How 9-1-1 Is Changing in a COVID-19 World

9-1-1 & COVID-19 Report Series | May 8, 2020

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This report, *How 9-1-1 Is Changing in a COVID-19 World*, is the second paper in NENA's *9-1-1 & COVID-19* report series. These reports are designed to inform public-safety stakeholders, policymakers, and the public about how the COVID-19 pandemic is affecting 9-1-1 operations, technology, and personnel.

This report, based on 500 survey responses[1] from 9-1-1 professionals across 44 states and territories, builds upon insights from our initial report[2] published on April 3, 2020. For example, the first survey asked respondents whether overall call and dispatch volumes had changed, while this survey asked specifically which types of calls and dispatches had changed. The survey responses reflected in this report were collected from April 20 to 24, almost a month after our initial survey and well into nationwide efforts to stem the pandemic. See Appendix C for additional context.

Survey access was provided to PSAP contacts using the NENA Enhanced PSAP Registry and Census (EPRC), a free service for public safety personnel that provides contact information for PSAPs during emergencies. See Appendix B for more information on the EPRC.

PSAPs are experiencing widespread increases in calls for psychological issues and domestic violence, but overall call and dispatch volumes continue to decrease.
Nearly three quarters of respondents to our survey indicated that overall 9-1-1 call volumes in their PSAPs had decreased during the prior three weeks, compared with more than half of our respondents in the first survey. The cause of lower call volumes remains the same: Fewer emergencies are occurring because fewer people are leaving their homes.

Unfortunately, however, home is not necessarily the safest place for everyone, as demonstrated by reports of a marked rise in domestic-violence and disturbed-person calls. In this survey, nearly half of respondents noted an increase in dispatches for domestic-violence incidents, while only 10% noted any decrease. Forty-one percent indicated an increase in dispatches coded "mental/psychological person."[3]

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[1] How to interpret these findings: This survey reflects the sentiments of the approximately 500 9-1-1 professionals from 44 U.S. states and territories who responded to our survey. It captures some trends with respect to how COVID-19 is changing PSAP operations based on direct reports from the field. In the interest of producing timely results, we did not establish a margin of error and we did not ensure a statistically-valid representative random sample. See Appendix A for survey-methodology details.

[2] The first report in the 9-1-1 & COVID-19 series, *Initial Impacts of COVID-19 on 9-1-1 Centers*, is available at nena.org/covid19.

[3] Local media accounts speak to this correlation: Sgt. Brandon McCroskey of the Fairfield Township (Ohio) Police Department notes in the Butler County Journal-News that "there are many situations which aren't reported as a domestic situation per se, but are in fact domestic disturbance situations, (such as) an emotionally disturbed person or suicidal person who's upset from an argument with a family member." From the *Journal-News* article *Local domestic violence calls increase during stay-at-home order* (journal-news.com/news/local-domestic-violence-calls-increase-during-stay-home-order/WGAtzjbqB1YRx8LNoQWeJP/)

Many PSAPs have quarantined or sent home staff members showing signs of COVID-19, potentially exacerbating the 9-1-1-workforce shortage.

COVID-19 has confounded many public health decisionmakers because its symptoms often take multiple weeks to manifest, if they manifest at all. Even then, COVID-19 symptoms are often confused with less-serious ailments like allergies, the common cold, and anxiety. This, combined with a lack of widely available, rapid testing, has proven challenging for PSAPs that must ensure staff are not passing the infection among themselves during the virus's incubation period.[4] Numerous survey respondents noted that symptomatic staff had been sent home for roughly *a week* awaiting COVID-19 test results, only to have the test come back negative. Our results also showed that PSAPs that had sent *any* staff home had sent *multiple* staff members home. This combination of quantity and duration of employee absence threatens to exacerbate an already significant PSAP-staffing shortage across the country.

Has your PSAP quarantined or sent home any employees due to either (1) a positive test for COVID-19 or (2) COVID-19 symptoms?

