



**Association of
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June 30, 2021

The Honorable Frank Pallone
Chair
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515

The Honorable Cathy McMorris Rodgers
Ranking Member
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515

Dear Chairman Pallone and Ranking Member McMorris Rodgers:

We write on behalf of the Association of American Medical Colleges (AAMC) to share with you recommendations to improve the country's medical and public health preparedness in advance of the next major public health threat. While the country and the world are still combatting the coronavirus pandemic, the AAMC hopes to continue working with the Committee both to address ongoing challenges and to begin to apply lessons learned during the COVID-19 response to improve the nation's public health and medical preparedness infrastructure and capabilities at the local, state, territorial, Tribal, and federal levels. The Energy and Commerce Committee has a strong and longstanding track record of leadership in identifying and developing strategies to enhance the nation's preparedness and response, and we look forward to continued collaborations with you, the Committee, and the full Congress toward this goal.

The AAMC is a not-for-profit association dedicated to transforming health through medical education, health care, medical research, and community collaborations. Its members are all 155 accredited U.S. medical schools; more than 400 teaching hospitals and health systems, including 51 Department of Veterans Affairs medical centers; and more than 70 academic societies. Through these institutions and organizations, the AAMC leads and serves the leaders of America's medical schools and teaching hospitals and their more than 179,000 full-time faculty members, 92,000 medical students, 140,000 resident physicians, and 60,000 graduate students and postdoctoral researchers in the biomedical sciences.

AAMC members on the front lines have seen and experienced first-hand the challenges that patients, the public health and health care systems, communities, and the nation continue to face in combatting active COVID-19 infections, addressing long-term symptoms of the disease, and grappling with the inequities heightened by the pandemic. They have made unique contributions to the nation's response that complement, and cannot be substituted by, the irreplaceable role that public health officials across the country have played throughout the pandemic.

In partnership with their physician faculty from affiliated medical schools, AAMC-member teaching hospitals are critical institutions for delivering patient care, representing 5% of all hospitals but providing 25% of the nation's medical and surgical intensive care beds, 36% of cardiac intensive care beds, 61% of pediatric intensive care beds, and 69% of all Level 1 Trauma Centers. Our members are well established and respected regional referral centers and centers for tertiary care, and they invest consistently to maintain a heightened level of preparedness to engage rapidly in response to any event at any time. They have years of experience in mobilizing resources during times of crisis, and often lead regional responses in collaboration with their state and local departments of health, regional emergency management

systems, and all other major players in emergency response. States and localities look to our members for launching initial responses and to aid the development of regional response networks. This unique proficiency helped to lead the nation's response to past crises – from natural and man-made disasters to public health emergencies and disease outbreaks such as measles, Ebola, and H1N1 – and now has been a key asset in combatting COVID-19.

Major teaching hospitals, medical schools, faculty practice plans and their associated teaching physicians, and scientists have mobilized on all fronts to contain, mitigate, and now through vaccinations, prevent COVID-19. Our members continue to provide the world's most advanced and expert patient care informed by the latest innovations in fundamental and clinical research. Our emergency rooms are open to anyone in need, with experts in medical specialties available 24/7. As you know, COVID-19 patients tend to be sicker and require prolonged hospitalizations, including being placed on ventilators in intensive care units (ICUs).

In calendar year 2020, 59% of Medicare inpatient COVID-19-related cases were treated at teaching hospitals. AAMC-member teaching hospitals in the AAMC's Council of Teaching Hospitals and Health Systems (COTH) treated 18% of COVID-19 cases, with a higher share of those cases being non-white and dual-eligible than those at non-COTH hospitals. Unsurprisingly, across all Medicare inpatient COVID-19 cases, average length of stay, 30-day mortality, and proportion on a ventilator or died in the hospital were much higher than for non-COVID-19 cases. However, for COTH COVID-19 cases, 30-day mortality was slightly lower than for those at non-COTH hospitals.¹ This result may be due to the impact of teaching hospitals being at the forefront of developing new treatment modalities for COVID-19 patients. And even throughout the crisis, teaching hospitals made it a priority to share their knowledge with others, including through the COVID-19 Clinical Guidance Repository curated by the AAMC.

AAMC-member institutions are major centers of cutting-edge medical research, with scientists and clinicians at medical schools and teaching hospitals conducting over 50% of extramural research funded by the National Institutes of Health (NIH). Many of our member institutions developed much-needed tests for COVID-19, a fluid and rapidly changing area as they brought new equipment online, tried to source materials, and stood up reporting procedures in extremely challenging conditions. They also continue to be at the forefront of research efforts to identify and advance clinical care protocols, viable therapeutics, and innovative vaccines to blunt the pandemic's impact, including the research that led to the three currently authorized vaccines in the U.S. In addition to their role in developing these countermeasures, academic medical centers have actively been working with their communities to administer vaccines and promote vaccine confidence, including through an effort supported in part by the Centers for Disease Control and Prevention (CDC).

As vaccinations increase and new infections and hospitalizations drop in communities across the country, medical schools and teaching hospitals continue to leverage their medical research and clinical care missions in addressing the post-acute sequelae of COVID-19 (PASC). Many academic medical centers quickly opened new clinics and launched new research to better understand and treat the lingering effects of the SARS-CoV-2 virus in some individuals. Our members report that these multidisciplinary clinics are fully booked for months out, as patients grapple with a constellation of symptoms ranging from cognitive impairment and fatigue to respiratory challenges, muscle paralysis, and persistent loss of taste and smell even many months after the infection. Institutions are also struggling to allow their health care and scientific workforces to heal in the aftermath of a traumatizing crisis that stretched an already lean human infrastructure even thinner – while also addressing the pent-up demands of a population that has delayed care for over a year and working to guard against resurgence of COVID-19 as a result of potential variants that evade vaccine immunity.

¹ AAMC summary analysis of quarterly CY 2020 Medicare data. Calendar year Q4 2020 data released May 2021.

