**National Dialogue for Healthcare Innovation (NDHI)**
**Disaster Preparedness and Response Initiative**

**Project Overview**

The Healthcare Leadership Council (HLC), an alliance of leaders from all sectors of American health care, and the Duke-Margolis Center for Health Policy are collaborating on an initiative aimed at strengthening the U.S. health care sector's capacity to prepare for and respond to future disasters. Leveraging expertise from across public and private sectors, the Disaster Preparedness and Response Initiative is analyzing the COVID-19 crisis as a lens for understanding how public-private response efforts could be strengthened or improved for future events.

The initiative will identify innovations developed during the COVID-19 response that should be maintained or strengthened; lessons learned about what should be done differently; and strategies federal, state, and private sector leaders can take to bolster preparedness, response, and recovery. While strengthening pandemic preparedness is a key goal for a number of efforts examining the crisis response to COVID-19, this initiative differs from others in its focus on public-private coordination; in developing recommendations applicable to a broader spectrum of disaster responses beyond pandemics (including natural disasters, bioterrorism, cybersecurity, and others); and in creating targeted bold recommendations that will be available for an upcoming policy window in early 2021.

While the issues confronting disaster preparedness and response are complex and interrelated, the initiative is concentrated into three primary workstreams where the pandemic has highlighted significant challenges. These workstreams include:

- ***Innovation and supply chain readiness***: Strengthening a disaster-ready supply chain that can ensure our nation's needs are met and that personal protective equipment, supplies, current and future treatments, and future vaccines can be delivered equitably, safely, and expeditiously.
- ***Data and evidence generation***: Highlighting better public-private coordination on data to improve patient care response in an emergency or disaster, strengthening public health surveillance, and accelerating biomedical innovation while protecting the privacy of individuals.
- ***Care delivery*****:** Responding to extraordinary escalations and changes in patient needs through rapid adoption of clinical and treatment advancements and accelerated adaptations of delivery models in response to emergency needs such as leveraging telehealth and virtual care models; deploying clinicians and care delivery resources where they are needed; and implementing measures to ensure resiliency, equity, and financial stability for health care providers during periods when normal revenue streams are disrupted.

In summer and fall 2020, the initiative brought together multiple experts, leaders, and multisector perspectives to develop consensus recommendations through interviews and multi-stakeholder meetings. In October 2020, the Healthcare Leadership Council will convene to further discuss, prioritize, and refine recommendations. Our goal is for practical and actionable recommendations to strengthen our nation's preparedness and response for future health crises.

**Cross-Cutting Principles for Strengthening Disaster Response and Preparedness**
*Throughout discussions with experts, leaders, and stakeholders, several key themes have repeatedly emerged across all workstream discussions. The below list synthesizes those concepts into cross-cutting principles that will guide all recommendations across innovation and supply chain readiness, data and evidence generation, and care delivery workstreams.*

- **Support Public-Private Coordination and Collaborations**: Successful response to COVID-19 required significant public-private collaboration and within-industry data sharing and partnerships, even in areas that are normally considered competitive or proprietary. This type of private sector accountability and commitment should be encouraged and supported for future emergencies, including:
    - Support a collaborative process for future emergencies by developing stronger and transparent communication channels, identifying best practices for private sector organizations, and creating a standard set of legal and regulatory guidance and waivers (e.g., antitrust, anti-collusion) that could be implemented quickly by specified government agencies or officials during emergencies.
    - Greater public-private collaboration for future public health emergencies, drawing from experience from public-private relationships in other industries (e.g., aviation, national electrical grid) where appropriate, building on existing stakeholder engagement efforts (e.g., HHS Sector Coordinating Councils and FEMA voluntary agreements), and leveraging the private sector's ability to identify important metrics to judge accountability.
    - Institute dedicated, efficient financing mechanisms to support capacity building for preparedness, public health, and emergency response efforts, contingent on meeting certain standards and performance metrics, for public and private sectors across the health system.

- **Harmonize Conflicting Requirements During Emergencies to Increase Local Flexibility**: Health care response takes place at the local or regional level, often crossing state and local government boundaries. Further, existing regulations can limit the ability of the health care system to quickly deliver supplies, human capital, and direct care to areas with greatest need. To address these challenges during emergencies, public sector leaders can:
    - Harmonize regulations and have quickly implementable, uniform waivers for local, state, and federal regulations such as licensure, public health reporting, PPE stockpiles, and telehealth regulations.
    - Coordinate government response with clear roles and responsibilities across levels of government (state and federal), federal agencies (e.g., CDC, DHS, ASPR, FEMA, FDA, DoD, CMS), multiple data reporting requirements, and federal emergency response legal frameworks (e.g., Stafford Act, National Emergencies Act, Public Health Emergencies under Public Health Service Act).