Yes
39.4%

No
60.6%
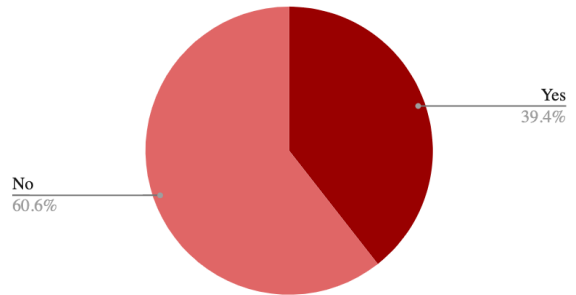
Use of – and even access to – face coverings and other protective equipment in PSAPs is inconsistent.

Just under half of survey respondents indicated their PSAPs had implemented the use of masks or other protective face coverings or garments, and the majority of those requiring masks are not utilizing the N95 variety.[5] This is due to a number of factors, not the least of which is that clarity of oral communication is paramount for those working under the headset, and wearing a mask degrades that clarity.

PSAPs in COVID-19 hot spots that have worked to implement more stringent protective requirements have found it difficult to secure protective equipment and supplies. More than half of respondents indicated difficulties securing masks, cleaning supplies and services, thermometers, or similar goods and services.
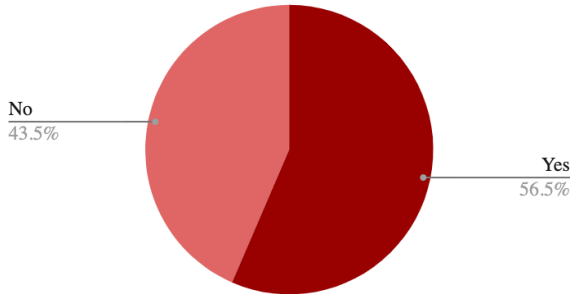
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[4] COVID-19 diagnostic test samples "are generally sent to centralized labs for analysis, so it can take several days to get results back. Wait times were longer earlier in the pandemic because of a testing backlog. There are also two rapid PCR tests, which can be run on specialized equipment already widely distributed throughout the U.S. The speediest one, by Abbott Laboratories, can provide a result in 13 minutes, but one study suggests this test can miss more than 10% of cases." From the National Public Radio article *How Reliable Are COVID-19 Tests? Depends Which One You Mean* (npr.org/sections/health-shots/2020/05/01/847368012/how-reliable-are-covid-19-tests-depends-which-one-you-mean)

[5] As of April 2020, simple cloth or paper face masks represented the most widely used personal protection for preventing the spread of infection among those who leave their homes for work or personal reasons. Because professional-grade N95 respirators are in short supply for essential purposes nationwide, the CDC has recommended that the general public wear cloth masks to reduce the transmission of COVID-19 in exhaled particles. Per the U.S. Food and Drug Administration (FDA) website (fda.gov/medical-devices/personal-protective-equipment-infection-control/n95-respirators-and-surgical-masks-face-masks), "The Centers for Disease Control and Prevention (CDC) does not recommend that the general public wear N95 respirators to protect themselves from respiratory diseases, including coronavirus (COVID-19). Those are critical supplies that must continue to be reserved for health care workers and other medical first responders, as recommended by current CDC guidance."

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Many PSAPs have been denied urgent help for lack of "first responder" or "essential" job-classification status.

Numerous PSAPs report that they have been denied testing and supplies because they are not considered "first responders," despite some state guidelines to the contrary. For instance, nearly one quarter of Illinois PSAPs that responded to our survey indicated having difficulty securing protective face coverings or other supplies because they were not considered "public safety first responders," "essential personnel," or similar designations, despite an Illinois Executive Order which *explicitly includes* "emergency dispatchers" in its list of those occupations which serve "Essential Governmental Functions."[6] We noted discrepancies in responses to this question, implying a lack of awareness of PSAPs' classification as essential services (or not).

