CISA INSIGHTS

Bolstering Community Resilience During the COVID-19 Pandemic

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INTRODUCTION

Infrastructure is the backbone of communities, providing critical services and enabling essential functions such as health, safety, and economic growth. The COVID-19 pandemic has put both short-term and long-term stresses on U.S. Critical Infrastructure, which can lead to disruptions and degraded performance to *Maintaining Supply Chains*, *Providing Medical Care*, and *Educate and Train* National Critical Functions. Although the pandemic continues to stress communities, it is essential that state, local, tribal, and territorial (SLTT) leaders begin to plan for the recovery phase of the pandemic, if they have not already started this crucial process. This starts with an assessment of community resilience and the investments in critical infrastructure that go beyond short-term responses to pandemic pressures and address the long-term changes that the pandemic has brought. This Insight encourages SLTT leaders to take a holistic perspective for considering community resilience: infrastructure resilience is a critical component of community resilience. For example, the CISA Infrastructure Dependency Planning Framework was developed to help SLTT planners and decisionmakers better understand how infrastructure dependencies can impact community risk and resilience and how to incorporate that knowledge into ongoing community planning.[1] Bolstering community resilience, and protecting our Essential Critical Infrastructure Workforce, will ensure we can maintain critical functions now and after the pandemic's immediate effects fade.

BACKGROUND

The National Institute of Standards and Technology defines community resilience as "the ability to prepare for anticipated hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions. Activities such as disaster preparedness—which includes prevention, protection, mitigation, response and recovery—are key steps to resilience."[2] These activities are enabled by critical infrastructure which also must be resilient, both in terms of physical assets and the Essential Critical Infrastructure Workforce.

Incorporating CISA's Infrastructure Dependency Planning Framework into a community's existing plans helps to inform decision making at every phase of a disruption to any community function, as understanding the dependencies at play in a community's critical infrastructure can help entities prepare, address, and recover from hazards or disruptions regardless of sector. The goal of the plan is to "limit disruptions to the delivery of essential community functions, whether by reducing the likelihood of infrastructure systems disruptions or reducing their consequences."[3] This anticipation, quick reaction time, and an organized recovery plan demonstrate a community's level of resilience. While these tools were developed to apply broadly, they are also useful for considering how the pandemic has degraded and will continue to strain community resilience, and, by extension, critical infrastructure resilience.

THE RISKS OF DEGRADED RESILIENCE

The pandemic has had economic effects that have led to the closure of some organizations, deferred capital investments in infrastructure systems, and workforce attrition. Each community faces a unique situation, which may mean reduced capacity in the functioning of its critical infrastructure and eroded community resilience. SLTT leaders need to consider which sectors the pandemic has affected at the local level and what the local communities' needs are, taking into account any demographic changes.

Though in the short-term, certain adjustments have been made to shift resources to address worker shortages and supply-chain issues, the protracted timeframe of the COVID-19 pandemic is itself a factor degrading community resilience, as resources set aside to address these concerns, such as overtime hours or supply stockpiles, have been depleted. Without active plans to bolster community resilience, the adjustments in place may open vulnerabilities in other areas as communities are unable to return to pre-pandemic level operations.

Deaths, infections, long-term medical complications, school closures, and economic factors have also caused worker shortages in many critical infrastructure sectors across the country during the pandemic. Worker shortages have led to diminished capacity to provide critical resources and perform critical functions. Especially in the Healthcare and Public Health Sector, these shortages have had dire consequences.[4] The Transportation Systems Sector also faced significant losses due to decreases in travel, and supply chains have faced severe delays due to staff shortages felt by the shipping and trucking industries. Planning and protections for critical infrastructure sectors can allow for the continued function and safety of a community during hazards.

Impacts to community resilience felt from the COVID-19 pandemic will have long-lasting effect on how communities' function and will continue to delay our return to some form of 'normal operations'. Now, as we redefine normal operations, inclusion of the Infrastructure Resilience Planning Framework (IRPF) as detailed in the Infrastructure Resilience Primer can assist communities in making plans that ensure the continued operation of their critical functions and sectors.[5] A full recovery will not be possible without an understanding of how to bolster and ensure community resilience.

RISK MITIGATION

Due to the continued threat of the COVID-19 pandemic and other stressors, it is critical that communities address areas of degraded resilience. The following have been identified as methods to address degraded resilience, prepare communities for future disruptions, and safeguard the critical infrastructure sectors, functions, and workers that allow communities to thrive:

- Address worker shortages in the long term by incentivizing entrance into fields suffering shortages; by expanding financial support with paid overtime, ensuring adequate supplies and PPE, and providing programs such as on the job mental health services.
- Continue and expand the use of non-medical interventions such as mask mandates, random testing, and distancing in the workplace, especially in public venues where Essential Critical Infrastructure Workers work, to prevent, detect, and help resolve COVID-19 outbreaks. To build long-term resilience, organizations should document lessons learned and develop plans to re-implement successful interventions in the event of future public health crises.
- Institute policies that promote vaccination, recommend booster shots, and offer COVID testing in the workplace. For more information about how to overcome vaccine hesitancy among frontline workers, see the CISA Insight titled COVID-19 Vaccination Hesitancy Within the Critical Infrastructure Workforce.[6]
- Use the CISA Infrastructure Dependency Primer to help state, local, tribal, and territorial planners and decisionmakers better understand how infrastructure dependencies can impact community risk and resilience and how to incorporate that knowledge into ongoing community planning.
- Use the FEMA RAPT tool to identify and support high-risk communities, through methods such as providing increased guidance to Essential Critical Infrastructure Workforce employers in those areas.
- Continue to monitor and provide support to communities facing natural disasters and weather hazards, including economic recovery assistance.

CISA'S ROLE TO STRENGTHEN NATIONAL RESILIENCE

Through CISA's efforts to understand and advise on cyber and physical risks to the nation's critical infrastructure, we help partners strengthen their own capabilities. We connect our stakeholders in industry and government to each other and to resources, analyses, and tools to help them build their own cyber, communications, and physical security and resilience, in turn strengthening national resilience.

For more information or to seek additional help, please visit the CISA COVID-19 Resource Page or contact us at Central@CISA.DHS.GOV.

[1] Cybersecurity and Infrastructure Security Agency, "Infrastructure Dependency Primer," https://www.cisa.gov/idp
[2] National Institute of Standards and Technology. "Community Resilience". Viewed 30 November 2021. https://www.nist.gov/community-resilience
[3] Cybersecurity and Infrastructure Security Agency, "Infrastructure Dependency Primer," https://www.cisa.gov/idp
[4] Cybersecurity and Infrastructure Security Agency, "Provide Medical Care is in Critical Condition: Analysis and Stakeholder Decision Support to Minimize Further Harm," https://www.cisa.gov/publication/provide-medical-care-critical-condition-analysis-and-stakeholder-decision-support
[5] Cybersecurity and Infrastructure Security Agency, "Infrastructure Resilience Planning Framework," (October 2021), https://www.cisa.gov/sites/default/files/publications/Infrastructure_Resilience_Planning_Framework_IRPF.pdf
[6] Cybersecurity and Infrastructure Security Agency, "COVID-19 Vaccination Hesitancy Within the Critical Infrastructure Workforce," https://www.cisa.gov/publication/covid-19-vaccination-hesitancy-within-critical-infrastructure-workforce