered with AFN focused community organizations to be deliberately inclusive of AFN populations, including through the AFN Workgroup, which provided a space for organizations to hear about County operations and for the County to receive feedback on operations.
- Marin HHS public health officials maintained communication with and were responsive to requests from AFN advocates/representatives.
- Partnerships forged during the COVID-19 response in the AFN Workgroup were very beneficial for information exchange, advocacy, collaboration, and resource allocation.
- Marin OA EOC staff appreciated having access to AFN subject matter experts to ask questions and to point out discrepancies in contracts and in the planning process. However, AFN subject matter experts were often stretched among responsibilities and at times, were unable to provide support due to competing responsibilities.
- An AFN Officer position was created and staffed as a part of Marin OA EOC operations. This individual developed job responsibilities around evolving expectations with a scope of the entire operation.

**Growth and Sustainment Recommendations:**

- Maintain the AFN Workgroup that brings together Marin HHS (including Public Health), the Marin OA EOC AFN Officer, nongovernmental- and community-based organizations, and other relevant parties. This Workgroup should be maintained during disasters and outside of them.
- Develop relationships with additional AFN subject matter experts and provide AFN competency training for Marin OA EOC staff.
- Expand and standardize the AFN Officer position in the Marin OA EOC, to include a position description, staffing requirements, and position checklists.

## Areas for Improvement

Moving forward, the Marin OA can improve on the following areas related to **Vulnerable Populations Outreach and Service Delivery**.

**I 9. ACCESS AND FUNCTIONAL NEEDS (AFN) CAPACITY DEVELOPMENT. There is a lack of ongoing intentional resources and planning to support AFN populations such as training of staff and standing contractual supports.**

**Analysis:**

- While it is traditionally recommended to have three (3) people assigned per EOC position, the Marin OA EOC only has one individual assigned to the AFN Officer position. This individual also continues to serve in their day-to-day job during an incident, leading to overtasking and limited capacity to support AFN populations during response operations.
- There were limited standing contracts for AFN services, so the AFN Officer spent time engaging in contracting with limited knowledge, instead of tending to other tasks.
- While there was an AFN Workgroup established for COVID-19 response, EOC staff and disaster service workers at all levels were undertrained in AFN competency.

**Growth and Sustainment Recommendations:**

- Identify and train County of Marin staff to fill the AFN Officer position in the Marin OA EOC. This will relieve some workload from the individual who currently holds the AFN Officer position and will contribute the AFN community being better served.
- Assess the current list of memoranda of understanding (MOUs) and standing contracts for AFN services, identify gaps in resources, and establish MOUs and standing contracts with vendors who can meet the need of Marin's AFN community during a disaster.
- Implement AFN competency training for all Disaster Service Worker (DSW) and EOC staff.
- Consider following the recommendation provided in the AFN Workgroup AAR interview: Develop and fully resource an AFN Task Force with a planning focus and include both County of Marin and community partners. The Task Force should function during disaster and non-disaster periods to ensure it is proactive and reactive. It should be led and supported by a staff member of Marin County OES. This will provide AFN-focused service providers with additional opportunities to coordinate with each other, will elevate the voices and needs of Marin's AFN community, and will provide the County of Marin insight on how to better coordinate with and support the AFN community.
- Consider following the recommendation provided in the AFN Workgroup AAR interview: Develop a "Commission on Disability" similar to the existing commission for aging. A commission on Disability would serve in an advisory role to help to direct policy by making suggestions and recommendations to local elected policymakers and the County of Marin government.

**I 10. OUTREACH TEAMS. A greater need was expressed for an expanded County of Marin staff cadre responsible for boots-on-the-ground community outreach and liaising.**

**Analysis:**

- The Marin OA EOC community-based education role assisted with this effort but did not have a sufficient staff complement. This became evident as existing plans did not fully account for the needs of all communities.
- The scope and scale of the pandemic created a challenging environment to balance community-level needs with available staff to support direct community outreach, particularly among vulnerable populations, those without access to technology (internet), and those who do not speak English as a first language.

- Dedicated outreach teams were formed across the pandemic response period to help ensure health equity for both pandemic response and to advance health equity overall.
- Community Health Education and Outreach Teams were established to provide communication and coordination at the neighborhood level. These liaisons (County of Marin staff, health care workers, and contracted agents from community-based organizations) made communication headway in communities and provided guidance to the Marin OA EOC about ways to better serve vulnerable populations.

**Improvement Recommendations:**

- Expand the Community Health Education and Outreach Teams and the community-based education role to improve outreach capacity, especially for vulnerable populations who may have access and functional needs (AFN) or require access to technology and language services.
- Build the Community Health Education and Outreach Teams into the Marin OA EOC structure with a clear reporting chain, including job aids with defined relationships with the Marin OA EOC Liaison, Public Information Officer (PIO), Operations Section, Community Response Teams (CRTs), and Marin Voluntary Organizations Active in Disasters (VOAD).
- Incorporate vulnerable populations and multilingual considerations into operational plans before and during activations.
- Sustain and build out the dedicated outreach teams and maintain applicable protocols for forming additional teams (including multilingual members) in the first twenty-four (24) hours of an emergency.

**I 11. COORDINATION OF COMMUNITY-BASED ORGANIZATIONS (CBOs). More coordination between existing disaster-focused CBOs and the County of Marin can improve preparedness, limit duplication of effort, and create a host of programs to reach the majority of the public.**

**Analysis:**

- Many CBOs exist across the Marin OA, but they do not always coordinate.
- Among survey respondents in field operation roles,  $\cong 14\%$  indicated an affiliation with a volunteer organization; meanwhile among all survey respondents,  $\cong 15\%$  indicated they were part of a CBO or part of a community response team (CRT), and  $\cong 29\%$  indicated an affiliation with a nonprofit organization. (Note: There may be overlap among individuals reporting in these affiliation categories.)

**Improvement Recommendations:**

- Implement use of CRTs for other disasters.
- Develop a disaster preparedness planning and outreach program between the Marin Voluntary Organizations Active in Disasters (VOAD), CRTs, the Marin OA EOC, and other groups to bolster emergency preparedness and response coordination.

**I 12. TRANSLATIONS. While messaging outreach increasingly leveraged community partners for translation services to overcome language barriers as the pandemic progressed, there was still a lack of materials in languages other than English, especially early in the pandemic response.**

**Analysis:**

- Some emphasis was put on providing translations in Spanish. However, materials were not always translated. Information was also not always translated into other commonly spoken languages, such as Vietnamese and Russian, and when translated, often took significant periods of time.
- An insufficient number of translators and interpreters among the most commonly spoken languages (including but not limited to Spanish, Vietnamese, and Russian) in the Marin OA delayed some messaging or created messaging "outages" in some areas for periods of time.
- Some materials provided by the federal government were provided in Spanish but were infrequently provided in other commonly spoken languages. The County of Marin has few employees who can provide internal translation support, and thus provided contract services to assist with translation. However, materials had to be sent out for translation, often resulting in significant delays.
- Insufficient multilingual translation support for all field operation sites presented outreach challenges to populations who do not speak English as a first language.
- Leveraging multilingual people among community-based organizations (CBOs) was successful, as these individuals served as credible messengers at the local level; however, additional members of the community need to be identified to ensure enough coverage is available.
- The AFN Officers working to create translation and interpretation contracts felt there was unclear communication about which languages should be contracted for, resulting payment delays and lack of reimbursements.
- CBOs and Marin Voluntary Organizations Active in Disasters (VOAD) worked with the County Liaison, the Public Information Officer (PIO) team, and contractors to provide essential multilingual information throughout the pandemic response.
- Among external partner survey respondents,  $\cong 82\%$  agreed/strongly agreed that information was provided in a form that was easy to share with members of the community;  $\cong 85\%$  agreed/strongly agreed that having information in a variety of formats (e.g., online tools, written versions, social media, video briefings) helped them to better share it with the community;  $\cong 88\%$  agreed/strongly agreed that information was provided in the language their community needed;  $\cong 78\%$  agreed/strongly agreed that information was provided in a culturally relevant manner; and  $\cong 80\%$  agreed/strongly agreed that they had access to the information they needed to help members of the community verify conflicting or out-of-date information.

**Improvement Recommendations:**

- Maintain standby contracts with vetted CBOs and VOADs who can provide translation and interpretation services at hotlines/call centers, at field operation sites, and as an attachment to the mobile vaccine unit. In addition to translation and interpretation services, external partners may support development of multilingual messages and materials along with the PIO team. There is no assumption that these services are provided without compensation.
- Create memoranda of understanding (MOUs) with a cadre of critical multilingual community partners who can help to communicate with diverse populations across the emergency management cycle.

- Develop standards and clear expectations for building disaster related contracts including information about which translation languages should be included and required language to improve potential state or federal reimbursement.

**I 13. COMMUNITY OUTREACH TO VULNERABLE POPULATIONS. Lack of digital access and limited English proficiency were the two most significant messaging barriers to reach vulnerable populations.**

**Analysis:**

- Many vulnerable populations do not have access to, the ability to afford, or a desire to use technology to obtain crisis-related information.
- Additionally, electronic content is available primarily in English with some in Spanish. Lack of digital materials available in other languages can also inadvertently marginalize those who speak other languages.
- Among external partner survey respondents, ≈ 82% agreed/strongly agreed that information was provided in a form that was easy to share with members of the community; ≈ 85% agreed/strongly agreed that having information in a variety of formats (e.g., online tools, written versions, social media, video briefings) helped them to better share it with the community.

**Improvement Recommendations:**

- Maintain contracts with vetted community partners who can be contracted with (and compensated) to provide translation/interpretation services for a hotline/call center, at sites where the mobile vaccine unit visits, and to interface with the Public Information Officer PIO team to develop multilingual messages and materials (digital and hard copy). There should be no assumption this service should be provided absent compensation.

## Marin Recovers

### Strengths

The Marin OA demonstrated the following strengths related to Marin Recovers.

**S 8. BUSINESS SECTOR. The pre-existing website for Marin Recovers (created previously for disaster response) provided the framework for standing up the Marin Recovers group of public- and private-sector partners. The Marin Recovers group facilitated information exchange between the County of Marin and the business sector.**

**Analysis:**

- The precursor to the Marin Recovers website was developed for other disasters. Although COVID-19-specific updating was required, existing content provided a framework for the Marin Recovers group program during the pandemic response. The Marin Recovers website was maintained by the County of Marin and some Marin Recovers group members.

- The Marin Recovers group created a forum for candid communication between the County of Marin and business stakeholders and provided a means for business stakeholders to inform the development and amendment of guidance and how public health decisions could impact the business community.

**Growth and Sustainment Recommendations:**

- Consider following the recommendation provided in the Marin Recovers group AAR interview: Continue using the Marin Recovers group to share information with the business sector across the emergency management cycle.
- Consider following the recommendation provided in the Marin Recovers group AAR interview: Develop a sample Continuity of Business Plan framework/template to assist businesses in preparedness, response, and recovery planning.
- Consider following the recommendation provided in the Marin Recovers group AAR interview: Dedicate staff to coordinate Marin Recovers group functions/activities and to maintain the website.

**S 9. MARIN RECOVERS GROUP. The Marin Recovers group of local business leaders and other community members was resourceful for engaging the business community in response and recovery efforts, as well as for setting expectations and communicating information about public safety, including protocols, regulations, orders, and cost recovery.**

**Analysis:**

- The Marin Recovers group created standards for sharing and vetting information before it was distributed to the general public. A forum was created for candid communication between the County of Marin and business stakeholders. This was vital to maintain awareness and compliance with public health orders in public places and for the reopening of businesses and public venues.
- Among external partner survey respondents,  $\approx 21\%$  reported an affiliation with the private sector, of which  $\approx 14\%$  said they were part of the business community during the AAR/IP evaluation period (March 2020 - December 2021).
- Among external partner survey respondents,  $\approx 29\%$  indicated they had not been asked to participate in a disaster exercise specific to their role during the COVID-19 pandemic. However,  $\approx 80\%$  agreed/strongly agreed that they had access to the information they needed to help members of the community verify conflicting information or out-of-date information.

**Growth and Sustainment Recommendations:**

- Consider following the recommendation provided in the Marin Recovers group AAR interview: Institutionalize using the Marin Recovers group as an integral partner in disaster planning, response, and recovery. Elevating the business community as an ongoing vital partner strengthens relationships that are important to leverage during emergencies and for regional economic development.

**S 10. CHILDCARE. Including a representative from the childcare community in the Marin Recovers group gave a voice to a workforce-dependent critical function.**

**Analysis:**

- For the first time in recent history, the role of childcare providers was recognized as an essential function for workers and businesses that struggled to retain minimal staff to remain operational during the pandemic.
- People who worked in essential positions (e.g., childcare providers, grocery store workers, etc.) were eventually offered vaccination priority after healthcare workers and first responders. There was an expectation that childcare providers would step up to support parents/employees, even if they worked (remotely) or in their regular workplace environments.

**Growth and Sustainment Recommendations:**

- Involve the childcare provider community in future preparedness, response, and recovery efforts, especially as it relates to the essential workforce and economic stability.
- Consider including the childcare provider community in appropriate County of Marin training and exercises.

## Areas for Improvement

Moving forward, the Marin OA can improve on the following areas related to **Marin Recovers**.

**I 14. ECONOMIC DEVELOPMENT PLAN. There are concerns in the business community that some sectors lack an established group/presence to facilitate response and recovery activities with County of Marin leadership.**

**Analysis:**

- The lack of an Economic Development and Recovery Plan results in disparate, uncoordinated efforts across the emergency management cycle.
- Some stakeholders perceived the County of Marin government to not prioritize or elevate the importance of economic development and the sectors that contribute to local quality of life. This became particularly evident to these stakeholders as a result of the pandemic.

**Improvement Recommendations:**

- Consider following the recommendation provided in the Marin Recovers group AAR interview: Finalize, fund, and staff a Marin County Economic Development Department, with the intent that communications with the business community can be uniformly streamlined and bridge emergency planning, response, and recovery disconnects with the business community of Marin.
- Empower the Economic Development Department to lead the creation of an Economic Development Plan for the Marin OA. This document should include components on disaster planning, mitigation, response, and recovery, and should identify roles and expectations. This Plan should encourage individual Continuity of Business Operations Plan development.
- Develop a structure to regularly coordinate representatives from across the Marin OA, including industry sectors, to be involved in strategic economic development planning.
- Include the business community in tabletop, functional, and full-scale exercises, as appropriate.
- Update response procedures to include the business community in operational response.

- Consolidate information about available government-sponsored supports, particularly those related to emergency planning, response, and recovery. Publish this information in a Marin Recovers type of website, along with the County of Marin Economic Development Plan.

**I 15. BUSINESS COMMUNICATIONS STRATEGY. There were disparate and often disconnected communications channels between Marin OA and the business community throughout the pandemic evaluation period.**

**Analysis:**

- Multiple, disparate email lists used to communicate with the business community across Marin OA jurisdictions led to untimely and inconsistent information. In some instances, where the same parties received multiple emails about the same topic, information overload and desensitization resulted, thus hampering message in uptake. This created subsequent issues related to businesses that needed to access recovery information and government-sponsored financial recovery support.
- The business community, significantly leveraged through Marin Recovers, has often felt disengaged as part of the overall Marin OA discussion about economic development. The intrinsic connection between people working in the service industry, including childcare, requires a greater understanding and appreciation among County of Marin officials.

**Improvement Recommendations:**

- Coordinate representatives among various industry sectors and representatives of all Marin OA jurisdictions to engender dialogue, collaborative thinking, and strategies captured in a County of Marin Economic Development Plan. This document should span the emergency management cycle and consider ways to access grants/support from federal and state sources.
- Consider following the recommendation provided in the Marin Recovers group AAR interview: Reinstate the Marin Recovers website under a new name and dedicate staff to maintain it. These staff members should have an economic development and business focus, with a particular understanding of the business community's roles across the emergency management cycle.
- Develop a system of collecting/consolidating contact information for businesses across the Marin OA. This may be accomplished in conjunction with the existing business licensing processes.
- Consider following the recommendation provided in the Marin Recovers group AAR interview: Maintain the Marin Recovers group and website to continue to engage the business community and other partners who are part of the economic development community (including those in childcare who are central to enabling workers to return to the workplace). Resumption of Marin Recovers group as an ongoing coalition (as well as the Marin Recovers website, which has since been deactivated) will require staff to be assigned/dedicated to this important role. Relationships are best developed during non-crisis periods.

## Public Information

### Strengths

The Marin OA demonstrated the following strengths related to Public Information.

**S 11. MISINFORMATION MANAGEMENT. Excluding some isolated incidents, the Marin OA reportedly did not face the same volume of misinformation and rumor management challenges as some other communities in the Bay Area and beyond.**

#### Analysis:

- Marin OA's demographic constituency reportedly helped to create a buffer to persistent misinformation and rumor challenges during the pandemic evaluation period.
- Marin OA's Public Information Officer (PIO) team was persistent in amplifying personal-protective actions and offering information across multiple modalities (and eventually in multiple languages) to increase information accessibility.
- Epidemiologists were successful in developing credible, transparent data and disseminating this information to the public in ways which satisfied those who were interested in only summary statistics and those with an appetite for very detailed data.
- The use of Tableau to support public information efforts helped to reduce misinformation through access to current, credible, and transparent data.
- Among external partner survey respondents,  $\cong 82\%$  agreed/strongly agreed that information was provided in a form that was easy to share with members of the community;  $\cong 85\%$  agreed/strongly agreed that having information in a variety of formats (e.g., online tools, written versions, social media, video briefings) helped them to better share it with the community;  $\cong 88\%$  agreed/strongly agreed that information was provided in the language their community needed;  $\cong 78\%$  agreed/strongly agreed that information was provided in a culturally relevant manner; and  $\cong 80\%$  agreed/strongly agreed that they had access to the information they needed to help members of the community verify conflicting or out-of-date information.

#### Growth and Sustainment Recommendations:

- Continue (and upgrade) practices of monitoring disaster-related messaging across all media (mainstream and social) to identify misinformation trends and additional information needs, particularly when complicated orders are issued or when expected protocols change.
- Ensure that the Marin OA EOC Voluntary Organization Active in Disasters (VOAD) Agency Representative and other response personnel with a role in messaging have standardized practices and procedures to address misinformation heard from constituents.
- Standardize the use of Tableau to provide public information in easy-to-consume formats.

**S 12. OUTREACH AND COMMUNICATIONS EQUITY. The Marin OA's commitment to equity bolstered support of the Public Information Officer (PIO) team/communications outreach efforts to reach vulnerable populations more successfully.**

**Analysis:**

- Targeted messaging to vulnerable populations and expanded, multilingual content was supported by community-based organizations who served as credible messengers in traditionally vulnerable populations.
- Among external partner survey respondents,  $\cong 82\%$  agreed/strongly agreed that information was provided in a form that was easy to share with members of the community;  $\cong 85\%$  agreed/strongly agreed that having information in a variety of formats (e.g., online tools, written versions, social media, video briefings) helped them to better share it with the community;  $\cong 88\%$  agreed/strongly agreed that information was provided in the language their community needed;  $\cong 78\%$  agreed/strongly agreed that information was provided in a culturally relevant manner; and  $\cong 80\%$  agreed/strongly agreed that they had access to the information they needed to help members of the community verify conflicting or out-of-date information.

**Growth and Sustainment Recommendations:**

- Ensure that the Marin OA Emergency Operations Plan and Emergency Communications Annex are updated to consider an equity framework in planning and response.
- Update all other response plans to provide specific actions for communications equity.

