



REBECCA L. COLLINS, NICOLE K. EBERHART, AMY L. SHEARER, ELICIA M. JOHN, ELIZABETH ROTH

Evaluation of Los Angeles County's COVID-19 Mental Health Campaign

In the wake of the emergence of the coronavirus disease 2019 (COVID-19) pandemic and subsequent policies designed to limit its spread (e.g., shutdowns, stay-at-home orders, and social distancing), the Los Angeles County Department of Mental Health (LACDMH) launched a social marketing campaign intended to address and prevent mental health issues related to the situation. The campaign was designed to promote awareness of county mental health resources and services and to communicate messages of resilience, community, hope, and support. It targeted adults and transition-age youth ages 16–25 years. Additional targets were family and caregivers of children ages 0–15; Hispanic, Black, and Asian residents; adults 60 and older; veterans; and LGBTQ+ (lesbian, gay, bisexual, transgender, and queer) individuals. Outreach efforts focused on outdoor media (e.g., billboards, buses, and bus shelters), radio and television advertising, and social media (i.e., social networking sites, such as Twitter and Instagram). The campaign was translated into multiple languages and ran in English, Spanish, and Asian-language media. The initial campaign ended June 30, 2020, although messaging continues as an integration with another LACDMH

mental health prevention and early intervention campaign, WhyWeRise.

To gain insight into the COVID-19 mental health campaign's reach and impact, LACDMH and the California Mental Health Services Authority (CalMHSA) commissioned the RAND Corporation to conduct an evaluation. RAND evaluators surveyed a representative sample of Los Angeles County adults ages 25 and older and a related sample of youth ages 16–25 (those under age 18 were recruited through their parents). The survey was designed to provide a picture of the challenges

KEY FINDINGS

- A majority of respondents reported some form of exposure to the campaign over a relatively short period. The campaign was particularly effective in reaching Black and Hispanic residents.
- Los Angeles County residents exposed to the campaign were about twice as likely to be aware of the information and resources offered by LACDMH and were significantly more likely to say the agency is there for them if they need help.
- There was no evidence of broad reach into Los Angeles County Twitter communities discussing mental health that did not directly interact with Los Angeles County or state government.
- Overall, there is evidence that the LACDMH COVID-19 campaign successfully reached Los Angeles County residents, fostered a feeling of support among those it reached, and conveyed how to seek mental health help.

that county adults and youth were grappling with during the initial months of the pandemic, the reach of the campaign to these two age groups, and the likely impact of the campaign on their knowledge, attitudes, behavior, and well-being. RAND evaluators also conducted an analysis of mental health–related posts on Twitter in Los Angeles County during the same period. The goal of this effort was to understand which online communities were reached by LACDMH’s outreach on this platform, what these communities were discussing in relation to the pandemic and mental health, and the extent to which themes of LACDMH’s COVID-19 mental health campaign (e.g., resources, support, hope) were part of those discussions in relation to other mental health discussions happening among the broader population of county residents using the platform.

Survey results indicated that Los Angeles County residents were experiencing high levels of stressors during the initial months of the shutdown, such as high rates of lost work, financial stress, loneliness, and worry that a family member might become sick with COVID-19. In this context, LACDMH’s COVID-19 campaign reached an impressive percentage of Los Angeles County residents: Approximately 61 percent of adults (ages 26 and older) and 49 percent of youth (ages 16–25) reported some form of exposure to the campaign over a relatively short period. The campaign was particularly effective in reaching Black and Hispanic residents, who were also particularly affected by the pandemic. County residents were exposed to the campaign via all three major forms of outreach: television and radio ads, outdoor ads, and social media. The majority of individuals reached by the campaign found it beneficial, in that it made them feel supported and provided new information on how to get mental health help. Los Angeles County residents exposed to the campaign were about twice as likely to be aware of the information and resources offered by LACDMH and were significantly more likely to say the agency is there for them if they need help.

Twitter analyses indicated that LACDMH campaign messages were represented within the larger discussion of COVID-19 and mental health on Twitter, especially in the Twitter community with which LACDMH interacts directly (i.e., the

community in which LACDMH is a participant in the discussion). Beyond the LACDMH community, an additional community largely representing California state government offices addressed the county mental health discussion, picking up and boosting the LACDMH campaign. These two communities of Twitter accounts made up the lion’s share of the COVID-19 and mental health discussion in Los Angeles County, and Los Angeles County residents who participated in those communities were likely exposed to the campaign themes and messages. However, we did not find evidence of broad reach into Los Angeles County Twitter communities discussing mental health that did not directly interact with Los Angeles County or state government.

Overall, there is evidence that the LACDMH COVID-19 campaign successfully reached Los Angeles County residents (especially Black and Hispanic residents), fostered a feeling of support among those it reached, and conveyed how to seek mental health help.

Background

The COVID-19 pandemic has led to the illness and death of large numbers of people in the United States and abroad, including many residents of Los Angeles County (LACDMH, 2020). Restrictions to limit spread of the disease have taken a financial and social toll, resulting in high rates of unemployment, increased caregiving burdens for working parents, and restricted interaction among friends and family members. Each of these factors is likely to create stress and threaten well-being. In combination and over the long term, substantial increases in rates of mental illness could result (Brooks et al., 2020; Goldmann and Galea, 2014; Paul and Moser, 2009; Wang et al., 2015). Under ordinary circumstances, many people do not receive the mental health resources and treatment that they need (Eberhart et al., 2018; Walker et al., 2015). At times of heightened and widespread stress, such as the pandemic, linking people to these services becomes particularly important.

Recognizing this, LACDMH undertook a social marketing campaign in late March 2020 that sought

to address and prevent mental health issues arising from the pandemic by promoting awareness of county mental health resources and services and by communicating messages of resilience, community, hope, and support. Around the globe (Gaebel, Rössler, and Sartorius, 2016), in the State of California (Collins et al., 2015), and in Los Angeles County (Collins et al., 2018), social marketing campaigns have been effective in shifting attitudes related to mental health, increasing social acceptance of those experiencing mental health challenges, and increasing awareness and use of mental health services (Collins et al., 2018; Collins et al., 2019; Collins et al., 2020). We know of no social marketing campaign around mental health and the COVID-19 pandemic that has been evaluated to date.

LACDMH's COVID-19 mental health campaign used funds from Proposition 63, which was signed into law as the Mental Health Services Act (MHSA). The MHSA levied a 1-percent tax on all California personal incomes over \$1 million, resulting in a substantial investment in mental health prevention and treatment in the state. The MHSA made resources available to counties to support treatment for individuals with mental illness; it also provided prevention and early intervention services for mental health. A portion of those funds is specifically allocated for prevention and early intervention activities and cannot be used for other purposes (e.g., treatment, housing). Since 2018, LACDMH has dedicated some of these funds to development and implementation of a youth-targeted mental health community engagement campaign called WhyWeRise. When the COVID-19 pandemic hit Los Angeles, LACDMH diverted some of the WhyWeRise funding toward addressing mental health consequences of the pandemic.

The COVID-19 campaign targeted adults and transition-age youth ages 16–25. Additional targets were family and caregivers of children ages 0–15; Hispanic, Black, and Asian residents; adults 60 and older; veterans; and LGBTQ+ individuals. Materials were distributed in English, Spanish, Mandarin, Cantonese, and Persian. Outreach efforts were conducted via outdoor media (e.g., billboards, buses, and bus shelters), radio and television advertising, social media, and COVID-19-specific messaging on

The COVID-19 campaign targeted adults and transition-age youth ages 16–25. Additional targets were family and caregivers of children ages 0–15; Hispanic, Black, and Asian residents; adults 60 and older; veterans; and LGBTQ+ individuals.

the LACDMH website. The campaign ran on Spanish and Asian-language media, and on English radio outlets that focus on ethnic audiences, such as Black, Hispanic, Chinese, Vietnamese, Korean, Armenian, and Persian communities. The initial campaign ended June 30, 2020, although messaging continues as an integration with the autumn 2020 LACDMH WhyWeRise campaign.

This report describes the methods and findings of RAND's evaluation of this campaign. Our methods involved conducting an online survey of Los Angeles County youth ages 16–25 and of a representative sample of Los Angeles County adults ages 26 and older. An additional effort involved an analysis of Twitter posts (tweets) originating in Los Angeles County during the first several months of the pandemic and referencing mental health. All evaluation activities were reviewed and approved by RAND's Human Subjects Protection Committee, RAND's Institutional Review Board. In this report, we first describe the methods and results of our online survey. We then present methods and findings from our Twitter analysis. Finally, we provide an overall discussion of the findings along with our conclusions.

Survey of Los Angeles County Residents

RAND designed and analyzed a survey of residents of Los Angeles County to understand (1) the issues that county residents encountered during the pandemic, (2) the reach of the campaign and its components, and (3) the campaign's impact—how residents perceived campaign messages and how those who were reached by the campaign differ from others in terms of attitudes, beliefs, and behavior related to mental illness.

Method

Data Collection

LACDMH's target populations were two overlapping age groups: adults ages 18 and over and transition-age youth ages 16 to 25. To accommodate both, RAND conducted a youth survey for the latter group and an adult survey for those over the age of 25. The surveys were fielded by Ipsos from August 8, 2020, to August 25, 2020. Surveys were conducted using the web platform KnowledgePanel, which was used to recruit a probability-based sample. Although the survey is administered online, KnowledgePanel uses address-based sampling to ensure a comprehensive sample that represents all households regardless of their access to phone or internet services. To further ensure representativeness, panel members are provided with a web-enabled device (e.g., tablet computer) and free internet service as needed. Sample weighting is used to compensate for differential response rates among different demographic groups. For this evaluation, the youth and adult samples were weighted to be demographically representative of the Los Angeles County population ages 16–25 and ages 26 and older, respectively. Adults (18 and older) were recruited through their own accounts; 16- and 17-year-olds were recruited through their parents' accounts. The survey was offered in both Spanish and English, was completed online, and was approximately nine minutes long.

Measures

The surveys measured demographics and other background characteristics, campaign exposure,

key targeted outcomes of the campaign (such as well-being), and COVID-19-related concerns and experiences. The surveys were identical except that some demographics were previously measured for the adults as part of their KnowledgePanel participation.

Campaign Exposure

Using several items to measure exposure to the campaign, we focused on different forms of campaign activities and resources, such as the LACDMH helpline and website; radio, television, social media, and outdoor campaign ads; and the availability of the Headspace app that LACDMH provides free to Los Angeles County residents.

The survey showed respondents the four images that were used on social media and as outdoor campaign ads. Respondents were asked whether they had seen any of the images since the COVID-19 outbreak and shutdowns (response options were *yes/no*). Those who responded affirmatively were asked where they saw the image(s): around Los Angeles (e.g., on a bus or rail line, on a billboard, a fence, or a poster), on social media (e.g., on Twitter, Facebook, or Instagram), or not sure where. Follow-up items to each question asked how many times they had seen the image(s): 1 time, 2–4 times, 5–10 times, 11–20 times, or more than 20 times.