- **Improve Equity**: The COVID-19 pandemic has disproportionately affected many groups that are already experiencing poorer outcomes across the health system. Equity and access issues must be proactively monitored and inform adaptive response plans.

- **Transparency as Backbone of Emergency Management**: Data and technology are needed to quickly deliver supplies and human capital to the areas that need it quickly; technology such as regional dashboards on current and predicted capacity can support improved transparency and responsiveness.

- **Leverage Innovations Developed During Pandemic:** Given the substantial innovation that has occurred during the pandemic, public and private sector leaders can work to identify those processes and flexibility that should be continued to build capacity and respond to future emergencies.

**Cross-Cutting Recommendations**
*Building on the cross-cutting principles identified by stakeholders, the following are specific recommendations across all workstreams.*

***1.*** **Support Public-Private Coordination and Collaborations**
*There is general agreement that better coordination from the federal government is needed – both internal to government (across federal agencies; between federal, state, and local governments) and between government agencies and the private sector to achieve a unity of effort.*

a. Clearly define the roles and responsibilities of federal and state regulatory agencies and establish coordination and communication channels between public and private sectors.
    i. Publicly communicate expected roles and responsibilities of federal agencies to facilitate private sector engagement during a public health emergency.
    ii. Identify a mechanism for coordinating between federal departments during public health emergencies, whether a single federal agency as coordinator, well-defined interagency task force, or other mechanisms.
    iii. Ensure public health emergencies, such as pandemics, are included under federal disaster response authority, such as by amending the disaster definition in the Stafford Act to explicitly include pandemics and other public health emergencies in major disaster declarations.

b. Establish new stakeholder engagement channels that can quickly convene and coordinate senior decisionmakers from organizations across industry sectors (e.g. manufacturers, hospital leaders, group purchasing organizations, chain pharmacies, state and local health officials).
    i. Coordinate between the multiple existing stakeholder engagement channels created with the federal government.

c. Identify specific financing vehicles to support capacity building for preparedness, public health, and emergency response efforts, such as mandatory appropriations, zero interest loans, bond service, or health care payment models with upfront payments followed by more flexible payment structures. Any financing would be contingent on meeting certain standards and performance metrics and would seek to build capacity across public and private sectors.

***2.*** **Harmonize Conflicting Requirements During Emergencies to Increase Local Flexibility**
*There is broad agreement that regulatory barriers and other administrative policies should be amended or waived during times of emergencies. Particular areas that participants frequently cited include:*
a. Review regulatory reforms that worked well and identify areas for further improvement.
b. Obtain relevant legislative authority for local, state, and federal waivers, on areas such as licensure, public health reporting, PPE stockpiles, and telehealth regulations, so that they can go into effect shortly after an emergency has been declared (unless specifically not needed as noted in the emergency declaration).

## INNOVATION AND SUPPLY CHAIN WORKSTREAM

### Overarching Principles and Recommendation Concepts

The private sector has responded to the COVID-19 pandemic with unprecedented efforts to meet medical product needs, from ramping up production to re-tooling assembly lines to developing new products. However, the COVID-19 pandemic has also revealed vulnerabilities in the United States health care supply chain, with shortages, distribution bottlenecks, and conflicting or unclear regulatory guidance that delayed and hampered response efforts. To develop a resilient, responsive, and robust supply chain for the next emergency, it is imperative that the United States better leverage the unique capabilities of the private and public sectors. The following key principles should be considered to support a coordinated public-private response:

- **Improve Communication and Coordination**: Create a national strategy and roadmap for medical product innovation, rapid production, and distribution chains with strong engagement from the private sector; improve coordination across federal, state, and local agencies; expand robust public-private sector collaboration with systematic communications and data sharing; and remove regulatory barriers that impede rapid production and distribution of medical products during emergencies.
- **Strengthen Stockpiles and Prevent Supply Shocks**: Establish new approaches to supply chains to help prevent significant disruptions, such as using virtual stockpiles based on time to inventory for selected products; geographically diversified product sourcing (including domestic manufacturing for high-priority medical products); create standards for what should be stored in stockpiles, including how much and how long in the stockpile, regularly updating the standards based on most recent science and with active care delivery system and provider engagement; and establish pre-certified relationships, such as through pre-defined contract mechanisms, between manufacturers, distributors, and end users to identify organizations that have the capability to produce and distribute products to meet potential demand during emergencies.
- **Improve Transparency on Supply Chains**: Develop mechanisms for collecting supply chain information (both upstream and downstream) to identify vulnerabilities, including by building on new authorities and learnings coming out of the CARES Act, in a manner that protects confidential commercial information, trade secret information, and any other information that is considered classified information.
- **Expand Supply Chain Capacity**: Ensure sustained funding to meet the nation's supply chain needs, identify needed ancillary supplies for important emergency purposes (such as nasal swabs for testing, syringes for vaccines, and active pharmaceutical ingredients to quickly scale up drug production), provide strategic incentives to bolster supply chain resilience, and protect against gray and black-market vendors

*In addition to these principles, the group highlighted the great diversity in medical products and noted that the particular supply chain issues often differ for different products (such as diagnostics vs personal protective equipment versus durable medical equipment versus pharmaceuticals versus others).*

### Recommendations

1. **Improve Communication and Coordination**
   *In addition to the cross-cutting recommendations, the following areas can strengthen coordination of the supply chain response:*
   a. Clearly define the roles and responsibilities of federal and state regulatory agencies with respect to the supply chain and delivery of countermeasures or medical products.

i. Publicly communicate expected roles and responsibilities of federal agencies to facilitate private sector engagement to manage the manufacturing, storing, and distribution of critical supplies needed during a public health emergency.

b. Leverage expanded stakeholder engagement channels (*as discussed in the cross-cutting recommendation section)*
    i. Using expanded public-private stakeholder engagement channels, gather private sector input on supply chain resilience. This may include defining what drugs, equipment, and other products are "critical;" establishing stockpile standards (e.g., quantity, quality, and duration), and inventory reporting requirements.

*c.* Reduce regulatory barriers
    *i.* Clearly communicate plans to utilize existing authority (e.g. Section 708 of the Defense Production Act) or other regulatory waivers that can be used during emergencies, such as for antitrust laws, anti-collusion, technology transfer, or export controls, which can restrict supply chains coordination during an emergency. Any waivers or safe harbors should continue to support market functioning and patient privacy, while recognizing the need for greater speed and any agreements entered through this improved coordination would ensure protection of trade secrets and confidential commercial information.
    ii. Promote expedited regulatory approvals during emergencies, with further opportunities for communication between the FDA and manufacturers to evaluate and approve submissions (e.g., leverage technology and virtual protocols to expedite processes and optimize needed documentation).
        1. Release updated Emergency Use Authorizations (EUA) guidance for emergencies, including the underlying decision making in issuing EUAs, to provide appropriate consistency in EUA use and encourage rapid production response (recognizing that different products might appropriately be subject to different standards).

***2.*** **Strengthen Stockpiles and Prevent Supply Shocks**

a. Modernize and optimize the stockpile of critical medical supplies and drugs.
    i. Identify specific critical medical products that could be transitioned to a dynamic, virtual stockpile that uses a "flow-through" inventory model with constant replenishment of newer stock as older stock moves into distribution. Medical products that are candidates for a virtual stockpile approach will have sufficient production capacity, so that a portion of capacity can be stored in an ongoing way. Further, a virtual stockpile approach will require greater coordination between federal agencies and the private sector organizations holding the inventory.
    ii. Prevent proliferation of and competition for local stockpiles with explicit coordination between federal and states through a "hub-and-spoke" stockpile model.
    iii. Update existing standards for medical products in stockpiles (e.g., quantity needed, shelf life, time to ramp up production level for product, and time for distribution) with regular reviews based on updated science and industry trends, with standards sensitive to products types needed for various public health emergencies.

b. Develop best practices for private sector modernization of the supply chain through digital transformation, automation, and predictive analytics; develop best practices for private sector manufacturers to transition to advanced manufacturing practices (e.g. continuous manufacturing); and develop policies that support a "just-in-case" manufacturing approach balanced with the need for "just-in-time" efficiency, sensitive to medical products types.
c. Expand pre-certified relationships between manufacturers, distributors, and end users to identify organizations that have the capability of producing pre-defined critical medical products in a minimum standard in the least amount of time. Federal agencies may develop lists of pre-certified manufacturers, create pre-defined contract mechanisms for use during emergencies, or establish contingency contracts that can easily be activated in order to be responsive with a shorter time to inventory. Private sector distributors or end users may develop best practices to aid in developing pre-certified relationships. Participants in the initiative generally agreed that other approaches (e.g. a list of pre-contracted suppliers or creating a national clearinghouse to vet and connect manufacturers and distributors) would not be feasible.
d. Conduct biannual tests of the supply chain readiness to ensure the systems are in place with manufacturers, distributors, GPOs, and providers to activate as needed.

