





“If Only They Knew”

A Qualitative Study on the COVID-19 response in Madera County, California

Bethany Lynn Alvey, D.M.A. and Sara Bosse, M.B.A.

MADERA COUNTY
PUBLIC HEALTH

COVID-19 Pandemic in Madera County, California

Introduction

The experience of the COVID-19 global pandemic was unprecedented. We experienced, in real-time, the process of scientific discovery during a time of fear, unknowns, and ultimately almost 400 deaths in Madera County from COVID-19. Researchers and public health professionals began with what was precedented – pandemic flu preparedness plans, non-pharmaceutical interventions, partnerships, and proven communications strategies – then incrementally whittled away what was ineffective or insufficient, and developed new guidance, procedures, testing, treatments, partnerships, approaches, and strategies based on what was learned.

Public health emergency response itself isn't new, it is very much precedented. However, the immediacy of the demands that infection, hospitalization, and mortality spikes put on communities, the skepticism fostered by the rate of change, and attending confusion was clearly unprecedented in our lifetimes. Never had the entire world experienced a pandemic while being connected to one another through internet and social media. These and many other variables created an environment of uncharted waters.

Departments of Public Health were local epicenters of the response to COVID-19, experiencing the nexus of the many challenges, perspectives, emotions, and community needs. These institutions spend their days working with the community, other organizations, and policymakers to improve the health and lives of local community members, while always monitoring infectious and chronic disease burden, health research, and disease prevention and mitigation.

Madera County

The County of Madera, population 156,255, covers 2,147 square miles in the Central San Joaquin Valley and includes the exact geographical center of the state of California. Madera County has two cities as well as more than a dozen unincorporated communities. Major industries in the county include agriculture, manufacturing, education, and government. Madera County's 156,25 residents are59.6% Hispanic/Latino, 31.0% White, 2.8% multi-race, 2.6% Black or African American, 2.3% Asian, 1.1% American Indian and Alaskan Native. English and Spanish are the predominant languages spoken in the county.

In 2021, Madera County had a higher annual unemployment rate than California (8.8% vs. 5.3%). The median household income in Madera County is only 78.7% of the median income of California. The percentage of people living in poverty in Madera County is higher than California (19% vs. 12.6%), with the majority of those in poverty under the age of 18.[1]

The California Healthy Places Index ranks census tracts using economic, education, social, transportation, neighborhood, housing, environment, and healthcare access measures. Only two of Madera County's twenty census tracts ranks above the 50% percentile on the Index, with 9 of the 11 most populated in the bottom 25%.[2]

COVID-19 Pandemic in Madera County, California

Qualitative Study - A Collective Memoir

Madera County Department of Public Health (MCDPH) chose to embark on a qualitative study to mark and memorialize the experience of being this nexus, of the pandemic response in Madera, to take note of successes and challenges, to plan for any future response through lessons learned, and to enhance the After-Action Report conducted as part of the standard emergency response procedure. A qualitative study was selected to gather the stories and experiences of participants from various sectors of the response.

The priority of data collection for the study was focused on interviews, beginning with employees hired specifically for the response, then moving outward to response members who are permanent MCDPH staff, then response members who are not part of MCDPH, then finally partners and community members who were not part of the response. In addition to interviews, over 20,000 documents were reviewed as part of the Madera County COVID-19 response. During data collection, over a hundred interviews were conducted with sixty-six participants. These participants were invited to interview anonymously but were given the option of disclosing their name if they chose.

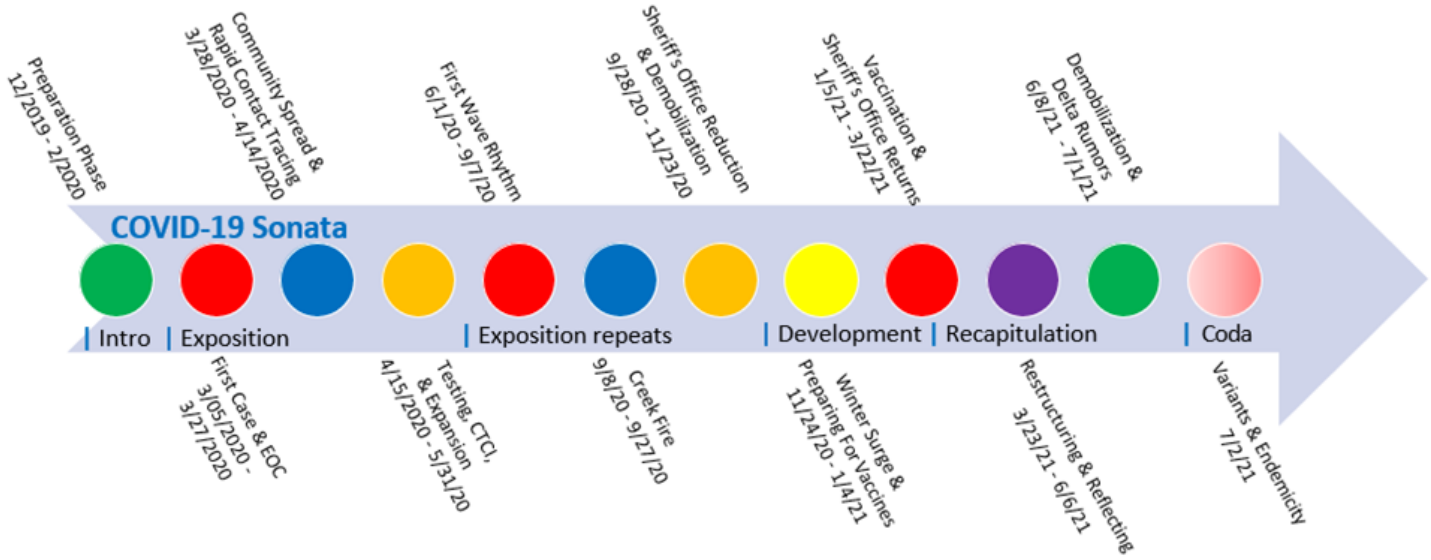
As the bulk of the interviews concluded, two member-check validation strategies[3] were employed to ensure the consistency of the analysis and participants were invited to return to both confirm the analysis and contribute to the reporting. The first member-check was a pair of focus groups made of participants; they reviewed the analysis and offered their commentary. The second member-check was a Visual Reporting Strategy that invited participants to view visual representations of the data and respond to confirm or correct the analysis, and to contribute a painted tile to a collective mosaic – a distinctive marker of qualitative research.

Visual Reporting Strategy: Room set up with stations for participants to move through and respond.

A Pandemic Response in Sonata Form: “Life imitates art”

The first view of the COVID-19 response taken by the study was to understand the timing and sequence of the response. The Madera County COVID-19 pandemic response, showed repetition of similar issues and problems in a range of different scenarios, evolving and varying approaches to the response, and finally a more stable response as the emergency response began to stabilize. This pattern of recurring and varying responses leading to resolution had an intriguing similarity to the changes and variation that occur in musical composition. In classical music, large complex compositions are often understood by their form and structure. It is easier to explore complex harmony and variations in melody with an understanding of the underlying structure and form of the music. One of the most recognizable musical forms is the sonata, with its recurring themes in different keys and with variations, ultimately leading to a resolution-. This report found that using the sonata form as an analogy to communicate the various phases of pandemic response was surprisingly effective and revealing.