Respondents were also asked whether, since the COVID-19 outbreak and shutdowns, they had “heard a radio ad or seen an ad on television from Los Angeles County Department of Mental Health.” Those who responded affirmatively were asked how many times (1 time, 2–4 times, 5–10 times, 11–20 times, or more than 20 times) and were asked to identify (checking all that applied) what the ad(s) were about: feeling anxious, feeling isolated, a phone number to call or text for help with emotions, or a website to use for help with emotions. An incorrect response option, ‘feeling angry,’ was included to check that responses were true recall and not a result of guessing.

An additional item asked whether respondents had visited the LACDMH website (DMH.LACounty.gov) and if so, how many times (response options were *Yes, once; Yes, more than once; or No*).

Those who responded affirmatively that they had seen or heard a campaign ad outdoors, on television or radio, or on social media; that they recognized a campaign image without recalling where they had seen it; or that they had had visited the LACDMH website were categorized as having been exposed to the campaign.

Knowledge, Attitudes, Beliefs, and Behaviors Targeted by the Campaign

Primary goals of the campaign were to increase awareness of mental health resources, perceptions of support, and feelings of connection. Those reporting exposure to a campaign radio or television ad, outdoor ad, or social media post were asked to rate the extent to which it

- gave them new information about how to get help with emotions or mental health
- made them feel more connected to community
- made them feel supported.

Ratings were made on a scale from 1 (*strongly agree*) to 5 (*strongly disagree*).

Although such ratings are important indicators, a stronger methodological approach is to compare targeted outcomes between those who were those exposed to the campaign and those who were not. To do so, RAND created eight campaign-specific items asked of all respondents, regardless of exposure (see the box below). The items tap endorsement of

key mental health–related knowledge, attitudes, and beliefs targeted by the county’s COVID-19 campaign and/or referenced in their ads. For each item, RAND measured the extent of agreement on a five-point scale (*strongly agree* to *strongly disagree*). Responses were recoded to reflect any agreement (*agree* or *strongly agree*) versus none.

To assess mental health help-seeking among adults and youth, respondents were also asked whether they had felt like they needed to seek help for mental or emotional health or substance use problems since the COVID-19 shutdowns (yes/no), and whether they had seen a professional for mental or emotional help since the shutdowns (yes/no).

The campaign was also designed to drive residents to the LACDMH website (DMH.LACounty.gov) and to the county’s helpline (800-854-7771 for voice or 741741 for text). Use of the website was measured by our campaign exposure item referencing the website. To assess helpline use, respondents were asked whether they had called the LACDMH helpline since the shutdowns (*Yes, once*; *Yes, more than once*; or *No*), and if so, why (e.g., curious, feeling depressed or anxious), and whether it was helpful (from 1 [*very helpful*] to 5 [*very unhelpful*]).

Finally, although not a major focus of the campaign, a separate set of ads drove residents to Headspace, an app supporting meditation, mindfulness, and general well-being that was offered free within Los Angeles County during the pandemic’s initial months through December 2020. Respondents

Items Assessing Knowledge, Attitudes, and Beliefs Targeted by the Campaign

- I know how to find information or resources to help if I or someone I know experiences a mental health problem.
- I am aware of the information and resources offered by the Los Angeles County Department of Mental Health.
- The Los Angeles County Department of Mental Health is here for me if I need help.
- I know how I could be supportive of people with a mental illness if I wanted to be.
- Since the coronavirus outbreak and shutdowns, more people are experiencing mental health problems.
- Since the coronavirus outbreak and shutdowns, it is more important than usual to take care of your mental health and well-being.
- Since the coronavirus outbreak and shutdowns, it is more important than usual to stay connected to family and friends.
- It’s natural to feel anxious and concerned during COVID-19.

were asked about their awareness and use of the Headspace app since the COVID-19 outbreak and shutdowns, and the survey also assessed whether they could correctly identify that the app was free for Los Angeles County residents (as noted in the outreach materials).

Well-Being

RAND used several measures to assess the COVID-19 mental health campaign's intended well-being outcomes of lower levels of perceived social isolation and higher levels of hope and feelings of resilience. In addition, we measured potential additional well-being outcomes of better sleep quality (which is addressed by the Headspace app) and less psychological distress. All of the measures we selected are widely used and well validated.

To measure social isolation, we used the three-item UCLA Loneliness Scale, which asks participants to rate how often they feel left out, isolated, or that they lack companionship (response options were 1 [*hardly ever*], 2 [*some of the time*], or 3 [*often*]) (Russell, Peplau, and Cutrona, 1980; Hughes et al., 2004). Responses are summed and scores range from 3 to 9. Consistent with previous research, we categorized scores between 3 and 5 as *not lonely* and scores between 6 and 9 as *lonely* (Grey et al., 2020).

We measured feelings of hope using a single item adapted from the two items with the highest factor loadings on the six-item Perceived Hope Scale (Krafft, Martin-Krumm, and Fenouillet, 2019). Respondents rated the statement, "I feel hopeful about the future" on a Likert scale from 1 (*strongly agree*) to 5 (*strongly disagree*). Those who moderately or strongly agreed with the statement were categorized as *hopeful*.

To assess residents' feelings of resilience, we used the seven-item Pearlin Mastery Scale (Pearlin and Schooler, 1978). Scores on the scale reflect perceptions that one has the resources to overcome adversity—i.e., that the future is under one's own control. We used a five-point Likert response scale (1 [*strongly agree*] to 5 [*strongly disagree*]). The two positively phrased items were reverse scored, and items were averaged to create a score ranging from 1 to 5, with higher scores indicating greater feelings of personal mastery.

Sleep was measured by asking respondents to rate their overall sleep quality in the past 30 days from 1 (*very good*) to 4 (*very bad*) (Buysse et al., 1989).

Psychological distress was measured using the Kessler-6 (Kessler et al., 2003), which consists of six items asking respondents to rate how often in the past 30 days they felt (for example) nervous, hopeless, restless, or fidgety (from 1 [*all of the time*] to 5 [*none of the time*]).

COVID-19-Related Experiences and Concerns

To provide a picture of the situation that county residents faced during the campaign, we assessed several potentially stressful experiences related to COVID-19.

Participants were asked to report the amount of time spent consuming news about the pandemic in the past 30 days (*none, under 1 hour, 1–3 hours, 4–6 hours, more than 6 hours*). Heavy disaster-related news consumption during a traumatic event or its aftermath is associated with worse mental health (Holman et al., 2020).

We operationalized social isolation as lack of in-person contact. Respondents were asked to provide the number of days that they had left their home for any reason other than exercise in the past seven days, and the number of days during the same period spent socializing in person with friends, coworkers, or family members who do not live in their household.

Many people have experienced job loss or disruptions as a result of COVID-19, which can be significant sources of stress. Respondents were shown a list of work-related situations that might related to the pandemic (e.g., putting off major household purchases, cutting back spending on food or other basic supplies, or increasing credit card debt).

To assess perceived risk of COVID-19 infection, respondents were asked to state how likely they thought it was that they would be infected with COVID-19 in the next month (from 1 [*not at all likely*] to 5 [*extremely likely*]). To tap magnitude of concern about such risks, we asked how worried they were about personally getting sick from COVID-19 (from 1 [*not at all worried*] to 4 [*very worried*]), or having a family member get sick (same response options). Finally, respondents were asked whether

they had experienced an illness that they knew or suspected to be COVID-19 since January 2020. Response options were *Yes and it was confirmed to be coronavirus by a health care provider*, *Sick but don't know if it was coronavirus*, and *No*.

Background Characteristics: Demographics, Past Experience with Mental Health Challenges, and Membership in Targeted Subpopulations

Respondents provided their gender, age, household income, highest level of education achieved, and race/ethnicity (as part of the survey for opt-in youth, and as part of KnowledgePanel participation for all others). Respondents were also asked whether they were a family member of or a caregiver for a child ages 0–15 or an adult over the age of 60. Reaching individuals in these family and caregiving roles were campaign priorities. Reaching veterans was also a campaign priority, so respondents 18 and older were asked about veteran status, and all respondents were asked whether they had a family member who was a veteran.

Analyses

We conducted analyses to describe the characteristics of participants, their experiences related to the COVID-19 outbreak, prevalence of exposure to the COVID-19 mental health campaign, and perceptions of that campaign. The main results compared mental health–related attitudes, beliefs, behaviors, and well-being between those who reported exposure to the Los Angeles County mental health campaign and those who did not.

Sample weights were applied to account for any differential nonresponse that might have occurred. Demographic distributions for Los Angeles County target populations were obtained from the March 2020 supplement of the U.S. Census Bureau's Current Population Survey and the American Community Survey. Data are weighted to represent the Los Angeles County population ages 16–25 on the following variables:

- a. age (16–17, 18–21, 22–25)
- b. gender (male, female)
- c. race/ethnicity (Non-Hispanic, Hispanic)
- d. education (high school or less, some college or more)

Reaching veterans was also a campaign priority, so respondents 18 and older were asked about veteran status, and all respondents were asked whether they had a family member who was a veteran.

- e. household income (under \$49,999, \$50,000–\$74,999, \$75,000 and over)
- f. household size (3 or less, 4, 5 or more).

Data are weighted to represent the Los Angeles County population ages 26 and older on these variables:

- a. age (26–34, 35–44, 45–59, 60+) by gender (male, female)
- b. race/ethnicity (White, Black, Asian, Hispanic, other, two or more races)
- c. education (less than high school, high school, some college, bachelor's degree or more)
- d. household income (under \$25,000, \$25,000–\$49,999, \$50,000–\$74,999, \$75,000–\$99,999, \$100,000 and over)
- e. household size (1, 2, 3, 4, 5 or more)
- f. language proficiency for Hispanics (English-proficient Hispanic, bilingual Hispanic, Spanish-proficient Hispanic, non-Hispanic).

We report weighted percentages and odds ratios. All reported differences are statistically significant, $p < 0.05$. Specific p -values are provided in tables and figures.

The data analysis for this report was generated using SAS/STAT software (SAS/STAT software, 2016).

Results

Characteristics of the Sample

Sample characteristics (weighted percentages) are shown in Table 1. The youth sample consisted of 112 individuals ages 16–25. Half (50 percent) of the sample was female, and most (83 percent) were ages 18–25. As would be expected of this age group, the highest level of education for about a third (36 percent) was high school; 30 percent had some college. They came from households with a variety of income levels. Youth fit in several of the campaign-targeted categories. In terms of race/ethnicity, 9 percent were Black, 17 percent Asian, and the majority Hispanic (60 percent); most completed the survey in English. A minority reported being family members of or caregivers for someone ages 0–15 (14 percent) or over the age of 60 (19 percent). As expected for the age group, none was a veteran; 18 percent had a family member who was. Approximately a quarter (27 percent) reported ever having had a mental health challenge, and 21 percent reported ever having been treated for a mental health concern.