Because the AAMC and academic medical centers have been engaged in nearly every dimension of the nation's response to COVID-19, we offer a unique perspective on the early lessons we can apply to prevent and respond to future threats. As you move forward on drafting legislation to prepare the country for future pandemics and other hazards, we are pleased to provide for your consideration the following preliminary recommendations based both on internal experience and expertise at the association and discussions with our members:

- **Reinvest in Public Health Infrastructure and Strengthen Opportunities for Coordination Between Academic Medicine and Public Health**
 - Invest in rebuilding and maintaining core public health infrastructure
 - Strengthen and enhance investment in existing public health and health care preparedness programs
 - Strengthen the relationship between health departments and academic medical centers
 - Bolster the nation's genomic sequencing infrastructure for surveillance
 - Recognize the critical role of federal coordination in pandemics, with academic medicine input
- **Support Clinical Preparedness**
 - Equip academic medical centers to build flexible surge infrastructure to serve their communities
 - Expand existing networks to address special pathogens and disaster response
 - Establish a network of centers with specialized expertise in pandemic preparedness
 - Preserve regulatory flexibility for the Acute Hospital Care at Home program
 - Expand broadband access and take other steps to increase access to care via telehealth
 - Prioritize mental health parity and promote access to mental/behavioral health care
 - Support infrastructure to build physical hospital resilience against pandemics, climate events, and other disasters
- **Ensure Access to Key Supplies and Medical Countermeasures**
 - Strengthen the Strategic National Stockpile and establish complementary mechanisms to ensure adequate supply
 - Strengthen testing infrastructure in preparedness planning, including stockpiles
 - Ensure geographic diversity of vendors and domestic manufacturing capacity
- **Invest in Data Modernization**
 - Provide reliable funding to modernize and maintain data systems at public health departments and the digital architecture of health care facilities nationwide
 - Identify essential data elements in advance and establish a framework for enhancing as needed
 - Promote a commitment to transparency and trustworthiness
 - Collect sociodemographic, social needs, and social determinants data to promote equity
- **Prioritize Equity**
 - Apply a health equity framework to all elements of pandemic planning, including support for planning grants to address social determinants of health
 - Promote meaningful community engagement and consider unique needs of certain populations
 - Make it easier to reach communities where they are through support for mobile units and other community-based solutions
- **Advance and Facilitate Medical Research and Innovation**

- Maintain a robust commitment to medical research supported by the NIH
- Establish clear rules and procedures for engagement of labs in testing for pathogens during a public health emergency
- Support multisector public-private/academic research partnerships to accelerate new medical countermeasures
- Make telehealth flexibilities permanent to support clinical trials, in addition to clinical care
- Create the structure to rapidly address complex bioethical issues
- **Ensure Ample Workforce to Mount A Nimble and Effective Response to Public Health Crises**
 - Increase federal support for physician training
 - Consider challenges related to workforce staffing in emergencies
 - Invest in health professions students and education infrastructure
 - Promote health professionals' health and well-being
- **Other Key Structural and Programmatic Priorities**
 - Ensure sustained funding for core needs and emergency investments as needed
 - Exempt key HHS agencies from discretionary spending limits
 - Streamline processes for administrative flexibilities in a public health emergency

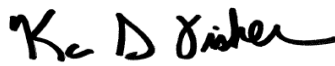
The following provides additional details on these recommendations. While we highlight specific ideas to advance a preparedness approach that prioritizes equity, we also emphasize the need to integrate equity throughout all of our recommendations, and we strongly urge the Committee to do the same given the clear disparities that the pandemic illuminated. Though many of our recommendations may have the added benefit of improving daily challenges in public health and health care, the ideas presented here focus primarily on opportunities to contain future public health emergencies and enhance emergency response to an outbreak. Additionally, given the wide-ranging challenges and scope that a comprehensive response will necessitate, we recognize that many of our recommendations may engage multiple committees in Congress; to that end, we are also sharing these recommendations with the Senate Committee on Health, Education, Labor, and Pensions, among others. We also recognize that while we have made substantial progress against the pandemic in recent months, we must remain vigilant, as the current crisis has not yet fully ended.

The AAMC looks forward to working with you hopes to be a resource to you and your staff as you consider potential legislation to enhance and rebuild our public health, health care, and scientific infrastructure to strengthen the nation's resilience against future emerging hazards.

Sincerely,



David J. Skorton, M.D.
 President and CEO
 Association of American Medical Colleges



Karen Fisher, J.D.
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 Association of American Medical Colleges

cc: The Honorable Anna Eshoo, Chair, Energy and Commerce Subcommittee on Health
 The Honorable Brett Guthrie, Ranking Member, Energy and Commerce Subcommittee on Health

AAMC RECOMMENDATIONS TO IMPROVE PANDEMIC PREPAREDNESS

Submitted to the House Committee on Energy and Commerce

June 2021

Reinvest in Public Health Infrastructure and Strengthen Opportunities for Coordination Between Academic Medicine and Public Health

Decades of underfunding at the local, state, and national levels have substantially undermined the nation's public health infrastructure, a trend that must be reversed permanently. In addition to helping in times of contagion, a reliable and resilient public health foundation is needed daily to help mitigate disparities among different populations and promoting better quality of life and improved health among all individuals in the U.S.

The strength of the public health enterprise goes hand in hand with the success of the health care community in preventing and responding to both novel and daily threats. Despite this shared mission, however, the quality of the relationship between public health and health care entities varies greatly across communities. Hospitals, physicians, and other health care providers make distinct contributions to public health and preparedness, and, given their missions, academic medical centers in particular offer unique and valuable expertise to augment the irreplaceable role that jurisdictional health departments and other community partners play in advancing population health. Effective communication, coordination, and collaboration among these entities is especially vital during a public health crisis, and the AAMC offers the following recommendations to bolster the nation's public health infrastructure and to maximize the ability of public health and academic medicine to leverage each other's strengths more consistently.

Invest in Rebuilding and Maintaining Core Public Health Infrastructure

Academic medical centers take seriously their role in emergency preparations and response, and a robust and strong public health infrastructure is necessary to optimize this work. Chronic underfunding has taken its toll on the nation's preparedness framework, and under-resourced state and local health departments have been forced to manage a growing list of threats without commensurate support. To date, the federal funding strategy for public health primarily has favored a crisis-response approach over robust, sustained investment, and fiscal challenges at the state and local level have further compounded the pressures on health departments nationwide. Consequently, foundational public health capabilities have been strained at almost every level, as looming and ongoing threats far outpace available resources, leaving our country ill-equipped to respond. A strong public health infrastructure is also a key component to generating health equity preparedness, and underfunding weakens opportunities to advance this important priority.