Madera COVID-19 Response Timeline: The COVID-19 Sonata



In sonata form, an Introduction opens the piece (green dot). The Exposition introduces a series of melodies (red, blue, and orange dots). Then the Exposition is repeated. With the subject firmly established, a sonata composer will enter the Development (yellow dot), where fragments of the melodies are broken apart, distant and related harmonies are explored, and the boundaries of the sonata’s context are pushed. The material from the Exposition returns once more in the Recapitulation (red dot) with a shift in key (purple dot). The Recapitulation closes with a strong cadence (second green dot). Finally, a coda (Italian for “tail,”) adds a final word to the piece, perhaps trailing off into the future, as though the music were continuing.

Introduction:

Preparation Phase: December 2019-February 2020

The novel coronavirus started making its way into the global consciousness at the end of 2019, and the first positive cases in California were reported on January 26, 2020, but it wasn’t until March 2020 that COVID-19 made its presence felt in Madera County. A lot happened in those first few weeks leading up to the first local case and the Madera County COVID-19 response. MCDPH had already begun meeting about the novel coronavirus in February 2020, but there were a few unusual circumstances regarding personnel that had a rippling effect on the emergency response in Madera. The Medical Health Operational Area Coordinator

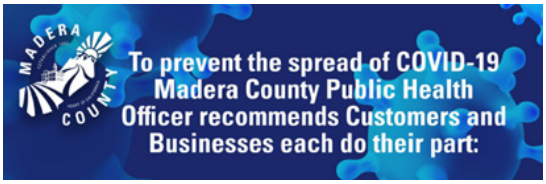
(MHOAC) and Emergency Preparedness (EP) subject matter expert for MCDPH was out on leave and the Public Health Officer from a neighboring county was serving as interim Public Health Officer for Madera County.

The catalyst for initiating the response in Madera County came from two different partners – medical and educational. Medical partners and administration at Valley Children's Hospital (VCH) were shoring up resources in the light of increasing Personal Protective Equipment (PPE) shortages due to COVID-19 and reached out to MCDPH for assistance via their MHOAC around February 26th, 2020. Governor Newsom declared a State of Emergency on Wednesday, March 4th.

Exposition

First Case and EOC: 3/05/2020-3/27/2020

By Friday, March 6th, the first case of COVID-19 in the Central Valley was confirmed in Madera County - a returned passenger on a Princess Cruises' ship – and brought California's total confirmed COVID-19 cases to ninety-six. The following weekend, on March 7-8, 2020, educational partners in Madera requested a meeting with MCDPH to discuss the emergency response. This meeting brought the Office of Emergency Services (OES) and Sheriff's Office into conversations regarding COVID-19, four days after the Governor's Declaration of Emergency; the Emergency Operations Center (EOC) was officially opened on Monday, March 9, 2020, with unified command Madera County Public Health Director and Madera County Sheriff serving as Incident Commanders.



The following weeks were spent in setting up the EOC at MCDPH with the guidance of OES and the Sheriff's Office, setting up communications structures with collaborating partners, answering questions and calls from the public, and beginning to develop a strategy for Madera County that included Rapid Contact Tracing, limiting large gatherings, and a checklist for businesses to indicate which safety measures they'd be taking. March 19, 2020, was a significant date in the COVID-19 response in Madera County. The second and third positive cases, with no known infection source, were announced. More Operations staff support was given toward case investigation, and the Madera County 311 COVID Call Center was in high demand.

MCDPH held their first press conference to announce limitations on large gatherings to no more than 50 people; moments later, Governor Newsom announced the Stay-at-Home order for California. This same day public schools announced closing for three weeks. In addition to equipping the EOC at MCDPH, activities during this time included arranging housing for positive cases who were unable to isolate, increasing activity in the Joint Information Center (JIC), work on public messaging, and planning for communal living populations at the jail, juvenile hall, and state prison. Logistics was working to locate and fill requests for PPE. One week later, there were ten positive cases and the first COVID-19 related death in Madera County. Operations was continuing to focus on case investigation and constructing Quarantine and Isolation orders and a Quarantine List. They also planned for a team to contact homeless individuals along the river. Logistics contacted and received hand sanitizer from a local brewery.

Community Spread and Rapid Contact Tracing: 3/28/2020-4/14/2020

At this point, the cases started expanding, particularly after a well-attended funeral. To attend the community's growing need for answers, the county 311 COVID Call Center was equipped to take calls regarding COVID-19 during and after business hours and on weekends. Operations staff, including the newly formed Nurse Strike Team, focused on developing a web of close contacts to facilitate case investigation. This web expansion and growing awareness of the virus in the community yielded 423 monitored exposures by 4/2/2020. Positive cases climbed fairly quickly (though not as steep as later surges) from 21 confirmed and one fatality by 3/31/20 to 30 confirmed and two fatalities a week later. Systems for regular reporting of testing and cases were established and refined over time. There was a lack of revisions or updates to the Incident Action Plans (IAPs) for these two weeks and combined with the increase in positive cases points toward an intense increase in response needs and personnel shortages to attend to the necessary activities.

The Madera County Public Health Officer joined the response during this time, and the IAP document dated 4/9/20-4/10/20 marked significant updates and revisions to prior plans, and reflected a greater weight of the response being taken on by Public Health. Staffing needs were already being felt even at this early stage, and the response spread out to cover a wide range of activities, and a concurrent expansion of personnel. A survey of care facilities was in progress, communication with Madera Community Hospital (MCH), Madera South High School, VCH, 144th Air National Guard Medical Unit, and others. Logistics continued to work toward securing resources, specifically ordering 50,000 surgical masks and other supplies.

Documentation from this time indicates that conflicting approaches to the response were beginning to emerge. As case rates were climbing and activity in the response was increasing in Operations, the Planning Section at this time recorded looking beyond to the "after COVID," phase, and what recovery will look like. The early stages of strengths found in Madera's COVID-19 response began to emerge at this time as well – the Public Information Officer (PIO) team daily noted which prior objectives were met and completed and added new objectives to their plan.

Testing, Contact Tracing and Case Investigation (CTCI), and Expansion: 4/15/2020-5/31/2020

The second month of the response was not recorded well in documentation, with several identical IAPs submitted for repeated days. What is apparent is the activity the response was targeting: securing housing at Casa Grande for COVID-19 positive individuals to isolate if they did not have the resources to do so themselves, case investigation and contact tracing, distribution of masks, and acquisition of testing cartridges. By the end of May, there were 1991 total reported test results, with 106 positive cases.