The adult sample consisted of 821 individuals ages 26 or older. Most had completed at least some college; approximately a third (32 percent) had a bachelor's degree or higher; and all income levels were accounted for. Targeted subgroups were mostly well represented: Hispanic residents were the largest demographic group (43 percent), and 8 percent were Black. A quarter (26 percent) of respondents completed the survey in Spanish. Four percent were veterans, consistent with the 3.4 percent rate for Los Angeles County (U.S. Census Bureau, undated); similar to the youth sample, 22 percent had a family member who was a veteran. A third (34 percent) were parents or caregivers to a child age 15 or younger, 20 percent were the parent of or caregiver to a youth age 16–25, and a quarter reported being a family member of or caregiver for someone over the age of 60 (25 percent). Consistent with prior California

statewide findings (Collins et al., 2015), about a quarter (27 percent) reported ever having had a mental health problem; more than a third (35 percent) reported having been treated for a mental health concern.

Los Angeles County Residents' Pandemic-Related Experiences and Concerns

Table 2 provides an overview of county residents' experiences in the several months between March—when the virus emerged in the United States, a national state of emergency was declared, and Los Angeles issued its Safer at Home orders—and our survey in August. During this period, most youth and adults spent more than an hour each day consuming COVID-19 news; 6 percent of youth and 13 percent of adults were heavy consumers (six or more hours) a behavior that could put them at particularly high risk for distress (Holman, Garfin, and Silver, 2014). Both age groups were somewhat socially isolated. On average, they were leaving the house three or four days each week and socializing with people outside their residence two days per week.

As expected, many county residents have lost work or experienced changes in their work situation that might result in stress. More than a third (37 percent) of youth had lost work as a result of the virus, 14 percent had acquired new work or additional hours, and 17 percent were working in a new setting. A relatively small percentage of youth (8 percent) reported working at jobs where they believed they were at risk of exposure to COVID-19. Among adults, patterns are similar: A little less than a third reported lost work, 11 percent reported new work, 18 percent reported working in a new setting, and 12 percent reported working in a place where they perceived they might be exposed to COVID-19. Financial stress was substantial; more than half (55 percent) of youth and nearly half (45 percent) of adults 26 and older reported one significant financial stressor or more.

Infection and fear of infection were also potential stressors for substantial numbers of residents. None of the youth reported a confirmed infection with COVID-19, but 11 percent had been sick and believed they might have been infected. Among adults, 1 percent reported a confirmed infection and

TABLE 1

Characteristics of Two Samples of Los Angeles County Residents (Weighted Percentages)

Characteristic	Adults (age 26+) (n = 821)	Youth (age 16–25) (n = 112)
Female	53	50
Age		
16–17		17
18–25		83
26–44	41	
45–64	40	
65+	19	
Education		
Less than high school	22	14
High school	20	36
Some college	27	30
Bachelor's degree or more	32	21
Household Income		
Less than \$30,000	19	18
\$30,000–<\$49,999	14	22
\$50,000–<\$84,999	24	26
\$85,000–<\$124,999	19	23
\$125,000 and up	23	12
Race/Ethnicity		
Black, non-Hispanic	8	9
White, non-Hispanic	30	15
Asian, non-Hispanic	16	17
Other, non-Hispanic	2	0
Hispanic	43	60
Language of Survey		
English		
Spanish	26	11
Campaign-targeted subpopulations		
U.S. military veteran ^a	4	0
Family member of a U.S. military veteran	22	18
Family of or caregiver for child 0–15 years	34	14
Family of or caregiver for adult 60+ years	25	19
Personal experience with mental illness		
Ever had a mental health problem	27	27
Ever treated for a mental health problem	35	21

^a Not asked of those 16–17 years old.

TABLE 2

Los Angeles County Residents' Pandemic-Related Experiences and Concerns

Measure	Adults	Youth
Average daily hours consuming COVID-19 news (%)		
1 hour or less	6	18
1–5 hours	80	76
6+ hours	13	6
Past week days outside home (average number of days)	4	3
Past week days socializing with people other than co-residents (average number of days)	2	2
Lost work (job/hours) (%)	29	37
New work (job/hours) (%)	11	14
Working in new setting (e.g., home) (%)	18	17
Working where there is risk of COVID-19 exposure (%)	12	8
Experiencing COVID-19-related financial stress (%)	45	55
COVID-19 infection (%)		
None	81	88
Sick/possible infection	18	11
Confirmed infection	1	0
Perceive any likelihood of becoming infected (%)	64	57
Worry about getting sick (% very worried)	30	28
Worry about family member getting sick (% very worried)	42	46
Fairly/very bad sleep quality (%)	26	27
Lonely (%)	26	40
High perceived control (%)	43	40
Hopeful (% moderately/strongly agree)	73	59
Psychological distress		
None/low	76	58
Moderate	14	23
Serious	9	18
Perceived need for mental health treatment during pandemic	15	17
Received mental health treatment during pandemic	9	5

18 percent reported an illness that might have been COVID-19. Most youth (57 percent) and adults 26 or older (64 percent) perceived a greater-than-zero likelihood of becoming infected with the virus, and substantial percentages (28 percent of youth and 30 percent of adults 26 and over) were very worried about getting sick. Larger percentages of both groups

(46 percent of youth and 42 percent of adults 26 and older) were very worried about a family member becoming sick.

We found that 40 percent of youth ages 16–25 were lonely as measured by standard cut-offs for the UCLA Loneliness scale, which is a little lower than other studies conducted pre-COVID-19 (e.g., Cigna,

2018); 40 percent had higher than average scores on the Pearlin Mastery Scale, suggesting they felt their life was under their own control; 59 percent moderately or strongly agreed they were hopeful about the future. Among adults 26 and older, 26 percent were lonely, 43 percent perceived control over their lives, and 73 percent were hopeful about the future.

In spite of these stressors, Los Angeles County youth surveyed during the pandemic were not substantially more psychologically distressed than U.S. young adults (ages 18–25) were in 2018 (authors' analysis of Substance Abuse and Mental Health Data Archive, 2018). During the pandemic, 21 percent of Los Angeles youth were moderately distressed and 15 percent were seriously so, compared with 20 percent and 14 percent, respectively, of U.S. youth in 2018. Levels of distress did appear elevated among adults 26 and older: 15 percent were moderately distressed and 9 percent seriously distressed, compared with 10 percent and 5 percent, respectively, of U.S. adults in the same age group in 2018 (McGinty et al., 2020). Comparison with a national sample that has different demographic characteristics is problematic (e.g., the United States overall has fewer Hispanic residents than Los Angeles) so this difference could reflect increases in distress over prepandemic levels in Los Angeles, but this cannot be confirmed. In any case, levels of distress among Los Angeles adults during the pandemic indicate as many as 1 in 10 are experiencing serious mental distress; 1 in 8 youth are doing so.

Although 17 percent of youth perceived a need for mental health treatment during the pandemic, only 5 percent reported receiving it. Similarly, 15 percent of adults 26 and older perceived a need for treatment, but only 9 percent received it.

Los Angeles County Residents' Campaign Exposure

The LACDMH campaign achieved a high level of exposure in just a few months: Three in five (61 percent) of Los Angeles County adults and half (49 percent) of Los Angeles County youth in our samples reported some form of exposure to the campaign (see Figure 1). This approaches the number of youth reached by Los Angeles County's WeRise

campaign (73 percent) after approximately one year (Collins et al., 2020), and is more than California's statewide Each Mind Matters mental health stigma reduction campaign, which reached 17 percent of California adults in its first year and 38 percent in its second year (Collins et al., 2015). In addition, **nearly a third (31 percent) of adults and a third (27 percent) of youth reported multiple forms of exposure** (e.g., having seen both a social media post and an outdoor billboard, or heard a radio ad and visited the website), which research shows is more effective than single forms of exposure (Hornik, 2002).

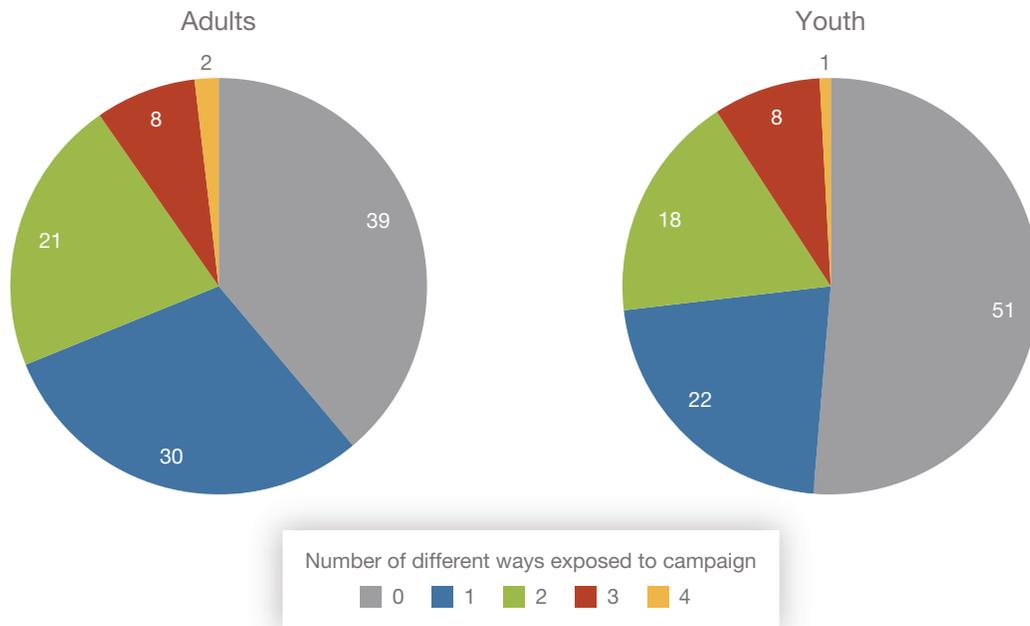
Reach was better for some forms of campaign outreach than others. **Outdoor ads, social media, and television or radio ads appeared to be equally effective in reaching youth** and were all significantly more likely to reach youth than the website (see Figure 2). **Substantially more adults reported exposure to television or radio ads (41 percent) than to any of the other forms of outreach**, although outdoor ads and social media also performed well, reaching about 20 percent of adults. Among those reached at all, **outdoor ads reached adults more frequently than ads in other media while both outdoor and social media ads reached youth most often** (see Table 3). In contrast, exposure to the LACDMH website was infrequent among both youth (6 percent) and adults (8 percent). This is expected; visiting the website requires residents to actively seek out the resource (as contrasted with passive viewing of ads in the outdoor environment). Apart from the website, which was visited only once by users, all forms of outreach were encountered by residents multiple times if a resident was exposed at all.