***3.*** **Improve Transparency on Supply Chain**

*There was a general consensus that more visibility is needed into the supply chain – both upstream and downstream, which includes informing key stakeholders about usage, levels, and dispositions, while maintaining protection of confidential commercial information and protecting any information that is sensitive from a national security perspective. The following areas emerged as actionable recommendations:*

a. Use stakeholder engagement mechanisms (*described in more depth in cross-cutting recommendations*) to review existing reporting, identify opportunities for improving reporting and tracking of critical products, provide feedback on how to transition to automatic reporting versus manual reporting on medical product capacity, identify strategies for bi-directional data sharing, and outline opportunities for engendering trust with end users that would encourage greater coordination and data sharing. The goal should be to have an information system that can be quickly utilized during emergencies containing specific information on critical products in terms of manufacturing capacity, speed and product availability, product availability and location with distributors and available inventory in hospitals.
b. Leverage existing mechanisms to support appropriate information exchanges. For instance, FEMA's voluntary agreement can assist with coordination between the federal government and commercial entities in specific supply chain networks, providing anti-trust safe harbors for businesses within the same sub-sector. The Critical Infrastructure Partnership Advisory Council (CIPAC) can also facilitate coordination by shielding businesses from publicly disclosing sensitive information.
*c.* Clearly define what information or data is needed to provide practical and actionable insights into inventory levels and use rates for various medical product. *However, participants disagreed on how information should be collected (e.g. whether into one centralized decision-making source or across industry-led coalitions) and reported (whether through regulatory mechanisms or as a voluntary "best practice" across private sector industries), and noted concerns about reporting burden and feasibility.*

d. Assess key vulnerabilities in the ability of private and public sectors to develop, procure, store, and distribute critical medical products and make this information available for industry use, with appropriate safeguards to protect against unauthorized disclosures.
    i. This exercise should consider all critical linkages in the supply chain. For instance, strengthening transportation lines (e.g. shipping/rail/air freight) to prevent disruptions.
e. Develop a standardized approach for allocating resources based on need and equity, with clear communications and expectations for how end users can procure and access supplies in order to prevent counterproductive bidding war and profiteering.
    i. Identify a system that can be quickly utilized during emergencies that will provide a centralized means to manage gray and black-market vendors, providing a means to centralize vetting and approval of products that are being offered by these vendors.

***4.*** **Expand Supply Chain Capacity**

a. Provide strategic incentives (e.g., zero percent loans, long-term and sustained advance purchase commitments, federal purchasing) to bolster supply chain resilience, such as developing supply chain redundancies, encourage geographic diversification for critical medical products, and improve critical medical product inventory (while meeting quality standards) during emergencies.
b. Provide strategic initiatives to increase domestic manufacturing capacity of critical medical products to improve availability during emergencies.
c. Ensure sustained funding for research and development, especially for products with limited commercial potential or national security utility, such as through federal research channels (e.g. RADx, BARDA).
d. Given that supply chains are only as resilient as their weakest link, identify needed ancillary supplies for important emergency purposes (such as nasal swabs for testing or syringes for vaccines).

## DATA AND EVIDENCE WORKSTREAM

### Overarching Considerations for Improving Data and Evidence

Responding to a health-related disaster will require steady, trusted streams of data capable of supporting multiple components of a public-private response, including:

- Identifying, evaluating, and protecting at-risk populations.
- Measuring clinical outcomes to monitor treatments and interventions to learn what works and to educate clinicians.
- Meaningfully supporting policy maker and other stakeholder decisions necessary for response coordination.