Repetition of Exposition:

First Wave Rhythm: 6/1/2020-9/7/2020

The summer months saw the first large swell in cases as protests to shelter-in-place and closures ranged across the state. Reported cases on June 1, 2020 were at 114, at the end of the summer on September 8, 2020, cases reached 4,030 and 30 deaths. The volume of cases meant that reporting by zip code was now possible without likely risking a HIPAA violation. It was during this summer surge that the strategy of rapid contact tracing became untenable. Sheriff's Officers were issuing quarantine isolation orders until late into the evening, MCDPH responders were working late hours and weekends, and in some cases even staying overnight at the office. Major changes to the response during this phase were personnel shifts at the Command level of the response, the transfer of current COVID-19 data from IAP document to the MCDPH website and restructuring of branches in the ICS Sections including additions of the Lab Division, Mobile Testing, and OptumServe(oversight of the state's test site). Ongoing issues indicated in the documentation reference staffing shortages for the CTCI team, delays in testing, and needs for temporary housing. The CTCI team transitioned to the state's CalCONNECT platform, facilitating faster onboarding of CTCI staff with fewer skill/ experience contact tracing and case investigation prerequisites. Another major change in this phase was that the documentation became consistently updated every week, beginning in early August 2020.

Creek Fire: 9/8/2020-9/27/2020

The month of September compounded pressure on the COVID-19 response, and on community members of the Central Valley in general, from the Creek Fire. The Creek Fire started on September 4, 2020 near Shaver Lake, CA, and burned until December 24, 2020. It burned 379,895 acres, mostly in the Sierra National Forest, and was the fourth largest wildfire in California history. In addition to clouding the air with smoke, soot, and ash, the Creek Fire had a direct impact on the COVID-19 response by drawing OES and Sheriff's Officers to the disaster incident in the mountains, while the protracted incident continued to roll in the valley. Another 521 positive cases added over the next twenty days. Public Health participants barely recollected the Creek Fire, if they mentioned it at all without prompting. The few that did recall the fire remarked on diminished air quality and the heat as they worked outdoors at testing sites, or navigated the balance between increased ventilation to lower risk of infection and secured ventilation to lower risk of smoke inhalation and its adverse effects on indoor staff.

Sheriff's Office Reduction and Demobilization: 9/28/2020-11/23/2020

As a result of the Creek Fire, the presence of Sheriff's Office in the pandemic response pulled back significantly. The one exception to this is the CTCI team, where a team of deputies continued to serve quarantine and isolation orders. Cases at this time still increased (an additional 1,380 positive cases over two months), but the rate of increase was not as steep as previous months, so it allowed space for the response to make some important adjustments both at the county level and at the state. Data cleaning and dashboard updates were made in the CalREDIE division (named for the California Reportable Disease Information Exchange), as well as meeting with healthcare facilities to advocate onboarding into the CDC's National Syndromic Surveillance. OptumServe and Mobile Testing developed into two independent Groups out of the Testing Branch. During the 10/19/20-10/26/20 Operational Period the first reference to a vaccine was made in the response, though it would be another six weeks before they were given an Emergency Use Authorization, and not distributed to Madera County until late December.

This phase also mirrored the first expansion from April-May 2020. ICS roles again became more defined, activities became more sophisticated, the PIO team became more robust. Specifically, the PIO noted a 48-hour timed response for the PIO team to get back to phone calls, emails, and community feedback forms (questions submitted by community members through a form on the website), providing support and oversight to Madera County community and businesses, and sending Halloween guidance out through Madera Unified School District's parent square app. MHOAC set a goal to attend the first in-house COVID-19 vaccine planning meeting in addition to filling normal requisitions. Planning continued to revise the IAP format, developing medical branch division protocols, begin mass vax planning, and generating COVID-19 grant narratives. The Mass Vax division was added to Operations, as well. The Testing Division began listing out specific testing dates at various sites. By 11/17/20-11/23/20, the final Sheriff's Office employees were demobilized from the response and returned to Sheriff's Office, and their roles were assumed by Public Health COVID-19 responders. Strategic moves at the end of this phase included recording PSAs, mailers, videos, joint messaging with Fresno and Merced counties, a vaccine workbook, securing funding for an ultra-cold freezer, using Salesforce to request additional PPE from CDPH, and others.

Development

The winter surge and preparation of vaccines used all the same elements of the initial pandemic, but added variables contributed to an unexpected experience of chaos and stress.

Winter Surge and Preparing for Vaccines: 11/24/2020-1/4/2021

With the withdrawal of Sheriff's Office, the relaxing of shelter-in-place and closure guidance, the growing political unrest and general pandemic ennui, and with a vaccine still in the wings, the county was poised for a large surge entering the winter. Over the course of six weeks, an additional 5,322 positive cases were confirmed in Madera County, totaling 11,253 positive cases and 162 deaths. The Safety Officer's presence in the IAP includes references to increased temperature checks, masking, and entering through one door. The MHOAC noted meeting with Madera hospitals to discuss staff shortages impacting COVID-19 response efforts. This phase, for participants, included a lot of stress, rationing out what activities were worth the investment of resources and energy, increased capacities in the lab, and preparing for vaccines. The first vaccines were administered on December 31, 2020, and indicated a significant turn in the response, from emphasizing testing and safety measures to promoting vaccination in the new year.

Recapitulation:

During this phase of the pandemic, MCDPH revisited several challenges with distinct and recognizable parallels to the early response through their implementation of vaccination, encountering staff shortages to meet the response, partnering with Sheriff's Office and others, as well as surges and plateau. Pushing through these challenges, MCDPH moved into a steady cadence.

Vaccination and Sheriff's Office Returns: 1/5/2021-3/22/2021

The beginning of 2021 was primarily focused on rolling out the vaccine with fixed site clinics on the Health and Human Services Campus and the Madera County Fairgrounds, and Mobile Vax clinics. The increase in response activity necessitated a limited return of the Sheriff's Office to support vaccination roll-out. Over these first few months, supply increased and eligibility expanded for vaccines, grant funding for COVID-19 and vaccination increased, and Community-based Organizations (CBOs) were deployed to a greater degree. There was also an indication of a shortage of vaccine supply in late January 2021. Other important movements in this phase of the response included assisting MCH with ICU bed expansion, staffing changes in finance and onboarding new Public Health staff for the response, and opening a mass vaccination clinic in Oakhurst. Multiple software platforms were deployed to facilitate scheduling, tracking, and reporting of vaccinations. Positive cases during this eleven-week period were less than half of the previous six weeks, only 4,512 between the beginning of January and third week of March. The availability of a highly successful vaccine led to the first true plateau in positivity rate and gave the response team its first real space to breathe and take stock.