Predictors of Campaign Exposure

The campaign was particularly successful in reaching Black (73 percent) and Hispanic (70 percent) adults, although roughly half or more of all racial/ethnic subgroups of adults were exposed (see Table 3 and Figure 3). This is particularly notable because people of color have been disproportionately affected by COVID-19 (Centers for Disease Control and Prevention, 2021). Lower-income individuals have also been disproportionately affected (Adhikari et al., 2020) but were not more likely to report

FIGURE 1

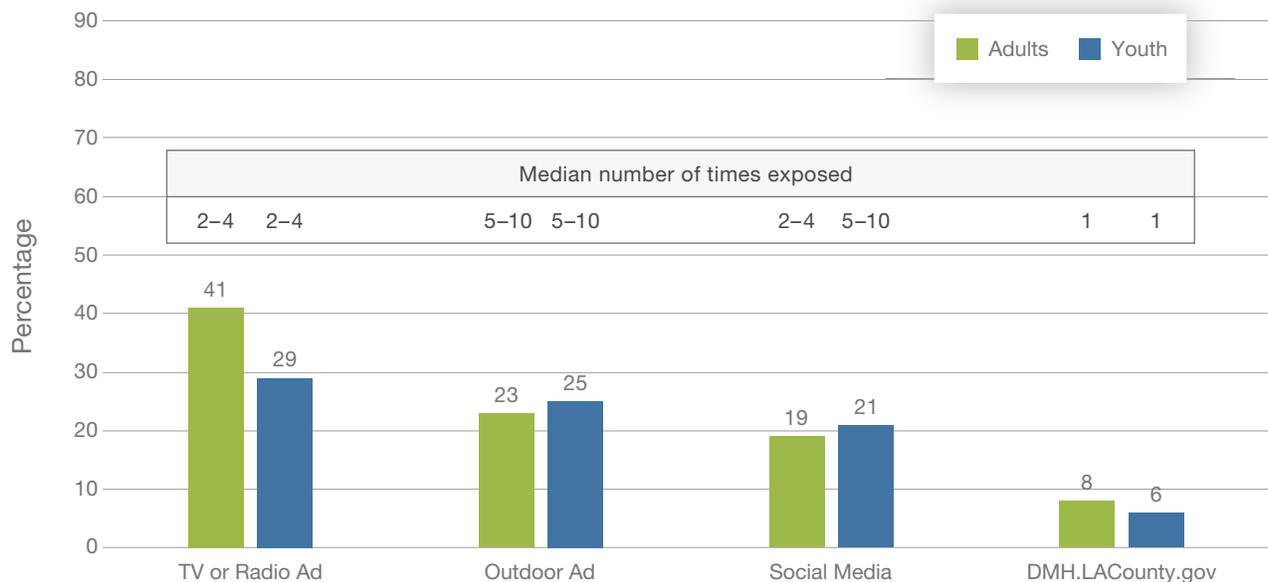
A Component of the COVID-19 Mental Health Campaign Reached 61 Percent of Los Angeles County Adults and 49 Percent of Los Angeles County Youth



NOTE: Types of exposures counted were self-reported. Response options were as follows: (1) recognition of a campaign image without recalling source, (2) recall of an outdoor ad with the campaign image, (3) recall of a social media post with the campaign image, (4) recall of a television or radio ad from LACDMH since the pandemic outbreak, and (5) visit to LACDMH website. Those in exposure category 1 could not also be in category 2 or category 3; thus, the maximum possible was four forms of outreach.

FIGURE 2

Los Angeles County Residents Were Primarily Exposed to the Campaign Through Television or Radio Ads, Outdoor Ads, and Social Media



campaign exposure, although those with less education did so. Veterans were also significantly more likely than non-veterans (87 percent and 61 percent, respectively) to have been exposed to the campaign, indicating successful campaign targeting of this subgroup. Patterns of exposure among youth suggest similar racial/ethnic differences, but these were not statistically significant and should not be inferred.

A majority (63 percent) of veterans' family members among the adult sample and approximately half (46 percent) of veterans' family members among the youth sample were exposed to the campaign; however, they were not significantly more likely to have been reached than adults or youth without a veteran family member (61 percent and 49 percent, respectively). Likewise, in both samples, the majority of parents of children of all ages were reached by the campaign but were not more likely to be reached than those without a child (see Table 3). Outreach to these groups could be improved; so could outreach to those with family members ages 60 or older. The campaign did reach a majority of adults with a family member age 60 or older (65 percent), but this group was no more likely to be reached than those without such a family member (61 percent).

Perception and Retention of Campaign Messages

The campaign's radio and television ads contained references to specific emotional issues (these were not part of the outdoor ads). When asked what the radio and television ads were about, **many youth correctly identified anxiety (59 percent) and isolation (45 percent) as topics, and a substantial majority (86 percent) knew that the ads contained a number to call or text for help with emotions. Approximately half of adults knew the ads were about anxiety (47 percent) and isolation (53 percent); the majority (60 percent) knew the ads contained a helpline number** (results not tabled). Although some of these correct responses might reflect a tendency to endorse the options offered, by way of comparison, only 4 percent of the youth and 12 percent of the adults indicated the ads were about anger (the incorrect response option), suggesting that most accurately recalled the ads.

Perceptions of the ads were positive, which suggests that those who were exposed understood and retained the messages that were the main goals of the campaign. Half or more of residents who saw any type of ad found it helpful (Table 4). This was true regardless of the mode of outreach (i.e., there were no significant differences in outcomes between respondents exposed to outdoor ads, social media posts, or television or radio ads). Put another way, there were no significant differences in how different types of outreach were perceived.

Campaign-Targeted Behavior

Two of the resources targeted for increased awareness and use were the county website and the LACDMH helpline. As noted in the "Campaign Exposure" section, only a small percentage of county residents (8 percent of adults and 6 percent of youth) reported that they accessed the LACDMH website. Website users reported that their primary reason for accessing the website was curiosity (78 percent of users aged 16–25, 51 percent of users 26 or older). **Most adults who accessed the website agreed with statements that the website gave them new information** about: mental health resources (81 percent); how to get connected to mental health care (78 percent); how to elevate physical, spiritual, mental, or emotional health (77 percent); and how to positively influence the spiritual, mental, or emotional health of family members or community (73 percent). Too few youth accessed the website to draw any conclusions about their experiences.

Use of the helpline was rare among those who responded to our survey; 3 percent of adults called or texted the helpline at least once in the spring and summer following the COVID-19 outbreak, and less than 1 percent of youth contacted the helpline. Low use of the helpline is to be expected; this resource would only be appropriate for individuals who both need mental health services and wish to seek services through LACDMH rather than through private insurance or other avenues. However, adults who used the helpline found it very or somewhat helpful. The main reasons adults cited for using the Helpline were feeling isolated (40 percent), knowing someone who was feeling depressed (37 percent), and curiosity (35 percent). (Respondents could select more than

TABLE 3

Who the Campaign Reached, by Demographic Group and Mental Health History

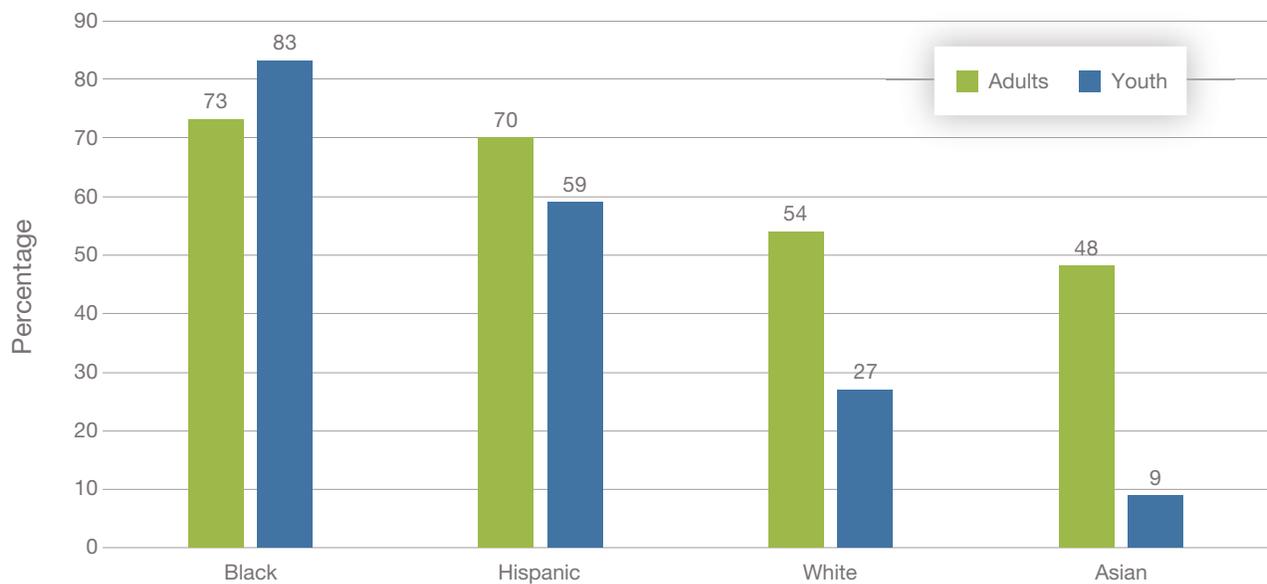
Characteristic	Adults (% exposed)	Youth (% exposed)
Sex		
Female	60	54
Male	63	44
Age		
16–17	n/a	36
18–25	n/a	51
26–44	60	n/a
45–64	62	n/a
65+	65	n/a
Education^a		
Less than high school	67	49
High school	73	45
Some college	61	58
Bachelor's degree or more	52	42
Income		
Less than \$30,000	73	66
\$30,000–\$49,999	70	55
\$50,000–\$84,999	61	56
\$85,000–\$124,999	57	25
\$125,000 and up	53	39
Race/Ethnicity^a		
Black, non-Hispanic	73	83
White, non-Hispanic	54	27
Asian, non-Hispanic	48	9
Other/2+, Non-Hispanic	72	100
Hispanic	70	59
Ever had mental health problem		
Yes	60	66
No	62	42
Ever treated for mental health problem		
Yes	59	55
No	63	47

Table 3—Continued

Characteristic	Adults (% exposed)	Youth (% exposed)
Veteran status ^a		
U.S. military veteran	87	n/a
Not a U.S. military veteran	61	n/a
Family member is a veteran		
Yes	63	46
No	61	49
Family member or caregiver of child 0–15		
Yes	61	57
No	62	47
Family member or caregiver of a child 16–25		
Yes	62	n/a
No	62	n/a
Family member or caregiver of adult 60+		
Yes	65	38
No	61	51

^a Percentages are significantly different from others in the same category among adults ($p < 0.05$). No significant differences were observed among youth.

FIGURE 3
Campaign Was Particularly Successful in Reaching Black and Hispanic Los Angeles County Residents



NOTE: The differences among racial/ethnic groups are statistically significant for adults, but apparent differences cannot be confirmed for youth because of the smaller sample size.