**S 13. PUBLICALLY ACCESSIBLE PORTAL. The Marin OA EOC created a web-based Public Emergency Portal to share COVID-19 related information with the public.**

**Analysis:**

- Early in the pandemic response, COVID-19-related information was not available to the public in a single location, necessitating the creation of the Public Emergency Portal. Since the public was accustomed to the Marin HHS COVID-19 website, the Public Emergency Portal was not implemented for the COVID-19 response. The platform has, however, been used for several concurrent incidents including the Woodward Fire, protests, and PSPS events. The nature of the Public Emergency Portal allows it to be quickly activated for future responses.
- Some concerns were expressed that a network of public messaging strategies, including both the Public Emergency Portal and approaches to address the needs of individuals who do not use or have reliable internet service to access electronic information, should be developed. Stakeholders agree that the portal is a useful instrument in a network of communication tools.
- Among external partner survey respondents,  $\cong 82\%$  agreed/strongly agreed that information was provided in a form that was easy to share with members of the community; and  $\cong 85\%$  agreed/strongly agreed that having information in a variety of formats (e.g., online tools, written versions, social media, video briefings) helped them to better share it with the community.

#### Growth and Sustainment Recommendations:

- Institutionalize and socialize the use of the Public Emergency Portal by adding importance of its use to checklists, highlighting in supporting procedures and plans, and incorporating in future exercises and real-world events.
- Incorporate the Public Emergency Portal in community preparedness messages and advertisements to increase the public's knowledge of the portal as a reliable source of emergency information across the Marin OA.
- Ensure that social media and "hard copy" forms of current public safety guidance and community actions in an event are accessible in multiple formats, including but not limited to language accessibility, visual accessibility through color contrast, font size and style and reader accessibility.
- Store "hard copy" materials in a location accessible to County of Marin liaisons and Marin OA EOC staff to share with community partners.
- Develop multimedia outreach campaign with focus on vulnerable populations who may not have access to mainstream messaging and/or may have limited English proficiency.

### Areas for Improvement

Moving forward, the Marin OA can improve on the following areas related to **Public Information**.

#### I 16. OVERLOADED EMAIL. Email as a form of ongoing communication was often inefficient, as full inboxes frequently contained repetitive information from a variety of different sources.

##### Analysis:

- Disparate parties offered the same (and sometimes conflicting) information via email. Inboxes became quickly overloaded.

##### Improvement Recommendations:

- Standardize use of a County of Marin intranet or internal communications portal to streamline internal communications.
- Document communication and collaboration standards between the Marin OA EOC/Marin HHS, and the Public Information Officer (PIO) team to ensure access to current information.
- Develop and utilize a WebEOC Communications Board in the Marin OA EOC and train the entire PIO team on its use.

#### I 17. MULTIPLE COMMUNICATION MODALITIES. Some community members do not have or use technology (e.g., computers, internet, cellular service) to gather current information because of personal access issues, lack of service availability/reliability, affordability, or because they choose not to use these tools. This can inhibit their ability to access current guidance on the spread of disease, self-protective measures, public health orders, and the availability of resources (e.g., food, tests, vaccinations).

##### Analysis:

- Outbound calls (returned calls) from the County of Marin hotline/call center indicated there were many people who did not have access to or use technology, such as the internet, to get current information.

- Among external partner survey respondents, ≈ 85% indicated that having information in a variety of formats (online tools, written versions, social media, video briefings) helped them to better share it with the community.

**Improvement Recommendations:**

- Expand the cadre of individuals serving in community outreach/liaison roles, particularly those with multilingual abilities. This may include additional County of Marin employees and expanded engagement (informally and through formal contracts) with community-based organizations and credible local messengers. To maximize inclusivity and equity, a focus should be on outreach to older populations and concentrations of vulnerable populations (e.g., Canal District, etc.).
- Ensure widespread advertising of a sufficiently live-staffed, multilingual emergency hotline/call center to help individuals schedule tests/vaccinations and to identify who is home-bound and may require food and pharmaceutical delivery service.
- Ensure information about self-protective measures (e.g., hand washing, use of disinfectant, social distancing, etc.) is offered in large print (hard copies) and in multiple languages. Consider partnering with utility companies to distribute this guidance as bill inserts.

**I 18. MULTIPLE WEBSITES. Disparate information across multiple credible websites caused confusion and mixed messaging.**

**Analysis:**

- Initially, multiple websites were developed by the County of Marin that offered COVID-19 related information. Unfortunately, the lack of a centralized place to receive COVID-19-related information led to information that was not uniformly updated. This resulted in confusion and at times, mixed messaging, especially amid changing protocols.

**Improvement Recommendations:**

- Maintain and advocate for a one-stop, consolidated website dedicated to disaster-related information, resources, and services. This should be the existing Public Emergency Portal.
- Ensure that any County of Marin website with disaster-related information includes features so information feeds can be automatically updated into other sites.
- Continue to include data dashboards on a centralized website, such as the Public Emergency Portal.

**I 19. HOTLINE/CALL CENTER. The County of Marin established its own ad-hoc call center during the pandemic, essentially “building the plane in flight”. While the work put into establishing the center and the assistance provided to the community should be celebrated, there were persisting challenges such as limited numbers of staff and minimal multilingual services.**

**Analysis:**

- From March 2020 – May 2021, the call center answered nearly 28,000 calls, responding to a wide array of needs, from stay-home order clarification to residents seeking testing and vaccine information, businesses seeking COVID-19 safety guidance, reports of COVID-19 outbreaks, and Social Services referrals.

- No live-staffed, multilingual emergency Hotline/Call Center was disaster-ready to serve the whole community. Multilingual services were minimal, at best, and did not initially reflect local demographics.
- The COVID-19 hotline was not sufficiently staffed, resulting in many significantly delayed or unanswered calls, most of which were routinely directed to an answering machine rather than a live, trained operator. This may have disproportionately impacted vulnerable populations, including older persons and others who may not have access to or use the internet to find current information or to schedule a test or vaccine.
- The Marin County Information and Assistance Office staff answered hotline calls and returned voicemails during business hours, often in place of their other jobs. This was a challenging and inefficient system, particularly in a rapidly changing environment where current guidance evolved frequently.

**Improvement Recommendations:**

- Establish contracts and build relationships with United Way 211 to utilize 211 services during disaster response.
- Develop an Emergency Hotline Plan.
- Incorporate information technology (IT) solutions so calls can be tracked by type of inquiry and location to identify hotspots of infection, service needs, and possible misinformation.
- Consider continued partnerships with Vivalon to coordinate the call center/s.
- Establish easy-to-activate contracts with multilingual hotline staff that reflect the local demographics.
- Develop a Public Information Officer (PIO) function to work with hotline staff and the Planning Section to provide current and relevant disaster public information and self-protective guidance.
- Develop reference materials for call center staff that includes common questions and scenarios. Also include information about how staff can get the information they need to answer common questions.

**I 20. LEVERAGING MEDIA. The local media could have been more fully leveraged to improve public information and outreach education.**

**Analysis:**

- Stakeholders felt there should be an expanded effort to engage and sustain relationships with the media to help curb misinformation and push current information through major media outlets. This could have been helpful in the environment of rapidly changing information due to the nature of a novel virus response. For example, the Marin OA did not control the supply of vaccines and only received limited allocations. The federal government authorized who could receive the vaccine based on age and vaccine rollout phases by prioritization were mandated by the California Department of Public Health (CDPH). The public sector was concerned about not being able to get the vaccine when supplies were initially scarce. Coordination with local media regarding the vaccine supply chain and outreach education about vaccine rollout prioritization was reportedly not fully leveraged.

**Improvement Recommendations:**

- Update and expand the Emergency Communications Annex to identify processes and procedures to fully engage media during emergencies and to leverage the changing nature of response activities.

**I 21. PUBLIC COMMUNICATIONS PLANS.** The existing public communications plans offer limited crisis communications guidance.

**Analysis:**

- While a Joint Information Center (JIC) was stood up, a Communications Board in WebEOC was not used and could have provided Marin OA EOC leadership with ready access to communications and outreach efforts.
- Among survey respondents who worked in the Marin OA EOC (in-person or remotely) or who supported the EOC functions, ≈ 16% relied on some form of public communications plans.

**Improvement Recommendations:**

- Update the Emergency Communications Annex. This should involve all staff with public information and community outreach roles, Marin OA EOC leadership, and key community partners, particularly in communities where there are concentrations of vulnerable populations.
- Train all employees with communications roles in Incident Command System (ICS) operations and the use of Communications Boards in WebEOC.

**I 22. DATA ANALYTICS.** A lack of adequate technology tools to render data analytics and trend tracking created inefficient responses and likely missed opportunities for timely and targeted messaging.

**Analysis:**

- In 2020, the County of Marin Public Information Officer (PIO) used a previously contracted service to track social media trends during the pandemic response. Once the contract ended (mid-pandemic), the PIO team used free tools and attended meetings to gauge the audience's response. This was unsustainably time-consuming and introduced an increased risk of human error in information gathering and analysis.

**Improvement Recommendation:**

- Invest in data tracking and analytics tools to identify and track misinformation, information deficit hotspots, and issue area internet hotspots. This will enable the PIO team to more accurately gauge public opinion and message penetration and uptake, and more successfully respond to misinformation in targeted ways in specific geographic areas.
- Develop operational procedures for the PIO team members who monitor social media for trends including misinformation, problem hotspots, or new concerns that may affect operational capacity.

**I 23. CENTRAL PRESS ARCHIVE.** Although the Public Emergency Portal listed current press releases and public information, there was not an internal location that maintained a repository of press releases or other externally targeted messaging issued throughout the event.

**Analysis:**

- While a Joint Information Center (JIC) was stood up, a WebEOC Communications Board did not exist during the COVID-19 pandemic evaluation period.

- Among survey respondents who worked in the Marin OA EOC (in-person or remotely) or who supported EOC functions, ≈ 23% said they would like to see future County-sponsored training or exercises on WebEOC.

**Improvement Recommendations:**

- Initiate a Communications Board in WebEOC that interfaces with the JIC.
- Develop procedures for the Marin OA EOC Planning Section to document and archive news coverage of disasters to use for improvement planning, justification of decision making, reference materials for situational assessments, and as backup documentation for possible future audits or lawsuits. These archives can be electronic and stored in WebEOC.
- Develop a policy for documenting and tracking Public Information Officer (PIO) outreach messaging. This can be used as a template to standardize future messages and to provide backup documentation for probable future audits or lawsuits. These archives can be electronic and stored in WebEOC.

**I 24. INFORMATION PRIVACY. Prior to the pandemic, Marin HHS did not have privacy guidelines that specified the minimum sample size required when sharing statistics with internal departments, external stakeholders, or the general public. In addition, Marin HHS Epidemiology (EPI) staff embedded in the Marin OA EOC Planning Section did not have guidance on the type, amount, and level of data that could be shared internally and externally.**

**Analysis:**

- Throughout the COVID-19 response, Marin HHS made decisions regarding the minimum sample size required for sharing COVID-19 statistics with internal departments, external stakeholders, and the public. Guidelines for data and information sharing were not readily available to Marin HHS staff in the Marin OA EOC. This became problematic, as the staff was unsure about when and what was permissible to share regarding personally identifiable or health information, or when tactical information may harm response, such as in a terrorism event.

**Improvement Recommendations:**

- Develop and formally adopt privacy guidelines and a standard operating procedure that specifies the minimum sample size required to share statistics while introducing safeguards to protect personally identifiable health information. Specify what can be shared, when it can be shared, with whom it can be shared, and who is responsible for reviewing, approving, and distributing this information, (e.g., EPI, legal, etc.).

## Technology and Systems

### Areas for Improvement

Moving forward, the Marin OA can improve on the following areas related to **Technology and Systems**.

**I 25. INFORMATION TECHNOLOGY (IT) COORDINATION. IT staff was only able to work within their own networks or on their own equipment, despite other County of Marin departments supplying equipment.**

**Analysis:**

- There are three different IT departments within the County of Marin, including Information Services and Technology (IST), the largest IT department with the largest capacity and most varied capabilities; Sheriff's Technical Services Unit (TSU), the only IT department that provides true 24/7 coverage; and Marin Health and Human Services (HHS IT), which is much smaller than the other two departments with more modest capabilities.
- Each IT department limits its staff to only working on their own department's devices, networks, and products. As a result, sometimes equipment could not be repaired or restored by support teams from another department.
- Certain IT departments only work during regular business hours; this makes it imperative to know who to go to for assistance outside of work hours.

**Improvement Recommendations:**

- Develop a memorandum of understanding (MOU) for all County of Marin IT departments to support each other including a crosswalk for IST support to work within the networks of the other IT departments.
- Create a staffing plan for 24/7 IT-related support during Marin OA EOC activations.

**I 26. INTERNET ACCESS. Several field locations lacked sufficient internet connectivity to support clinic operations and required the use of personal cell devices.**

**Analysis:**

- Marin County information technology (IT) staff at field sites were unable to provide mobile hotspot connectivity on county devices; the root cause of the issue was not rapidly identified.
- Lack of consistent WiFi at some testing sites and vaccination sites complicated access to information for decision-making and data entry, access to vaccine/testing information, etc. This often caused these field operations to revert to paper forms resulting in huge data entry burdens and lack of timely data needed to drive decision making for future operations.

**Improvement Recommendations:**

- Evaluate the use of redundant data sources (satellite, mesh, mobile hotspots, etc.) for field operations with low connectivity.
- Develop contracts to purchase hard-wired internet service at specific locations where no or spotty service is known.
- Coordinate IT support early in the response with staff working at field sites to provide just-in-time technology training needed to support field operations at remote locations.

**I 27. PROACTIVE INFORMATION TECHNOLOGY (IT) INTEGRATION. The County of Marin Information Services and Technology (IST) was not brought in early enough in the emergency response to provide proactive technology solutions.**

**Analysis:**

- IST developed technological solutions to support the response (e.g., tracking case data) after issues grew beyond the capabilities of existing processes and tools.
- IST was more fully integrated after COVID-19 Data System (CoDa) was developed, but IST staff struggled with things such as overtime approval and insufficient resources for 24-hour support.

**Improvement Recommendations:**

- Include IST in the early phases of future emergency responses, even for situations that may not have an obvious IST role. This allows IT professionals with specialized knowledge to support the response by suggesting potential solutions before challenges are even encountered by Marin OA EOC and field responders.
- Develop a Marin OA EOC position for IST, including IT analyst and programming support capabilities to build data analysis tools, provide field operations support, and provide after-hours support.
- Implement a dedicated information technology team committed to supporting the needs of the response who can specifically build and link information and documentation management systems and applications.
- Include IST in preparedness activities (e.g., plan development, exercises, training) to aid in the development and testing of technology solutions prior to an emergency. These tools should be regularly tested in a variety of scenarios and exercises.

## Healthcare and Public Health

### Strengths

The Marin OA demonstrated the following strengths related to **Healthcare and Public Health**.

#### **S 14. PARTNER COLLABORATION. The Marin OA EOC fostered a collaborative environment across healthcare partnerships.**

**Analysis:**

- There was significant coordination between Marin HHS and healthcare partners.
- Healthcare workers were included in some data-driven strategy meetings and weekly healthcare coordination meetings.
- Broad communication strategies, collaborative planning processes, and a coordinated approach taken by the Marin OA created space for healthcare partners to participate.
- Communication with healthcare providers included interactive conversations to find out what each was experiencing and how to improve circumstances and situations.
- Many relationships existed prior to COVID-19, which were subsequently reinforced and expanded. Fostering existing and newly formed relationships should continue between the Marin OA EOC and external partners.

- During interviews conducted for this AAR/IP, external partners said they appreciated how data was used to drive decisions and operations that included a focus on healthcare equity and stakeholder inclusion.
- Among survey participants in healthcare-related response roles ( $\geq 76\%$  who supported County of Marin-sponsored vaccination sites;  $\geq 52\%$  who supported County of Marin-sponsored testing sites; and  $\geq 35\%$  who supported quarantine/isolation/vulnerable population housing), the vast majority (87% overall) indicated they collectively agreed or strongly agreed that given the situation and circumstances, they had access to information they needed.

**Growth and Sustainment Recommendations:**

- Continue collaboration with external partner meetings, including but not limited to meetings with ombudsmen and the healthcare coalition, and by engaging the Marin HHS epidemiological (EPI) team.
- Build a culture of support and develop relationships that help partners feel valued. This may include plans that address the soft skills associated with relationship building.

**S 15. HEALTHCARE/COUNTY COORDINATION. Open lines of communication and complete transparency regarding decisions being made in facilities, as well as a shared willingness to share information, resources, and data led to the best patient care that could be provided, considering extremely stressful conditions.**

**Analysis:**

- A Kaiser representative emphasized that unimpeded communication and collaboration enabled expedient coordination between healthcare providers and Marin HHS. In addition, an administrator of a skilled nursing facility (SNF) in Marin County reported that they experienced greater access to resources and support than other organizations in their parent company that operated outside of Marin County.
- Early in the pandemic response, Marin County health officials and regional healthcare providers focused on mitigation strategies that targeted vulnerable populations. Additionally, channels among healthcare partners to coordinate and communicate were established early and were maintained throughout the response.
- Among external partner survey respondents,  $\geq 93\%$  agreed/strongly agreed that given the situation and the circumstances, they felt they had access to the information they needed;  $\geq 91\%$  agreed/strongly agreed that the communication they received from the County of Marin was in a format that was easy to understand.

**Growth and Sustainment Recommendation:**

- Maintain open lines of communication and information/data sharing transparency during non-activation periods to provide the best medical care across all health organizations during an emergency.
- Consider how regional healthcare partners can be included in county-led exercise scenarios.

**S 16. CROSS-JURISDICTIONAL COORDINATION. Marin HHS used a framework from Biowatch (a public health surveillance system) and began response discussions in January 2020 with Association of Bay Area Health Officials (ABAHO) partners.**

**Analysis:**

- This anticipatory action and the existing partnership with ABAHO, the Marin County OES, and the County of Marin Public Information Officer (PIO) contributed to a speedy escalation of response measures and early response successes. This coordinated approach was facilitated by key individuals/agencies in close physical proximity to the Marin OA EOC (before remote work was necessitated).
- Approximately 42% of survey respondents, representing those who worked outside of County of Marin agencies/departments, said they agreed/strongly agreed that the information they received from the County of Marin was in easy-to-understand formats, and that they had access to needed information.
- Among external partner survey participants, 40% indicated that the County of Marin provided forums for information sharing.

**Growth and Sustainment Recommendation:**

- Update procedures to include pre-activation coordination and information-sharing meetings with regional jurisdictions and public health partners. The goal is to increase the efficiency of communications and seamless Marin OA EOC activation.

**S 17. ALTERNATE CARE SITE (ACS) PLANNING AND EXECUTION. Marin HHS engaged the North Bay Incident Management Team (IMT) for assistance to rapidly stand up an ACS.**

**FIGURE 14: MARIN'S ALTERNATE CARE SITE**



**Analysis:**

- Early in the response, the Marin County medical/health professionals conducted worst-case scenario planning for the surge, which included locating and implementing an ACS site.
- Previous healthcare facility-level surge planning did not account for the scale and scope of medical/health response COVID-19 required. Instead, the focus was on expanding to licensed spaces, alternate locations, and triggers for implementing pre-planned surge mitigation efforts. However,

planning did not address the need to expand capacity beyond previously planned levels of patient surges.