Restructuring and Reflecting: 3/23/2021-6/6/2021

The beginning of 2021 was primarily focused on rolling out the vaccine with fixed site clinics on the Health and Human Services Campus and the Madera County Fairgrounds, and Mobile Vax clinics. The increase in response activity necessitated a limited return of the Sheriff's Office to support vaccination roll-out. Over these first few months, supply increased and eligibility expanded for vaccines, grant funding for COVID-19 and vaccination increased, and Community-based Organizations (CBOs) were deployed to a greater degree. There was also an indication of a shortage of vaccine supply in late January 2021. Other important movements in this phase of the response included assisting MCH with ICU bed expansion, staffing changes in finance and onboarding new Public Health staff for the response, and opening a mass vaccination clinic in Oakhurst. Multiple software platforms were deployed to facilitate scheduling, tracking, and reporting of vaccinations. Positive cases during this eleven-week period were less than half of the previous six weeks, only 4,512 between the beginning of January and third week of March. The availability of a highly successful vaccine led to the first true plateau in positivity rate and gave the response team its first real space to breathe and take stock.

Demobilization and Delta Rumors: 6/8/2021-7/1/2021

In the final three weeks before demobilization, only 143 positive cases were reported. This in and of itself is a mark of change, considering what the response had been from both the public and MCDPH in their first three weeks, where there had been only ten positive cases. The Logistics Section first indicated demobilization on the IAP dated 6/14/21-6/21/21, and only minor updates to objectives were made in the other sections.

Coda:

Italian for "tail," a coda is a finishing touch on a sonata. At times it can provide a definitive punctuation mark on a work, while at others it can give the impression of the piece trailing off into the distance, ad infinitum. Madera County COVID-19 response was the later.

Variants and Endemicity: 7/2/2021

The course of this case study is bounded by the official ICS demobilization date – July 1, 2021. By this date, however, there was already a sense of anticipation for the variants making an appearance abroad and nationally. Variants did indeed come to Madera County, first Delta in late summer 2021, then a large spike in early 2022 with Omicron. These variants and the response in Madera County Department of Public Health are beyond the scope of this project, but it is worth noting that by October 2022, the number of positive cases has more than doubled since July 1, 2021 from 16,614 to 42,168, and that MCDPH has integrated COVID response activities into normal operations.

Major Themes

In speaking with the participants from the response, seven major themes emerged to describe their experience:

1. “If they only knew” – The senses of belonging and separation
2. We Didn’t Know What We Didn’t Know – Ubiquity of the unprecedented
3. Change Is the Only Constant – Adaptability was the most valuable skill
4. You’ve Got a Friend in Me – Reliable collaboration and camaraderie
5. Hammers and Screwdrivers – Varied approaches in emergency pandemic response
6. Flood of Emotions – Wide splay of varied positive and negative emotions
7. Hard and Worth It – Loss, conflict, pressure, division AND growth, opportunity, difference-making, amplification

Each of these themes were constructed primarily from interviews and are syntheses of participants’ perspectives. Examples here are primarily reconstructions and syntheses of participant responses. Each theme is accompanied by a tile painted by participants during the Visual Representation Strategy, one of the methods of validation employed during the study.

1. “If they only knew” -- The senses of belonging and separation

Across the interviews, there was a consistent sense of being misunderstood in some capacity. Largely this was spoken of with graciousness and understanding. This theme arose out of phrases like “they didn’t understand,” or “if they had any idea what this was like,” or “what they didn’t see was.” The they in these comments was rarely the same person, and this revealed various boundaries between groups, explicit and implied. The sense of belonging and separation varied in intensity depending on how often and with what impact it was reinforced.

The most obvious chasm lay between COVID-19 response workers and community members uninvolved in the response. Participants cited comments on Facebook (“You mother f-s had one mother f-ing job.”); complaints from community members about inconsistent information (“They didn’t realize we were finding things out during the same press conference they were.”); difficult conversations with family members; and even reflective statements by Extra Help employees who, at hire, thought COVID-19 “wasn’t a big deal,” then experienced a greater appreciation for the pandemic after beginning to work for the response and speaking with frontline medical workers.

Another mutual sense of misunderstanding lay between boots-on-the-ground responders in clinics and those in administrative roles. At various times both expressed confidence that the other would behave differently “if they only knew,” what their day-to-day experience was like, and the challenges inherent in their work.

Sheriff’s Office, OES, and EP experts expressed both frustration and compassion for Public Health employees who were unfamiliar with how Incident Command Structure should work.

Participants across all dimensions of the COVID-19 response in Madera County expressed frustration with state-level agencies not understanding the needs, values, incident situation, and temperament of a partially rural county in the Central Valley compared to urban coastal areas. Participants remarked that state-level orders and guidance was often mis-timed for the spread of the pandemic, and often inhibited cooperation with hesitant community members.

2. We didn't know what we didn't know -- A plethora of new experiences and blind spots

In a self-reflective foil to the first major theme, participants voiced another: "we didn't know what we didn't know." This theme emerged from participants frequently referencing how out of the ordinary this pandemic was – how the virus was unpredictable, how its spread was unprecedented and its mitigation experimental. COVID-19 response participants spoke about reacting in real time to decisions made from places of higher authority like the CDC or the California Department of Public Health based on the newest research.. Some responders, recalling the activity around the H1N1 swine flu pandemic of 2009, noted how even that was nothing like COVID-19. Participants described a constant state of discovering or learning something new.

3. Change is the Only Constant – Adaptability was the most valuable skill. (See Strengths & Successes in the Response below)

There was no typical day, no predictable progression to the unfolding of this pandemic or the response. Many participants, at all levels of the response, expressed how the moment they landed on a policy or procedure, something new was learned, communicated, announced, or enacted that made those policies or procedures obsolete.

4. You've Got a Friend in Me – Reliable collaboration and camaraderie. (See Strengths & Successes in the Response below)

Again and again, the sense of teamwork, reliability, and a sense of being "in this together" pervaded the response. Even when pressed to highlight areas of weakness for future improvement, these suggestions were always qualified by a positive regard for response personnel. For example, participants shared remarks like, "You just knew that someone would have your back if you needed to take a break," "They really were always ready to help us out and answer questions," and "There was this sense of even though it's crazy, we're all in this together."

5. Hammers and Screwdrivers – Varied Approaches in Emergency Pandemic Response.

Several dichotomies were highlighted in the "how," of addressing the COVID-19 pandemic. (See Challenges & Weaknesses in the Response below) This tension of strategies was located in three primary areas, although it arose interpersonally from time to time as well. The three primary areas of tension were the State approach (e.g. stay at home order) vs. MCDPH approach (e.g. a business-led safety checklist), the Sheriff's Office direct action vs. MCDPH deliberative discussion, and ICS structure and FEMA reimbursement vs Public Health organization and grant requirements. A secondary tension of strategies revolved around the pre-existing EP Plan and its insufficiency to address the COVID-19 pandemic.

6. Flood of Emotions – Wide splay of varied positive and negative emotions.

The intensity and length of the response afforded the opportunity for participants (and those with whom they interacted) to experience a range of emotions and intensities. Several participants remarked on the difficulty of managing these emotions and their mental health over the course of the response. Participants also strongly recommended mental and emotional health support being a focus of any Emergency Preparedness Plan improvements in the future. The range of emotions communicated during the study interviews was varied and intense, and described in more detail below.