TABLE 4

Perceptions of Campaign Messages Among Those Reporting Exposure to Each Form of Outreach (Percentage Moderately or Strongly Agreeing)

Form of Outreach	Adults			Youth		
	Gave Me New Information About How to Get Help with Emotions or Mental Health	Made Me Feel More Connected to Community	Made Me Feel Supported	Gave Me New Information About How to Get Help with Emotions or Mental Health	Made Me Feel More Connected to Community	Made Me Feel Supported
Outdoor ad	54	57	64	49	50	60
Social media post	61	48	62	63	59	68
Television or radio ad	65	58	64	71	49	68
Ad from uncertain venue	47	44	61	98	96	63

NOTE: Perceptions of the website were assessed with a different set of items specific to its content and are reported in the section on “Campaign-Targeted Behavior.”

one reason.) Again, too few youth used this resource to draw any conclusions about young people.

A separate set of ads promoted use of the Headspace application, which was provided free to Los Angeles County residents. Awareness and use of the Headspace App was also quite low. Less than 1 percent of Los Angeles County youth knew that the Headspace App was free for Los Angeles County residents; 6 percent of adults knew this. The most common way that adults learned about the app was through social media (44 percent). Among the small percentage of adults who knew that the app was free for Los Angeles County residents, 41 percent used it.

Association of Campaign Exposure with Endorsement of Campaign-Targeted Attitudes, Beliefs, and Well-Being Indicators

As previously noted, a central goal of the campaign was to increase awareness of LACDMH resources and perceptions that LACDMH is available for support. The campaign appears to have achieved important impacts in this area. **Youth and adults who were exposed to the campaign were twice as likely as those who were not to agree that they were aware of information and resources offered by LACDMH** (see Figure 4). **Similarly, those exposed were twice as likely as those who were not to agree with the statement that LACDMH “is here for me if I need help.”**

Significantly more adults who were exposed to the campaign than those who were not agreed that they knew how to be supportive of people with

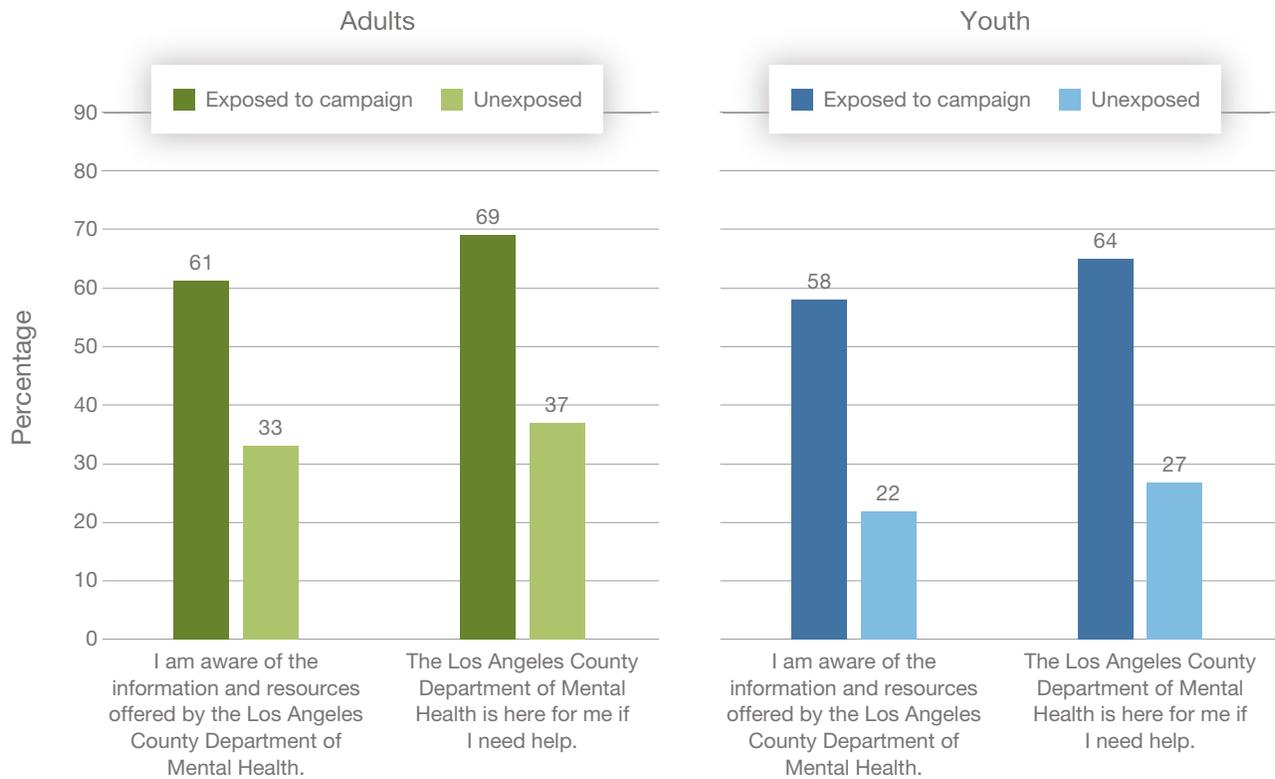
mental illness (see Table 5). This difference was not observed among the youth sample, which had high rates of agreement with the statement regardless of exposure to the campaign. We did not find significant differences between those who were reached and those who were not for other targeted attitudes and beliefs less central to the campaign, such as awareness of the importance of self-care and staying connected, and of the likely mental consequences of the COVID-19 pandemic. However, both exposed and unexposed respondents had fairly high levels of agreement with these statements, which indicates that there was little room for the campaign to increase endorsement of these beliefs. For example, there was strong agreement that taking care of one’s mental health and staying connected to family and friends is more important since the COVID-19 outbreak and shutdowns—and this was true regardless of exposure to the campaign.

Associations Between Campaign Exposure and Well-Being

We found only one statistically significant difference between those who were exposed to the campaign and those who were not in our examination of well-being indicators: **11 percent of campaign-exposed youth reported use of mental health treatment during the pandemic; none of the unexposed youth reported use of mental health treatment** (Table 6, Figure 5). Differences in use of treatment between those who were exposed to

FIGURE 4

Los Angeles County Residents Exposed to the Campaign Were Significantly More Likely to Know That LACDMH Provides Resources And Support



the campaign and those who were not could reflect differences in who was reached, differences caused by exposure to the campaign, or a combination of the two. Although youth exposed to the campaign were more than twice as likely as unexposed youth to report serious distress during the pandemic, these differences were not statistically significant. A similar nonsignificant pattern was observed for perceived need for mental health treatment among youth. Exposed and unexposed youth did not differ in levels of loneliness, perceived control (on a 1–5 scale), or hope. No differences were observed in the well-being of adults related to campaign exposure on any of these measures.

Summary and Conclusions

As expected, county residents were experiencing substantial stress during this period. Problems affecting the largest numbers of residents were lost work, financial stress, lack of social interaction, and

loneliness. In addition, we observed large percentages of both youth and adults 26 and over experiencing substantial worry that a family member might become sick with COVID-19.

In this context, LACDMH reached out to create greater awareness of mental health resources and greater feelings of support among county residents. The county’s mental health campaign reached an impressive percentage of residents in a short period of time. In just a few months, three in five (61 percent) of Los Angeles County adults 26 and older reported some form of exposure, as did half (49 percent) of Los Angeles County youth. The campaign was particularly successful in reaching Black (73 percent) and Hispanic (70 percent) adults, groups particularly affected by the pandemic. The majority of those reached said the ads made them feel supported and connected to their communities and that they got new information from them. This result was echoed in the much higher awareness of LACDMH resources and support among those exposed to the

TABLE 5

Associations Between Campaign Exposure and Campaign-Targeted Attitudes and Beliefs

Campaign Targeted Attitudes and Beliefs	Adults (% agreeing)		Youth (% agreeing)	
	Exposed	Unexposed	Exposed	Unexposed
I know how to find information or resources to help if I or someone I know experiences a mental health problem.	77	69	75	74
I am aware of the information and resources offered by the Los Angeles County Department of Mental Health.	61*	33*	58*	22*
The Los Angeles County Department of Mental Health is here for me if I need help.	69*	37*	64*	27*
I know how I could be supportive of people with a mental illness if I wanted to be.	64*	53*	72	67
Since the coronavirus outbreak and shutdowns, more people are experiencing mental health problems.	78	79	84	78
Since the coronavirus outbreak and shutdowns, it is more important than usual to take care of your mental health and well-being.	93	93	93	88
Since the coronavirus outbreak and shutdowns, it is more important than usual to stay connected to family and friends.	89	87	89	84
It's natural to feel anxious and concerned during COVID-19.	91	89	85	86

* Denotes that the number of exposed and unexposed individuals within age groups significantly differ from one another, $p > 0.05$.

campaign—approximately double the rates observed among unexposed residents.

Relatively small percentages of both youth and adults 26 and over reported visiting the LACDMH website during the pandemic—6 percent and 8 percent, respectively. Driving residents to these resources was a key goal of the campaign, and the website contains more-detailed information on LACDMH services. However, we would anticipate that only a smaller subset of the county population—those with greater needs—would access the website: Those who have no mental health issues and those who prefer to use other (e.g., private) resources would not be expected to use the website even if exposed to the campaign. Furthermore, the small percentages who did access the site represent large numbers at the population level, roughly 600,000 to 800,000 county residents. The same is true of the very small percentages that used the LACDMH helpline—we would again expect this resource to only be used by a smaller subset of the Los Angeles County population, but small percentages still mean many residents. Increasing these rates would nonetheless be helpful

in closing the gap between the percentage of county residents experiencing moderate or severe psychological distress and the percentage accessing treatment. One issue might have been the difficulty of remembering the weblink or phone number after seeing an ad. In general, print media are effective at conveying this kind of specific information; outdoor ads, and television and radio spots require that someone write down the information or do follow-up research (e.g., searching the web). It might be useful for the county to create a branded web address and phone number that link to these services (e.g., lacsupport.gov or LAC-SUPPORT) for any future campaigns so that those who need these resources can access them with greater ease.

In spite of residents feeling supported as a result of the campaign ads, the campaign does not appear to have elevated the well-being of county residents. However, improving well-being is a lofty goal for this kind of campaign, particularly over a relatively short time. It is likely that shifts in levels of hope, perceived resilience, and reductions in loneliness will require

TABLE 6

No Associations Between Campaign Exposure and Key Well-Being Indicators

Indicator	Adults		Youth	
	Exposed (%)	Unexposed (%)	Exposed (%)	Unexposed (%)
Lonely	26	26	43	37
High perceived control over the future ^a	4	4	4	4
Hopeful	71	74	61	57
Psychological distress				
Low	77	75	55	61
Moderate	14	14	20	27
High	8	11	25	12
Perceived a need for mental health treatment	14	17	22	11
Received mental health treatment ^b	8	10	11	0

^a Perceived control is on a 1–5 scale.