To support public health disaster response (including syndromic and disease syndromic surveillance, case identification, mitigation, and monitoring), supply chain coordination, and other long-term efforts for achieving sustained health impacts, the recommendations below should be informed by the following general principles:

- **Promote Real-time Data Collection, Reporting, and Sharing:** Support real-time and consistent data collection and reporting to ensure availability on key dimensions critical for disaster response by a variety of public and private stakeholders.
- **Leverage and Support Interoperability of Health Information Technology and Public Health Data Systems**: Identify and coordinate existing health information technology (health IT) and data systems that help contribute flows of information to response efforts (e.g. electronic case reporting for reportable conditions to public health, health system data, electronic lab reporting, NEMSIS for EMS data) – ideally leveraging existing health IT and data sources to help address challenges of interoperability between health care and public health.
- **Generate Real-World Evidence:** Ensure that response efforts, particularly those that are ongoing over the course of several months, produces understandable data and recommendations that contributes to collective learning and sharing of best practices.
- **Provide Sustained Support for Infrastructure Investments:** Create an ongoing funding stream to support Federal, state, tribal, territorial, and local public health data systems, such as immunization information systems.
- **Harmonize Regulatory Requirements**: Review and harmonize requirements for data collection and reporting across Federal, state, tribal, territorial, and local public health authorities. Allow increased flexibility in response efforts if new national requirements are necessary. Address potential conflict between state or local regulations and national requirements.
- **Privacy and Security**: Plan for and create contingencies for data privacy challenges, including modifying existing federal policies to allow appropriate data sharing during public health emergencies while still protecting patient data. This should include parallel plans to protect the security of health data and any necessary data sharing.

### Recommendations

1. **Reform Data Collection, Coordination, and Utilization Approaches to Support Disaster Response Efforts**
    a. Collect and report consistent, standardized data across the public health and health care ecosystem, including between providers and clinicians, and Federal, state, tribal, territorial, and local health authorities. This information can be used and visualized uniquely in the states, but the data will be complete and standardized.

b. Enhance existing advisory processes to ensure participation of health care and public health organizations, to define the data and measures necessary for disaster response efforts. Processes should ensure clear, rapid identification of data collection and reporting for public health disasters or health-related emergencies, including:
    i. What data is needed to inform disaster response efforts.
    ii. Which organizations must submit it and how often.
    iii. Which central or coordinating entity receives it.
    iv. Which entities can access it.
    v. How the data is organized and merged.
    vi. Clear guidelines for specific use cases for individual and aggregate health data to support disaster response efforts [accounting for variability in use cases across different types of disasters and response efforts].
c. Define measures necessary for disaster response and monitoring efforts, including measures from across public health and health care delivery that capture both health care demand and resources, and health outcomes. Use standard data definitions and transmission mechanisms whenever possible.
d. Build a 21st century public health early warning system that is able to:
    i. Collect, exchange, report and use a uniform set of data from inpatient and ambulatory electronic health records.
    ii. Designate, adopt, and implement data and technology standards for public health data, with deference given to standards published by consensus-based standards development organizations and with priority given to standards adopted by the Office of the National Coordinator for Health Information Technology.
    iii. Enhance and expand current public health data collection and systems from ambulatory and outpatient settings for syndromic surveillance, threat detection, and surge prediction, monitoring, and mitigation.

e. Ensure data informing disaster readiness and response includes race, ethnicity, and sociodemographic characteristics to help identify high risk populations and direct resources accordingly.
f. Establish key technology requirements for public health (e.g., state and county) including the ability to:
    i. Send and receive patient level and aggregate data.
    ii. Maintain the privacy and security of data.
g. Leverage existing programs, and if necessary, augment with new programs and funding streams to support all activities identified in this section. Ensure patient health information is shared only for the purpose of case reporting to the local public health authority. Determine what aggregate data can be shared to support specific disaster response efforts.
h. Ensure that privacy legislation and regulations address and protect the use of health data during public health emergencies.

***2.*** **Modernize National, State, and Local Health IT Systems and Capabilities**

a. Pass legislation that funds public health data and IT modernization, sets targets and benchmarks, and improves workforce capacity – including Federal agencies, state, tribal, territorial, and local public health authorities.
b. Leverage existing programs or create new programs that provide opportunities and incentives for hospitals, health systems, laboratories, and other private organizations to improve their ability to report necessary data for disaster response efforts. This should include identifying opportunities to more routinely engage these entities in state and local preparedness planning activities.

c. Adopt common baseline standards to improve patient identification. Providers, software developers, payers, and other health care organizations should collaborate with technical assistance from HHS on the identification and collection of a common set of data elements using federally adopted standards, to improve accurately matching patients to their health records.