**Growth and Sustainment Recommendations:**

- Update ACS plans to include response teams that will build the ACS, and medical and administrative teams that will manage it once operationalized.
- Include worst-case scenarios for staffing shortages, supply shortages, infrastructure compromises, and other scenarios in the Marin OA Emergency Operations Plan and Medical Surge Plan.

**S 18. TRIAGE PLANNING. Crisis standards of care were developed, which enabled the triaging of resources.**

**Analysis:**

- Conversations about crisis standards of care occurred at different levels including facility, Marin OA, Bay Area, and state government to update plans before the mass surge at hospitals.

**Growth and Sustainment Recommendations:**

- Develop a Crisis Standard of Care Plan for when the standard of care is modified. This need surfaced when ventilators were scarce. Such a document may also define how the Marin OA EOC supports facilities.
- Provide public health data to jurisdictional healthcare organizations or healthcare coalitions to support the activation of the Crisis Standard of Care Plan.

**S 19. ASSOCIATION OF BAY AREA HEALTH OFFICIALS (ABAHO) COLLABORATION. ABAHO was a vital collaborative Bay Area resource that supported the development of Health Officer Orders, regional protocols, and alignment of messaging with other Bay Area jurisdictions.**

**Analysis:**

- The ABAHO has a long history of facilitating monthly meetings for Bay Area Health Officials and created an atmosphere that fostered collaborative relationships and expedited communications throughout the pandemic.
- County of Marin Health Officers participated in traditional ABAHO meetings in addition to its vaccine focused and public health focused meetings through the ABAHO.

**Growth and Sustainment Recommendation:**

- Continue participation and collaboration with the ABAHO to maintain broad situational awareness and to ensure public health guidance and messaging consistency.

**S 20. COUNTY/HEALTHCARE SECTOR ROLES. Energizing early response efforts in March 2020, initial "parking lot" meetings were held between hospital partners and Marin OA EOC leadership in one of the long-term care facilities that were experiencing a COVID-19 outbreak. These pivotal meetings established county and healthcare sector roles early in the pandemic response.**

**Analysis:**

- Specifically, roles and responsibilities were defined among those charged with operationalizing public outreach and testing campaigns. Partnered in these meetings were Marin HHS/Public Health, Kaiser

Permanente, and physicians' staff. Meetings were designed to support all long-term care facilities, mitigate future outbreaks, and provide whole-person-care for patients who tested positive for COVID.

- Strong relationships with healthcare partners existed before COVID-19; this enabled a quick ramp-up in coordinated response efforts and early operational successes. This also prioritized the most vulnerable populations for mitigation and response efforts.
- Among survey respondents with field operations roles, ≈ 95% agreed/strongly agreed that they had constructive relationships with their colleagues in the field.

**Growth and Sustainment Recommendations:**

- Maintain relationships between the Marin OA EOC leadership, community organizations, and healthcare partners to enable rapid escalation of emergency response with clear expectations of roles and responsibilities.
- Continue pre-COVID-19 practices of meeting with the Healthcare Coalition (healthcare partners and Marin HHS) and continue to include these partners in Marin OA EOC emergency planning, response, and recovery exercises.

**S 21. MULTI-AGENCY COORDINATION (MAC) RESOURCE COORDINATION. A MAC group was established with the Health Officer, Marin HHS/Public Health, hospitals, and Federally Qualified Health Centers (FQHC) to coordinate scarce resource allocation and alignment of response strategies.**

**Analysis:**

- With the use of the MAC, the Marin OA EOC and healthcare partners effectively coordinated vaccine and therapeutic resources. The shift to vaccination appointments led to a more equitable vaccine distribution.

**Growth and Sustainment Recommendation:**

- Continue to use the MAC construct with healthcare partners and incorporate their use in planning and response documents, training, and exercises.

## Areas for Improvement

Moving forward, the Marin OA can improve on the following areas related to **Healthcare and Public Health**.

**I 28. HEALTHCARE STAFFING. Healthcare facility staffing was a challenge across the Bay Area; there simply were not enough healthcare workers available and the prolonged duration of the event further complicated this challenge.**

**Analysis:**

- Even though the State was engaged in providing staff support, it took time to get additional staff under contract. Even then, most staff members hired reportedly were the right fit. There also was drastic turnover among travel nurses.
- Other positions that rely on medical staff, such as vaccine operations, also experienced staffing challenges, including high turnover and difficulties recruiting and maintaining properly skilled personnel. The Marin County Fire Department supported operations from the beginning and staffing provided by

the California Governor's Office of Emergency Services (Cal OES) through contracts eventually became available.

- There was a huge demand for personnel to work in vaccine operations, but competing demands caused by infection surges, investigations, and testing further exacerbated worker shortage. Training new personnel also was challenging, due to changing information, processes, and staff turnover.
- Staffing inconsistency put excessive coordination demands on public health subject matter experts who needed to focus on other aspects of the response.
- Temporary staff uncertainties exacerbated this problem because many temporary hires (who need full-time incomes) wondered how long their jobs would last. Many took jobs elsewhere without "guarantees" of longevity, thus magnifying staff shortages.

**Improvement Recommendations:**

- Develop a Disaster Staffing Plan or annex to address surge needs for incorporation into the Marin County Emergency Operations Plan and the Pandemic Flu Plan.
- Develop procedures to assess and request staffing contracts for medical facility/hospital surges from the State government when the Marin OA EOC is activated.

**I 29. ENCRYPTED INFORMATION. Sharing patient contact information was challenging because much of it was coded as protected health information (PHI) and as a result, was encrypted from hospital to county government. This often delayed receipt and processing of the important data needed to identify infection clusters, making contact tracing very difficult.**

**Analysis:**

- Disconnected databases between sharing partners and encrypted emails complicated vital information sharing, planning, and resource distribution in areas of concentrated infection. The inhibited sharing of patient information complicated contact tracing and vaccine distribution.

**Improvement Recommendation:**

- Create a secure data file sharing system that will allow private healthcare providers and government systems to exchange patient information while protecting privacy. This should be developed under the guidance of the County of Marin legal team and in consultation with ABAHO members who may be able to advise how this has worked successfully elsewhere across the Bay Area.

**I 30. ELECTRONIC RECORDS SYSTEM. County of Marin public health officials did not have an electronic patient tracking system for testing, case investigations, or contact tracing.**

**Analysis:**

- The lack of an electronic records system was a significant impediment to speedy/accurate data collection and record-keeping. This resulted in disorganized records/files that are not well cataloged and as a result, sorting and retrieving data continues to be very challenging.
- The secure statewide public health surveillance system known as the California Reportable Disease Information Exchange (CalREDIE) did not sufficiently support the volume of tests being reported and failed on more than one occasion. Access to individual records is "real time", but access to data for

reporting (i.e., bulk data) is delayed by one day. Full reliance on CalREDIE was not possible and would have slowed efforts to trace and track new infections.

- Some existing labs began testing for COVID-19 and additional labs were established. While all labs are technically required to report all COVID-19 tests to CalREDIE, some took many months to onboard to this process. There was a lack of visibility on which labs might not be reporting. An investigation of CalREDIE data was the only way to determine which labs were not reporting by identifying the labs that had no negative tests in CalREDIE but that were associated with positive tests reported directly to the County.
- Partnerships with local healthcare providers allowed for direct reporting of the number of tests being conducted during the period CalREDIE data were incomplete.
- Reports of positive tests were received in various formats, including faxes, emails, phone calls, and CalREDIE.
- A Google platform was used in place of a designated system for storing and tracking information. Numerous people simultaneously working on documents and a data overload caused the system to crash on multiple occasions. This resulted in reporting delays and backlogs of cases. This also caused investigation delays, such that individuals were not informed in a timely way that they had tested positive for COVID-19 infection, thus magnifying the risk of further infection throughout the community.
- The need for a more sophisticated system led to the initiation of work to create a data tracking system. The COVID-19 Data System (CoDa) was eventually developed to replace the Google documents, but there were not resources or a strong need to track negative test results for tests conducted by non-County of Marin entities (negative results for tests conducted by the County of Marin were entered into CoDa), which meant additional systems were required when there was a need to track all tests conducted on Marin residents.
- The State eventually established an information sharing system to allow healthcare partners and the County of Marin to share patient data, however, there were still holes in the system.

**Improvement Recommendation:**

- Conduct research on how to create a secure data file sharing system that will allow private healthcare and government systems to send and receive patient information to protect privacy and address disconnected databases and encrypted email, then create a plan to implement a better way to share data.

**I 31. PUBLIC HEALTH ORDER ENFORCEMENT. There was a lack of clarity regarding those responsible for enforcing public health orders and imposing penalties for violations.**

**Analysis:**

- Across the Marin OA, cities and towns had different expectations regarding the interpretation of public health orders. This included things such as the ability to access salon services, if masking was required in restaurants, and if six feet of social distancing in open parks was sufficient.
- Some orders were fundamentally non-enforceable using traditional means of enforcement such as shelter in place and mask-wearing.

**Improvement Recommendations:**

- Clarify with cities/towns/agencies across the Marin OA what enforcement responsibilities reside at different levels of government.
- Associate violations of public health orders with identified/communicated consequences. Clearly identify parties responsible for enforcement during response planning.
- Consider ways to build and expand partnerships between public health and law enforcement officials.
- Identify a system for reporting and enforcement of public health rules.
- When executive-level rules are implemented, a system for reporting and enforcing should also be identified. When orders are issued that are traditionally unenforceable, develop clear compliance messaging and build community support through public outreach.
- Establish procedures to include a review of disaster-established orders as a part of meetings to ensure a common understanding of current operating standards.

**I 32. PHYSICIAN COORDINATION. Although healthcare coordination was beneficial, it may not have stretched far enough into the healthcare community, leaving physicians to seek out information on their own.**

**Analysis:**

- A physician working in the community reported that they did not know where to get physician-level specific information.
- There was plenty of information specific to the general public, especially on the County of Marin-run websites, but this physician reported not being able to find answers to specific questions early in the response. Information regarding things such as testing protocols, isolation of patients, and how to prepare medical offices were limited to two public health notices.

**Improvement Recommendations:**

- Encourage physicians to join existing systems used for information exchange during a disaster, such as the California Health Alert Network (CAHAN) notices and Hospital Preparedness Program (HPP) calls.
- Develop protocols to inform individual physicians and private practices about public health protocols.

## Points of Dispensing (PODs) and Vaccines

### Strengths

The Marin OA demonstrated the following strengths related to PODs and Vaccines.

**S 22. POINT-OF-DISPENSING (POD) MODEL. The existing Marin County Pandemic Flu Plan did not address mass testing; however, staff successfully stood up testing sites based loosely on the existing POD Model.**

**Analysis:**

- The existing Pandemic Flu Plan was inadequate and its planning assumptions for mass testing did not match the magnitude required by the COVID-19 response. The document provided enough information to initiate the development of plans needed for a comprehensive testing operation.
- Among survey respondents who worked in the Marin OA EOC or who supported its functions,  $\geq 29\%$  indicated they used a Pandemic/Epidemic Plan and  $\geq 30\%$  used Mass Vaccination Plans in their job as part of the COVID-19 response. (Note: There may be an overlap among those who responded and indicated they used these two planning documents; it is also possible survey respondents considered the Mass Vaccination Plan to be incorporated in whole or as part of the Pandemic/Epidemic Plan.)

**Growth and Sustainment Recommendations:**

- Update the Marin County Infectious Disease Emergency Response Plan (developed in June 2021) with multiple annexes and include an updated POD annex that incorporates lessons learned from the COVID-19 response.
- Develop training and exercises on the Marin County Infectious Disease Emergency Response Plan to include staff and across all departments.
- Integrate and crosswalk any newly developed or newly improved planning documents with existing plans, both county-wide and specific departmental operational documents, to ensure operational continuity.

**S 23. MOBILE VACCINE CLINICS.** Mobile vaccination clinics were an effective way to reach vulnerable populations, including but not limited to people whose primary language is not English, older adults, undocumented individuals, those with access and functional needs, and those with transportation barriers.

**FIGURE 15: MOBILE VACCINATION TEAM**



**Analysis:**

- Community leaders supported the person-to-person operations conducted through the mobile vaccination program.
- Some concerns were raised because there was not a comprehensive list or criteria for mobile vaccinations, this led to confusion and uncertainty. There were attempts to use Meals on Wheels data but there were confidentiality issues raised.

**Growth and Sustainment Recommendation:**

- Consider ways to address additional health equity issues during mobile vaccine unit response.
- Develop a system for developing a comprehensive list for remote services when utilizing the mobile vaccine unit.

**S 24. VACCINE ROLLOUT.** The County of Marin established creative partnerships around healthcare worker vaccinations in December 2020. As a result, Marin County healthcare worker vaccinations reportedly occurred earlier than in other Bay Area jurisdictions which drastically slowed COVID-19 deaths in most vulnerable populations living in skilled and residential facilities.

FIGURE 16: ONE OF MARIN'S MASS VACCINATION SITES



**Analysis:**

- There was a high demand for vaccines across the Marin OA, as the public was not only receptive to vaccination, but demanded it.
- There was rapid engagement with community fire departments and County of Marin Emergency Medical Services (EMS) to assist with vaccination efforts.
- The candid, transparent collaboration between healthcare partners and Marin County public health officials resulted in cooperative healthcare worker vaccinations.
- The County of Marin was able to work creatively with healthcare providers to mitigate problems that arose with the California Department of Public Health (CDPH) allocation system and to use non-traditional approaches through federally qualified health centers (FQHCs) and the Health Resources and Services Administration (HRSA).

- Mobile vaccination units were deployed to some of the largest healthcare facilities to vaccinate their workers.
- $\cong 22\%$  of external partner survey respondents indicated they supported a County-sponsored vaccination site/s;  $\cong 48\%$  relied on Mass Vaccination Plans;  $\cong 88\%$  of those with field operations roles agreed/strongly agreed that they received sufficient information from their supervisor/s on COVID-19 to keep themselves safe.

**Growth and Sustainment Recommendations:**

- Institutionalize the convening of healthcare partners and the Marin HHS early in an event to facilitate rapid information sharing and coordination; incorporate this practice in plans, procedures, and exercises.
- Increase and repeat public messaging about how and why medical countermeasures are distributed in the order prescribed (e.g., vulnerable populations, those with compromised immunity, healthcare workers, etc.). Leverage credible community messengers (e.g., voluntary organizations, community-based organizations) to repeat this message.

**S 25. PEDIATRIC VACCINE OPERATIONS. County of Marin staff and public health leadership focused on the specialized needs of children and developed additional protocols to support them.**

**FIGURE 17: ONE OF MANY PEDIATRIC VACCINATION SITES**



**Analysis:**

- Marin County Office of Education (MCOE) observed that the vaccine operations team considered the pediatric population's special needs by bringing in therapy dogs, using sensory pods, ensuring nurses were considerate of special needs, and administering vaccinations in the guardian's car.

**Growth and Sustainment Recommendations:**

- Document and standardize measures of inclusivity in pediatric operations.

## Areas for Improvement

Moving forward, the Marin OA can improve on the following areas related to **Vaccine**.

### I 33. VACCINE OPERATIONS. There were misunderstandings around the availability of scarce appointments.

#### Analysis:

- Some parents/guardians did not realize when they entered the queue for their child's/children's vaccination that they could encounter several different outcomes, including "get vaccinated," "get an appointment," or "no appointments are available".

#### Improvement Recommendations:

- Improve vaccine site planning to handle appointments when there are limited options.
- Develop community messaging about limited appointments made available on the County of Marin website, on social media, and those which are visually posted outside vaccination sites.
- When operational plans are developed, review for complications and misunderstandings. Attempt to keep all operational plans clear and simple.
- Once plans are activated, discourage changing mid-operational period.

## Data Tracking and Analysis

### Strengths

The Marin OA demonstrated the following strengths related to **Data Tracking and Analysis**.

### S 26. DATA VISUALIZATION. The Marin OA EOC Planning Section, along with embedded Marin HHS epidemiology (EPI) staff, created technology tools for information sharing and live dashboards for all staff to access.

#### Analysis:

- The Planning Section Coordinator very effectively leveraged Google Sheets to develop a data dashboard. However, such critical dependence on one individual introduces continuity risks if that person were to become unavailable.

#### Growth and Sustainment Recommendations:

- Add a specific position to the Planning Section to be responsible for the development of data-visualized dashboards. Require several assigned personnel to have the requisite skills and/or be properly trained to develop and maintain them. Potential sources could come from the Marin County Information Services and Technology (IST) applications staff. Additional staffing capabilities and deliberate staffing redundancies is needed in this area.
- EPI should work with IST to standardize any dashboards developed for COVID-19 for future use.

**S 27. PROJECT STATUS DOCUMENTATION. The Marin OA EOC Planning Section developed and used an innovative project tracking spreadsheet that created opportunities for better overall EOC operations.**

**Analysis:**

- Documentation of project/task status kept staff informed of ongoing projects and enabled smooth shift changes and facilitated information exchange in the Marin OA EOC's Planning Section.
- The tools developed were sophisticated and tracked different aspects of the response. This allowed for critical analysis of the impact of COVID-19, the county's response, and allowed the Marin OA EOC to continually optimize our response actions as the course of the pandemic changed.

**Growth and Sustainment Recommendation:**

- Evaluate the use of this spreadsheet as a model practice in other Marin OA EOC sections and institutionalize it, where appropriate.

## Areas for Improvement

Moving forward, the Marin OA can improve on the following areas related to **Data Tracking and Analysis**.

**I 34. INVENTORY TRACKING SYSTEM. The Marin OA EOC did not have an inventory management system in place to support the extensive logistical operations carried out during the event.**

**Analysis:**

- Excel spreadsheets were used and uploaded into Microsoft Teams as a makeshift resource tracking system. Some items, such as laptops, were passed around among staff members and became difficult to track.
- A resource tracking system, Sortly, was purchased. While effective for tracking some fixed items, Sortly is insufficient for tracking consumables, the changing location of resources, and resources' grant information. Further, Sortly is not connected to WebEOC, which is used by the Logistics Section to track incoming resources, receive resource requests, and deploy resources.
- An inventory management system has since been purchased for WebEOC to maintain and track response resources.

**Improvement Recommendations:**

- Institutionalize the use of the recently purchased inventory management system in WebEOC and incorporate its use in plans, procedures, training, and exercises.
- Secure a commitment from department leadership to update and manage supply caches in the correct databases.

**I 35. DATA TRACKING VISUALIZATION. An evaluation is needed of how all Marin OA data visualization systems worked and if they can be repurposed for other types of hazard responses.**

**Analysis:**

- Some Marin OA systems, such as novel data dashboards, may not be obviously transferable to other types of emergencies.

- Different types of emergencies have different technology and system needs/requirements. At the outset of the pandemic response, there was a lack of a general, user-friendly data aggregation/visualization system set up for internal use.
- The Marin HHS Epidemiology (EPI) staff made great strides in developing transparent data sharing platforms for public viewing.
- The Marin OA EOC can use ArcGIS as a visualization tool, but was not provided the staffing support for utilization forcing already overburdened staff to self-populate it.

**Improvement Recommendations:**

- Create updated, user-friendly technology tools for data visualization that can be across multiple hazard types.
- Create standard operating procedures for the use of technology tools in the Marin OA EOC and train Marin OA EOC staff yearly on use to prevent loss of institutional knowledge with employee turnover.
- Standardize the use of Tableau and ArcGIS to provide visualization support for data heavy responses.
- Acquire, license, train, and exercise on data visualization programs to have ready to deploy.