As a result of the very limited public health infrastructure and insufficient supply of public health personnel and expertise in many communities, hospitals and health systems had great challenges during the COVID-19 pandemic. Hospitals and health systems often had to fill in the gaps in the public health infrastructure and used their limited resources, which should have been focused on the acute setting, to try to ensure safe post-hospitalization care for vulnerable patients. Hospitals and health systems also had to fill in gaps in testing, contact tracing, and many other public health activities.

To enhance resilience against future pandemics, robust and sustained investment in the nation's public health infrastructure, including the CDC, is necessary. In addition to supporting a robust investment in CDC in the FY 2022 appropriations, the AAMC has endorsed Sen. Murray's Public Health Infrastructure Saves Lives Act (S. 674), which would provide critical support to recover some of the lost capacity described above and to stabilize investment over the long-term. By providing dedicated, reliable funding to augment annual federal support, the bill will enable health departments to

address core infrastructure needs, from bolstering public health surveillance and lab capacity to implementing strategies that advance equity. These resources will be critical to help bolster core public health functions at health departments nationwide and will allow academic medical centers to focus on their unique contributions to public health preparedness, as described elsewhere.

In addition to, or as part of, the eight foundational capabilities of public health outlined in S. 674, a reliable commitment to global health security and surveillance must also be a priority. As COVID-19 has illustrated, in our increasingly interconnected world, an outbreak anywhere is a threat everywhere, and our greatest opportunity for preventing a pandemic from affecting the U.S. is to defeat it at its origin. Such an ambition will require an ongoing investment in a global health security agenda that is protected from the whims of our current funding processes.

Strengthen & Enhance Investment in Existing Public Health & Health Care Preparedness Programs

The CDC's Public Health Emergency Preparedness (PHEP) program plays an important role in supporting public health infrastructure, and the Hospital Preparedness Program (HPP), administered by the office of the Assistant Secretary for Preparedness and Response (ASPR), complements PHEP in enhancing preparedness of health care partners via awards provided by public health departments. While structural changes may result in greater efficiencies in some areas, such efficiencies will be unattainable without sufficient resources. Funding for the PHEP program has dropped nearly 30% over the last two decades, while HPP is funded at nearly half its FY 2004 funding level. As funding has decreased, potential and existing threats have only increased. **Additional and sustained funding will be necessary to restore these programs to their original capacity and to further strengthen them.**

In spite of its name, over time, HPP has broadened its focus beyond hospitals to other essential partners in health care response. While the HPP "health care coalitions" are a productive opportunity to build multi-stakeholder relationships at the local level ahead of an emergency, the consequence has been that very little of the already minimal funding provided for the program, which is distributed through 62 jurisdictional public health offices, may reach hospitals to support their preparedness activities. **The AAMC supports ASPR's recent efforts to explore ways to ensure hospitals and health systems can receive some dedicated funding for preparedness directly. Importantly, these resources should supplement, rather than supplant, the critical investments in the existing PHEP and HPP programs that serve a broad array of public health and health care constituencies.** Additionally, as described below, recent pilot grants to three institutions have helped illustrate the potential for direct engagement of health system partners in developing a regional disaster response system. We encourage additional efforts to support the hospital community directly in preparedness and response work, including academic medical centers specifically. Like our recommendation around dedicated HPP funding for hospitals, we encourage these investments to be provided as a separate line item to ensure they are complementary, rather than competing, investments in preparedness.

It is important to note that while HPP, PHEP, and the related investments described here provide essential support to enhance everyday preparedness, particularly at the local level and for disaster response, it is unrealistic to expect that these modest investments will be sufficient on their own to overcome the challenges associated with a pandemic. In addition to their limited reach – not all health care stakeholders will benefit meaningfully from such a minimally funded program – as currently structured, the HPP program does not support the types of physical or structural changes that many teaching hospitals and health systems must undertake (and for which we make specific recommendations under another heading below). They must be considered an important component of an overall preparedness strategy – not the entirety of the strategy itself.

Strengthen the Relationship Between Health Departments and Academic Medical Centers

Cross-sector collaboration among medical schools and teaching hospitals, public health departments, social service agencies, and local community groups and residents is critical to mitigating the impact of pandemics. The appropriate infrastructure must already be in place to contain, prevent, and/or quickly detect and respond to disease outbreaks. As part of these efforts, as discussed above, state and local health departments must be equipped and staffed to carry out core public health functions, such as establishing and implementing robust contact tracing plans with federal support and guidance, and the AAMC strongly supports the public health community's recommendations to reverse chronic underfunding of public health. In addition to ensuring a strong public health foundation, it is also important to consider the expertise of academic medical centers as a component of our nation's preparedness infrastructure.

In many communities, medical schools and teaching hospitals have been engaged in the response to COVID-19 and other public health emergencies both to serve as an extension of their state and local public health departments where financial, staffing, expertise, and equipment shortfalls exist and also to leverage their unique contributions to preparedness that cannot be fulfilled by public health alone. For example, academic medical centers have conducted diagnostic and serological testing, administered vaccination clinics and distribution efforts, developed contact tracing processes and training protocols used statewide, offered data and analytic support, launched surveillance studies and epidemiological modelling, promoted public education campaigns, extended outreach to marginalized and under-resourced populations, and engaged in community-partnered research and surveillance, among other efforts. While some of these activities eventually may be transitioned to a fully staffed and resourced health department, it will take time before some jurisdictions are able to recruit, develop, and retain the necessary expertise. In other cases, the function may be better maintained by the academic medical center – for example, in determining considerations around clinical operations.

Ideally, these typically shared activities would be aligned between the academic medical centers and the health departments, social service agencies, and local community groups that all are working toward the same mutual goal. However, the pre-existing relationships among these entities varies greatly, and there is currently no federal funding available to explicitly support this purpose. To address this gap, **the AAMC proposes the creation of a competitive grant program to promote greater and stronger collaborations between academic medical centers and their local public health and community organizations in both the near-term and the long-term.** Specifically, funding from this program would be conditioned on submission of a successful joint application demonstrating a well-conceived public-private/academic partnership proposing synergistic community benefits that would be available to support activities spanning academic medicine's missions of research, medical education, community engagement, and patient care. Examples of activities that could be conducted through these partnerships to support the community by leveraging academic medicine's strengths are provided in Table 3 of the appendix.