***3.*** **Strengthen Data Reporting and Transparency Around Supply Chains**

a. Establish mechanisms for private sector entities to share confidential, aggregate, organization-specific data in an emergency with the Federal government or an authorized coordinating body to support supply chain management and surge re-deployment.
    i. Could focus on specific types of products and/or supply chains likely to be disrupted.
    ii. May require reporting and visibility both up- and downstream in the supply chain.
    iii. Ensure information is shared in a manner that protects confidential commercial information, trade secret information, and any other information that is considered classified information.
b. Have the ability to create a dashboard on short notice that will inform disaster response efforts by the Federal government or an authorized coordinating body.

***4.*** **Expand Data and Evidence Generation Practices for Biomedical Innovation**

a. Enable researchers, EHR vendors, manufacturers, and health care providers to utilize their data for research that advances care delivery and treatment through observational studies and rapid deployment of clinical trials. This could include incentives for internal research activities utilizing an organization's own data, or incentives for making data available to third party organizations.
b. Leverage and adapt existing platform trial designs and tools to rapidly establish practical trial networks for generating evidence on new or repurposed treatments for the health emergency. These networks should include clinical care settings (e.g., community hospitals) and patient populations (e.g., older and minority populations) not typically represented in traditional clinical trials.
c. Identify strategies for incorporating virtual care, remote monitoring, and telehealth into clinical research, particularly during a long-lasting health-related disaster.
d. Support the use of observational data that can rapidly identify effective care approaches that could inform best practices or trigger targeted further investigation.
e. Apply innovative and breakthrough technologies and analytics approaches (including artificial intelligence; natural language processing; and machine learning) to strengthen public health predictive and forecasting capabilities (demands for healthcare, supplies and resources) and to inform evidence-based practices.

## CARE DELIVERY WORKSTREAM

### Overarching Considerations for Improving Care Delivery

While the COVID-19 pandemic has stressed health systems across the country, it has also shown their resilience and resourcefulness in delivering care under unusual circumstances. The goal of this effort was to identify how organizations can build on the lessons learned during the pandemic, such as how to rapidly adopt clinical and treatment advances; adapt delivery models to take advantage of telehealth and virtual care models; deploy clinicians and care delivery resources to where they are needed; and implement measures to ensure resilience, equity, and financial sustainability for health care providers during periods when normal revenue streams are disrupted. Multiple organizations will need to be involved to allow for widespread, sustainable improvement, such as hospitals and independent clinician practices, primary and specialty care, civilian and military health care organizations, health care and public health, acute and post-acute and long-term care, payers and providers and patients, group-purchasing organizations and distributors and life science industry, and public and private sector. To improve responsiveness during future emergencies, public-private initiatives should primarily focus on the following principles:

- **Identify and Increase Adoption of Care Delivery Best Practices:** Innovation in many areas has accelerated, with organizations modifying facilities, integrating new types of care, and reorienting workforces to respond more effectively. Identifying best practices learned in this pandemic and previous emergencies will allow the health system to better respond to future emergencies.
- **Strengthen Public/Private Communication and Coordination:** Support efforts that foster more effective two-way, continuous communication and collaboration between the public and private sectors.
- **Streamline Regulations to Allow for Implementation of Standardized Delivery System Best Practices:** Federal and state regulations should be streamlined based on what has been learned during the COVID-19 pandemic, especially on capacity challenges, virtual care expansions, and licensure and scope of practice for workforce mobility across states. The private sector can identify opportunities to specific standards for care delivery that can be used instead of regulatory requirements.
- **Improve Equity:** As the COVID-19 pandemic shone a spotlight on disparities, public and private sectors should invest in tools that can tackle health disparities and make equity a greater priority.
- **Identify Resources to Build Capacity and Capabilities:** To improve emergency preparedness, management, and response capabilities and ensure a diverse, resilient workforce, public and private sectors should identify necessary resources, through bonds, payment, loans, and grants.
- **Ensure Health Care Payment Supports Resilience:** COVID-19 has exposed the fragile nature of fee-for-service payment; transitioning to prospective payments can provide current relief while creating a path to more resilient payments.

### Recommendations

1. **Identify and Increase Adoption of Care Delivery Best Practices**
    a. Provide open access to standardized training modules to help organizations efficiently re-train and re-deploy providers into new fields.
    b. Develop tools and best practices to prevent provider fatigue through creative work schedules, child care accommodations, and necessary system contingencies.
    c. Develop best practices for improving coordination between care delivery staff and public health organizations.

d. Ensure appropriate waivers and protocols are in place to allow health systems to create diverse health care teams that include social workers, community health workers, and others.