7. Hard and Worth It – Loss, Conflict, Pressure, Division AND Growth, Opportunity, Difference-making, Amplification.

While most participants did not hesitate to relate how difficult they found this experience to be (for various reasons), they emphasized the senses of pride, responsibility, duty, and joy they experienced. (See Strengths & Successes in the Response below)

COVID-19 Emotions

There was no shortage of emotions experienced by the COVID-19 response team, across a broad spectrum from negative to positive. The range of emotions communicated during the study interviews was varied and intense. During an interview, a single participant may cry, laugh, speak with utter sincerity and total incredulity. Personalities may have varied, but throughout the interview process, many emotions rose to the surface as significant. The emotions cited by participants would at times seem contradictory. A single participant might express excitement and fear, listlessness and determination, feeling needed and devalued. Several participants expressed this kind of paradox. Several remarked on the difficulty of managing these emotions and their mental health over the course of the response.

As participants discussed the various emotions they experienced, two broad categories emerged. First, they described what the pandemic response felt like to them, as something external (It Felt). Secondly, they described how they themselves felt during the response, or how they observed others felt, as an internal experience (I/Others Felt). While there was greater variety in the emotions that were expressed as generally negative, those experiences described as generally positive were emphasized as carrying more weight or loomed larger in their perception.

Table of COVID-19 Emotions

It Felt

Generally Positive	Neutral	Generally Negative
Important Historic, an opportunity, a foot in the door, iconic	**New** A novelty, eye-opening	**Confusing** Puzzling, conflicting
		In Flux Unstable, unpredictable, inconsistent, constantly changing, ambiguous
Exciting Invigorating, like a challenge, fun	**Interesting** Intriguing, odd, bemusing	**Stressful** Demanding, fast-paced, overwhelming, intense, urgent
		Not Enough Unsafe, insufficient, ended too soon, unenforced
Shared Collaborative, cooperative, "we're all in this together"	**Delicate** Complicated, complex, sensitive, volatile	**Too Much** Overblown, impractical, constraining, oppressive, dragged on, wasted effort
		Charged Out of control, hysterical, divisive, political

I / Others Felt

Generally Positive	Neutral	Generally Negative
Optimistic Enthusiastic, fired up, hopeful, sense of relief	**Pressure** Scrutinized, put-upon, rushed, others were counting on me/waiting for me, self-imposed demands	**Devalued** Othered, dismissed, lonely, overlooked, misunderstood, bypassed, undercut, "all this for nothing", discouraged
		Tired Depleted, over it, resigned, disappointed, exhausted, jaded, bored
Needed Sense of responsibility, sense of pride, sense of accomplishment, sense of satisfaction, respected		**Afraid** Insecure (for job), concerned (for family, friends, loved ones), cautious, worried about progression of the virus, traumatized
		Angry Frustrated, incredulous, skeptical, annoyed, bitter, offended
Empowered Competent, capable, "I can't believe I did that!", creative		**Confused** Lost, manipulated, distrustful, lied to, conflicted
		Sad Grief, weary, deflated, empathy, depressed
Valued Heard, supported, sense of belonging, appreciated		**Limited** Nervous over job performance, "I should have known", "out of my depth", unprepared, incompetent, constrained, distracted
		Shame "I caught it"; guilt, embarrassment, self-critical, self-judgment

Lessons Learned

Strengths and Successes of the Response

Challenging times have the tendency to reveal strengths and provide opportunities for success. COVID-19 response members noted the following strengths and areas of success in Madera County.

1. Collaboration

COVID-19 response team members frequently cited a sense of collaboration – the ability of the response team to work together, the feeling of support from their colleagues, the confidence that came from the partnership with Sheriff's Office, and the joy of working in other partnerships (CBOs, MUSD, etc.) were mentioned. Participants also noted access to leadership as a significant benefit and source of encouragement to them during the response.

2. Dedication

Shared among the participants was a sense of duty and responsibility to respond to the pandemic. As a follow-up question some participants were pressed as to why they continued to put in the long hours and submit to the stress of the response – to a person, this was a non-starter. There was a need, and they were there to meet it. This sense of dedication led to perseverance in hard work, and kept essential services of MCDPH operational (particularly programs that served children and minors in Madera County). Participants also described their colleagues as tenacious, quick to respond, willing to get stuck in, and available.

3. Positivity

Marking the response as a whole was an attitude of positivity. There was, despite the stress and obvious mental and emotional fatigue, a sense of pride and accomplishment among participants. They even displayed enthusiasm for the work rooted in a firm belief in the objective of keeping Maderans as healthy as possible. They displayed great resilience and an affection for colleagues that had a profound effect on the atmosphere of the department.

4. Visibility

Participants reflected that prior to the COVID-19 pandemic, Public Health was not invisible, but perhaps easily overlooked. Justification for continued funding, let alone for expansion, was challenging. When they're doing their job, Public Health, like many preventative or supportive channels, are easy to overlook. For example, if the a public health prevention program is successful, it will appear that the problem doesn't exist, and sustaining the program unnecessary. However, after COVID-19, participants noted a dramatic increase in social media traffic, and that "people know about public health now." Several spotlights shone on Madera County over the course of the pandemic, from the L.A. Times and other media to state recognition and a visit from Governor Newsom, from presentations at conferences to highlighting champions at the local level.

5. Adaptability

The entire leadership team was in agreement as to flexibility being the most important asset to a member of the COVID-19 response team. Members of the team who were noted as being most successful possessed ingenuity and problem solving skills; that they were receptive and regularly creative in their responses. These same participants responding to the pandemic admitted the experience to be eye-opening and necessitated their ability to change quickly and without hesitation.

Challenges and Weaknesses of the Response

The complexities of the COVID-19 response manifested certain challenges and revealed areas of needed improvement. Participants articulated the following challenges and areas of needed improvement specific to Madera County.

1. Communication

The most significant challenge facing the COVID-19 response team was one of communication. Miscommunication and missed communication between parties, misinformation from the outside, inconsistent internal communication, hallway conversations and quick decisions being needed in the moment – these were a profound source of difficulty during the response. Participants described a fear of not knowing what they may have missed – either on a day off or even from simultaneous meetings. Participants also described lack of consistent record keeping as a problem. There were strong feelings regarding the EP Plan – some felt it was sufficient but unused, some felt it wasn't used because it was insufficient to the needs of COVID-19, many participants asked why there wasn't one at all, or that there should be one in the future. These comments at least revealed the fact that there was a gap in communication regarding the plan, and that should be addressed. An additional challenge when it came to communication was the need to navigate politics while attempting to communicate effectively – participants described having to think very carefully about how any given message may be received by multiple parties.