Bolster the Nation's Genomic Sequencing Infrastructure for Surveillance

Sequencing of the coronavirus genome is an essential piece in containing the current pandemic, and the U.S. must be more agile in responding to future infectious disease outbreaks, including a need to better understand existing or emerging variants. Until early 2021, the U.S. was sequencing only a small fraction of the nation's confirmed COVID-19 cases, leaving us vulnerable to wide infection by undetected variants. Medical schools and teaching hospitals, as leading centers of medical research, commonly utilize state-of-the-art genome sequencing technologies and analyses to better understand human disease and improve patient care. Consistent with their mission and in service to their communities and the nation, many already are applying this expertise to the COVID-19 response in collaboration with local health departments and other partners, but there is an urgent need to dramatically scale up this work.

Several AAMC member institutions are currently participating in the CDC’s SARS-CoV-2 Sequencing for Public Health Emergency Response, Epidemiology and Surveillance (SPHERES) consortium. This public-private partnership, led by CDC’s Advanced Molecular Detection (AMD) program, and other CDC initiatives serve an important public health role in collecting viral genomic surveillance data to generate a more informed community response. The AAMC has supported increased investments for the CDC’s sequencing efforts to provide vital support to increase both the consortium’s capacity and other efforts led by the CDC to monitor changes in transmission of new viral strains. We are grateful for the investment included in the American Rescue Plan Act of 2021 for these purposes, but more is needed.

Additional, sustained investments would go a long way in enhancing CDC’s efforts and allow the agency to extend support to additional institutions with existing assets and expertise that are well structured to sequence and analyze data rapidly and efficiently. With a broad-based approach, we will be better positioned to successfully scale and maintain a national campaign to identify, track, and mitigate the spread of novel SARS-CoV-2 strains and future pathogen outbreaks. The National Academy of Medicine similarly noted the important role academic medical centers can play in a sustainable national network for sequencing and tracking infectious pathogens.² AAMC member institutions stand ready to harness their existing sequencing technology and analytical expertise to aid in more quickly identifying novel SARS-CoV-2 variants, investigating potential health impacts of new strains, and providing data to assist in tracking community spread of new variants and other threats.

Recognize the Critical Role of Federal Coordination in Pandemics, With Academic Medicine Input

Both the federal government and states need to have roles during a pandemic, and these should be delineated ahead of time and confirmed at the beginning of the pandemic (as the roles could vary depending on the pandemic). While we have decades of practice navigating our federalist system of government’s approach to public health in a disaster or limited public health emergency, a pandemic poses unique challenges that may be fueled by fragmentation in decision-making across the country. Leaving all decisions up to a state, when a pandemic does not change depending on state borders, is problematic. Individual jurisdictional plans that are critical in responding to a local emergency may be less useful in a scenario where resources are being taxed across the country and, as was the case in COVID-19, globally, leading to supply-chain strains and other challenges.

Under a potential pandemic threat, the federal government, including CDC and ASPR should provide clearer guidance on the role of states to ensure that the nation as a whole is taking steps to address – and, ideally, prevent – a public health emergency. If federal guidelines are vague on reopening or vaccine deployment, for example, individual states may make a broad range of determinations that may not be effective or stringent enough to meet recommended guidelines and result in confusion among clinicians and public distrust. The federal government should also assess how best to address challenges that are common among multiple states, such as addressing PPE shortages, rather than forcing states and individual facilities to compete against each other for limited supply.

Officials at the federal, state, and local levels all formally should engage academic medical center leaders to inform their decision-making. With their clinical, research, education, and community missions, medical schools and teaching hospitals offer unparalleled expertise that is critical in addressing multiple dimensions of a pandemic or other public health emergency. For example, scientists and clinical

² National Academy of Medicine. “Nine Urgent Priorities for Science, Medicine, & Public Health Based on Lessons Learned from COVID-19.” <https://nam.edu/wp-content/uploads/2021/06/Nine-Urgent-Priorities-for-Science-Medicine-Public-Health-Based-on-Lessons-Learned-from-COVID-19.pdf>

experts at academic medical centers can help advise on clinical and operational decisions for the health care community with an on-the-ground perspective that is unique to the expertise that public health officials can contribute.

Support Clinical Preparedness

While all hospitals and other health care entities should be expected to maintain a baseline level of preparedness – and the Medicare program’s conditions of participation related to emergency preparedness have played a role in facilitating such a focus – not all facilities have the same capabilities, expertise, or capacity to respond to various crises, nor is it necessarily reasonable to expect all facilities to offer all capabilities. The current pandemic and other public health emergencies have illustrated the value of a tiered approach in which some facilities voluntarily maintain a heightened level of readiness and capacity and are able to offer support to frontline providers in the event of a public health emergency that requires such heightened capacity. Through a deliberate approach to assemble a mosaic of nodes with focused capabilities nationwide, we can efficiently and effectively enhance the health care community’s capacity to respond to a multitude of potential threats as one line of defense in preventing and/or mitigating a pandemic. Such a framework also allows for a proactive commitment to equity by anticipating the needs of specific populations (e.g., people in rural and other underserved areas, older adults, pregnant individuals, children, people with disabilities, justice-involved individuals, and others) and identifying in advance the resources within a region that can be extended to ensure a comprehensive response in an emergency. Mental health resources for patients, families, frontline providers, and communities need to be considered as well.

Often, academic medical centers serve as this resource for their communities and/or their regions. While it is important to acknowledge that a pandemic scenario is likely to overwhelm even the best prepared facilities and to necessitate “all hands on deck,” a system that proactively identifies and leverages the varying capacity and strengths of its individual components can be effective in potentially preventing a pandemic scenario or in expediting an efficient response. The following recommendations offer suggestions to enhance and expand existing networks that contribute to the nation’s health care preparedness, as well as opportunities to augment the existing infrastructure with additional capabilities.

Equip Academic Medical Centers to Build Flexible Surge Infrastructure to Serve Their Communities

The AAMC strongly recommends that Congress provide funds for teaching hospitals to develop flexible intensive care unit (ICU) capacity as a top priority before another pandemic strikes. This capital infrastructure funding, which currently is not offered under HPP or other existing mechanisms, would support construction of new or renovated spaces that are outfitted with the necessary components to expand the number of ICU beds in a facility as needed and convert back to general usage when a crisis abates. Priority should be directed to hospitals most likely to see these patient surges, many of whom are teaching hospitals, and that, based on their past roles in crisis response, will be able to quickly flex the facilities, staff the beds, and meet potential surges.