**I 36. SUSTAINED USE OF TECHNOLOGY SOLUTIONS. Numerous technology solutions were built to support the needs of the response; however, their use has yet to be institutionalized.**

**Analysis:**

- Because the technology solutions were developed during the response phase of the incident, they have neither been integrated into plans nor been included in training and exercises.

**Improvement Recommendation:**

- Identify which technology solutions should be institutionalized, develop strategies and procedures for their use, provide training, and incorporate these solutions into future drills and exercises.

**I 37. TIME-TRACKING TOOL. During the response, a time-tracking tool was developed to document Marin OA EOC staff hours worked and activities performed to support reimbursement claims during the response.**

**Analysis:**

- The scale of Marin County's COVID-19 response required "hundreds" of staff who participated in Marin OA EOC operations. The Marin OA EOC Finance Section did not initially have the proper technology, staff, or training to record staff hours to meet the Federal Emergency Management Agency (FEMA) cost reimbursement requirements. This created a challenge to efficiently track and document hours worked for subsequent reimbursement.
- The Finance Section creatively solved this problem by using a Microsoft Excel file at the beginning of the pandemic, which later evolved into a database system that was easier to manage, less time-consuming, and now meets FEMA's time-keeping documentation standards for cost reimbursement. This tool provided an easy mechanism for Marin OA EOC & field workers to provide the critical documentation necessary to claim reimbursement for their time.
- A time-entry app was created by Information Systems and Technology (IST) to log staff time dedicated to pandemic response and for cost recovery purposes. This transformed into a record-keeping function

that curbed human error. The result is a two-system process that includes a small front-end database that everyone uses and feeds into a larger database.

- Among all survey respondents who worked in the Marin OA EOC (in-person or remotely) or who supported EOC functions,  $\approx 8\%$  indicated a Finance and Administration role, while  $\approx 7\%$  of all survey respondents indicated they wanted position-specific training on the Finance and Administration function.

**Improvement Recommendations:**

- Institutionalize the use of the time-tracking tool and add its use to all operational checklists and supporting procedures. Ensure all staff are trained incorporate its use in future exercises and other real-world events. Even if staff hours are not cost-reimbursable, this tool can illuminate staff resource efficiencies, inefficiencies, and highlight areas for temporary or permanent staff expansion or augmentation.
- Expand the use of the tool to provide an option for cities, towns, or individual agencies to use the tool independently.

## Cities and Towns

### Areas for Improvement

Moving forward, the Marin OA can improve on the following areas related to **Cities and Towns**.

**I 38. WEBOEC INFORMATION ACCESS. Cities and towns are not able to use situational awareness tools in WebEOC.**

**Analysis:**

- Cities and towns are able to input situational awareness information into WebEOC but are only able to view their own information. Access to information about what is happening in the other cities and towns can improve coordination between cities and towns across the Marin OA.

**Improvement Recommendation:**

- Update the default for WebEOC to enable Marin OA-wide situational awareness.

**I 39. MARIN OA-WIDE REPORT-OUT COORDINATION. Marin OA-wide report-out calls were identified as something that could have been improved, both in structure and content.**

**Analysis:**

- Information reportedly needed to be more specific to cities and towns across the Marin OA.

**Improvement Recommendations:**

- Develop agendas for all Marin OA report-out calls to keep discussions focused.
- Conduct separate calls if there are multiple topics being covered or if it is expected to take a prolonged amount of time to cover all the information.

- Limit the reliance on follow-up calls to those that are jurisdiction-specific, rather than information that may affect multiple areas.
- Coordinate topics that need to be covered with participants prior to the calls to ensure agendas cover all concerns.

**I 40. CITY AND TOWN INFORMATION SHARING.** Marin County OES relied heavily on personal relationships to provide information and resources with partners which marginalized some partners who were unable to receive information without a prior relationship.

**Analysis:**

- Some city and town partners reportedly felt marginalized or deprioritized when requests for information were dismissed. For example, when new guidance for personal protective equipment (PPE) was released, cities and towns needed quick access to information they could share with local first responders and unions. However, there were occasions when they reportedly had to determine the best course of action without essential guidance from County of Marin partners.

**Improvement Recommendations:**

- Assign a city and town liaison from the County of Marin to work with jurisdictions in day-to-day operations and during a response.
- Coordinate the city-town liaison roles in Marin OA EOC operations as a staffed position, rather than as an individual's responsibility.
- Marin County OES should assume a mentorship role to cities and towns to build a comprehensive emergency management program from the local to the county level.
- Establish procedures to include a review of disaster-established orders as a part of critical meetings.

## EOC Operations

### Strengths

The Marin OA demonstrated the following strengths related to EOC Operations.

**FIGURE 18: VIEWING COVID-19 DATA IN THE EOC**



**S 28. MARIN HHS DEPARTMENT OPERATIONS CENTER/EOC INTEGRATION.** The Marin HHS Department Operations Center (Marin HHS DOC) and the Marin OA EOC integrated their operations (including field operations) throughout the duration of the event, thus increasing information sharing, decision making, and implementation of response actions.

#### Analysis:

- This integration process began months before the activation of the Marin OA EOC, as representatives from Marin HHS, Marin County Office of Emergency Services, the County Administrator's Office (CAO), and the Public Information Officer (PIO) met regularly to share information and implement decisions. This early coordination provided a framework to integrate Marin HHS DOC and Marin OA EOC operations, and to improve the speed of communication.
- This process was initiated in previous events. For example, the Marin HHS response efforts were integrated with the Marin OA EOC during the Kincade Fire evacuation and sheltering operation and Marin full county public safety power shutoff (PSPS) in October 2019, as well as with the County of Marin Department of Public Works (Marin DPW) during various flooding events. Integrating operational functions from DOC structures can maximize capabilities.
- Healthcare-focused professionals who participated in both group interviews and the survey indicated that the Marin HHS/Marin OA EOC integration was essential to streamlined communications and decision-making.

- Among healthcare professionals who responded to the survey, 25% indicated they either worked in-person or virtually in the Marin OA EOC or supported functions focused on healthcare (e.g., public health, medical/health, mass care, contact tracing).

**Growth and Sustainment Recommendations:**

- Institutionalize shared operational capacities between the Marin OA EOC and critical partners, such as Marin HHS, and Marin DPW for all-hazards operations.
- Update procedures to include pre-activation coordination and information-sharing meetings with partners to increase communications efficiency for seamless Marin OA EOC activation.
- Include activation triggers for the incorporation of additional departments in emergency planning for situational awareness in updated procedures.

**S 29. EMBEDDED SUBJECT MATTER EXPERT. A member of the Planning Section was embedded with the Marin HHS Epidemiology (EPI) staff, which facilitated visibility to and sharing of COVID-19-related data and operations.**

**Analysis:**

- A member of the Planning Section team was embedded with the Marin HHS EPI staff, which facilitated data-driven situational awareness and rapid decision-making.

**Growth and Sustainment Recommendation:**

- Institutionalize the process of embedding a Planning Section member into the Marin HHS EPI staff to ensure visibility and access to key data needed for situational awareness and decision-making.

**S 30. COMMUNITY PARTNERS. The presence of the Marin Voluntary Organizations Active in Disasters (VOAD) representative in the Marin OA EOC was enormously helpful in advancing situational awareness and community outreach.**

**Analysis:**

- Community-based organizations (CBOs) and non-governmental organizations (NGOs) helped to advance cohesive messaging about personal safety protocols and the conditional, gradual reopening of businesses.
- The response to COVID-19 in the Marin OA was considered a county government-community response. Marin OA EOC actively engaged a wide range of partners to leverage additional personnel capabilities and supply resources. The inclusion of the VOAD representative in the Marin OA EOC helped to advance situational awareness and community outreach needs.
- There remains a deficit in the bench strength of County of Marin staff who are culturally competent and multilingual to support the community-based education role and community outreach, particularly among vulnerable populations. The relationship with VOAD is essential to advance a commitment to equity.

**Growth and Sustainment Recommendation:**

- Maintain and reinforce the importance of the VOAD representative in the Marin OA EOC. Consider bolstering staff trained in the community-based education role, particularly those with strong cultural competency and multilingual capabilities to advance a commitment to health equity.

**S 31. PLANNING PROCESS.** The utilization of the action planning process in the Marin OA EOC was identified as key.

**Analysis:**

- The nearly all-inclusive action planning process was driven by the Marin OA EOC Planning Section and went beyond the Operations Section to include the Public Information Officer (PIO) team, the Logistics Section, and the Finance Section.

**Growth and Sustainment Recommendation:**

- Continue to develop the action planning process as a part of all Marin OA EOC activations.

**S 32. BROKE DOWN OPERATIONAL SILOS.** Decision-making silos in the Marin OA EOC were reduced by including appropriate department representatives, integration of planning process, meetings, and briefings in the Marin OA EOC operations.

**Analysis:**

- The proximity of Marin HHS, Marin County OES, Marin County Fire Department, the PIO, Marin HHS epidemiology (EPI) staff, and others in the Marin OA EOC increased communication, collaboration, and action implementation.
- Although some interview participants identified this as a strength, others identified the siloing of response efforts as an area for improvement.
- Staff in their day-to-day roles were not privy to Marin OA EOC response operations, likewise, Marin OA EOC staff was not privy to County day-to-day operations, both experienced duplication of efforts, and vice versa. Need a bigger picture view of county and Marin OA EOC operations and how those are related.
- Among all survey respondents, 61% indicated they either worked directly in the Marin OA EOC (in-person or virtually) or directly supported its functions (e.g., Public Health, Med/Health, Mass Care, Contact Tracing).

**Growth and Sustainment Recommendations:**

- Continue to staff the Marin OA EOC with authoritative leaders across multiple departments/agencies to accelerate actionable decisions and broaden situational awareness.
- Define and standardize Marin OA EOC operational documentation to include communication with staff outside of the Marin OA EOC and strategies to reduce duplication and improve operational coordination.

**S 33. EXECUTIVE-LEVEL COORDINATION.** Coordination by the Marin OA EOC Management and Policy Group enabled quick administrative approval of decisions, resulting in expedient implementation of response actions.

**Analysis:**

- A representative from the County Administrator's Office (CAO) participated in Marin OA EOC Management and Policy Group meetings, empowering them to quickly act on their decisions.
- Although some interview participants reported that the decisions made in these meetings sometimes did not reach the impacted/responsible sections and individuals, most interviewees identified this as a strength.

**Growth and Sustainment Recommendations:**

- Standardize inclusion of those with authority to approve decisions in Management and Policy Group meetings.
- Include executive-level staff in Marin OA EOC trainings to ensure operational capacity.
- Include a Marion OA EOC Planning Section member in Management and Policy Group meetings to document and disseminate decisions and key information.

**S 34. ACTION PLANNING. After public health teams migrated out of the Marin OA EOC, some continued to use action planning processes, such as scheduling regular meetings that included clearly identified outcomes, actions, and assignments to responsible parties.**

**Analysis:**

- While at the Marin OA EOC, public health teams participated in the action planning process led by the Planning Section. With that exposure, the teams understood the need to develop Action Plans.
- Public Health Preparedness, Communicable Disease and Community Preparedness, Testing, and Vaccination teams are continuing the action planning process as of the issue date of this AAR/IP.

**Growth and Sustainment Recommendations:**

- Provide training on the action planning process to all County of Marin departments, especially those with emergency response roles.
- Champion the use of Action Plans to coordinate all County of Marin department emergency response efforts.

## Areas for Improvement

Moving forward, the Marin OA can improve on the following areas related to **EOC Operations**.

**I 41. OUTDATED AND DUPLICATIVE RESPONSE PLANS. While the Marin OA EOC was able to successfully manage the response to COVID-19, several of the existing OES plans were out of date and no longer reflected current practice and there were a number of HHS response plans which OES was not aware of. This created some challenges and would have been more of a hinderance if not for the flexibility and creativity of the EOC staff.**

**Analysis:**

- At the onset of the COVID-19 response, a number of OES' response plans were out of date, there were numerous HHS response plans which were not sufficiently circulated, and there was no single view of all county response plans.

- Since the COVID-19 response was so far beyond what almost any planning had anticipated, much of the response was planned by most agencies during the response and continually refined as the pandemic progressed. This lessened the impact of the deficiencies mentioned above – but the efficiency of a response very likely would have been significantly impacted in a ‘typical disaster’ such as wildfire, flooding, earthquake, etc.

**Improvement Recommendations:**

- Marin OES needs to restructure and rationalize its response plans using the best practices outlined in FEMA’s CPG 101 document and follow the guidance Cal OES provides through their Emergency Operations Plan (EOP) crosswalks. Note that this process was already underway at the time this document was finalized with a new EOP Base Plan completed and a number of EOP annexes in progress.
- Marin OES needs to work with other agencies with response responsibility to inventory those agencies’ plans, coordinate and deconflict those plans with all other response plans, and provide a single, accessible location where all response plans can be viewed.

**I 42. LACK OF COORDINATED DOCUMENTATION. While key Marin OA EOC staff were able to manage response decisions successfully and rapidly, a lack of coordinated documentation systems created challenges in recording critical actions.**

**Analysis:**

- Marin OA EOC staff maintained several documentation systems throughout the response including WebEOC, Microsoft Teams, and multiple Google Suite platforms. Each system was used by different teams, for different purposes, creating situational awareness challenges and compromising completeness and uniformity in recordkeeping. A lack of complete critical documentation can hinder the County of Marin’s ability to defensibly combat lawsuits and reduce the potential for financial support.
- While WebEOC is the single, definitive record of the response, some documentation maintained in other collaborative platforms may not have been uploaded to WebEOC, creating challenges in maintaining a complete common operating picture and providing justification to state and federal response partners.
- Among survey respondents who worked in the Marin OA EOC (in-person or remotely) or who supported its functions,  $\geq 24\%$  indicated they did not have sufficient situational awareness of other aspects of the emergency response.

**Improvement Recommendations:**

- Develop and document a coordinated documentation management approach that outlines specific uses for each platform within the Marin OA EOC. This system reflects anticipatory data management concerns and should consider awareness for the end users’ need for data.
- Confirm and socialize use of WebEOC as the official, definitive record of the response.
- Provide WebEOC training for all Marin OA EOC staff to ensure that staff is comfortable navigating the platform and inputting critical response data, decisions, and actions.
- Create a cadre of individuals trained in documentation management who support the Marin OA EOC in the Documentation Unit. These individuals will be able to provide just-in-time training on WebEOC and documentation management for other Marin OA EOC staff.

- Evaluate the use of scribes to record event information during response periods that transpire at a pace that outruns staff recording capacity. This may be an ideal duty for administrative and/or IT staff.
- Evaluate the use of scribes to support notetaking in Policy Meetings to document changes in approaches at the highest level. This supports the Marin OA EOC Command staff when completing other requirements for the response.
- Implement a dedicated information technology team committed to supporting the needs of the response who can specifically build and link information and documentation management systems and applications.

**I 43. LIMITED EOC SECTION COLLABORATION. The Marin OA EOC Logistics, Finance, and Planning Sections had limited cross section meetings, which caused gaps in resource planning and contract development.**

**Analysis:**

- Resource requests reportedly did not flow through the Planning Section; instead, they originated in the Operations Section and Department Operations Centers (DOCs). The speed with which information changed during the response often necessitated rapid decision-making and purchases that impacted the flow of prepurchase information into the Finance Section.
- This informational disconnect created a need to back-track purchasing information; this was time- and task-inefficient and introduced a strong probability for errors in reimbursement documentation.
- Because the Finance Section is involved almost exclusively post-purchase, it was problematic to ensure purchases followed reimbursement requirements.
- Pre-COVID-19, contracting guidelines were lacking, particularly for the types of resources and services that could be acquired. It was difficult to hire/recruit staff with procurement experience, which also affected management efficiencies in contract oversight. There reportedly were over 100 contracts created as a part of the overall COVID-19 response.

**Improvement Recommendations:**

- During Marin OA EOC training, ensure that an Incident Command System (ICS) Planning Section agenda ("Planning P") is followed and includes the appropriate sections in each meeting.
- Provide training for Marin OA EOC Logistics and Finance Section staff to attend together to collaborate on tracking and information management processes.
- Update emergency purchasing procedures to require approval of the Finance Section before purchases are made. Ensure that the emergency purchasing procedures align with any federal or state reimbursement guidelines.
- Identify a contracts and finance "liaison" who supports navigation of the state and federal emergency contracts and purchasing requirements and informs the Finance and Logistics staff of any updates to reimbursement guidelines.
- Identify staff who can assume a "contracts team" role to help coordinate contracting and who can be activation-ready within the first twenty-four (24) hours of an emergency. Consider including County Counsel, and Department of Finance on the "contracts team".

- Provide training for logistics, procurement, and contracts staff to ensure cross training and prevention of loss of institutional knowledge with staff turnover.
- Establish the level for and requirement of Marin OA EOC staff to manage emergency contracts in order to demonstrate the contract management element required by funding agencies
- Require Mutual Aid contracts need to be filtered through the Marin OA EOC Logistics Section for uniformity and consistency.
- Train all Marin OA EOC staff on Cost Recovery Plan, when written.

**I 44. STANDARDIZED PROCESSES/PROCEDURES. Procedures developed throughout the response period were not adequately documented and were often lost to staff attrition.**

**Analysis:**

- Some of the best practices gleaned from lessons learned did not transition into standardized processes/procedures.

**Improvement Recommendations:**

- Examine successful processes/procedures used throughout the response and institutionalize their standard usage for similar purposes.
- Develop a checklist of considerations when new processes/procedures are created or when amending existing ones.
- Consider a new staff position (or amend existing position/s responsibilities) to identify and document best practices during response.

**I 45. COST RECOVERY. Marin OA does not have a Disaster Cost Recovery Plan, nor has it institutionalized procedures/systems to capture and track staff time and resource expenses for cost reimbursement.**

**Analysis:**

- The lack of clear guidance and supportive procedures/systems reportedly led to missing documentation. This was exacerbated by a lack of sufficient numbers of appropriately skilled staff in the Marin OA EOC Finance Section.
- A time and activity log reporting tool through Survey123 was developed between Information Systems and Technology (IST) and the Finance Section that contributed to better tracking and ease of use for response staff, in part due to the use of a QR code. It also enabled the Finance section to sort and organize data in an actionable way. A consultant was engaged to help facilitate cost recovery processes/systems.
- The County of Marin Finance Department is working to resurrect and complete documentation for Federal Emergency Management Agency (FEMA) cost reimbursement.
- Among survey respondents who worked in the Marin OA EOC or who supported its functions, ≈ 9% indicated they relied on Federal Funding and Reimbursement Plans in their COVID-19 response activities.

**Improvement Recommendations:**

- Develop a comprehensive Disaster Cost Recovery Plan, operating procedures, and tracking/documentation systems. This planning document should include responsibilities of Marin OA EOC staff regarding documentation expectations and other activities to support the Marin OA Finance Section and potential reimbursement opportunities.
- Record new policy decisions with background information to support the County of Marin in FEMA reimbursement applications.
- Develop standby contracts for staff with cost recovery responsibilities to activated use when they are in a disaster. They will need to be trained in the Disaster Cost Recovery Plan, procedures, and systems to be used.