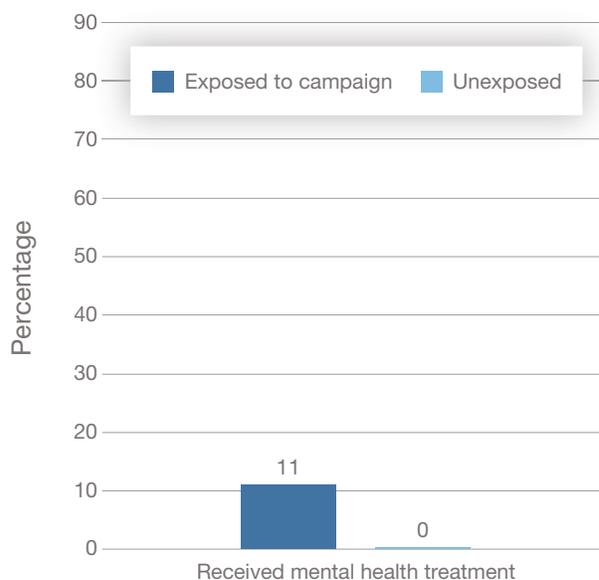
^b Exposed and unexposed youth significantly differ from one another, $p < 0.0001$. No differences among adults were observed by level of exposure.

more time and messaging that is more directly focused.

We observed a strong association between exposure to the campaign among youth and their use of mental health treatment during the pandemic. Although seeking mental health treatment was not a directly targeted outcome of the campaign, it might be expected that those who are able to access resources and information would be more likely to seek treatment. However, the percentages of youth accessing the county website and helpline, even if combined, cannot account for the large percentage using treatment. It is possible that the campaign indirectly encouraged treatment-seeking by increasing awareness of mental health issues, or it might be that treatment use was a cause, not an effect, of campaign awareness. We cannot know for sure whether the campaign led to increased help-seeking and awareness of resources or whether individuals already seeking help are more exposed or attuned to mental health messages and more likely to remember them.

Limitations in our evaluation design mean that we cannot confirm causality, but the evidence from RAND's survey of Los Angeles County residents suggests that the LACDMH COVID-19 campaign effectively reached and supported substantial percentages of county residents at a time when they were experiencing significant challenges to their well-being and

FIGURE 5
Youth Exposed to the Campaign Were More Likely to Use Mental Health Treatment



NOTE: Because we do not know the timing of treatment relative to campaign exposure, it is possible that exposure led to treatment but also possible that those in treatment were exposed more often or were more likely to recall their exposure.

that the campaign might have reduced barriers to their use of mental health resources and treatment.

Uptake of Los Angeles County Mental Health Department's COVID-19 Mental Health Social Media Campaign and Messages

One method of outreach for the county's COVID-19 mental health campaign was messaging on social media. We examined messages on one social media platform, Twitter, focusing on conversations about COVID-19 and mental health in Los Angeles County during the county's campaign. We explored the nature of these conversations in two ways: examining their content, including the extent to which it conveyed key campaign messages, and examining the pattern of interactions among those discussing COVID-19 and mental health (i.e., who was speaking to whom, how often, and about what). Better understanding this context is helpful in gaining a richer sense of whether and how the campaign affected social media discourse. We focus on Twitter because of the public nature of its content (messages on other platforms can be made private, resulting in selective access to conversational discourse). However, there are limitations to this focus: Only a portion of the county population communicates through social media, and only a portion of that group uses Twitter. So, although we can fully observe what happened on Twitter, we cannot speak to conversations on Facebook and other platforms through which Los Angeles County communicated, nor can we speak to conversations that occurred outside social media.

Data and Method

Our data are pulled from Twitter via the social media aggregator Brandwatch (Brandwatch, undated) for the period March 19, 2020–August 25, 2020. This represents the period from the issuance of the Los Angeles County Safer At Home order until the conclusion of RAND's monitoring period for evaluating the LACDMH COVID-19 campaign. Our query terms, as follows, were designed to pull (1) joint references to the pandemic and to mental health or LACDMH and (2)

the two primary campaign phrases “stay connected” and “together we will get through this”:

(#COVID19 OR #Coronavirus OR #SaferAtHome OR covid OR covid-19 OR covid19 OR Pandemic OR “Shut down” OR Shutdown OR shutdowns OR “Stay at home” OR coronavirus OR “Safer at home”) AND (#MentalHealth OR @LACDMH OR @directorLACDMH OR “Jonathan Sherin” OR “Dr. Sherin” OR Headspace.com/lacounty OR “(800) 854-7771” OR <https://dmh.lacounty.gov/covid-19-information/> OR <https://dmh.lacounty.gov/> OR “mental health” OR “mental illness” OR well-being OR wellbeing OR “stay connected” OR “together we will get through this” OR “together we'll get through this”).

Our data pull was geo-inferenced to Los Angeles County, meaning that the tweets had a high probability of emanating from within the geographic bounds of the county, and was thus a very localized data set. However, if an account from outside that geographic area—for example, Governor Gavin Newsom's office—retweeted a tweet from the localized conversation, that interaction and the replies were included in our data. This resulted in a data set containing a total of 27,393 tweets.

We then used community lexical analysis (CLA) to understand the groups in conversation on social media—i.e., who they are and what they are talking about (Collins et al., 2018). CLA works by combining network analysis (discovering who is talking to whom) with text analysis methods (understanding what those groups are talking about). CLA has been used to analyze a variety of online conversations, across such topics as election interference, Russian information operations, and evaluating mental health awareness campaigns (Marcellino et al., 2020). Using CLA, we grouped accounts into meaningful communities using their *interactions*—accounts that sent or received tweets to and from one another. We then used text analytics to characterize the top five accounts in the discussion. (It would not be feasible for us to read tens of thousands of tweets, but we can use human qualitative means to make sense of computer-based analysis of the prominent data patterns in those tweets.) Together, this allowed us to visualize the

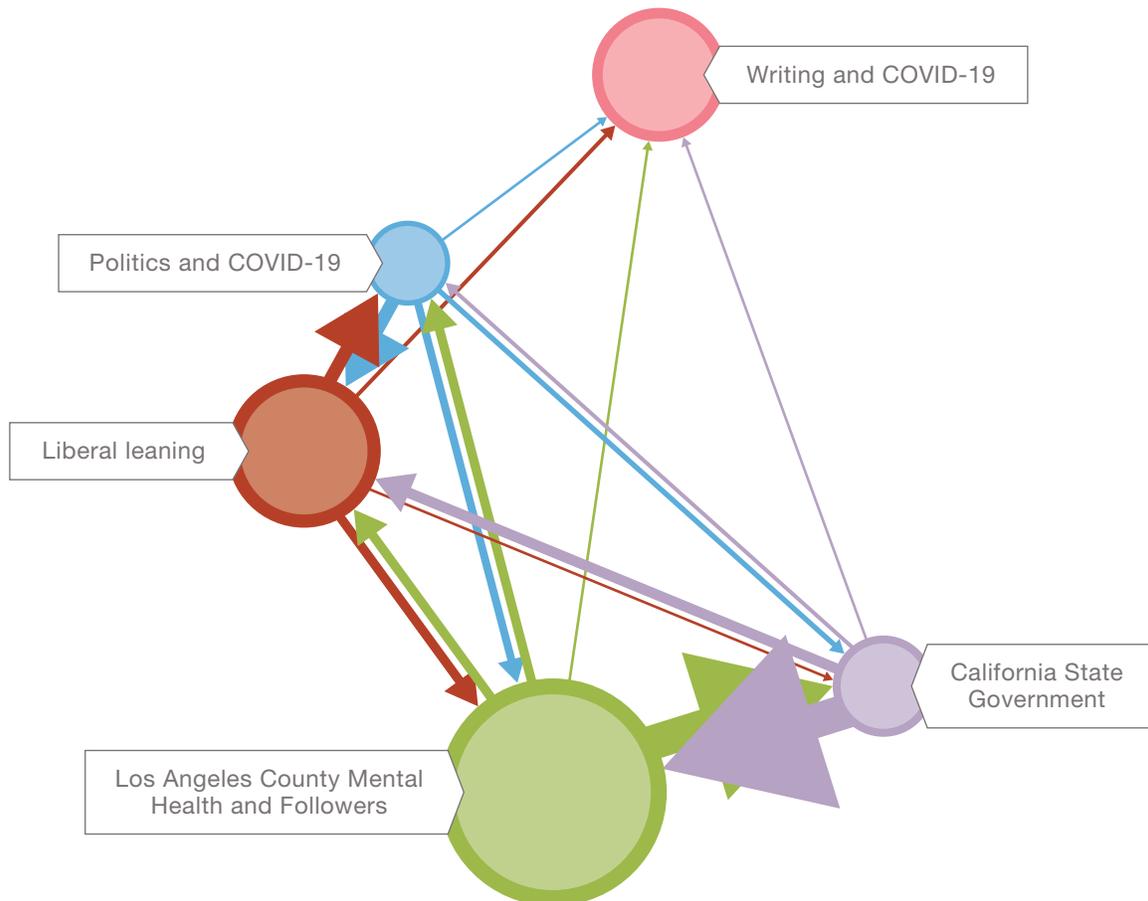
communities as shown in Figure 6. Circles represent online communities; our analysis identified five major groups. The figure shows the direction of connections in the network via arrows. Communities at the blunt end of arrows are communicating to those at the pointed end; arrows with two points indicate reciprocal interaction. The size of the circles is a reflection of the number of Twitter handle mentions and retweets that the community receives. The larger circles (known as *nodes*) are the most-central ones as measured by communication incoming to the community. The larger nodes are connected by many incoming connecting lines (known as *edges*). The thickness of an edge is determined by the number of mentions and retweets from one community to another. Communities that are closer to one another in the figure are

more connected in terms of number of interactions among members of each group (i.e., they speak with one another more frequently than communities that are farther apart). (Note that arrows on each edge show direction, but some are so small that the point of the arrow is invisible. For the densest connections, the arrows overlap and partially obscure each other.)

After establishing the numbers of major communities and the nature of their interactions, we analyzed the text in these communities to learn about the content of those interactions. We did so using three primary methods:

- keyness testing to find conspicuously over-present words that signal what a conversation is primarily about and how it differs from other conversations. A collection of

FIGURE 6
Twitter Communities Discussing Mental Health and COVID-19 in Los Angeles County (March 19, 2020–August 25, 2020)



text data (e.g., from a community of interest) is compared with a more general baseline text set (e.g., from other communities) to detect statistically meaningful patterns in word frequencies. If community X uses such words as *support*, *connected*, *hope*, and *together* at much higher rates than other groups, we can infer that the group is talking about mental health issues, potentially associated with the LACDMH campaign.

- collocates to find word pairs and triplets. This, again, helps us to understand what the conversation is about: Collocate extraction looks for words that occur close to each other in non-random ways, and although they sometimes reflect habitual speech (“you know”), they also reflect proper names, place names, and abstract concepts. *LA* and *County* co-occur because there is a place named Los Angeles County. Likewise, *substance* and *abuse* often co-occur because substance abuse is an important concept.
- In-context viewing for insight. To better understand conversations, we picked words that emerged in keyness testing or collocate extraction and used RAND-Lex to pull examples of their use in the collection of tweets, allowing a human evaluator to view all the examples in context. For example, this analysis can differentiate between uses of the keyword *together*, distinguishing between the frequency of usage related to coping during COVID-19 (i.e., “together, we will get through

this”) and other uses (i.e., “brings together three of Speaker Pelosi’s passions”).