Has your 9-1-1 Authority or PSAP management experienced difficulty securing sufficient PPE, cleaning supplies/services, thermometers, or similar?

No
43.5%

Yes
56.5%

PSAPs are acting to improve staff wellness, decrease stress, and increase morale.

Eighty percent of respondents indicated having taken measures to address employee wellness and stress, and nearly that number have taken steps to boost staff morale in the PSAP. This remains an area of focus for PSAP directors and managers as the pandemic continues to add stress to all who work in the PSAP and forces all 9-1-1 professionals to alter their routines at work and at home. Many respondents noted additional anxiety caused by increased familial responsibilities, including caring for children, elderly relatives, and others who are COVID-19-susceptible.

PSAPs are now anticipating longer-term negative impacts from COVID-19.

The realities of COVID-19 are affecting nearly all aspects of 9-1-1 funding, operations, and technology, and will continue to do so for the foreseeable future. Nearly 40% of survey respondents indicated having changed their PSAP's plans due to the extent of the COVID-19 pandemic, with some anticipating significant budget shortfalls from falling tax revenues[7] and others delaying technology upgrades out of concern that the pandemic will spread through vendors and contractors visiting the PSAP for maintenance or hardware installation.

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[6] Illinois Executive Order 2020-10 (COVID-19 Executive Order No. 8) (illinois.gov/Pages/Executive-Orders/ExecutiveOrder2020-10.aspx)
[7] While a portion of most PSAPs' funding comes from per-line fees levied on telephone services, a significant number receive funding from partner agencies (such as police, fire, and EMS) or from local property taxes. Partner agency revenues often come from sales and income taxes, which are sensitive to economic conditions.

COVID-19 has made the recruiting, hiring, and training of employees more difficult.
Respondents noted cancellation and postponement of employee training and hiring. Given 9-1-1 staffing shortages across the country and the likelihood that nearly every PSAP will experience additional absences due to COVID-19, this development is especially disconcerting. Fortunately, many continuing education and certification programs have moved online, allowing PSAP staff in many centers to maintain their certifications and expand their professional qualifications despite the pandemic.

Where available, new technologies and thorough contingency planning has paid off.
A few PSAPs have reported accelerated rollouts of remote call handling and dispatch operations, given the increased need for physical distancing during COVID-19. That said, only a small portion of U.S. PSAPs currently have the capability to work remotely; even fewer have activated these systems.

PSAPs have also turned their attention to backup sites: prioritizing upgrades, maintenance, and general readiness with the expectation that, if a staff member tests positive for COVID-19, the primary site will need to be shut down temporarily for cleaning and disinfection. That said, PSAPs with a full-scale backup center represent only a small portion of all PSAPs in the U.S., and while backup PSAPs are recommended, the reality is that they remain a luxury for many jurisdictions.

Appendix A: Methodology

NENA conducted a survey from April 20-24, 2020 that was available to every primary PSAP point of contact listed in the Enhanced PSAP Registry and Census (EPRC), which included nearly 6,000 individuals. From this survey, we received responses from nearly 500 individuals in 44 states. The survey included various questions types designed to collect specific data and survey respondents were offered the opportunity to expand upon their answers, which provided additional insights.