2. Infrastructure

Participants who were full time staff prior to COVID mentioned the move into the new building in November 2019, and a few key individuals noted challenges around created from finding the issues in the new building. Other infrastructure challenges were found in technology gaps and outdated procedures, and MCDPH found themselves "building the plane in the air." Due to being understaffed or inadequately staffed and experiencing delays in hiring process, COVID-19 response members often experienced long hours. These long hours were exacerbated in programs run by two or three people (e.g. Communicable Disease). A lack of established relationships with businesses, tribal communities, or certain private providers created a barrier to efficient response.

3. Rationing

Participants often found themselves having to count opportunity cost and ration their time, energy, and course of actions. This is understandably necessary in an emergency response, but the necessity does not preclude difficulty. Participants had to prioritize problems and needs, make choices between different methods, and make do with little time for training/supervision/review. Participants also reflected on having to balance how much information they could provide to the public without violating HIPAA and yet still providing enough to counteract an environment of misinformation exacerbated by social

media. They mentioned being conscious of an anticipated public interpretation of what they needed to share. Participants also mentioned having to consider what would be most effective in Madera County when perhaps the broadly recommended course of action was not effective.

4. Obscurity

Much of the COVID-19 experience was obscure – the novel virus and the unpredictability of its spread and variations. It was an unprecedented event for the current workforce, the last pandemic of this scale being in 1918. The rate of change during this pandemic inhibited mastery and confidence in the response. Funding sources were unclear at the outset. New staff, depending on when they were hired, described a lack of assignment/clarity on duties. Several participants referenced either their own or others' inexperience, as well as unrealistic expectations from others both within and outside the department.

New Growth

MCDPH has already made, or is planning to make, the following changes to their normal operations.

1. New Programs

New programs were developed to meet the needs of the department as they correlated to needs of the COVID-19 pandemic. Much needed technology updates were met through adding an in-house IT/Informatics program. Provider Outreach was created as relationships with local providers needed a more consistent channel for testing and vaccination, but also would serve future goals and connection. Mobile Health was initiated as a measure to connect to underreached populations of Madera County and provide COVID testing and vaccination services, and MCDPH programs are already working with Mobile Health to provide and connect these populations to other non-COVID services. Perhaps the largest program development in MCDPH as a result of the pandemic is the newly formed EPIC section (Equity, Preparedness, Improvement, Communications).

2. Revised Programs

Existing programs in MCDPH were given attention and revision throughout the course of the pandemic. The two largest revisions came in expanding Communicable Disease – more than doubling in size – and sophistication of Communications Team. Other revisions came as need became apparent and are continuing to be reworked, such as translation & bilingual services and other equity measures, and EP specific changes.

3. Staff Positions

To meet these new and revised program needs, positions were either created or modified. MCDPH hired in-house IT/Informatics staff to facilitate the much-needed technological updates to programs. They also created a position to work as Provider Liaison between MCDPH Health Officer and local providers. The new EPIC section needed a program manager. These vacancies were often filled by Extra Help Staff who had come in to assist with COVID-19 and desired to move into a permanent staff position.

4. Opportunities

MCDPH is already pursuing avenues of growth and areas of opportunity. The most visible over the next few years will be the expansion and improvement to the Public Health Laboratory and a Center for Community Wellness. Employee training is an area of focus for growth. Some participants noted how helpful permanent liaisons would be to develop or improve community relationships, such as School districts and businesses, and particularly in unreached or under reached populations.

Future Pandemic Response

Based on comments made by participants during the study, MCDPH employees propose several goals for future pandemic response:

1. Emergency Preparedness and All-Hazards Plan

Whichever course MCDPH takes in revisiting and revising their EP Plan, staff are in agreement that it must be more familiar and accessible to employees at all levels. EP participants recommended an EP subject matter expert in every ICS Section. Regular training and drills with staff, particularly in partnership with Madera CalFire, was recommended by participants from Sheriff's Office. Clearer communication ahead of time about what is a non-negotiable essential service that must be maintained during an extended incident, and about the responsibilities for all employees designated as Disaster Service Workers, ready to deploy. There will also be review as to adaptations to make for long-duration incidents.

2. Training ICS

There were many mentions of the ICS structure by participants with a wide variety of perspectives – whether ICS is an appropriate system to apply in a Public Health emergency, whether Madera County was using ICS correctly during the response either in whole or in part, etc. Responses from participants when asked to elaborate on ICS during the COVID-19 response were conflicting. If MCDPH continues to use ICS in an emergency in the future, familiarity and proficiency with the system are critical to provide a seamless transition to an emergency response, particularly where it comes to centralized communication and records keeping. There should also be clarity of the departmental organization chart and a DOC org chart; as well as clarity around leadership and supportive roles between an EOC and the DOC. There were elements of ICS that were recognized by participants to be particularly useful, even for normal operations – a span of seven direct reports normalized throughout the department, and a three-deep approach.

3. Investment Prior to Incident

Apart from reviewing the use of ICS, participants expressed a variety of preparations that could be made prior to the next incident. Some suggested sourcing and stocking nonperishable emergency pandemic supplies – but then there is an added challenge of storage. Many recommended a focus on building and maintaining relationships with more of the community by appointing liaisons to facilitate these connections. Participants also expressed a need for robust and consistent internal communication, regular review of technology needs, and equity strategies in place

prior to an emergency. More creative suggestions to facilitate goals of being more connected were periodic interdepartmental and intradepartmental presentations, and county employee exchanges to facilitate ease of interdepartmental partnerships. There was also the pointed request to streamline the hiring process during an emergency to expand quickly and meet the need of the moment, rather than a delay of many weeks during a surge.