Results

Los Angeles County Twitter Communities Discussing COVID-19 and Mental Health

Here, we describe the different communities discussing mental health and COVID-19 (outlined in Table 7).

Los Angeles County Mental Health and Followers

Within the largest community in the data set (1,369 accounts), the tweets are dominated by messages disseminating the campaign that are posted by LACDMH and associated partners. Prominently featured accounts in this community are those of the Los Angeles County Department of Mental Health, the Sheriff’s Department, the Los Angeles County Board of Supervisors, the Mayor’s Office, the City of Santa Monica, and the nonprofit organization National Alliance on Mental Illness. The personal accounts that were prominent in this community were associated with executives or board members for these same government entities. Although the majority of the traffic in this community is associated with Los Angeles County government or affiliated sources, 938 accounts retweeted messages, suggesting broader exposure to the LACDMH campaign among personal accounts (i.e., Los Angeles residents) not associated with the Los Angeles County government or its close partners. Thus, there is some suggestion that LACDMH messages reached

TABLE 7

Summary of Los Angeles County Twitter Communities Discussing Mental Health and COVID-19

Community	Description
Los Angeles County Mental Health and Followers	LACDMH, partners, and followers; discussed LACDMH campaign messages
California State Government	California state government offices and followers; promoted LACDMH messages
Liberal Leaning	Community supportive of liberal politicians and public figures
Writing and COVID-19	Community dominated by a Canadian writer
Politics and COVID-19	Pandemic-related news, dominated by publication <i>The Hill</i>

a broader Los Angeles County community. The community was disseminating, repeating, and boosting LACDMH campaign messages, such as the following:

If you're feeling stressed, depressed, or anxious and need to talk with someone, @lacdmh has resources available to help you during these trying times. Call LACDMH's 24/7 Access Line (800) 854-7771 or Text "LA" to 741741 for mental health support, resources, and referrals.

Or

If the news surrounding #COVID19 is making you feel stressed, anxious, or depressed, call @LACDMH 24/7 hotline at 800-854-7771 or text "LA" to 741741 to get help. #SaferAtHome #TogetherLA

Top hashtags in the community are presented in Table 8.

We also took a closer look at keywords used in the Los Angeles County community and the context of their usage and found that the word *support* was used significantly more frequently in this community than in the other communities in our data set. Messages including the word *support* primarily informed residents where they could find resources if they needed help during the COVID-19 crisis. Other words associated with the LACDMH's messaging—such as *hope*, *connected*, and *together*—were used less frequently. Table 9 shows the frequency of these keywords as they appeared in the community compared with the larger collection of COVID-19 and mental health tweets captured.

California State Government

Another community (793 accounts) discussing mental health also engaged directly with the LACDMH COVID-19 campaign. This community likely comprises California state government offices (for example, Governor Newsom and his office and California Surgeon General Dr. Nadine Burke); their messages dominate the discussion. The communications provide COVID-19 guidance, particularly on how to access health-related resources. LACDMH resources are promoted in this community, such as guidance encouraging people to call the LACDMH 24/7 hotline or text "LA" to 741741 to get help if feeling depressed, isolated, or wanting to talk to

TABLE 8

Top Hashtags in the Los Angeles County Mental Health and Followers Twitter Community

Word	Frequency
#covid19	1,420
#saferathome	255
#togetherla	129
#wellnessmatters	88
#mentalhealthawarenessmonth	88
#inthistogether	40
#lacounty	26
#mentalhealth	481
#wellbeing	26

someone. Top hashtags used in the community are listed in Table 10.

The keywords *connected* and *together* appeared disproportionately in this community, encouraging Californians to “stay connected” to loved ones, their health, and resources during the COVID-19 crisis and stating that Californians can persevere through the recent challenges “together.”

Additional Communities

Three additional communities were identified that engage in mental health discussions related to the COVID-19 pandemic. These are private conversations, not discussion between government offices. We labeled these communities Liberal Leaning, Writing and COVID-19, and Politics and COVID-19. We did not observe significant spreading of LACDMH messaging in these communities.

The Liberal Leaning community (with 1,160 accounts) is distinctively supportive of liberal politicians and public figures, referencing @joebiden, @nygovcuomo, @bandyxl1 (a public health psychiatrist who is critical of President Donald Trump and his handling of the pandemic), and @maddow (a progressive MSNBC television host). Although these accounts were geo-located within Los Angeles, this community appears to have substantive interests in New York state. The New York State Office of Mental

TABLE 9
Keyword Usage by Community

Community	Percentage Difference in Word Usage Between Community Tweets and All Other Captured Tweets			
	Support	Connected	Hope	Together
Los Angeles County Mental Health	70.0%	-1.3%	-70.3%	-46.2%
California State Government	7.7%	50.4%	N/A	43.7%
Liberal Leaning	-3.9%	-73.8%	-22.8%	40.7%
Writing and COVID-19	N/A	N/A	-82.8%	-78.7%
Politics and COVID-19	-63.9%	-43.5%	-40.6%	-40.0%

TABLE 10
Top Hashtags in the California State Government Twitter Community

Word	Target Frequency
#covid19	509
#mentalhealth	112
#coronavirus	57
#saferathome	26

Health’s messaging frequently appeared in tweets, with 62 tweets or retweets directly referencing New York’s emotional support hotline (compared with 7 tweets or retweets directly referencing LACDMH resources). The LACDMH handle (@lacdmh) was used 92 percent less frequently in this community than other communities. Keywords *support* and *together* are used frequently in the community (e.g., a retweet of a Joe Biden message from April that “if we pull together, we will get through this”) and referencing *emotional support* resources mainly associated with the New York state campaign. Other messages expressed support and encouragement for service workers during the pandemic.

The Writing and COVID-19 community has 1,206 accounts. A popular Canadian writer and poet dominates its discussions. Discussions in the community cover a variety of issues around mental health and warn about COVID-19-related suicide triggers, such as “layoffs, homelessness, and social isolation.” Keywords of interest (*support, connected, hope, and*

together) were used infrequently in this community. No campaign-related messaging (e.g., hashtags, handles, or LACDMH contact information) were identified in this community.

The Politics and COVID-19 community was the smallest community observed, with 738 accounts. The messaging in this community centers on reporting from the Washington, D.C.–based news outlet, *The Hill*, and focuses on pandemic-related news—such as lockdowns, virus case numbers, and deaths. The keywords of interest were used infrequently in this community; however, tweets directly associated with LACDMH resources were identified (e.g., eight with the LACDMH hashtag referencing such resources as the LACDMH hotline).

Summary and Conclusions

We found that the LACDMH campaign messages were represented within the larger COVID-19 and mental health Twitter discussion in Los Angeles County, particularly so in the Twitter community with which LACDMH directly interacts. Beyond the LACDMH community, an additional community largely representing California state government offices addressed the county mental health discussion, picking up and boosting the LACDMH campaign. These two communities of Twitter accounts made up the lion’s share of the COVID-19 and mental health discussion in Los Angeles County. Beyond that, we note that there were three other communities discussing COVID-19 and mental health that

were large enough to capture and analyze. These communities' conversations included significantly less frequent references to the LACDMH campaign compared with the county and state government communities.

In essence, we found that a network of local and state municipal offices picked up the campaign and boosted it, and thus any Los Angeles County residents who follow those accounts could have been exposed to the campaign themes and messages. However, we did not find evidence of broad reach into Los Angeles County Twitter communities that discussed mental health but did not directly interact with Los Angeles County or state government. Given this, future campaigns could improve uptake and reach by proactively reaching out to key influencers in relevant communities to broaden the audience for their online mental health messages. Rather than broadcasting and depending on uptake from existing social media connections, it might be helpful to actively reach out to and engage other communities that care about or might be interested in discussions of mental health.

Discussion and Recommendations

LACDMH launched a social marketing campaign designed to help county residents cope with the COVID-19 pandemic and associated policies designed to limit its spread (i.e., shutdowns, stay-at-home orders, and social distancing). Our survey found that county residents were experiencing substantial stressors during this period, such as lost work, financial stress, lack of social interaction and loneliness, and worry that a family member might become sick with COVID-19.

LACDMH's campaign to mitigate these stressors reached a large percentage of county residents in a relatively short period of time. Exposure was greater among Black and Hispanic residents, groups that might be particularly at risk for adverse effects of the COVID-19 pandemic (Adhikari et al., 2020). A substantial majority of Blacks and Hispanics (well over 50 percent of each group) reported exposure to the campaign. Most residents were exposed to the

campaign via television or radio ads, outdoor ads, or social media; in contrast, relatively few visited the LACDMH website or used the helpline during the pandemic. Our Twitter analysis found that LACDMH campaign messages were represented within the larger COVID-19 and mental health Twitter discussion in Los Angeles County, particularly in communities with which LACDMH and California state government offices directly interact. We identified a network of local and state municipal offices that boosted the campaign, exposing Los Angeles County residents who follow those accounts to campaign messages. However, penetration into other communities discussing COVID-19 and mental health did not occur.

Our survey found that most residents who were reached by the campaign seemed to benefit from it because they felt more connected to their communities and got new information about how to get help with their mental health. Indeed, those exposed to the campaign were much more likely to be aware of the resources and support that LACDMH provides. Youth who were exposed to the campaign were more likely to use mental health treatment during the pandemic. Our evaluation design does not allow us to disentangle whether treatment engagement was caused by the campaign, but it is certainly consistent with the campaign's messages. Although the campaign was associated with feelings of support and knowledge of how to get mental health help, it did not seem to be associated with increased hope or resilience or with decreased loneliness.

Recommendations

The strong overall reach of the LACDMH COVID-19 campaign creates great potential for helping Los Angeles County residents. **We recommend that LACDMH leverage the strong reach of the campaign by providing messages that are stronger and easier to recall, along with messages that are more easily turned into action.** One goal of a revamped campaign could be to promote increased use of the LACDMH website and helpline. Relatively few residents accessed these resources despite their inclusion in campaign messages. This might have been because greatest exposure to the campaign was

via television and radio ads, and it can be difficult to remember a weblink or phone number after the ad ends. These ads and outdoor ads both require copying down information and doing follow-up research (e.g., searching the web). Therefore, we recommend tailoring messages to the ad medium, using online and print media to convey specific information about the website and helpline. For future campaigns, we further recommend that the county create a branded URL and phone number that are easier to remember (e.g., instead of the helpline being 800-854-7771 it could be 800-SUPPORT or something along those lines). At the same time, we recommend that television, radio, and outdoor ads convey messages of hope, resilience, and support more directly; more-focused messaging might be needed to improve county residents' well-being.

The campaign should also consider taking steps to broaden its reach into Los Angeles County communities on Twitter. We recommend that **future campaigns proactively reach out to and engage key influencers in relevant social media communities** to broaden the audience for their mental health messages.