**I 46. PLANNING ASSUMPTIONS. Some existing planning documents may have been based on H1N1-related assumptions and were not scalable to meet the needs of the long-term COVID-19 response.**

**Analysis:**

- A significant gap that existed before the COVID-19 pandemic was widespread infectious disease planning and response guidance from the federal government that should have been transferred to state and county governments. However, some concepts provided an initial framework (e.g., H1N1 vaccination plans were altered to support drive-through point-of-testing sites).
- The existing Pandemic Influenza Plan is exercised yearly, allowing public health responders to practice the technical and strategic aspects of pandemic response, including mass vaccinations. For example, in 2020, approximately 100 individuals from vulnerable population groups were vaccinated for influenza as a part of the 2020 Pandemic Flu Exercise. While this effort was successful, the Pandemic Influenza Plan did not adequately account for the scale of the COVID-19 pandemic, making the assumption that the healthcare system would be the primary vaccinator during a future pandemic response.
- Exercises and training conducted in a pre-COVID-19 environment did not prepare the County of Marin departments for the scale of the COVID-19 response. The lack of updated planning assumptions resulted in creation of new (impromptu) planning assumptions for COVID-19 vaccination operations.
- Among survey respondents who worked in the Marin OA EOC (remotely or in-person) or who supported its functions,  $\geq 27\%$  indicated their understanding of their role could have been improved by better training;  $\geq 17\%$  said their understanding would have improved with more frequent training; and  $\geq 27\%$  indicated their understanding could have been improved by better-written job aids, checklists, or other reference materials.

**Improvement Recommendations:**

- Update all planning documents to reflect a prolonged, expanded scale of public health interventions complemented by multiple means of delivering these interventions.
- Develop plans that focus both on hazard-specific and capability-specific topics to ensure processes are established for various potential outcomes.
- Develop infectious disease vaccination annexes to account for scaled responses that range from small, targeted, hard-to-reach, and vulnerable populations to community-wide vaccination campaigns.

- Integrate and crosswalk any newly developed plans with existing plans, both county-wide and departmental operational documents, to ensure operational continuity.

## Logistics

### Strengths

The Marin OA demonstrated the following strengths related to **Logistics**.

**FIGURE 19: EOC LOGISTICS**



**S 35. UNCONVENTIONAL RESOURCE ACQUISITION.** During the early stages of the event, federal and state processes were not yet in place to support the acquisition of scarce resources. This necessitated the use of

**unconventional methods to secure resources such as PPE and other critical supplies which were difficult or impossible to obtain through normal channels.**

**Analysis:**

- Sometimes the partnership with the private sector can provide access to equipment and supplies that the public sector may have barriers to access.
- A member of the Marin OA EOC had an existing relationship with Facebook, providing unconventional access to masks when existing supply chains and resource requesting processes were not able to meet the immediate need.
- Other examples include the use of 3D printed swabs to increase testing capabilities and coordinating with a group of volunteer “masketeers” who were brought together to sew fabric masks and gowns to provide to the community.

**Growth and Sustainment Recommendations:**

- Update logistics plans to include the use of unconventional means to obtain scarce resources.
- Develop a plan for public/private partnerships that includes procedures for resource sharing and support.

## Areas for Improvement

Moving forward, the Marin OA can improve on the following areas related to **Logistics**.

**I 47. SUPPLY CACHE. Supplies were not available for early testing operations or vaccination efforts. Ultra-low temperature freezers were sourced through relationships with private-sector partners (yielding a cost-saving), and testing swabs and personal protective equipment were pooled from private health partners.**

**Analysis:**

- Some cached supplies were helpful but were programmatically difficult to maintain because staff needed to rotate them. There was an initial deficit of testing supplies, and many pre-COVID-19 supplies became compromised and unusable. Acquisition of supplies, proper storage, rotation, and access were challenging.

**Improvement Recommendations:**

- Conduct a feasibility study and develop a programmatic plan for a regional cache. This plan should define supplies needed, how they will be stored and maintained, and what budget should be allocated for these purposes.
- Build staff capacity to rotate out expired supplies. As part of the Marin OA Emergency Operations Plan and/or Pandemic Flu Plan, and based on the Marin County Hazard Vulnerability Assessment, public health staff should identify what types of supplies may be needed for the most "predictable" types of emergencies, including long-duration public health events. This may be something about which the ABAHO can advise.

**I 48. PROCUREMENT, PURCHASING, AND CONTRACTING PROTOCOLS.** Existing procurement, purchasing, and contracting rules are unclear and were not uniformly followed. In some cases, this created backlogs in documentation management for the Marin OA EOC during cost reimbursement processes.

**Analysis:**

- Due to the rapidly changing requirements of the response, traditional procurement methods could not always be followed. This created documentation delays, backlogs, and challenges for cost reimbursement.
- The federal government instituted cost recovery procedures through multiple channels (e.g., Coronavirus Aid, Relief, and Economic Security Act, American Rescue Plan Act, Public Assistance) with frequently changing processes for reimbursement. During emergencies, there is no internal County of Marin standard operating procedure for requesting and purchasing from different accounting streams. Non-activation period purchasing, procurement, and contracting rules differ from emergency procurement rules. This led to confusion among procurement staff, as there are inadequate guidelines and processes in place for the resources requested.
- There is no current Disaster Cost Recovery Plan. The Marin County Department of Finance is in the process of locating an external contractor to support development of a future plan.
- Limited available staff and training in the Marin OA EOC Finance section led to challenges in documentation management throughout the response. These challenges created additional difficulties with cost recovery documentation, resulting in potential reimbursement delays.
- Among survey respondents who worked in the Marin OA EOC (remotely or in-person) who supported its functions,  $\cong 11\%$  said they were unable to use the protocols and processes established by the Marin OA EOC to request and acquire additional equipment or supplies when they needed them.
- There are limited standing contracts for access and functional needs (AFN) services (e.g., American Sign Language [ASL] translators/interpreters), leading the AFN office to engage in contracting with limited knowledge on specifics of contracting practices. AFN-inclusive standards should be in all contracts, including digital accessibility language in contracts.

**Improvement Recommendations:**

- Develop a comprehensive Cost Recovery Plan, identify and train staff to implement the plan, and incorporate cost recovery into future exercises.
- Update emergency purchasing procedures to require approval of the Finance reimbursement guidelines.
- Identify a contracts and finance “liaison” who supports navigation of the state and federal emergency contracts and purchasing requirements and informs the Finance and Logistics staff of any updates to reimbursement guidelines.
- Provide training for logistics, procurement, and contracts staff to ensure cross-training and prevention of loss of institutional knowledge with staff turnover.
- Review existing purchasing, procurement, and contracting guidelines, and update them to reflect reasonable capabilities and procedures scaled to the emergency. Consider the development of electronic contracting and purchasing policies to prevent the need for paper copies and “wet signatures” during times of crisis.

- Incorporate procurement information as part of standardized situational awareness briefings in the Marin OA EOC. Develop a centralized location for procurement rules to be accessed and referenced by Marin OA EOC staff.
- Develop stand-by contracts for common needs prior to a disaster.
- Formalize the presence of the Marin County procurement lead (or backup) within the Marin OA EOC to provide direction on compliant contracting and purchasing practices as soon as possible after incident mobilization.
- Establish disaster purchasing cards to enable the Marin OA EOC Logistics Section and other Marin OA EOC personnel the authority and ability to purchase items necessary for disaster response against a specific disaster budget established by the CAO.
- Develop protocols that include an AFN review of contracts to ensure the vendor is required to meet the needs of the whole community.

## Operational Processes

### Strengths

The Marin OA demonstrated the following strengths related to **Operational Processes**.

**S 36. SAFETY PROTOCOLS AND GUIDELINES.** The pandemic's safety protocols/guidelines were developed and implemented for frontline medical staff who provided services in skilled nursing facilities (SNF), long-term care facilities, and homes. Additionally, procedures and a screening script was developed for calls that came into 911-dispatch.

#### Analysis:

- The County of Marin Emergency Medical Services (EMS) Medical Director was regularly engaged with frontline field providers (e.g., EMS, fire, etc.) from the outset of the response. This engagement increased situational awareness among field EMS personnel and fostered the development of needed guidance and protocols.
- Among survey respondents with field operations roles, ≈ 88% agreed/strongly agreed that they received sufficient information from their supervisor/s on COVID-19 to keep themselves safe.

#### Growth and Sustainment Recommendation:

- Add safety protocols/guideline pandemic templates to future plans, procedures, and incident standard operating procedures (SOPs).

### Areas for Improvement

Moving forward, the Marin OA can improve on the following areas related to **Operational Processes** during the COVID-19 response.

**I 49. REMOTE WORK.** Many County of Marin staff members did not have adequate hardware and software to support remote work, nor were all staff familiar with using collaborative workplaces (e.g., Google Workspace, Zoom, Microsoft Teams). Internal remote work processes, including the amount of virtual private network (VPN) licenses and server bandwidth capacity, were not initially scaled to meet the demands of a large remote workforce and collaborative workspaces.

**Analysis:**

- Pre-COVID-19 planning did not identify the tools and systems needed to support remote work, which functions could be executed remotely, and which operations could remain remote for an extended time period.
- The County of Marin has multiple forms of internal communications (e.g., email, Samaritan database, Microsoft Teams, Zoom, Everbridge). Not all department directors and managers used the same communications tools, which made it difficult to figure out which manager used what tool. Not all staff were trained on all collaborative work or meeting tools.
- Among survey respondents who worked in the Marin OA EOC (in-person or remotely) or who supported Marin OA EOC functions, ≈ 18% indicated the equipment issued for their regular job was not sufficient for the role to which they were assigned in the Marin OA EOC.

**Improvement Recommendations:**

- Conduct a department-level analysis to identify which functions can be easily performed in a remote work environment; secure/requisition the necessary hardware, software, and training needed. Ensure all staff use the same collaborative tools to enable cross-functionality and uninhibited engagement.
- Complete updates to and maintain the Continuity of Operations Plan (COOP) to ensure provisions for essential county operations for emergencies of extended duration.
- Standardize a coordinated location for updates and review of COOP documents; this should include Marin County OES.
- Purchase and develop software and tools to improve collaboration in a remote environment.

**I 50. VIOLATION-REPORTING EMAIL.** An email for public reporting of business violations was established early in the response, but it was flooded with non-relevant complaints.

**Analysis:**

- Early in the response, an email address was established and publicized for reporting businesses in violation of state and local health orders and ordinances. However, this portal was flooded with reports of individuals not following health guidance. There reportedly was no other avenue to report personal violations.
- Some orders were fundamentally non-enforceable using traditional means of enforcement such as shelter in place and mask wearing.

**Improvement Recommendations:**

- In future emergencies, particularly where public health orders and directives are in play, utilize screening questions to verify that the information being reported aligns with the target use of a portal.

- When executive-level rules are implemented, a system for reporting and enforcing should also be identified. When orders are issued that are traditionally unenforceable, develop clear compliance messaging and build community support through public outreach.

**I 51. COMMUNITY RESPONSE TEAM (CRT) GRANTS. Some CRTs reported that some of the County of Marin CRT grant funding requirements were too cumbersome and demanding for smaller organizations that were able to fulfill the grant itself but were challenged to support grants' administrative or operational requirements.**

**Analysis:**

- Some CRTs did not fully comprehend the nature of the grant process with the County of Marin as small organizations do not always have the necessary resources to satisfy some aspects of CRT grants such as complex administrative or operational requirements.
- The grant requirements for the COVID-19 testing role were so complex a full-time position was required within the organization.

**Improvement Recommendation:**

- Work with CRTs when designing grants and consider supports to assist the most ideal CRT organization to carry out a grant if they do not have the necessary resources to do so.

**I 52. CHILDCARE COMMUNITY CONTINUED INVOLVEMENT. While the childcare-providing community was engaged in Marin Recovers, concerns remain about the community not being regularly included in emergency planning, response, and recovery discussions.**

**Analysis:**

- The childcare-providing community was engaged in Marin Recovers, supporting disaster response and recovery efforts.
- As a critical partner to supporting an essential workforce and economic stability, some advocates feel the community is not frequently involved in the pre-incident planning stage of the emergency cycle.

**Improvement Recommendation:**

- Involve the childcare-providing community in future preparedness, response, and recovery efforts, especially as it relates to the need for an essential workforce and economic stability. Consider including representatives from this community in training and exercises, where appropriate.

## APPENDICES

### ► Appendices

#### APPENDIX A: ACRONYMS, ABBREVIATIONS

AAM	After-Action Meeting
AAR	After-Action Report
ABAHO	Association of Bay Area Health Officials
ACS	Alternate Care Site
AFN	Access and Functional Needs
BOS	(County of Marin) Board of Supervisors
CAHAN	California Health Alert Network
Cal OES	California Office of Emergency Services
CalREDIE	California Reportable Disease Information Exchange
CAO	County Administrator's Office
CBO	Community-Based Organization
CDC	The U.S. Centers for Disease Control and Prevention
CDPH	California Department of Public Health
CoDa	COVID-19 Data System built by IST during the COVID-19 response
COOP	Continuity of Operations Plan
COVID-19	Novel Coronavirus Disease 2019
CRT	Community Response Team

DOC	Department Operations Center
DSW	Disaster Service Worker
EAP	Marin OA EOC Emergency Action Plan
EMAC	Emergency Management Assistance Compact
EMS	Emergency Medical Services
EOC	Emergency Operations Center (as in the Marin Operational Area Emergency Operations Center - Marin OA EOC)
EOP	Emergency Operations Plan
EPI	Epidemiology
FEMA	Federal Emergency Management Agency
FQHC	Federally Qualified Health Center
H1N1	Novel Influenza A H1N1/Swine Flu
HHS	Marin County Department of Health and Human Services
HPP	Hospital Preparedness Program
HR	Human Resources
HRSA	U.S. Health Resources and Services Administration
ICS	Incident Command System
IMAT	Incident Management Assistance Team
IMT	Incident Management Team
IP	Improvement Plan
IST	Marin County Information Services and Technology Department (County IT); see also TSU
IT	Information Technology; see also IST, TSU
JAS	Job Action Sheet

JIC	Joint Information Center
JIS	Joint Information System
MAC	Multi-Agency Coordination (Group)
Marin DPW	Marin County Department of Public Works
Marin HHS	County of Marin Department of Health and Human Services
MCOE	Marin County Office of Education
MOU	Memorandum of Understanding
MRC	Medical Reserve Corps
NGO	Nongovernmental Organization
NIH	National Institutes of Health
NIMS	National Incident Management System
OA	Operational Area – essentially the county
Marin OES	Marin County Office of Emergency Services
PHI	Protected Health Information
PHO	Public Health Officer
PIO	Public Information Officer
POD	Point of Dispensing
PPE	Personal Protective Equipment
PSPS	Public Safety Power Shutoff
PUI	Person Under Investigation due to COVID exposure
RCF	Residential Care Facility
SARS-CoV-2	Severe Acute Respiratory Syndrome Coronavirus 2

SBA	U.S. Small Business Administration
SEMS	Standardized Emergency Management System
SIP	Shelter-In-Place
SitRep	Situation Report
SMART	Specific-Measurable-Achievable-Relevant-Time Bound (Goals/Objectives)
SNF	Skilled Nursing Facility
SOP	Standard Operating Procedure
TSU	Technical Support Unit (Marin County Sheriff's Office IT); see also IST
VIF	Vaccine Interest Form
VOAD	Voluntary Organizations Active in Disasters

## APPENDIX B: AFTER-ACTION MEETING (AAM)

An After-Action Meeting (AAM) was conducted on Thursday, June 9, 2022, at the Marin County Office of Emergency Services (Marin OES).

The meeting was broken into 4 sections:

- Introduction and background materials** – Participants met in plenary session for an introduction to the After-Action Report (AAR) and Improvement Plan (IP) including the report methodology and the development process.
- Small group discussions** – Participants divided into two small group discussions, Policy & Executive Leadership and Emergency Operations Center (EOC) Command Staff. Each group was provided a facilitator and a note taker. The groups reviewed selected findings focused on their areas of expertise. Each group's discussion focused on validating the findings and ensuring the outlined recommendations adequately address the specified issue.
- Full group report out** – Participants reconvened in plenary for a full group report out. Each group presented the findings assigned to them along with concerns and recommendations brought up during the small group discussions.
- Next Steps** – In plenary, participants were provided with a brief overview of what to expect next including an update of the findings based on the discussions that occurred during the AAM and a final document provided to them.



AGENDA	
<b>COVID-19 Response After-Action Meeting (AAM)</b>	
Purpose: To review and refine the findings in the Draft After-Action Report and Improvement Plan (AAR/IP). Participants should review a synthesis on strengths and areas for improvement and review and gain consensus on corrective actions.	
Item	Description
9:45 AM	Arrival and Registration
9:45 AM	Facilitator and participant introduction
9:45 AM	Leadership statements
9:45 AM	Agenda
9:45 AM	General description of an AAR/IP, including:
9:45 AM	Development process
9:45 AM	Use of findings for AAR/IP
9:45 AM	Draft AAR/IP purpose, objectives, and timeline
9:45 AM	Status of initial validation of findings
9:45 AM	Overview of findings
9:45 AM	Collaborative process roles
9:45 AM	Agendas and responsibilities
9:45 AM	Review of relevant findings, analysis, and recommendations
9:45 AM	Assign responsibilities
10:00 AM	10:00 AM – Marin County EOC Staff Break Out Group
10:00 AM	Review of relevant findings, analysis, and recommendations
10:00 AM	Assign responsibilities
10:00 AM	11:30 – 12:00 Networking Activity Lunch
12:00 PM	Recommendation report out
12:00 PM	Additional feedback opportunity
12:00 PM	AAR/IP finalization timeline
12:00 PM	How the IP will be used

## Participation

Marin OES identified key stakeholders to include as a part of the AAM. This included leadership from different departments representing a range of County of Marin stakeholders and EOC partners.