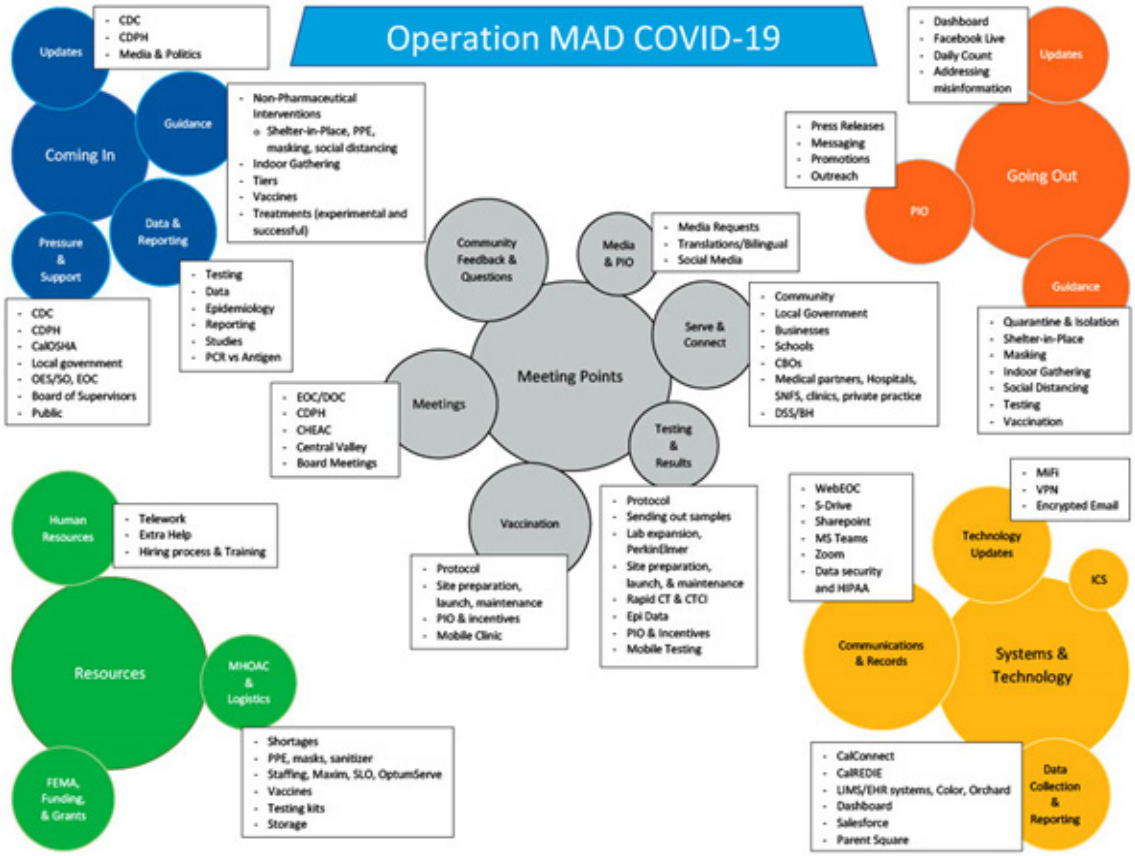
4. Culture Maintenance

Finally, to build on the strengths of the response, ongoing investment in maintaining the culture is vital. MCDPH may find new ways to train and practice flexibility and communication, prioritize mental and emotional health care (especially during an emergency response), and normalize asking for help. While some normal procedures were curtailed for times' sake, MCDPH discovered that taking time to plan as well as thoroughly onboard new employees was critical. When every minute counts, this may be the most difficult challenge of an emergency.

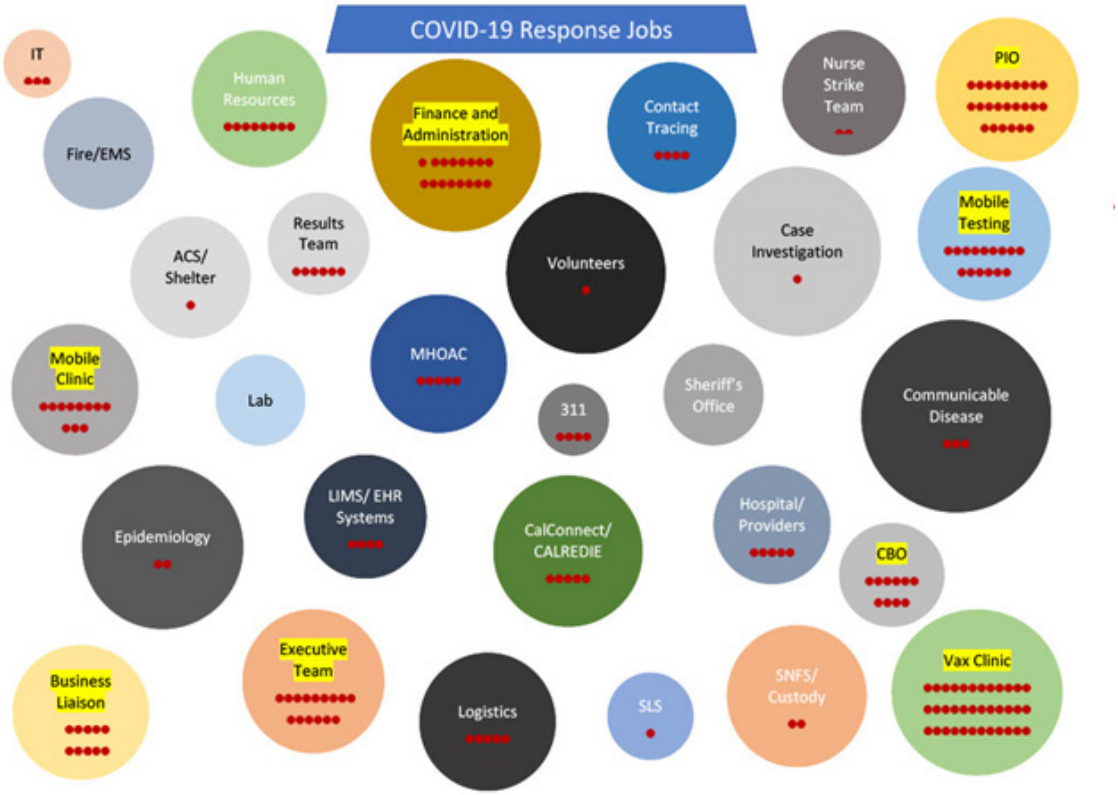
Madera County and the COVID-19 Response Team

Following the major themes of the response, participants' descriptions of the sense of teamwork led to a depiction of groups that formed (or were already present) in the COVID-19 response. These group identities were made primarily by the work done by those groups. For example, one of the first group identities that emerged during interviews was the Nurse Strike Team. This was made up of nurses who were active early in the response in contact tracing and case investigation and gathered to work together on the first floor of the Department of Public Health. This team was eventually reformed and replaced by the CTCI team. The PIO team maintained a strong sense of group identity throughout the response. The MCDPH executive team often spoke of their trust in and affection for one another. Even the absence of a team created a negative-space where a group identity could fill, if there were people to fill it. Team members in the finance section were frequently redirected to other parts of the response, so there was a sort of outline where a group could form.

Job Assignments



Group Identities- Red dots represent how much time a participant spent in those activities/groups.



Coming In

COVID-19 response members were constantly inundated with new information of all sorts – updates, guidance, data and reporting, and varying measures of pressure and support. Updates regularly made their way in from the CDC and CDPH and even, during the most intense phases of the response, from media and politics. Participants remarked that the public would call in with questions regarding things that they had only learned about themselves via the media moments before. Guidance from the CDC and CDPH ranged from non-pharmaceutical interventions (shelter-in-place, PPE, masking, and social distancing) to the tier system in California, from vaccines to treatments, both experimental and clinically successful. Data and reporting from epidemiology concerned testing, virology, vaccines and mortality. Madera County's COVID-19 response felt both pressure and support from various spheres – CDC and CDPH, but also CalOSHA, local government bodies and the Board of Supervisors, and of course the public. Support often looked like commendation and resources, while pressure often looked like scrutiny or accusation.

Going Out

As information was coming in, the COVID-19 response team was also charged with disseminating information through the PIO, providing updates, and issuing guidance. Updating the public was accomplished through maintaining a dashboard of information available online, regular Facebook live events with the Public Health Director and Public Health Officer, posting the daily count of infections and hospitalizations on social media, and addressing misinformation. Guidance issued by MCDPH during the response began with quarantine and isolation for those who were found to be COVID-19 positive, shelter-in-place consistent with state guidance, masking, indoor gathering, social distancing, testing, and vaccination. All of these outgoing messages were supported by and filtered through the PIO. In addition to reviewing updates and guidance, the PIO team regularly communicated with the public through press releases, messaging, promotions, and outreach.