Conclusion

Overall, the evaluation found evidence that the LACDMH COVID-19 campaign successfully reached Los Angeles County residents, especially Black and Hispanic residents at high risk for adverse effects of COVID-19. Moreover, the campaign made those it reached feel supported, and it conveyed how to seek mental health help. Los Angeles County residents exposed to the campaign were more likely to be aware of the information and resources offered by LACDMH and to say that LACDMH is available for them if they need help.

References

Adhikari, Samrachana, Nicholas P. Pantaleo, Justin M. Feldman, Olugbenga Ogedegbe, Lorna Thorpe, and Andrea B. Troxel, "Assessment of Community-Level Disparities in Coronavirus Disease 2019 (COVID-19) Infections and Deaths in Large US Metropolitan Areas," *JAMA*, Vol. 3, No. 7, 2020, p. e2016938.

Brandwatch, homepage, undated. As of February 19, 2021: <https://www.brandwatch.com/>

Brooks, Samantha K., Rebecca K. Webster, Louise E. Smith, Lisa Woodland, Simon Wessely, Neil Greenberg, and Gideon James Rubin, "The Psychological Impact of Quarantine and How to Reduce It: Rapid Review of the Evidence," *The Lancet*, Vol. 395, No. 10227, 2020, pp. 912–920.

Buysse, Daniel J., Charles F. Reynolds III, Timothy H. Monk, Susan R. Berman, and David J. Kupfer, "The Pittsburgh Sleep Quality Index: A New Instrument for Psychiatric Practice and Research," *Psychiatry Research*, Vol. 28, No. 2, 1989, pp. 193–213.

Centers for Disease Control and Prevention, "COVID-19," webpage, February 18, 2021. As of February 25, 2021: <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/investigations-discovery/hospitalization-death-by-race-ethnicity.html>

Cigna, *Cigna U.S. Loneliness Index*, Bloomfield, Conn., 2018. As of February 25, 2021: <https://www.cigna.com/static/www-cigna-com/docs/about-us/newsroom/studies-and-reports/combating-loneliness/loneliness-survey-2018-full-report.pdf>

Collins, Rebecca L., Nicole K. Eberhart, William Marcellino, Lauren Davis, and Elizabeth Roth, *Evaluating Los Angeles County's Mental Health Community Engagement Campaign*, Santa Monica, Calif.: RAND Corporation, RB-10037-CMHSA, 2018. As of February 19, 2021: https://www.rand.org/pubs/research_briefs/RB10037.html

Collins, Rebecca L., Nicole K. Eberhart, Rachana Seelam, Rebecca De Guttry, and Matthew L. Mizel, *2019 Evaluation of Los Angeles County's WhyWeRise Mental Health Campaign*, Santa Monica, Calif.: RAND Corporation, RR-4441-CMHSA, 2020. As of February 19, 2021: https://www.rand.org/pubs/research_reports/RR4441.html

Collins, Rebecca L., Eunice C. Wong, Joshua Breslau, M. Audrey Burnam, Matthew Cefalu, and Elizabeth Roth, "Social Marketing of Mental Health Treatment: California's Mental Illness Stigma Reduction Campaign," *American Journal of Public Health*, Vol. 109, No. S3, 2019, pp. S228–S235.

Collins, Rebecca L., Eunice C. Wong, Elizabeth Roth, Jennifer L. Cerully, and Joyce S. Marks, *Changes in Mental Illness Stigma in California During the Statewide Stigma and Discrimination Reduction Initiative*, Santa Monica, Calif.: RAND Corporation, RR-1139-CMHSA, 2015. As of February 19, 2021: https://www.rand.org/pubs/research_reports/RR1139.html

Eberhart, Nicole K., M. Audrey Burnam, Rachana Seelam, Olena Bogdan, and Joshua Breslau, *Monitoring Californians' Mental Health: Population Surveillance Reveals Gender, Racial/Ethnic, Age, and Regional Disparities*, Santa Monica, Calif.: RAND Corporation, RR-2060-CMHSA, 2018. As of February 19, 2021: https://www.rand.org/pubs/research_reports/RR2060.html

Gaebel, Wolfgang, Wulf Rössler, and Norman Sartorius, *The Stigma of Mental Illness—End of the Story?* New York: Springer, 2016.

- Goldmann, Emily, and Sandro Galea, "Mental Health Consequences of Disasters," *Annual Review of Public Health*, Vol. 35, 2014, pp. 169–183.
- Grey, Ian, Teresa Arora, Justin Thomas, Ahmad Saneh, Pia Tohme, and Rudy Abi-Habib, "The Role of Perceived Social Support on Depression and Sleep During the COVID-19 Pandemic," *Psychiatry Research*, Vol. 293, 2020, p. 113452.
- Holman, E. Alison, Dana Rose Garfin, Pauline Lubens, and Roxane Cohen Silver, "Media Exposure to Collective Trauma, Mental Health, and Functioning: Does It Matter What You See?" *Clinical Psychological Science*, Vol. 8, No. 1, 2020, pp. 111–124.
- Holman, E. Alison, Dana Rose Garfin, and Roxane Cohen Silver, "Media's Role in Broadcasting Acute Stress Following the Boston Marathon Bombings," *Proceedings of the National Academy of Sciences*, Vol. 111, No. 1, 2014, pp. 93–98.
- Hornik, Robert, ed., *Public Health Communication: Evidence for Behavior Change*, Philadelphia, Pa.: Routledge, 2002.
- Hughes, Mary Elizabeth, Linda J. Waite, Louise C. Hawkey, and John T. Cacioppo, "A Short Scale for Measuring Loneliness in Large Surveys: Results from Two Population-Based Studies," *Research on Aging*, Vol. 26, No. 6, 2004, pp. 655–672.
- Kessler, Ronald C., Peggy R. Barker, Lisa J. Colpe, Joan F. Epstein, Joseph C. Gfroerer, Eva Hiripi, Mary J. Howes, Sharon-Lise T. Normand, Ronald W. Manderscheid, Ellen E. Walters, and Alan M. Zaslavsky, "Screening for Serious Mental Illness in the General Population," *Archives of General Psychiatry*, Vol. 60, No. 2, 2003, pp. 184–189.
- Krafft, Andreas M., Charles Martin-Krumm, and Fabien Fenouillet, "Adaptation, Further Elaboration, and Validation of a Scale to Measure Hope as Perceived by People: Discriminant Value and Predictive Utility Vis-à-Vis Dispositional Hope," *Assessment*, Vol. 26, No. 8, 2019, pp. 1594–1609.
- LACDMH—See Los Angeles County Department of Public Health.
- Los Angeles County Department of Public Health, "Public Health Reports 13 New Deaths and 358 New Positive Cases of Confirmed COVID-19 In Los Angeles County," news release, October 18, 2020. As of February 19, 2021: <http://www.publichealth.lacounty.gov/phcommon/public/media/mediapubhpdetail.cfm?prid=2759>
- Marcellino, William, Krystyna Marcinek, Stephanie Pezard, and Miriam Matthews, *Detecting Malign or Subversive Information Efforts over Social Media: Scalable Analytics for Early Warning*, Santa Monica, Calif.: RAND Corporation, RR-4192-EUCOM, 2020. As of February 19, 2021: https://www.rand.org/pubs/research_reports/RR4192.html
- McGinty, Emma E., Rachel Presskreischer, Hahrie Han, and Colleen L. Barry, "Psychological Distress and Loneliness Reported by US Adults in 2018 and April 2020," *JAMA*, Vol. 324, No. 1, 2020, pp. 93–94.
- Paul, Karsten I., and Klaus Moser, "Unemployment Impairs Mental Health: Meta-Analyses," *Journal of Vocational Behavior*, Vol. 74, No. 3, 2009, pp. 264–282.
- Pearlin, Leonard I., and Carmi Schooler, "The Structure of Coping," *Journal of Health and Social Behavior*, Vol. 19, No. 1, March 1978, pp. 2–21.
- Russell, Dan, Letitia A. Peplau, and Carolyn E. Cutrona, "The Revised UCLA Loneliness Scale: Concurrent and Discriminant Validity Evidence," *Journal of Personality and Social Psychology*, Vol. 39, No. 3, 1980, pp. 472–480.
- SAS/STAT software, Version 9.4 (TS1M6) of the SAS System for Linux, SAS Institute Inc., 2016.
- Substance Abuse and Mental Health Data Archive, "National Survey on Drug Use and Health 2018 (NSDUH-2018-DS0001)," data set, U.S. Department of Health and Human Services, Washington, D.C., 2018. As of January 6, 2020: <https://datafiles.samhsa.gov/>
- U.S. Census Bureau, homepage, undated. As of February 25, 2021: <https://www.census.gov/>
- Walker, Elizabeth Reisinger, Janet R. Cummings, Jason M. Hockenberry, and Benjamin G. Druss, "Insurance Status, Use of Mental Health Services, and Unmet Need for Mental Health Care in the United States," *Psychiatric Services*, Vol. 66, No. 6, 2015, pp. 578–584.
- Wang, Guo-Qiang, Cheng Cen, Chong Li, Shuai Cao, Ning Wang, Zheng Zhou, Xue-Mei Liu, Yu Xu, Na-Xi Tian, Ying Zhang, Jun Wang, Li-Ping Wang, and Yun Wang, "Deactivation of Excitatory Neurons in the Prelimbic Cortex via Cdk5 Promotes Pain Sensation and Anxiety," *Nature Communications*, Vol. 6, July 2015.

RAND Health Care

RAND Health Care, a division of the RAND Corporation, promotes healthier societies by improving health care systems in the United States and other countries. We do this by providing health care decisionmakers, practitioners, and consumers with actionable, rigorous, objective evidence to support their most complex decisions. For more information, see www.rand.org/health-care, or contact

RAND Health Care Communications
1776 Main Street
P.O. Box 2138
Santa Monica, CA 90407-2138
(310) 393-0411, ext. 7775
RAND_Health-Care@rand.org

CalMHSA

The California Mental Health Services Authority (CalMHSA) is an organization of county governments working to improve mental health outcomes for individuals, families, and communities. Prevention and early intervention programs implemented by CalMHSA are funded by counties through the voter-approved Mental Health Services Act (Prop. 63). Prop. 63 provides the funding and framework needed to expand mental health services to previously underserved populations and all of California's diverse communities.



The RAND Corporation is a research organization that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous. RAND is nonprofit, nonpartisan, and committed to the public interest.

RAND's publications do not necessarily reflect the opinions of its research clients and sponsors. **RAND®** is a registered trademark.

Limited Print and Electronic Distribution Rights

This document and trademark(s) contained herein are protected by law. This representation of RAND intellectual property is provided for noncommercial use only. Unauthorized posting of this publication online is prohibited. Permission is given to duplicate this document for personal use only, as long as it is unaltered and complete. Permission is required from RAND to reproduce, or reuse in another form, any of our research documents for commercial use. For information on reprint and linking permissions, please visit www.rand.org/pubs/permissions.

For more information on this publication, visit www.rand.org/t/RRR875-1.

© 2021 RAND Corporation

www.rand.org