Because they are the predominant sites of stand-by and quaternary care (such as Level I trauma centers, burn units, biocontainment units, and other specialized expertise, including experience in administering research protocols for novel therapeutics), when a pandemic, emergency, or other disaster strikes, teaching hospitals and academic medical centers immediately become the front line of response and must have the ability to quickly accommodate the large numbers of patients that need care. Since most teaching hospitals are already operating at or near full capacity on a daily basis, it is of the utmost importance that

they have the ability to rapidly expand not only the number of beds that they have, but also the type. While all facilities have well-established surge plans in place, the pandemic strained the capacity of many sites. In the case of COVID-19, more capacity was needed for triage, testing, and other non-critical patients, but teaching hospitals also had to ensure they were able to treat the most severe COVID-19 cases coming through their doors, which required far greater ICU capacity than was available locally.

Prior to the pandemic some academic medical centers invested in additional surge capacity that gave them the flexibility to rapidly overhaul their facilities to serve additional ICU patients as needed. In many cases, academic medical centers had to outfit their facilities in real time, as they responded to the pandemic. State government and emergency federal support was available in some instances, but in others, these costs were shouldered by the hospitals themselves. One AAMC facility partnered with the Federal Emergency Management Agency (FEMA) to build nearly 100 new ICU beds in one month. Another was directed by the state's governor to build up their capacity to see COVID-19 patients.

Many communities established alternative care sites to help alleviate the burden on their local hospitals. While these sites proved to be valuable options for care before patients could be discharged to home or to group settings where ongoing infection posed a threat to other residents, their utility for medically frail ICU patients proved less reliable. Investing in opportunities to build such elastic capacity into teaching hospitals likely will be more effective and efficient in enabling academic medical centers to scale up their existing capacity, rather than relying solely on a strategy to establish new, untested referral patterns in the midst of a crisis. Importantly, while the COVID-19 experience highlighted that “bricks and mortar” structure alone is not sufficient to deliver ICU care – staffing the beds with the right expertise proved just as challenging, as we describe under the workforce heading of this letter – ensuring facilities are physically equipped to meet such surge challenges as efficiently as possible should be a top priority as part of our nation's preparedness infrastructure.

Expand Existing Networks to Address Special Pathogens and Disaster Response

In addition to supporting health care entities broadly through the HPP program, frontline hospitals through capital investments, and infrastructure investments for flexible surge capacity at academic medical centers, **Congress should scale up existing networks that are designed to support heightened clinical preparedness capacity as efficiently as possible throughout the country.**

The 2014-2016 Ebola outbreak in West Africa and corresponding cases in the U.S. illustrated how few facilities at the time were prepared and equipped to prevent and treat a highly infectious disease like Ebola Virus Disease. In a very short time, work commenced to scale up the number of specially-equipped and staffed biocontainment units available in the country from three at the onset of the Ebola threat to dozens across the country – nearly all at academic medical centers and voluntarily designated by state hospital associations with guidance from the CDC. These voluntary “treatment centers” developed the necessary capabilities, mostly at their own considerable expense, to safely care for a potential Ebola patient, while nearly 200 additional hospitals developed capabilities as Ebola “assessment hospitals,” which entailed safely receiving and isolating potential Ebola patients and coordinating transfer to a treatment center if necessary. Under this framework, three facilities (as well as the Clinical Center at the National Institutes of Health) treated a total of 11 Ebola patients in the U.S. during the outbreak, leading to the formation of the National Emerging Special Pathogens Training and Education Center (NETEC) and 10 Regional Ebola and Other Special Pathogen Treatment Centers (RESPTCs, one in each HHS region). After initial support through a five-year emergency supplemental appropriation, Congress wisely has continued funding in recent years for NETEC and the RESPTCs through the annual HPP appropriation.

This framework provides an important foundation for the country to enhance its clinical capacity to respond to emerging pathogens. The NETEC consortium leverages the experience of the three original sites that treated Ebola patients and the 10 RESPTCs to extend preparedness training and real-time support to community hospitals and other facilities across the country that may not have the same level of expertise in-house. The RESPTC in each of the 10 HHS regions has committed to maintaining heightened capacity to treat patients with special pathogens, including through regular training exercises for the staff and maintaining respiratory infectious disease isolation capacity or negative pressure rooms for at least 10 patients.

As illustrated by the current pandemic, this network is a critical component of our pandemic preparedness safety net, but only represents the foundation of what is needed to truly offer coverage nationwide. One treatment center in each HHS region will not be sufficient in a pandemic scenario. The roughly 50 other treatment centers that voluntarily developed capabilities during the Ebola crisis have not received additional support to maintain their capabilities which, in some cases, has made it cost prohibitive to continue to offer such capacity that under normal circumstances goes unused. Investing in a voluntary expansion of the existing network to increase the number of hospitals and beds with heightened special pathogens capacity nationwide will help make it more feasible for such facilities to stay coordinated with the national special pathogens effort already underway. As part of this investment, lawmakers also should consider support for “assessment facilities” as well, to ensure that this group of hospitals is at least equipped and prepared to safely hold patients for a short period of time and transfer them to a treatment center as appropriate. Additionally, while Congress has provided funding for this program in recent annual appropriations bills, the funding has been tied to the HPP program. **The AAMC recommends dedicating a new line item for this important program to distinguish it from HPP and avoid supplanting either investment.**

ASPR’s Regional Disaster Health Response System (RDHRS) three demonstration sites have served as an important complement to the NETEC/RESPTC framework, emphasizing a focus on multi-state partnerships on trauma, burn, and other medical specialty care during a national emergency. Together with two Pediatric Disaster Care Center of Excellence pilot sites, which are dedicated to establishing a national system focused on the unique needs of pediatric patients in and after a disaster, these programs serve an important role in addressing gaps in the country’s disaster preparedness. The AAMC supports expanding these networks. Given the persistent nature of COVID-19 and the as-of-yet not fully understood long-term implications of PASC, some have also proposed centers focused on COVID-19.

Establish A Network of Centers With Specialized Expertise in Pandemic Preparedness

To enhance preparedness for future pandemics, the AAMC proposes that Congress provide funding for a new network of U.S. academic medical centers to be designated as pandemic centers.