Appendix B: The EPRC

The NENA Enhanced PSAP Registry and Census (EPRC) is a service free to public-safety personnel that is used to easily look up contact information for PSAPs. The EPRC contains contact information for every PSAP in the United States, and includes administrative contact information but also 24x7 transfer numbers. This service is invaluable for rare cases when PSAPs receive a call that should be handled by a distant PSAP for which they don't have preset call transfer information. The EPRC is also available to non-government public safety entities, such as crisis hotlines, and is also natively integrated into some end-user software such as call processing and CAD. More information is available at eprc.nena.org.
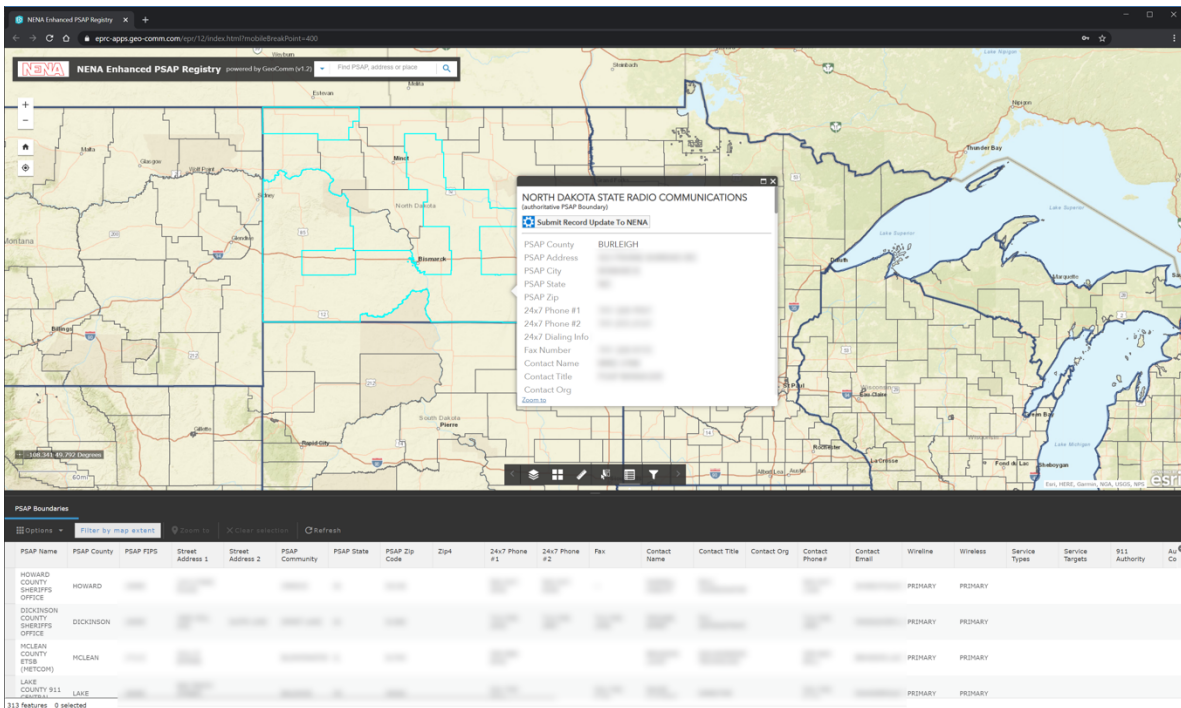
The EPRC was critical to the success of issuing this survey because it allowed NENA access to contact information for every PSAP in the United States. The EPRC currently does not list Canadian PSAPs; this limitation regrettably prevented us from covering PSAPs in Canada in our survey. Plans are in place to incorporate Canadian PSAPs into the EPRC in the future.

Appendix C: The Pandemic Landscape at the Time of This Report

Our first survey was conducted at the end of March 2020, during a period when most states were only starting to implement shelter-in-place orders. In contrast, our second survey was conducted after most of the country had been directed to shelter-in-place, and every state had put in place some sort of restriction on mass gatherings. As responses were being collected for the second survey, the United States passed the milestone of 1 million confirmed cases of COVID-19 (see Figure 1),[8] and many state leaders were discussing when and how their states should reopen (see Figure 2).[9] After extreme increases in 9-1-1 call volume were seen in hot spots like New York City at the end of March, call volumes have finally begun to decline in that region.[10]
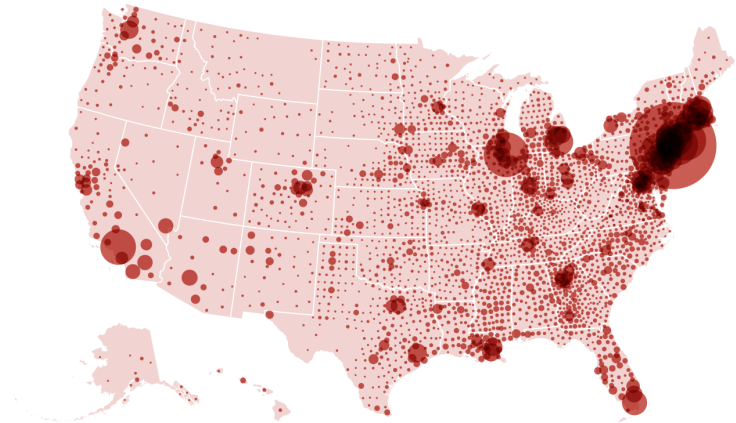