Meeting Points

Between what was coming in and going out, the response team did the bulk of their work to serve the community. They addressed community feedback and questions, they responded to media requests, updated social media, and regularly provided translations and bilingual services. They served and connected to the community, the local government, businesses, schools, Community Based Organizations, medical partners, hospitals, skilled nursing facilities, clinics, private practices, and other county departments (Department of Social Services and Behavior Health). The first phases of activity were centered around testing and results, protocol, sending out samples, lab expansion, site preparation, launch and maintenance, rapid contact tracing and case investigation, epidemiology data, PIO and incentives for testing, and the development of mobile testing sites. The latter phases of activity were focused on vaccination, protocol, site preparation, launch, and maintenance, PIO and incentives for vaccination, and the development of mobile vax clinics. All of these activities were administrated through regular meetings – socially distanced and virtual – with the EOC/DOC, with CDPH, with CHEAC, with entities in the Central Valley, and with local government bodies including the Board of Supervisors.

Resources

Addressing the needs of the response required a vast number of resources – both human and supply – and financial support to secure those resources. Early on the expectation was that any or all response funding was going to come through FEMA, but as the pandemic stretched on, grant funding came through and amplified what the response was able to do and how they could accomplish it. Initially, MHOAC and Logistics were addressing supply shortages, particularly with PPE, masks, and sanitizer. While those were being sorted out, shortages in staffing took over, and conversations with the state brought in contracted staff. As vaccines were developed and rolled out, there was a shortage as demand outstripped supply, followed quickly by a stretch where vaccination clinic workers were having to make calls to the public to not waste open vials of vaccine. Testing kits, as with all the rest of the supplies were first short, then overstocked. With the overstock of

equipment that were previously in short supply came the need for storage space, and MHOAC was also tasked to meet that need. Human Resources, in addition to securing contracted staff, was regularly tasked with hiring Extra Help employees, onboarding new employees, and working with Human Resources and staff to facilitate telework.

Systems & Technology

In partnership with Human Resources to facilitate telework, Systems and Technology were pivotal to the success of the response. The newly formed IT/Informatics program in MCDPH facilitated technology updates including VPN, MiFi, and worked with County IT staff to enhance HIPAA security through encrypted email. They also spent a large amount of time addressing the needs of data collection and reporting, in CalCONNECT, CalREDIE, LIMS/EHR Systems (Color, Orchard, and Patagonia), dashboards, and later as a partnership with the schools expanded, Salesforce and ParentSquare. Existing and developing technology also met communication and records needs through WebEOC; the use of a shared network drive, SharePoint intranet, and secured databases; MS Teams; and of course, Zoom. Throughout the response, Incident Command Structure, the standard in emergency response, guided and provided a framework for the response – with mixed feelings by the responding participants regarding its effectiveness during this pandemic.

Minor Themes

Other minor themes emerged through the interviews as well. These themes were still present in the participants' responses but were either mentioned fewer times or with less intensity. These seven minor themes are a counterpart to the seven major themes, which are listed in parentheses following each short description.

1. Divisive

Participants did remark on how aspects of the pandemic were divisive, as well as a sense of a divisive atmosphere throughout. (If They Only Knew)

2. Personal/Out-of-Work Experiences

Participants mentioned a range of experiences that were more personal or unrelated to work but still a direct effect of the pandemic. Some mentioned non-COVID illness caused by stress, others mentioned caring for children at home and concerns over virtual learning, or concern for other family members. (We Didn't Know What We Didn't Know)

3. Loss

Loss came in many forms, as described by the participants. Loss of loved ones was the most profound. Loss was also felt for children having to stay home and do virtual learning, for family members feeling isolated, for the time previously spent with friends and leisure. (Change is the Only Constant)

4. Group Identities

As described in detail above, participants spoke of their team members and group identities emerged around the work the response team did. (You've Got a Friend in Me)

5. Conflict

Occasionally, participants referenced conflict between individual team members or between groups who had different perspectives on how to accomplish their tasks. (Hammers and Screwdrivers)

6. Mental and Emotional Health

Several participants remarked on the strain of mental and emotional health during the response and made suggestions that this be prioritized in future pandemic response. (Flood of Emotions)

7. Acceleration, Catalyst, Amplification

Participants also described how the pandemic amplified existing (perhaps hidden) problems and strengths, served as a catalyst for things that had been stalled or uninitiated, and accelerated personal growth. (Hard and Worth It)

Conclusion

This qualitative study conducted by MCDPH yielded rich description of the experience, and much on which to reflect. There are opportunities for improvement, but there is also much to praise. It was clear that all COVID-19 response members did their utmost to serve the community of Madera County. Even as conflict did arise, it occurred in good conscience, with team members giving all they had to the response. MCDPH learned that preparedness continues to be theoretical until the emergency happens, and future conversations regarding EP will be better informed having gone through this extended pandemic response.

As part of a member check process and qualitative report during the study, interviewed participants were asked to paint a solid color background on a 4x4 mini-canvas, selecting from a choice of fifty colors. After moving through six other stations, reflecting on and responding to different aspects of the COVID-19 response in Madera County (timeline, duties and activities, successes, struggles, emotions, and overall themes), they were welcomed back to add more detail to their canvas – shapes, lines, curves, spatters, splotches – but with no instruction as to what specifically to paint. The completed mini-canvasses were arranged by color, shape, and texture, and additional mini-canvasses were added by the researcher (Alvey) into a grid of 7 x 7 tiles, 49 in total. The number seven carries meaning in multiple cultures of wholeness, completeness, perfection, or sometimes even divinity. The center column and center row feature tiles that each include all fifty colors, again referencing the inclusion of all perspectives into a unified whole. The presence of such varied interpretations by the participants reflects the unique experience and perception of each individual that participated in the study, and by extension a representative of each individual that participated in the COVID-19 response in Madera County.

Collaborative Mosaic: Present

The title, Present, refers to the recurring perception that COVID-19 response team members, MCDPH and Sheriff's Office employees, partners, and community members were ready and willing to do what they could. Even under extreme demand and protracted pandemic response, participants knew their coworker(s) had their back and were ready to respond. The double entendre here of the word Present as a gift is also the researcher's gratitude for the time and honesty paid to the study interviews by the Madera County Department of Public Health, the Madera County Sheriff's Office, and Madera County partners.

References

[1]Madera County Community Health Assessment. www.maderacounty.com/cha

[2]California Healthy Places Index. https://map.healthyplacesindex.org/

[3]Delve, Ho, L., & Limpaecher, A. (2023c, May 03). Member Check and Respondent Validation in Qualitative Research https://delvetool.com/blog/member-check-respondent-validation