While existing (if currently limited) networks are active in preparing for potential types of threats (e.g., special pathogens, disasters), the COVID-19 experience should be instructive as to the unique nature of a pandemic. Despite the best emergency and disaster planning at the local level, a pandemic scenario poses different challenges that may weaken the relevance of pre-existing crisis schema. Ideally, pandemics will occur rarely enough that to expect every facility to undertake such exercises is unnecessary; but ensuring that at least some facilities across the country are tasked with such work can go a long way in containing future threats that may emerge.

These new pandemic centers can act as regional hubs with enhanced capabilities to respond quickly to potential pandemics, including, for example, implementing an ongoing research agenda on pandemic planning, supporting disease modeling and other epidemiologic analytic capabilities to augment work at CDC and jurisdictional health departments, informing strategies to secure sufficient stockpiles of medical equipment and PPE, leveraging staff who have received additional training and who regularly participate

in pandemic preparedness drills, and developing relationships with global partners to support and help shape the nation's global health security strategy. In the current pandemic, some academic medical centers helped monitor the availability of beds and resources across the state or region and helped inform decision-making about resources to help prevent the need for any individual facility to be forced to adopt crisis standards of care. Developing specific pandemic preparedness centers ahead of the next crisis can help better anticipate the need and structure for such an approach before another pandemic emerges.

Importantly, creating a public-private/academic partnership like we are proposing also would help promote greater transparency and accessibility of important public health information that can be used to support the nation's response. Funding academic medical centers across the country to support enhanced pandemic preparedness capabilities would allow the country as a whole to more quickly respond to infectious disease pandemics affecting the United States.

Preserve Regulatory Flexibility for the Acute Hospital Care at Home Program

CMS launched the Hospital Without Walls program in March 2020 to allow hospitals to provide services beyond their existing walls to help address the need to expand care capacity and to develop sites dedicated to COVID-19 treatment. The Acute Hospital Care at Home program is an expansion of this initiative that allows eligible hospitals to have regulatory flexibility to treat certain patients, who would otherwise be admitted to the hospital, in their homes and receive Medicare payment under the Inpatient Prospective Payment System.

The Acute Hospital Care at Home program launched with six health care systems that have experience with providing acute hospital care in a patient's home. To date, 139 hospitals within 63 systems located in 32 states – including many academic medical centers – have received waivers from CMS to participate in the program.³ The increase in hospital participation underscores the need for flexibility to meet the health care needs of certain patients without having to admit them into the inpatient setting. **The AAMC supports the flexibility and benefits this program provides for patients and urges Congress to maintain these flexibilities after the end of the current public health emergency.**

Expand Broadband Access and Take Other Steps to Increase Access to Care Via Telehealth

Telehealth is a critical tool that not only has played an instrumental role during the pandemic, it also provides an opportunity to ensure access to health care for patients on a daily basis. The potential is great for telehealth to reach individual patients living in rural and other underserved areas both regularly and during a future health crisis. As we discuss under another heading of this letter, the use of telehealth played an important role in advancing clinical research during the pandemic. Similarly, two national programs, Project ECHO (Extension for Community Healthcare Outcomes) and AAMC's Project CORE (Coordinating Optimal Referral Experiences), utilize such technology to improve care coordination and communication between providers, improve local access to specialty expertise, and meet the needs of patients. By leveraging these models more fully to virtually connect expert teams with providers in remote settings, such technology can play a role in supporting rural and other community hospitals that may not otherwise readily have access to specialists and other experts to respond to a public health crisis.

In many parts of the country, however, providers and their patients have limited access to broadband connectivity, which has been a major barrier to use of telehealth. This is particularly true for rural areas and underserved communities. The Federal Communications Commission has reported that 30% of rural residents lack broadband services. Also, racial and ethnic minorities, older adults, and those with lower

³ Updated as of June 18, 2021. Updated list available at: <https://qualitynet.cms.gov/acute-hospital-care-at-home/resources>

levels of socioeconomic status are less likely to have broadband access. **We recommend that Congress take steps to increase funding for broadband access and infrastructure development to enable expansion of telehealth services to these populations.**

Additionally, to help address the crisis caused by COVID-19, Congress and the Centers for Medicare and Medicaid Services (CMS) created new coverage and payment policies that have facilitated the widespread use of telehealth and other communication-based technologies and provided other important relief through additional waivers and regulatory changes. Many state health care licensing boards made changes to allow health care providers in good standing in another state to practice in their state during the emergency. Hospitals, physicians, and other providers have responded by rapidly implementing telehealth in their practices in order to provide continued access to medical care for their patients. Physicians have been able to monitor non-critically ill COVID-19 positive patients, follow up on other individuals with chronic disease who can be cared for without risking a visit to the hospital or clinic, and provide care for many Medicare beneficiaries without imposing the burden of travel. In addition to treating ambulatory patients through telehealth and remotely triaging COVID-19 patients, academic medical centers have deployed sophisticated telehealth technologies to monitor the sickest ICU patients.

The development of telehealth capabilities has required investing significant resources in the technology, training, and infrastructure. The result is that in a matter of weeks, a transformation occurred in the way in which health care is delivered, opening the door to a future that will increase access, maintain quality, and work to the advantage of patients and providers. In late March 2020 through early June 2020, faculty practices were showing, on average, weekly telehealth visits comprising at least 50% of all evaluation and management visits, a dramatic increase from the use of telehealth prior to the crisis.

The flexibilities provided by CMS for telehealth coverage and payment have enabled teaching hospitals, teaching physicians, and other health care providers and particularly patients, to experience the benefits of telehealth. Beyond aiding with the COVID-19 response, telehealth offers the long-term promise of expanding quality health care in the future, particularly to individuals with limited access to services, individuals with disabilities, and elderly patients who have difficulty traveling. Telehealth can reduce the time it takes to seek medical expertise for diagnoses and treatments and can allow for monitoring of chronically ill patients.

We recognize that the current flexibilities are limited to the Public Health Emergency declaration (PHE); however, given the massive changes that have occurred, as well as the improvements to patient access and patient satisfaction, these changes cannot be rolled back with the push of a button, nor should they be. It is imperative that the progress that has been made since March 2020 continue when the PHE ends.