Department / Agency / Organization	Number of Participants
County of Marin County Administrator's Office (CAO)	1
Marin County Office of Emergency Services (OES)	3
County of Marin Department of Health and Human	7

Services (Marin HHS)	
County of Marin Community Development Agency	1
County of Marin Department of Finance	2
County of Marin Department of Public Works (Marin DPW)	2
County of Marin Human Resources (HR)	1
County of Marin Information Services and Technology Department (IST)	1
Disability Access Program	1
Marin County Fire Department	1
Marin County Parks Department	1

## APPENDIX C: DOCUMENT CATALOG

Resource Type	Document Title	Author/Source	Date Published	File Name (as saved) or Web Link	Timeline	Background--Local	Background--Other	Lessons Learned/Recommendations	Graphics/Visuals
Other	California Code of Regulations Title 19 § 2450	State of California		<a href="#">CCR Title 19 § 2450</a>			X		
Website	Marin Health Medical Center	Marin Health	Ongoing	<a href="https://www.mymarinhealth.org/locations/medical-center/">https://www.mymarinhealth.org/locations/medical-center/</a>		X			
Website	Hospitals in Marin County	<a href="#">countyoffice.org</a> (not a government entity or affiliation)	Ongoing	<a href="https://www.countyoffice.org/ca-marin-county-hospitals/">https://www.countyoffice.org/ca-marin-county-hospitals/</a>		X			
Other	Subscription Link to Current News	Marin HHS	Ongoing	<a href="https://coronavirus.marinhhs.org/subscribe">https://coronavirus.marinhhs.org/subscribe</a>		X			
Website	Public Health Orders	Marin HHS	Ongoing	<a href="https://coronavirus.marinhhs.org/health-orders">https://coronavirus.marinhhs.org/health-orders</a>	X	X			
Website	History of 1918 Flu Pandemic	Centers for Disease Control and Prevention (CDC)	Ongoing	<a href="https://www.cdc.gov/flu/pandemic-resources/1918-commemoration/1918-pandemic-history.htm">https://www.cdc.gov/flu/pandemic-resources/1918-commemoration/1918-pandemic-history.htm</a>			X		
Other	511 SF Bay Transportation Status	San Francisco Bay	Ongoing	<a href="https://511.org/alerts/emergencies/coronavirus">https://511.org/alerts/emergencies/coronavirus</a>			X		
Website	Information for Healthcare Providers	Marin HHS	Ongoing	<a href="https://coronavirus.marinhhs.org/providers">https://coronavirus.marinhhs.org/providers</a>				X	
Website	Test of translation tool on Marin HHS website	Marin HHS	Ongoing	<a href="https://coronavirus.marinhhs.org/vaccine">https://coronavirus.marinhhs.org/vaccine</a>		X		X	
Public Information	Marin County Crisis Stabilization Unit	Marin HHS	Ongoing	<a href="https://www.marinhhs.org/crisis-stabilization-unit-csu">https://www.marinhhs.org/crisis-stabilization-unit-csu</a>		X		X	

Resource Type	Document Title	Author/Source	Date Published	File Name (as saved) or Web Link	Timeline	Background--Local	Background--Other	Lessons Learned/Recommendations	Graphics/Visuals
Website	COVID-19 FAQs	Marin HHS	Ongoing	<a href="https://coronavirus.marinhhs.org/faqs">https://coronavirus.marinhhs.org/faqs</a>			X	X	
Website	Marin Health Medical Center Hospital Capacity (Data Dashboard)	Town Talk	Ongoing	<a href="https://data.thetowntalk.com/covid-19-hospital-capacity/facility/marinhealth-medical-center/050360/">https://data.thetowntalk.com/covid-19-hospital-capacity/facility/marinhealth-medical-center/050360/</a>		X		X	X
Public Information	Data Dashboard, Vax Info and Finder	Marin HHS	Ongoing	<a href="https://coronavirus.marinhhs.org/vaccine/data">https://coronavirus.marinhhs.org/vaccine/data</a>	X	X		X	X
Website	Bay Area COVID-19 Tracker	ABC 7 News	Ongoing	<a href="https://abc7news.com/feature/coronavirus-cases-covid-19-map-bay-area-covid/9891245/">https://abc7news.com/feature/coronavirus-cases-covid-19-map-bay-area-covid/9891245/</a>	X		X	X	X
Website	COVID-19 Communications Toolkit	Marin HHS	Ongoing	<a href="https://coronavirus.marinhhs.org/covid-19-communications-toolkit">https://coronavirus.marinhhs.org/covid-19-communications-toolkit</a>			X	X	X
Public Information	County of Marin Public Communications Plan	County of Marin Department of Health and Human Services (Marin HHS)	January 2012	<a href="https://www.marincounty.org/depts/ad/divisions/~media/Files/Departments/AD/Communications/1201247ADattachREP.pdf">https://www.marincounty.org/depts/ad/divisions/~media/Files/Departments/AD/Communications/1201247ADattachREP.pdf</a>		X			
Situation Report (Sit Rep)	Pre-State of Emergency Notify to Marin Employees and Schools notification of Joint Information Center [JIC] stand up	County of Marin	February 2020	<a href="https://www.marinoa.marinsheriff.org/eoc7/boards/boardfile.aspx?fileid=7599&amp;tableid=991&amp;fieldname=sitrep_attachment&amp;viewid=5017&amp;dataid=28">https://www.marinoa.marinsheriff.org/eoc7/boards/boardfile.aspx?fileid=7599&amp;tableid=991&amp;fieldname=sitrep_attachment&amp;viewid=5017&amp;dataid=28</a>	X	X			
Public Information	Environmental Health Advisory COVID-19 - Guidance for Cleaning Community Spaces	Marin HHS	March 2020	<a href="https://www.marinhhs.org/sites/default/files/files/public-health-updates/coronavirus/20200314 - ehs -">https://www.marinhhs.org/sites/default/files/files/public-health-updates/coronavirus/20200314 - ehs -</a>		X			

Resource Type	Document Title	Author/Source	Date Published	File Name (as saved) or Web Link	Timeline	Background--Local	Background--Other	Lessons Learned/Recommendations	Graphics/Visuals
				<a href="#">cleaning_community_spaces_guidelines-final.pdf</a>					
Public Information	Marin COVID-19 Update: March 17, 2020: Marin County Health & Human Services Officer provides shelter in place guidance on YouTube	County of Marin	March 2020	<a href="https://www.youtube.com/watch?v=kEqfkWRGNGM">https://www.youtube.com/watch?v=kEqfkWRGNGM</a>		X			
Public Information	Marin COVID-19 Update: March 18, 2020: Marin Health Officer explains benefits of public health orders to mitigate disease transmission.	County of Marin	March 2020	<a href="https://www.youtube.com/watch?v=fzFdUTZLB2A">https://www.youtube.com/watch?v=fzFdUTZLB2A</a>		X			
Other	Public Health email update subscription from Marin	County of Marin	March 2020	<a href="https://coronavirus.marinhhs.org/subscribe">https://coronavirus.marinhhs.org/subscribe</a>		X			
SitRep	Marin County Declares Public Health Emergency	County of Marin	March 2020	<a href="https://www.marinoa.marinsheriff.org/eoc7/boards/boardfile.aspx?fileid=7610&amp;tableid=991&amp;fieldname=sitrep_attachment&amp;viewid=5017&amp;dataid=30">https://www.marinoa.marinsheriff.org/eoc7/boards/boardfile.aspx?fileid=7610&amp;tableid=991&amp;fieldname=sitrep_attachment&amp;viewid=5017&amp;dataid=30</a>	X	X			
Public Information	New Recommendations for Indoor Events in Marin	County of Marin	March 2020	<a href="https://www.marincounty.org/main/county-press-releases/press-releases/2020/hhs-covidgatherings-030920">https://www.marincounty.org/main/county-press-releases/press-releases/2020/hhs-covidgatherings-030920</a>	X	X			
Public Information	Marin Confirms First County Case of COVID-19	County of Marin	March 2020	<a href="https://www.marincounty.org/main/county-press-releases/press-releases/2020/hhs-covidcase1-030920">https://www.marincounty.org/main/county-press-releases/press-releases/2020/hhs-covidcase1-030920</a>	X	X			

Resource Type	Document Title	Author/Source	Date Published	File Name (as saved) or Web Link	Timeline	Background--Local	Background--Other	Lessons Learned/Recommendations	Graphics/Visuals
Public Information	Marin County Public Health issues public health alerts regarding restrictions in hospital visitations and on public transit.	Marin HHS	March 2020	<a href="https://www.marinhhs.org/sites/default/files/files/public-health-updates/ph_alert_hospitalvisitation_02020315.pdf">https://www.marinhhs.org/sites/default/files/files/public-health-updates/ph_alert_hospitalvisitation_02020315.pdf</a>	X	X			
Public Information	Marin County issues Q/A focused on shelter-in-place public health order (since amended/expanded/updated)	Marin HHS	March 2020	<a href="https://coronavirus.marinhhs.org/faq?combine=&amp;field_categories_target_id=16">https://coronavirus.marinhhs.org/faq?combine=&amp;field_categories_target_id=16</a>	X	X			
Other	Marin Shelter in Place Order	Marin HHS	March 2020	<a href="https://coronavirus.marinhhs.org/sites/default/files/Files/Shelter%20in%20Place/Shelter%20in%20Place%20Order%2016%20March%202020.pdf">https://coronavirus.marinhhs.org/sites/default/files/Files/Shelter%20in%20Place/Shelter%20in%20Place%20Order%2016%20March%202020.pdf</a>	X	X			
Public Information	CA (Marin) announce availability of small business loans for those impacted by COVID	California Governor's Office of Emergency Services (Cal OES)	March 2020	<a href="http://news.caloes.ca.gov/sba-to-provide-small-businesses-impacted-by-coronavirus-covid-19-up-to-2-million-in-disaster-assistance-loans/">http://news.caloes.ca.gov/sba-to-provide-small-businesses-impacted-by-coronavirus-covid-19-up-to-2-million-in-disaster-assistance-loans/</a>			X		
Public Information	Video / Youtube updates targeting the public	PIO / Public Health Officer (PHO) et al	April 2020 - current	<a href="https://www.youtube.com/results?search_query=Marin+County+COVID-19+Update">https://www.youtube.com/results?search_query=Marin+County+COVID-19+Update</a>		X		X	X
Public Information	Wildfire Burns in Point Reyes National Seashore	County of Marin	August 2020	<a href="https://www.marincounty.org/main/county-press-releases/press-releases/2020/fire-woodward-081820">https://www.marincounty.org/main/county-press-releases/press-releases/2020/fire-woodward-081820</a>	X	X			
News Story	Court orders San Quentin prison to sharply cut inmate	LA Times	October 2020	<a href="https://www.latimes.com/california/story/2020-10-21/san-quentin-">https://www.latimes.com/california/story/2020-10-21/san-quentin-</a>	X	X			

July 1, 2022

Resource Type	Document Title	Author/Source	Date Published	File Name (as saved) or Web Link	Timeline	Background--Local	Background--Other	Lessons Learned/Recommendations	Graphics/Visuals
	population after COVID outbreak			<a href="#">ordered-to-reduce-prison-population</a>					
Other	Marin County Assessment Report - midterm AAR	County of Marin	December 11, 2020			X		X	
Other	Survey Monkey F/B (Spring 2021)	County of Marin	April 2021			X		X	
News Story	COVID is officially America's deadliest pandemic as U.S. fatalities surpass 1918 flu estimates	CNBC	September 2021	<a href="https://www.cnbc.com/2021/09/20/covid-is-americas-deadliest-pandemic-as-us-fatalities-near-1918-flu-estimates.html">https://www.cnbc.com/2021/09/20/covid-is-americas-deadliest-pandemic-as-us-fatalities-near-1918-flu-estimates.html</a>			X	X	
Other	21.11.18-12.07 Focus Group_ Emergency Technical Infrastructure		November 18, 2021					X	
Public Information	News Release - First Omicron Case Detected in Marin	County of Marin	December 2021	<a href="https://www.marincounty.org/main/county-press-releases/press-releases/2021/hhs-covid-omicron-detected-121721">https://www.marincounty.org/main/county-press-releases/press-releases/2021/hhs-covid-omicron-detected-121721</a>	X	X			
Other	Performing Stars COVID-19 grant use summary	Performing Stars of Marin	January 2022			X			
News Story	COVID-19 hospitalizations 'spiked' in California's most vaccinated county. Except they didn't.	SF Gate	January 2022	<a href="https://www.sfgate.com/coronavirus/article/California-COVID-hospitalizations-overcount-Marin-16748226.php">https://www.sfgate.com/coronavirus/article/California-COVID-hospitalizations-overcount-Marin-16748226.php</a>			X	X	

July 1, 2022

Resource Type	Document Title	Author/Source	Date Published	File Name (as saved) or Web Link	Timeline	Background--Local	Background--Other	Lessons Learned/Recommendations	Graphics/Visuals
Other	Marin County Crisis Resources	Partnership Health Plan of California, Population Health Department at (855) 798-8764 or PopHealthOutreach@partnershiphp.org	February 2022	<a href="http://www.partnershiphp.org/Community/Documents/Marin/Marin_Crisis.pdf">http://www.partnershiphp.org/Community/Documents/Marin/Marin_Crisis.pdf</a>	X	X			
News Story	Which Bay Area Counties Saw the Most Omicron Deaths?	SF Gate	March 2022	<a href="https://www.sfgate.com/coronavirus/article/Bay-Area-COVID-omicron-deaths-compared-16985953.php">https://www.sfgate.com/coronavirus/article/Bay-Area-COVID-omicron-deaths-compared-16985953.php</a>	X		X		
News Story	These Are the Counties in the San Francisco-Oakland-Hayward, CA Metro Area With the Least COVID-19	24/7 Wall Street	March 16, 2022	<a href="https://www.msn.com/en-us/news/us/these-are-the-counties-in-the-san-francisco-oakland-hayward-ca-metro-area-with-the-least-covid-19/ar-AAV7z3h">https://www.msn.com/en-us/news/us/these-are-the-counties-in-the-san-francisco-oakland-hayward-ca-metro-area-with-the-least-covid-19/ar-AAV7z3h</a>		X		X	X
Public Information	Link public status updates	Public Information Officer (PIO)	March 24, 2020 – March 16, 2022 (and continuing)	<a href="https://coronavirus.marinhhs.org/uploads">https://coronavirus.marinhhs.org/uploads</a>	X	X			

## APPENDIX D: INTERVIEW PARTICIPANTS

Interview Name	Conducted by	Number of Participants	Date
1 - Management and Policy	Tamarack MGMT	6	Wednesday, April 6, 2022 9:30 AM
2 - Finance and Logistics	Tamarack MGMT	10	Tuesday, April 12, 2022 2:00 PM
3 - Planning	Tamarack MGMT	7	Tuesday, April 12, 2022 3:30 PM
4 - Business Community / Marin Recovers	Tamarack MGMT	7	Wednesday, April 13, 2022 9:30 AM
5 - Med Health	Tamarack MGMT	9	Mon April 11, 2022 12:00 PM
6 - Support Services	Tamarack MGMT	9	Tuesday, April 12, 2022 9:30 AM
7 - Community Communication and Education	Tamarack MGMT	8	Wednesday, April 6, 2022 11:30 AM
8 - Marin County Office of Education	Marin County OES	4	Thursday, April 21, 2022 1:00 PM
9 - Community Resource Teams	Marin County OES	3	Tuesday, April 19, 2022 10:30 AM
10 - San Rafael Emergency Manager	Marin County OES	1	Friday, April 22, 2022 9:00 AM
11 - Management and Policy	Marin County OES	6	Friday, April 22, 2022 3:00 PM
12 - Access and Functional Needs Workgroup	Marin County OES	8	Thursday, April 21, 2022 11:00 AM

## APPENDIX E: GENERAL SURVEY ANALYSIS

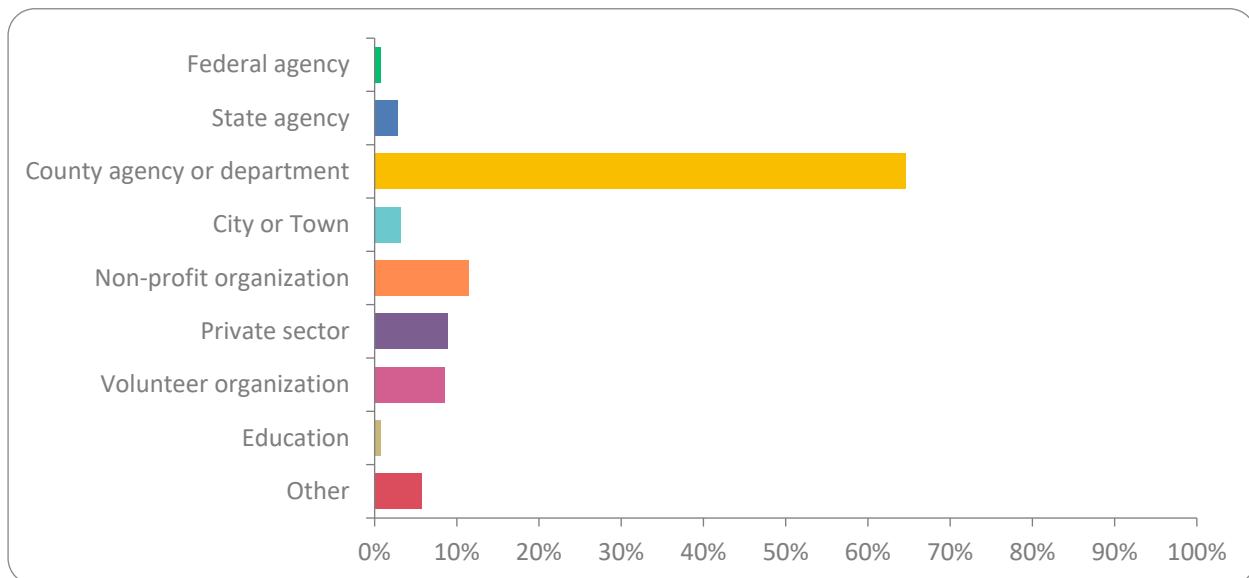
The Tamarack MGMT team developed a thirty-nine (39) question survey to elicit input regarding the County of Marin's preparedness and response activities associated with the novel coronavirus (COVID-19) for the evaluation period from March 2020 to December 2021. The survey, which collected both quantitative and qualitative input, complements interviews conducted by both the Tamarack team and County of Marin staff. The Marin County Office of Emergency Services (Marin OES), in partnership with County of Marin Department of Health and Human Services (Marin HHS), distributed the survey to a broad cross-section of stakeholders across the Marin Operational Area (Marin OA). The survey was open to responses from April 22 to May 4, 2022. A total of 282 survey responses were received. Around 2,000 people were initially provided the survey with encouragement to forward the survey to additional personnel. Because of this, no accurate number of distributions can be determined; therefore, no response rate is being provided.

The following analysis of survey results captures highlights; raw data collected for this survey can be accessed through the Marin OES.

### About Respondents

Among survey respondents, the majority identified their affiliation with a County of Marin government agency or department (64.64%), followed by nonprofit organizations (11.43), and a comparable number of those affiliated with the private sector (8.93%) and volunteer organizations (8.57%). Only (3.21%) of the total responded affiliated with cities or towns in the Marin OA. Other respondents with identifiable affiliations with state agencies (2.86%), federal agencies (0.71%), and education (0.71%). Finally, 5.71% identified their affiliation as "other." The distribution of respondents' affiliations is depicted in Figure 10 below.