Figure 1. Confirmed cases of COVID-19 in the United States as of May 5, 2020.

That said, COVID-19 is far from contained as of this report's publication. Internal projections from the U.S. Centers for Disease Control and Prevention (CDC) predict an accelerating spread of COVID-19 through May, with confirmed infection rates reaching 200,000 per day and death rates climbing to 3,000 per day.[11] In contrast to other countries that have implemented large-scale testing and quarantine measures, the U.S. still lacks fast, reliable, widespread testing – which has hampered PSAPs' ability to operate with certainty regarding their staff members' COVID status.[12]
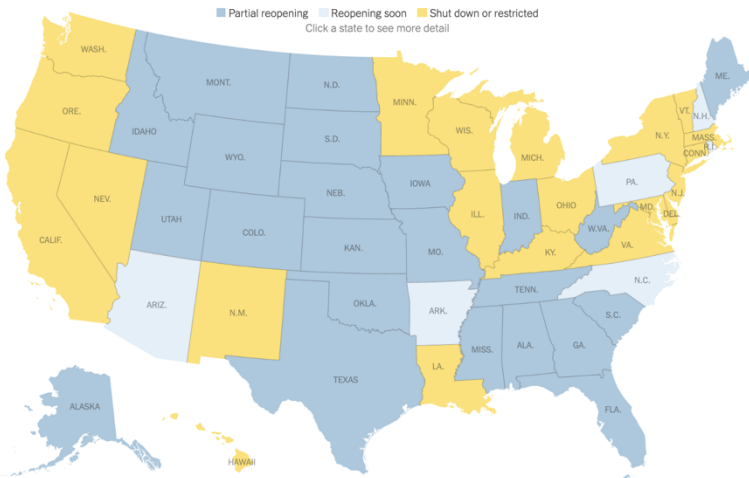

Figure 2. Status of state COVID-19 restrictions as of May 6, 2020.

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[8] Statistic from the University of Virginia's COVID-19 Surveillance Dashboard (nssac.bii.virginia.edu/covid-19/dashboard/) and Figure 1 from the *Guardian* interactive map *Coronavirus map of the US: latest cases state by state* (theguardian.com/world/ng-interactive/2020/may/05/coronavirus-map-of-the-us-latest-cases-state-by-state)

[9] Figure 2 from the *New York Times* interactive map *See Which States Are Reopening and Which Are Still Shut Down* (nytimes.com/interactive/2020/us/states-reopen-map-coronavirus.html)

[10] *NY Daily News* article *NYC sees decline in 911 calls after record high due to coronavirus outbreak* (nydailynews.com/coronavirus/ny-coronavirus-new-york-city-911-calls-20200420-rx3r7hyg6vhhrflh4daxzb4one-story.html)

[11] Axios article *CDC privately projects significant May surge in coronavirus cases and deaths* (axios.com/cdc-projections-coronavirus-may-june-a96726e7-acc8-4855-b603-dc6518f560f5.html)

[12] For example, The U.S. Food and Drug Administration approved the first saliva-based test for COVID-19 on April 13, 2020. *See The Hill* article *FDA approves first saliva-based coronavirus test* (thehill.com/policy/healthcare/public-global-health/492623-fda-approves-first-saliva-based-coronavirus-test)