Therefore, we urge Congress and CMS to make changes to legislation and regulations that will make permanent the current changes – especially removing patient location and rural site requirements to allow patients to access telehealth visits in any location and allowing Medicare payment for audio-only services – and will ensure that reimbursement remains at a level that will support the infrastructure needed to provide telehealth services.

The AAMC also urges Congress to pass the Temporary Reciprocity to Ensure Access to Treatment (TREAT Act, S. 168, H.R. 708) and/or legislation similar to it to apply to other public health emergencies as well. This bipartisan, bicameral legislation supported by the AAMC would expand care for patients by creating a temporary uniform licensing standard during a public health emergency for all practitioners and professionals that hold a valid license in good standing in any state to be permitted to practice in every state – including in-person and telehealth visits.

Prioritize Mental Health Parity and Promote Access to Mental/Behavioral Health Care

In an emergency, much of the attention understandably is focused on the medical response as it relates to the population's physical health. Complementary to the immediate response, however, is an equally urgent, but often overlooked, need to consider the impact of a pandemic or other disaster on the population's mental and behavioral health. In addition to the toll that uncertainty, isolation, and other stressors in a pandemic may have on individuals with and without prior mental health history, the necessary public health measures to contain an outbreak may disrupt access to support systems, harm reduction programs, and other services for people in recovery and/or with existing mental and behavioral health conditions. As we discuss elsewhere in this letter, the health care workforce also may experience burnout and trauma as a result of their experience. Many of these challenges are being observed as a result of the COVID-19 pandemic and are expected to have a lingering impact for years to come. The long-term impact of school closures and the stresses of the pandemic on children is also as of yet unknown. The fragmented nature of, and lack of parity in coverage for, mental/behavioral health care in the U.S. only heightens challenges in a pandemic scenario. **To help address the aftermath of the COVID-19 pandemic and to guard against the impact of future pandemics, the AAMC urges attention to the nation's mental and behavioral health care needs as a key priority.**

Support Infrastructure to Build Physical Hospital Resilience

The COVID-19 pandemic has illustrated the critical need to support the modernization of our nation's hospital and health facilities, from specialized ventilation systems that allow isolation of patients and other infection control measures, to equipment needs like digital communications platforms and scaled up telehealth capabilities in remote areas. Hospitals are also facing growing threats posed by the changing climate, including increased instances of extreme weather and natural disasters, underscoring their urgent need to protect against power failures and flood damage, among other vulnerabilities. When disasters strike, teaching hospitals often define the front lines of response, leaving little margin of error to ensure that their facilities are equipped to support large influxes of patients and provide aid to their communities, no matter the hazard.

The financial stress of the COVID-19 pandemic, layered on top of previous financial pressures and narrow margins, led many hospitals to delay or cancel their improvement and modernization projects, despite a growing need for investment. As hospitals are called upon to modernize their infrastructure to meet the needs of a growing and aging population, they are also working to address their impact on the environment and climate. AAMC member institutions are striving to become more energy efficient and address the impacts of climate change on health, but these expenses are steep and the existing regulatory requirements complicate efforts further.

Amidst aging hospital and health care delivery infrastructure and ongoing financial recovery from the pandemic, **the AAMC recommends that Congress provide additional capital to fund these infrastructure projects**, particularly since HPP funds cannot be used for structural improvements. Given that ensuring disaster readiness is more cost effective than rebuilding in the wake of an event, the AAMC believes that federal investments in the physical infrastructure of hospitals are critical as they work to update their facilities, respond to climate-based concerns, and ensure access to patient care.

Ensure Access to Key Supplies and Medical Countermeasures

Throughout the pandemic, and even now as the immediate threat appears to be waning, the reliability of the global supply chain has been a major challenge, leading to shortages of PPE and other critical supplies. These types of interruptions are problematic under normal circumstances, but in the context of a

pandemic, they impose major disruptions to care delivery, testing capacity, medical education, medical research, and other important priorities. Though shortages have been universally felt in the current public health emergency, the lingering burden is disproportionately borne by marginalized and vulnerable communities. For example, uneven availability of diagnostic testing reagents and supplies limits the settings and communities that have access to timely testing, triggering a corresponding cascade of inequities that are exacerbated as a result. The AAMC offers the following recommendations to strengthen the nation's strategy for building, maintaining, and accessing emergency stockpiles and for averting the potentially catastrophic consequences of inadequate redundancy in supply chain planning in anticipation of future threats.

Strengthen the Strategic National Stockpile and Establish Complementary Mechanisms to Ensure Adequate Supply

Early in the pandemic, teaching hospitals began feeling additional strain on their existing and stockpiled supplies as visits to the emergency room increased. While shortages of PPE – including N95 and other respirators, gloves, gowns, and other equipment – have been pervasive, our members also encountered difficulty acquiring a number of critical products, including hand sanitizer, disinfectants, and other supplies. Most facilities face space, resource, and other capacity restraints that limit their reserves to no more than a few days under normal situations, leading them to look to the government for support during the crisis.

In many cases, turning to their states and the federal Strategic National Stockpile (SNS) offered little relief, as the effects of an under-resourced SNS and a patchy supply chain became apparent. For example, the nation's just-in-time systems of inventory management did not adequately take into account the possibility of international disruptions, leaving the country ill-prepared to backstop suppliers dependent on overseas manufacturing. In addition to hospitals, which regularly use PPE, other entities, such as long-term care facilities, private physician practices, and urgent care settings suddenly needed access to PPE, quickly depleting what little supply already existed.

Aside from the SNS, facilities also faced difficulties in procuring supplies through their usual channels. The distribution methodologies for allocating PPE to both states and individual facilities have been unclear and unreliable. As health care administrators have scoured potential leads on their own, they have encountered substantially higher prices for routine supplies, often from weak negotiating positions. Institutions have reported delays and uncertainty in whether orders that they place will be fulfilled fully, partially, or at all, and/or have needed to be resourceful in identifying ways to transport international purchases successfully to the U.S.

As lawmakers consider opportunities to strengthen the SNS and stockpiling strategies, **the AAMC recommends making reliable investment in the SNS a priority to ensure its inventories are current and sufficient at least until manufacturers reasonably can ramp up production to meet increased demand.** As the supply chain of last resort for health care providers, clear communications about whether and under what circumstances hospitals and other providers can expect to receive distributions from the SNS will help clarify confusion about its role and streamline a cumbersome process. A real-time dashboard that is kept up-to-date and takes into consideration other state, local, private-sector, and hospital supplies should be shared with key stakeholders. A vendor managed inventory system and strategies to rotate inventory regularly will help guard against stocks of expired assets. States and local public health teams must work with hospitals and others to coordinate reserves of supplies. There also needs to be consideration regarding what is needed in different health emergency scenarios and back-up plans made based on this composite view of supplies.