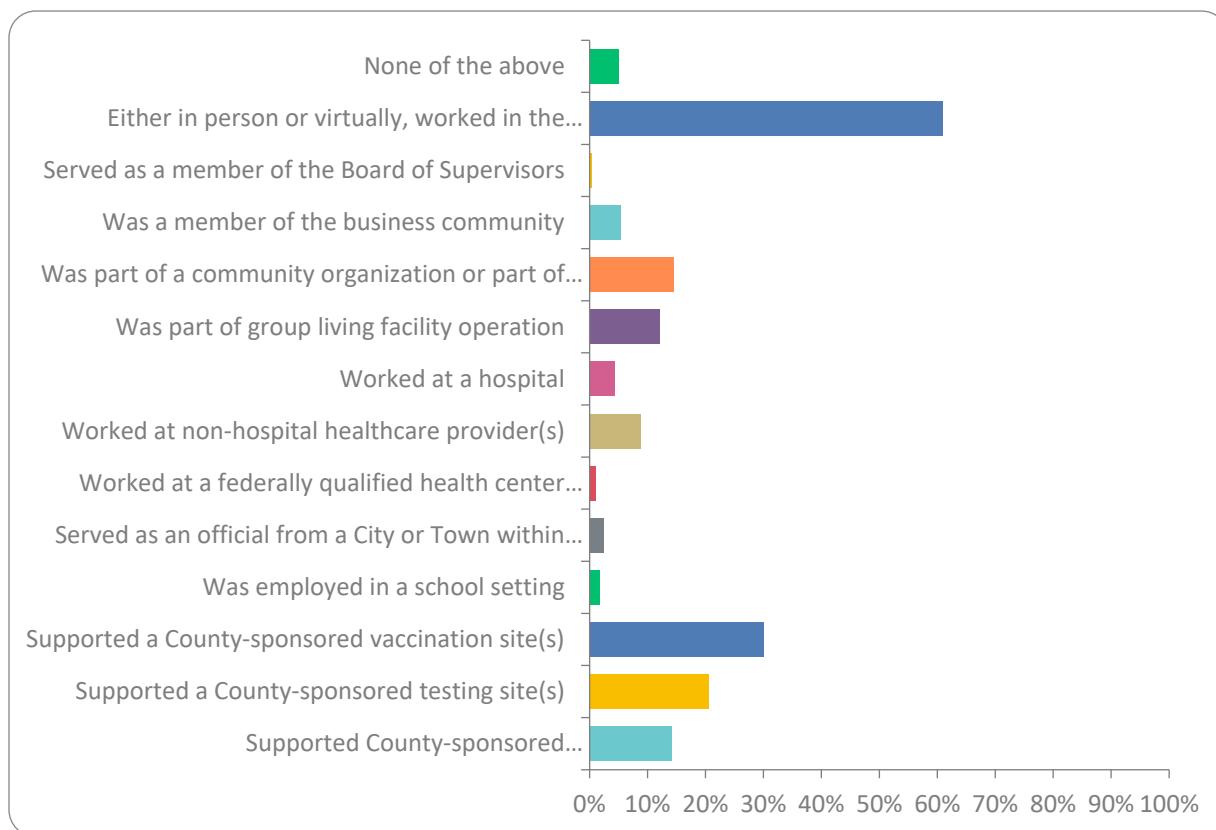
FIGURE 20: AFFILIATION OF SURVEY RESPONDENTS



## Respondent Roles During Evaluation Period

Consistent with their affiliations, the majority of 282 respondents (60.99%) indicated they worked either in person or virtually for the County of Marin government, either in the Marin OA Emergency Operations Center (Marin OA EOC) or in a function that supported it, followed by roles that supported a county-sponsored vaccination site/s (30.14%) and testing sites (20.57%). The distribution of roles among all respondents is depicted in Figure 11. Among respondents with Incident Command System (ICS) roles, most were in the Operations Section (Public Health, Vaccines – combined 54.14%), followed by the Logistics Section (26.75%), which was responsible for supply distribution and set-up (and some staffing) of vaccine/testing sites. Surprisingly, 60.90% of respondents indicated that prior to COVID-19, they had never participated in any Marin OA EOC activations. Thus, it can be assumed that most respondents had not participated in the Marin OA EOC during the H1N1 pandemic of 2009-2010. Among those who said they had participated in prior activations, there was a fairly even split among those who said they served in a Marin OA EOC activation in the same role as they had during COVID-19 (20.51%) as in a different role (21.79%).

**FIGURE 21: RESPONDENTS' ROLES DURING COVID-19 EVALUATION PERIOD**



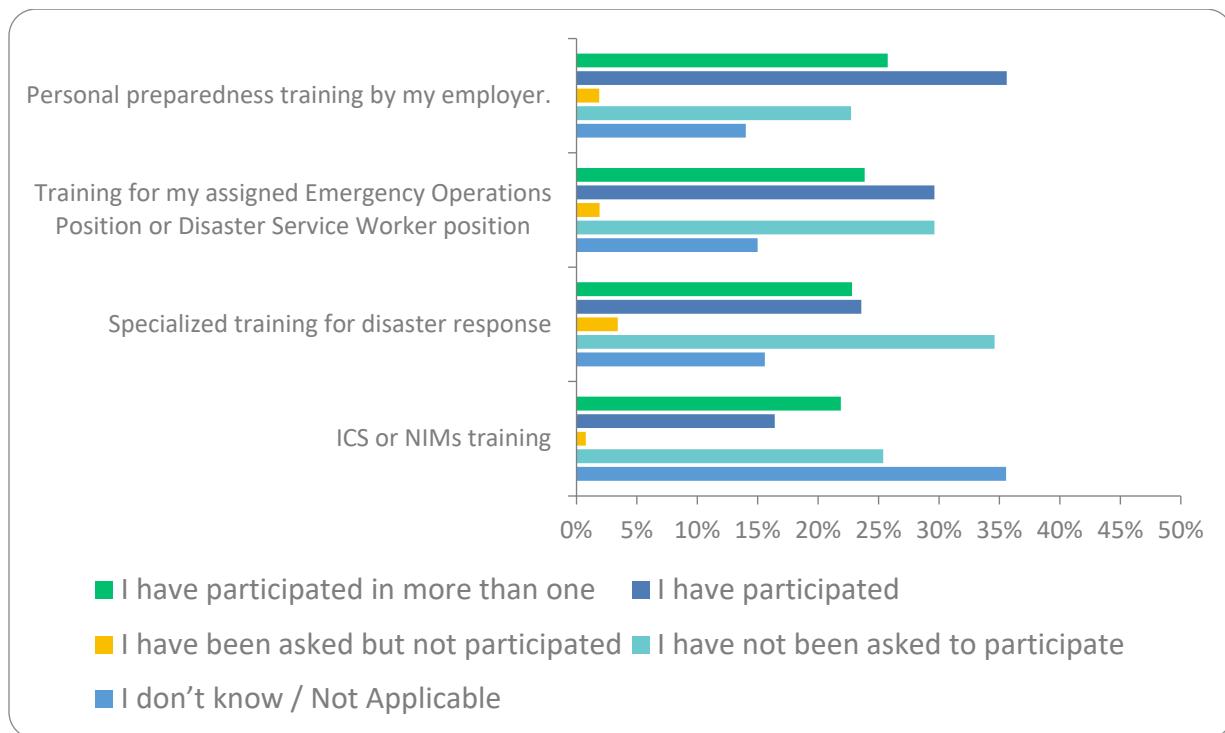
## Respondents' Training Prior to Pandemic

Among the total 279 respondents who answered the query about whether they had been offered or participated in disaster training prior to the pandemic, 35.61% indicated they had participated in personal preparedness training offered by their employer. In contrast, fewer (29.62%) indicated they had participated in

training specific to their emergency operations position or Disaster Service Worker (DSW) position. However, only 22.73% reported not being asked to participate in personal preparedness training by their employer, and 29.62% indicated they had not been asked to participate in training specific to their emergency operations position or DSW position.

Meanwhile, 34.60% indicated they had not been asked to participate in specialized training for disaster response, and 35.55% indicated they didn't know about Incident Command System/National Incident Management System (ICS/NIMS) training, or it was not applicable to them. A distribution of respondents' answers that queried their level of preparedness/disaster training is depicted at Figure 12.

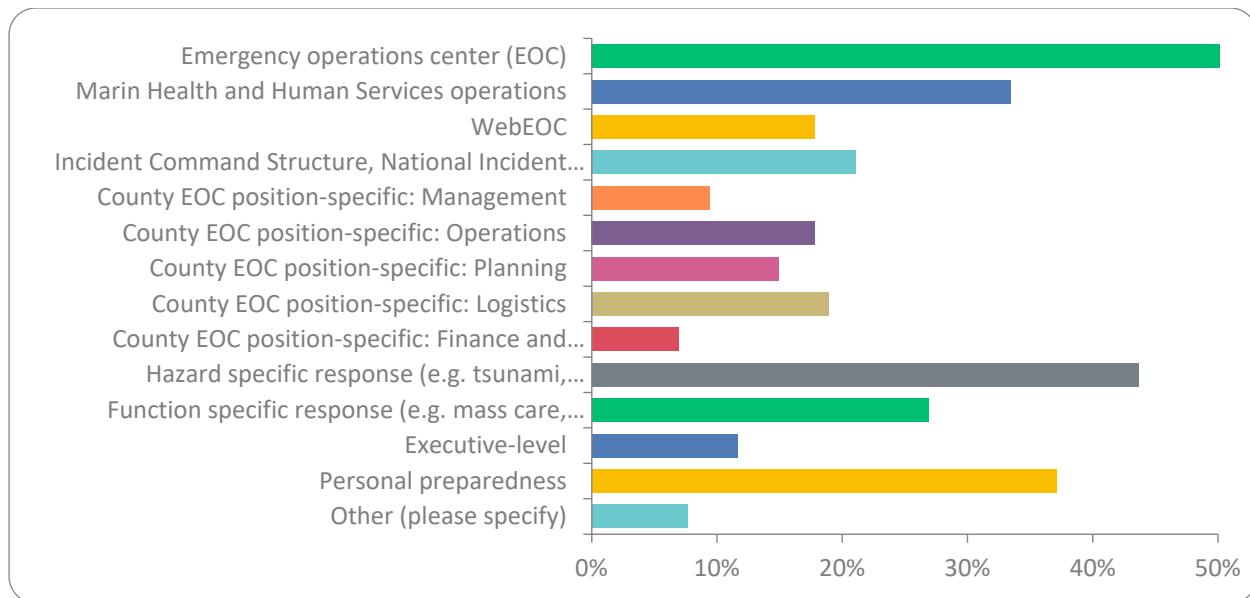
**FIGURE 22: RESPONDENT TRAINING**



This desire for additional training reflects respondents' indications that their role in the Marin OA EOC could have been improved by better training and with better-written job aids, checklists, or other reference materials (27.59%). Meanwhile, about one-third of respondents to this question indicated their role could have been improved with better and more frequent communication from supervisory staff (33.79%).

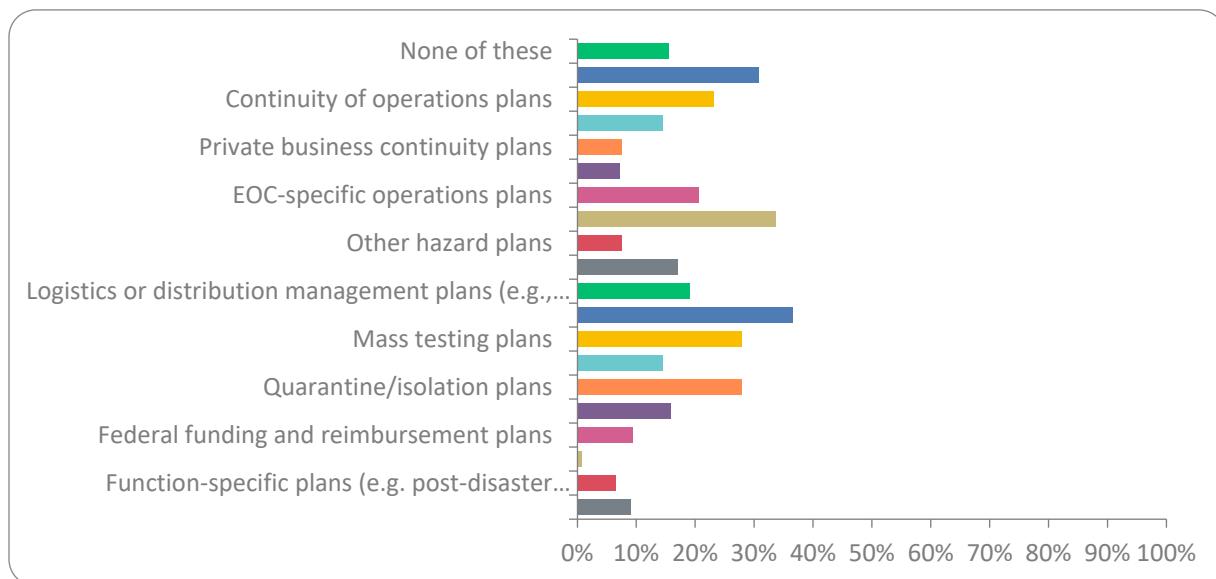
## Respondent Training/Exercising Preferences

The top three (3) County of Marin-sponsored training or exercises topics survey respondents indicated they preferred are (EOC [50.18%], Marin HHS operations [33.45%], and ICS/NIMS [21.09%]). The distribution of responses to this question is depicted in Figure 13.

**FIGURE 23: TOP THREE TRAINING PREFERENCES**

## Plans Used in Response Roles

Survey respondents reportedly relied most heavily on existing: mass vaccination plans (36.59%); mass testing plans (27.9%); pandemic/epidemic plans (33.70%); the county-wide Emergency Operations Plan (30.80%); and Continuity of Operations Plans (COOP) 23.19%. Keeping these percentages in context is important, as 60.99% of respondents indicated they either worked in the Marin OA EOC or directly supported its functions, particularly in public/medical health, mass care, and contact tracing. (See Figure 11.) For the respondent distribution of plans on which they relied as part of their COVID-19 response efforts, see Figure 14.

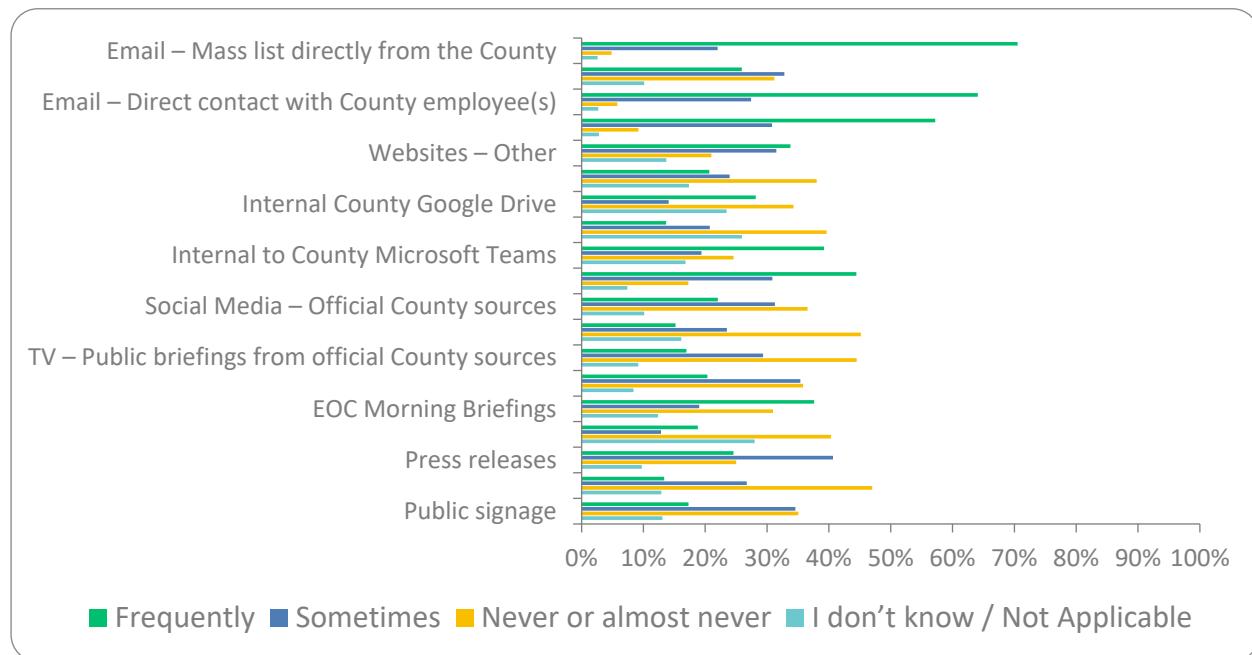
**FIGURE 24: RESPONDENTS PLAN RELIANCE**

## Respondent Access to and Sharing of COVID-19 Information

A significant majority of respondents (86%) collectively agreed/strongly agreed that they had received the information they needed regarding COVID-19 from the County of Marin. While this is a significant majority, it is essential to recognize that almost 67% of respondents are affiliated with county government (See Figure 10). Similarly, nearly 82% of respondents collectively agreed/strongly agreed that the information to which they had access through the county enabled them to share information with others in the community.

Because most survey respondents are affiliated with the county government, it is not surprising that 70.52% said they frequently received information from the county via mass emails. Reflective of both internal and external (public-facing communications/information), 57.20% of respondents indicated they frequently accessed information from the county website. For a detailed look at how survey respondents indicated they accessed/received information about COVID-19, see Figure 14.

**FIGURE 25: MARIN COUNTY SOURCES OF COVID-19 INFORMATION ACCESSED**



The overwhelming majority (94.57%) of respondents said the County of Marin provided them with basic COVID-19 information to support their pandemic response efforts, while 81.52% said the county offered them information that yielded awareness of COVID-19 services. Still, 15.52% said they needed on-site operations information they did not receive from the County of Marin, while 12.07% said they needed both plan development assistance and other forms of technical assistance they did not receive.

## Instructions and Equipment for EOC Roles

Among respondents who worked in the Marin OA EOC, a collective 71.89% agreed/strongly agreed that the message telling them to report to their assignment was effective and included the essential information they needed. Meanwhile, a collective 67.78% of respondents agreed/strongly agreed that the equipment issued for their regular job was sufficient for the role they were assigned in the Marin OA EOC, and a collective 43.92% agreed/strongly agreed that additional equipment was issued to them in their COVID-19 response role. Favorably speaking, a collective 64.43% agreed/strongly agreed that the equipment issued to them was user-friendly and easy to learn.

Similarly, a combined total of 84.29% of respondents agreed/strongly agreed that they were provided the additional equipment they needed to fulfill their responsibilities in support of County of Marin-sponsored vaccination site/s operations. Meanwhile, 81.69% said they felt they understood their role in supporting vaccination site/s operations.

# APPENDIX F: COVID-19 TIMELINE OF KEY EVENTS IN THE MARIN OA

This detailed timeline is designed to supplement the timelines and other materials provided in the body of the document.