2. **Strengthen Public/Private Communication and Coordination**
    a. Implement policies and initiatives to improve coordination between Health Care Coalitions, state and regional emergency management teams, incident command centers, alternate care sites, and other critical systems, especially ensuring strong coordination with payers, clinicians, and health care delivery organizations.
    b. Identify key gap areas where improved coordination and communication could streamline emergency response, such as between public and private organizations and between organizations within the health care system.

3. **Streamline Regulations to Allow for Implementation of Standardized Delivery System Best Practices**

    a. Capacity
        i. Develop a single, common set of shared reporting requirements for hospitals with standardized metrics such as available beds, essential supplies, patient transfer protocols, and others.
            - Ensure these data can be automatically generated from electronic health record systems and other existing data systems.
            - Receive broad stakeholder input in developing standards.

    b. Virtual Care
        i. Inventory key regulatory constraints in virtual care, and conditions for determining how and where such regulations should be changed or relaxed during an emergency.
            - Triggers to relax virtual care restrictions automatically with the adoption of a public health emergency; and
            - Regulations regarding payment for apps, algorithms, AI, and software as a medical device.

        ii. Describe best practices in virtual care, especially in behavioral health provision.

        iii. Identify opportunities to standardize definitions and terminology in policies and regulations in areas such as:
            - Definition of telehealth (such as video requirement or audio-only);
            - Site of service provisions (such as originating sites);
            - Allowable tools; and
            - Scope of practice for telehealth delivery.
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    c. Licensure and Certification
        i. Establish and enact a national uniform policy for cross-state licensure during an emergency, which can be launched immediately (or close to immediately) after the emergency declaration.
        ii. Establish national uniform process to allow medical, nursing, pharmacy, and allied professional school graduates to enter the health system quickly in appropriate roles.

d. Scope of Practice
    i. Establish and enact automatic standards for scope of practice flexibility during emergencies to ensure providers are practicing at the top of their license.
    ii. Identify areas where permanent regulatory flexibility and scope of practice expansion could improve public health response and reduce state-level variability to allow for a more consistent, comprehensive and efficient national strategy during a public health response.
    iii. Identify best practices for workforce mobility given varying scope of practices across states, including methods for ensuring health care delivery organizations have regular access to most recent scope of practice laws and regulations.

e. Implementation
    i. Identify mechanisms that allow immediate launching of uniform care delivery policies and processes during an emergency.
    ii. Identify processes that can be used during emergencies for updating standards, regulations, and other processes, such as updating ICD-10 codes.

4. **Improve Equity**
    a. Ensure data informing disaster readiness and response includes race, ethnicity, and sociodemographic characteristics to help identify high risk populations and direct resources accordingly.
    b. Identify and develop measures that can track progress in building equity and addressing disparities during a public health emergency.
    c. Create a vulnerability index to prioritize the most important groups for targeted outreach, support and testing.
    d. Provide community education to vulnerable populations on testing, public health prevention measures (such as social distancing), and how to access preventive care and treatments.

5. **Identify Resources to Build Capacity and Capabilities**
    a. Infrastructure Investment
        i. Identify financing mechanisms, technical assistance, and other supports that can help organizations expand their emergency preparedness and response capabilities and infrastructure.
            - Highlight where greater flexibility may be needed on grant recipients in order to increase capability.
        ii. Develop policies that support a “just in case” approach balanced with the need for “just in time” efficiency and lean streamlining.
            - Explore strange bedfellow collaborations outside the healthcare community (e.g., investment banks).
            - Create tax structures, risk ratings, and liability waivers to provide incentives for private sector readiness.

    b. Preparedness and Response Capacity
        i. Continue grant funding for already existing disaster preparedness and response programs (e.g., Regional Disaster Health Response System, Hospital Preparedness Program).
        ii. Identify areas where additional grant funding or greater flexibility around who can receive this funding could increase preparedness.

6. **Ensure Health Care Payment Supports Resilience**
    a. Payment Models
        i. Develop alternative payment models with prospective payment that allow for greater financial flexibility in emergencies. Build in contingency policies for emergency periods, such as upfront payments to help organizations manage through crisis periods and transition to alternative payment models over longer terms.
            - Specifically focus on models that effectively integrate needs of primary and behavioral health.