Date	Event	Jurisdiction	Source
2/27/20	A Marin County hospital accepts the transfer of a non-symptomatic COVID-19 patient from Travis Air Force Base in Solano County to reduce the burden on the Solano County healthcare system.	Marin	<a href="#">Link</a>
3/3/20	The County of Marin Department of Health and Human Services (Marin HHS) issues a local health emergency proclamation related to COVID-19 and recommends that the Marin County Board of Supervisors ratify it during its next regular meeting (March 10).	Marin	<a href="#">Link</a>
3/4/20	Marin County activates the Marin Operational Area Emergency Operations Center (Marin OA EOC) to manage the COVID-19 crisis.	Marin OA	<a href="#">Link</a>
3/4/20	California declares a State of Emergency to prepare for impacts associated with the COVID-19 response.	California	<a href="#">Link</a>
3/5/20	The Marin OA EOC begins to model thresholds for various degrees of impact in medical, public information, and societal impact (i.e., at what point should they discourage large public gatherings, smaller gatherings, other social distancing) as well as personnel and resource needs.	Marin	<a href="#">Link</a>
3/7/20	California releases new guidance for mass gatherings and public events to public event organizers.	California	<a href="#">Link</a>
3/8/20	Acknowledgement of an extremely limited number of negative pressure hospital rooms and the need to maintain the capacity to treat other COVID-19 patients as they present.	Marin	<a href="#">Link</a>
3/9/20	The County of Marin releases new recommendations for indoor events and recommends postponement or cancellation of non-essential indoor gatherings of more than 100 people.	Marin	<a href="#">Link</a>
3/9/20	Marin County Public Health stands up a public hotline for COVID-19 questions and concerns staffed by employees and Marin Medical Reserve Corps. The hotline is available 9:30am-noon and 1:00pm-5:00pm on weekdays and is available to non-English speakers.	Marin	<a href="#">Link</a>
3/9/20	The County of Marin confirms the first in-county case of COVID-19.	Marin	<a href="#">Link</a>
3/10/20	The County of Marin Board of Supervisors ratifies a local health emergency and a local state of emergency to prepare for impacts associated with the COVID-19 response and to further enable mutual aid from the state.	Marin	<a href="#">Link</a>
3/10/20	The County of Marin issues guidance to employers, encouraging remote work and other measures to mitigate disease transmission; guidance for mass gatherings and large community events; for those at higher risk of severe disease complications. The County of Marin Department of Health and Human Services (Marin HHS) is not recommending closing schools at this time, although the Archdiocese of SF has closed their schools, including seven in Marin.	Marin	<a href="#">Link</a>

3/11/20	Marin HHS successfully piloted a “drive through” COVID-19 field testing center today at a Marin County location. The testing center, inspired by similar testing models in South Korea, is a collaboration between Marin Public Health and local hospitals and was created to support clinics and physicians.	Marin	<a href="#">Link</a>
3/11/20	The County of Marin confirms two additional COVID-19 cases, who were directly exposed to the first case.	Marin	<a href="#">Link</a>
3/11/20	First COVID-19 testing site opens as a collaboration between County, staff from all 3 hospitals, and nursing students.	Marin	<a href="#">Link</a>
3/12/20	The County of Marin issues notice that the Small Business Administration (SBA) will provide small businesses impacted by COVID-19 Up to \$2 million in disaster assistance loans.	Marin	<a href="#">Link</a>
3/13/20	Marin HHS and the Marin County Office of Education announce all public school campuses will suspend in-classroom instruction for at least two weeks, beginning on 3/16/20.	Marin	<a href="#">Link</a>
3/14/20	The County of Marin confirms two additional COVID-19 cases as community transmission.	Marin	<a href="#">Link</a>
3/16/20	Order of the Health Officer of the County of Marin issuing a “stay-at-home” order for all residents, directing all businesses and government agencies to cease in-person non-essential operations, prohibiting non-essential gatherings and non-essential travel. The order is issued for three weeks starting on 3/17/20.	Marin	<a href="#">Link</a>
3/19/20	California issues Executive Order N-33-20 “stay-at-home” order.	California	<a href="#">Link</a>
3/22/20	County of Marin Health Officer issues order for the immediate closure of all Marin parks to motorized access to decrease visitors to the area. Residents and visitors may continue to use paved walkways if social distancing guidelines are followed.	Marin	<a href="#">Link</a>
3/22/20	The Marin County Public Health Officer (PHO) tests positive for COVID-19.	Marin	<a href="#">Link</a>
3/23/20	The Marin OA EOC transitions to primarily remote operations amidst an outbreak of COVID-19 among EOC staff.	Marin	
3/24/20	The County of Marin PHO issues an order directing all laboratories conducting COVID-19 diagnostic tests to report COVID-19 test information, including positive, negative, and inconclusive results, to local and state public health authorities.	Marin	<a href="#">Link</a>
3/25/20	Marin HHS and the Marin County Office of Education align with other Bay Area districts and extend in-person public school closures through 5/1/20.	Marin	<a href="#">Link</a>
3/27/20	The County of Marin confirms the first death in the county as a result of COVID-19.	Marin	<a href="#">Link</a>
3/31/20	The County of Marin updates its “stay-at-home” order and Parks Order extending restrictions through 5/3/20 and adds additional directives around permitted activities.	Marin	<a href="#">Link</a> <a href="#">Link</a>
4/1/20	California releases guidance on facial coverings which includes language that the primary defense against COVID-19 is handwashing, avoiding those who are sick, and staying home if you are sick. The Guidance also states that “face coverings may increase risk if users reduce their use of strong defenses, such as physical distancing and frequent hand washing, when using face coverings.”	Marin	<a href="#">Link</a>
4/1/20	The County of Marin creates the Emergency PopUp Childcare Program to support essential emergency workers with long-term school closures resulting in childcare issues.	Marin	<a href="#">Link</a>
4/3/20	The County of Marin releases guidance in line with other Bay Area counties on facial coverings which recommends that residents cover their nose and mouth when leaving home for essential travel, such as doctor appointments, grocery shopping or	Marin	<a href="#">Link</a>

	pharmacy visits and stressed that this is not a substitute for current mitigation strategies.		
4/7/20	Marin HHS and Marin County Office of Education align with other Bay Area districts and extend school closures through the end of the 2019-2020 academic year.	Marin	<a href="#">Link</a>
4/9/20	The Health Officer of the County of Marin issues Order restricting the use of short-term vacation rentals, except to provide spaces for quarantine and isolation and other essential functions, to decrease visitors to the area and slow community transmission through 5/3/20.	Marin	<a href="#">Link</a> <a href="#">Link</a>
4/17/20	The Health Officer of the County of Marin issues order requiring facial coverings when completing essential activities or interacting with those outside their household in public and private spaces.	Marin	<a href="#">Link</a> <a href="#">Link</a>
4/29/20	The Health Officer of the County of Marin extends the “stay-at-home” Order of non-essential activities through 5/31/20. Under this Order, some activities (including outdoor businesses and construction) are allowed to resume with specific conditions. The Parks Order and Short-Term Rental Orders are also extended.	Marin	<a href="#">Link</a> <a href="#">Link</a> <a href="#">Link</a> <a href="#">Link</a>
5/1/20	The County of Marin, the State of California, and OptumServe launch a new COVID-19 testing site in the Canal Area of San Rafael.	Marin	<a href="#">Link</a>
5/2/20	The County of Marin shares COVID-19 data on a public-facing website.	Marin	<a href="#">Link</a>
5/4/20	California issues Executive Order N-60-20, a framework for a gradual, risk-based reopening of the economy.	California	<a href="#">Link</a>
5/14/20	The Health Officer of the County of Marin issues order allowing vehicular and motorized access in certain County parks and open spaces effective on 5/18/20.	Marin	<a href="#">Link</a> <a href="#">Link</a>
5/15/20	The Health Officer of the County of Marin extends the “stay-at-home” order of non-essential activities. Under this order, curbside retail and manufacturing may open with specific conditions beginning on 5/18/20.	Marin	<a href="#">Link</a> <a href="#">Link</a>
5/29/20	The Health Officer of the County of Marin lifts all restrictions on motorized access to parks and beaches effective 6/1/20.	Marin	<a href="#">Link</a> <a href="#">Link</a>
5/20/20	The Health Officer of the County of Marin issues the Public Health Emergency Quarantine Order requiring self-quarantine of persons exposed to another person diagnosed with COVID-19 for 10 days from date of last contact.	Marin	<a href="#">Link</a>
5/20/20	The Health Officer of the County of Marin issues the Public Health Emergency Isolation Order mandating isolation for certain individuals to control the spread of COVID-19 which set forth specific isolation periods for individuals who test positive for COVID-19 or who are exposed to COVID-19.	Marin	<a href="#">Link</a>
5/29/20	The Health Officer of the County of Marin extends the restrictions on short-term rental facilities to decrease visitors and community transmission effective 6/1/20.	Marin	<a href="#">Link</a> <a href="#">Link</a>
6/1/20	Outdoor retail, office space, outdoor dining, and curbside library services are permitted to reopen with specific conditions.	Marin	<a href="#">Link</a> <a href="#">Link</a>
6/5/20	Outdoor faith and cultural services, and other activities are permitted to reopen with specific conditions.	Marin	<a href="#">Link</a>
6/8/20	The Health Officer of the County of Marin requires the COVID-19 testing of residents and personnel at certain long-term care and residential facilities. The Order also requires these facilities to comply with testing, reporting and guidance requirements.	Marin	<a href="#">Link</a>
6/11/20	Indoor retail and home cleaning services are permitted to resume, with specific conditions.	Marin	<a href="#">Link</a> <a href="#">Link</a>

6/18/20	Marin HHS and Marin County Office of Education issue “A Public Health Guided Return to Site-Based Classroom Instruction” to provide guidelines to facilitate and return to in-person learning.	Marin	<a href="#">Link</a> <a href="#">Link</a>
6/29/20	Indoor dining, hair salons, barbershops, campgrounds, and other outdoor activities are permitted to resume, with specific restrictions.	Marin	<a href="#">Link</a>
7/2/20	Marin County is placed on the Governor’s “watch list” for increase in COVID-19 activity.	Marin California	<a href="#">Link</a>
7/5/20	Indoor dining closes for a minimum of three weeks after Marin County is on the Governor's "watch list" for three consecutive days.	Marin	<a href="#">Link</a>
7/13/20	California closes indoor industries including indoor dining, wineries and tasting rooms, movie theaters, family entertainment centers, zoos and museums, card rooms, and bars (indoors and outdoors) statewide.	California	<a href="#">Link</a>
7/13/20	Marin closes industries including indoor gyms and fitness centers, indoor places of worship, indoor office space for noncritical sectors, indoor personal care services, indoor hair salons and barbershops, and indoor malls due to its placement on the Governor's "watch list".	Marin	<a href="#">Link</a>
7/15/20	Marin HHS and Marin County Office of Education recommend local public, private, independent, and parochial TK-12 schools begin the new school year with a gradual approach that includes distance learning and small in-person groups.	Marin	<a href="#">Link</a>
7/16/20	California Department of Managed Health Care classified COVID-19 testing as a medically necessary health care service, requiring health plans to offer members who are essential workers or those with COVID-19 symptoms testing within 48 hours.	California	<a href="#">Link</a> <a href="#">Link</a>
7/17/20	California outlines plans for school reopening in the 2020-2021 school year.	California	<a href="#">Link</a> <a href="#">Link</a>
7/21/20	The County of Marin Board of Supervisors unanimously approves urgency ordinance that provides an administrative penalty framework to allow town, city, and additional County personnel to help law enforcement officers address violations of health and safety codes with efforts focusing on business violations.	Marin	<a href="#">Link</a>
8/10/20	Some personal services businesses are permitted to reopen for outdoor business, including nail salons and massage therapy.	Marin	<a href="#">Link</a>
8/12/20	Restrictions on childcare and youth programs are revised in preparation for the start of the school year, allowing for more flexibility in fall programming, effective 8/17/20.	Marin	<a href="#">Link</a>
8/18/20	The Woodward Fire starts near the community of Olema. An evacuation warning is issued in coastal sections of West Marin, and an evacuation center was set up at West Marin School in Point Reyes Station. This requires indoor protections to limit COVID-19 transmission.	Marin	<a href="#">Link</a>
8/21/20	Reopening of short-term rentals and other lodging facilities to tourism-based businesses and clients.	Marin	<a href="#">Link</a>
8/28/20	California announces the “Blueprint for a Safer Economy” plan which imposes color-coded, risk-based criteria on tightening and loosening COVID-19 allowable activities and expands the length of time between changes to assess how movement affects the trajectory of the disease, effective 8/31/20. Marin County is in Tier 1 – Purple Status.	California	<a href="#">Link</a> <a href="#">Link</a> <a href="#">Link</a>
9/3/20	The Health Officer of the County of Marin approves waiver applications for 15 TK-6 schools to return to in-person instruction. Under the California Blueprint for a Safer Economy, schools in the Tier 1 – Purple Status, must request a waiver from the County Public Health Officer in order to return to in-person instruction.	Marin	<a href="#">Link</a>

9/3/20	Medical service providers and health care facilities in Marin County must provide COVID-19 testing to patients by 9/25/20 to help slow transmission.	Marin	<a href="#">Link</a> <a href="#">Link</a>
9/4/20	The County of Marin plans to move to Tier 2 – Widespread Risk Status under the California Blueprint for a Safer Economy, allowing for additional business operations and in-person school instruction.	Marin	<a href="#">Link</a>
9/8/20	California holds Marin at Tier 1 – Purple Status after applying a new method for determining risk.	Marin	<a href="#">Link</a>
9/15/20	The County of Marin successfully moves to Tier 2 – Substantial Risk Status under the California Blueprint for a Safer Economy, allowing for additional business operations and in-person school instruction.	Marin	<a href="#">Link</a>
10/21/20	1st District Court of Appeal orders San Quentin prison to sharply cut inmate population after COVID-19 outbreak by releasing or transferring more than 1,000 inmates from the state's notoriously outdated San Quentin prison after showing "deliberate indifference" to prisoners' health during an outbreak of the novel coronavirus.	Marin	<a href="#">Link</a>
10/27/20	The County of Marin successfully moves to Tier 3 – Moderate Risk Status under the California Blueprint for a Safer Economy, allowing for additional business operations at greater capacity levels.	Marin	<a href="#">Link</a>
10/27/20	The Health Officer of the County of Marin establishes mandatory risk reduction measures applicable to all activities and sectors to address the COVID-19 pandemic.	Marin	<a href="#">Link</a>
11/12/20	Restaurants and businesses are asked by the Marin HHS to reduce capacity from 50% to 25% for indoor dining, indoor movie theaters, and indoor faith and cultural ceremonies to combat the recent increase in COVID-19 cases.	Marin	<a href="#">Link</a>
11/13/20	Due to a surge of COVID-19 cases Marin HHS voluntarily reduces Marin to Tier 2 – Substantial Risk Status under the California Blueprint for a Safer Economy, therefore reducing the capacities for certain businesses and activities. Marin also closes indoor dining at restaurants, indoor movie theater concessions, and indoor food courts.	Marin	<a href="#">Link</a>
11/16/20	California officially moves Marin from Tier 3 to Tier 2 under the Blueprint for a Safer Economy.	Marin	<a href="#">Link</a>
12/4/20	California enacts a regional "stay-at-home" Order on any region in which intensive care unit capacity falls below 15%. Marin and the Bay Area are one of five regions included in this order, which last for three weeks.	California	<a href="#">Link</a> <a href="#">Link</a>
12/16/20	Marin County hospitals and skilled nursing facilities (SNF) received the first doses of the COVID-19 vaccine.	Marin	<a href="#">Link</a>
1/22/21	The County of Marin shares COVID-19 vaccination data on a public-facing website.	Marin	<a href="#">Link</a>
1/25/21	The County of Marin moves to Tier 1 – Widespread Risk Status under the California Blueprint for a Safer Economy and the regional "stay-at-home" Order is lifted.	Marin	<a href="#">Link</a>
1/17/21	Public vaccinations started at the Marin Center mass vaccination site.	Marin	<a href="#">Link</a>
2/11/21	COVID-19 vaccinations are available for those 65 and older.	Marin	<a href="#">Link</a>
2/21/21	The drive-through vaccination clinic at the Larkspur Landing Ferry Terminal "soft-launches" with 200 doses. Between February 21 and June 17, a total of 58,607 vaccination doses were administered.	Marin	<a href="#">Link</a>
2/23/21	The County of Marin moves to Tier 2 – Substantial Risk Status under the California Blueprint for a Safer Economy and businesses are allowed to operate at increased capacities.	Marin	<a href="#">Link</a>

2/24/21	COVID-19 vaccinations are available to educators, food service workers, and other essential workers, following the regulations laid out in the California state vaccination plan.	Marin	<a href="#">Link</a>
3/18/21	All schools in Marin County are open for some degree of in-person instruction.	Marin	<a href="#">Link</a>
3/23/21	The County of Marin moves to Tier 3 – Moderate Risk Status under the California Blueprint for a Safer Economy and businesses are allowed to operate at increased capacities, effective 3/24/21.	Marin	<a href="#">Link</a>
3/30/21	COVID-19 vaccinations are available to all residents 50 and older effective 4/1/21. All residents 16 and older are eligible on 4/15/21.	Marin	<a href="#">Link</a>
4/6/21	Two cases of the B.1.1.7 “Alpha” COVID-19 variant are reported in the County of Marin.	Marin	<a href="#">Link</a>
5/13/21	COVID-19 vaccinations of 12-15-year-olds begin in Marin.	Marin	<a href="#">Link</a>
5/28/21	COVID-19 mass vaccination sites in Marin County (San Rafael at the Marin County Fairgrounds and Marin Health and Wellness Center) end.	Marin	<a href="#">Link</a>
6/11/21	California issues Executive Order N-07-21, which formally rescinded the “stay-at-home” Order and restrictions on businesses deriving from Executive Order N-60-20 a Blueprint for a Safer Economy.	California	<a href="#">Link</a>
6/11/21	California issues a new State Public Health Order of June 11, 2021 which rolls back COVID-19 restrictions on face coverings for vaccinated individuals and replaces other COVID-19 guidance, including Beyond the Blueprint for a Safer Economy.	California	<a href="#">Link</a>
6/14/21	Order of the County of Marin Public Health Officer mandating isolation and quarantine for certain individuals.	Marin	<a href="#">Link</a>
7/14/21	The Health Officer of the County of Marin mandates isolation and quarantine for certain individuals to control the spread of COVID-19 and rescinding prior public health orders related to COVID-19.	Marin	<a href="#">Link</a>
7/16/21	The County of Marin, along with 6 other Bay area counties recommends indoor masking for all individuals, regardless of vaccination status.	Marin	<a href="#">Link</a>
7/26/21	California issues State Public Health Officer Order of July 26, 2021 requiring employers of high-risk health care and congregate settings to verify the vaccine status of all workers and require unvaccinated or unverified workers to undergo routine COVID-19 surveillance testing. This order did not include Law Enforcement, Fire, EMS and Temporary Disaster Shelter Personnel.	California	<a href="#">Link</a>
8/2/21	The Health Officer of the County of Marin requires all individuals to wear face coverings when indoors in workplaces and public settings, and recommends that businesses make face coverings available to individuals entering the business. This is in result to the easily transmissible B.1.617.2 “Delta” variant.	Marin	<a href="#">Link</a>
8/17/21	The County of Marin announces that a third dose of the COVID-19 vaccine is available for people with compromised immune systems via their healthcare providers.	Marin	<a href="#">Link</a>
8/20/21	The Health Officer of the County of Marin requires the verification of vaccination status and requiring weekly COVID-19 testing for certain unvaccinated first responder workers, specifically Law Enforcement, Fire, Emergency Medical Services (“EMS”), Temporary Disaster Shelter, and Public Sector Employers, effective 9/15/21.	Marin	<a href="#">Link</a> <a href="#">Link</a>
8/21/21	The County of Marin hosts a third-dose mass vaccine clinic for immunocompromised residents at the Marin Center (Marin County Fairgrounds).	Marin	<a href="#">Link</a>
10/8/21	The Health Officer of the County of Marin requires for the wearing of face coverings in workplaces, with an exemption for certain stable cohorts of fully vaccinated individuals, effective 10/15/21.	Marin	<a href="#">Link</a>

11/1/21	The Health Officer of the County of Marin rescinds the 8/2/21 Order requiring the use of facial coverings when indoors in workplaces and public settings. Businesses and individuals in the County of Marin must continue to follow the California Department of Public Health's Guidance.	Marin	<a href="#">Link</a>
11/6/21	Children ages 5-11 are eligible to receive the vaccine at pop-up clinics offered by Marin County Public Health.	Marin	<a href="#">Link</a>
12/13/21	California issues new Guidance for the Use of Face Masks which requires that all individuals, regardless of their vaccination status, wear face coverings while in indoor public settings for one month, effective 12/15/21.	California	<a href="#">Link</a>
12/15/21	The Health Officer of the County of Marin re-issues the Order for the wearing of face coverings in workplaces, which included an exemption for certain stable cohorts of fully vaccinated individuals.	Marin	<a href="#">Link</a>
12/15/21	Former Marin County official charged in \$1.9 million COVID-19 rental aid theft probe.	Marin	<a href="#">Link</a>
12/17/21	Deactivation of the Marin OA EOC with the exception of limited functions. Transition of operation to HHS	Marin	
	DECEMBER 17, 2021 IS AAR/IP EVALUATION END DATE		

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