Additionally, there should be clear guidance from the federal government regarding the quantity and types of supplies states and hospitals should have on hand based on their local population and to be able to respond to different types of public health emergencies. Hospitals and states should have the appropriate level of flexibility on how they meet the recommended federal guidelines, which should also take into account PPE demand from non-hospital facilities, including long-term care facilities, testing personnel, research labs, and other entities. Federal funding for hospitals to establish and maintain inventories of recommended supplies will be important, particularly given that stockpiles would not be used for regular patient care and given space constraints facilities often face. The federal government should contribute supplies to regional distributors and hospitals when there are shortfalls or vendor shortages.

Strengthen Testing Infrastructure in Preparedness Planning, Including Stockpiles

Laboratories in the United States obtained the genetic sequence for the virus soon after it was identified in China, allowing for the rapid development of the probes and reagents required to develop highly sensitive diagnostic tests for the virus. However, the infrastructure and coordination to ramp up testing capacity and have a clear picture of where to direct supplies did not exist and has not yet been entirely implemented. In conducting polymerase chain reaction (PCR) tests to detect COVID-19 infection, hospitals and academic labs were hampered by inconsistent and sporadic access to reagents, nasopharyngeal swabs, transport media, testing machines, and other equipment. These shortfalls impeded efforts to expand diagnostic testing capacity to fulfill community and national needs and improve testing access for all individuals, particularly those from underserved communities.

While commercial labs and an increase in rapid tests for screening play an important role in greatly increasing the nation's testing capacity, hospitals and health systems must be able to perform on-site diagnostic testing for patients to ensure patient and health care worker safety and efficiency of care. In addition, as a result of the speed with which the SARS-CoV-2 virus spread through the United States, testing capacity lagged far behind needs in almost every state and quickly overwhelmed even large commercial labs. Test results were returned a week or more after sample collection, greatly increasing the chances that an individual could become infected after a test and receive a negative result days later. These delays could have been avoided through the coordinated engagement and facilitation of academic labs to bolster the national testing capacity. Many academic institutions developed workarounds to the extent possible and sought to diversify their testing capacity to minimize the impact of test-specific shortages. Still, the delays in securing robust, reliable testing capacity greatly affected not only the national response to the pandemic itself, but also the ability for hospitals, physician practices, and other health care providers to resume delivering non-emergent care and for schools and businesses to reopen safely.

To better prepare for diagnostic test development and deployment during the next pandemic, we must determine in advance the coordinated steps that will be taken to secure a reliable, functional supply chain for all testing components. Maximizing testing capacity requires a better and fully transparent federal coordination of all aspects of the testing supply chain, including strategic, transparent use of the Defense Production Act and other mechanisms to ensure that all suppliers do not rely on a single manufacturer. **In addition, the government should develop and maintain a centralized electronic system to ensure a stockpile of testing supplies specifically and to quickly assess U.S. testing capacity based on all available testing components across sectors and geographic regions.** This will give organizations, academic institutions, and private companies a roadmap of how to pivot quickly to access and/or generate the needed equipment and reagents and implement a federal plan with national, not state-developed testing strategies.

We welcomed the establishment of the federal interagency COVID-19 Pandemic Testing Board via the president's January Executive Order, and we applaud its commitment to harmonizing the nation's approach to testing. As was shown through the early days of the pandemic, a rapid response to mobilize and coordinate testing resources, approaches, and supplies is essential to track the spread of a new public health threat. The AAMC encourages engaging the academic medicine community in the continued work of this board to help inform the efforts to address testing supply shortfalls and to expand lab capacity for surge testing and long-term sustainability.

Ensure Geographic Diversity of Vendors and Domestic Manufacturing Capacity

As described above, the supply shortages in the U.S. were compounded by global disruptions stemming from COVID-19's worldwide impact. While the pandemic may have been the first of its kind in over 100 years, it is not the first instance in which medical facilities have been unable to acquire needed assets as a result of supply chain challenges. Shortages of supplies, devices, and medications have become commonplace in U.S. health care. For example, just a few years ago, the devastation caused by Hurricane Maria led to shortages of IV bags until the manufacturing plants in Puerto Rico were able to resume operations. Because in some cases manufacturing of such measures is concentrated in one geographic area or to one vendor, natural disasters and other threats have the potential to be catastrophic, particularly in a pandemic scenario where manufacturing facilities themselves may be affected by the public health crisis while global demand substantially increases. Such was the case as shortages of nasopharyngeal swabs – manufactured in Italy as the country faced a surge in COVID-19 cases – contributed to bottlenecks while hospitals and labs nationwide sought to scale up their diagnostic testing capacity.

To help blunt the impact of such potential challenges, multiple outlets need to be built into the global supply chain and strategies to promote greater geographic diversity should be pursued. Lawmakers should also explore opportunities to increase domestic production of critical supplies ahead of the next emergency, including considering appropriate incentives and post-pandemic sustainability for manufacturers that make this commitment.

Because it will not always be possible to anticipate the unique supplies that may be needed for every potential scenario, a key component of our preparedness strategy should be to develop and efficiently activate authorities that will accelerate domestic production of critical supplies in a public health emergency, such as the Defense Production Act and other potential mechanisms that can help alleviate the tariffs and other complications associated with scaling up capacity quickly. **Much like hospitals and other health care facilities undergo regular preparedness drills, individual elements of the supply chain should be engaged in periodic preparedness exercises in anticipation of future threats to ensure they will be able to ramp up production as expected in an emergency. Additionally, the federal government should promote and enforce protections against unreasonable product pricing in times of crisis, including prices of existing and new drugs used to treat COVID-19 and other conditions.**

Invest in Data Modernization

The pandemic has illustrated clearly the limitations of outdated public health data systems at the national, state, and local levels, as well as within individual facilities and institutions. Antiquated, incompatible, inconsistent, and incomplete systems impeded access – for public health and health care practitioners at all levels, government officials, and the public – to real-time information about the pandemic's progression and on-the-ground needs. To some extent, the ingenuity of experts at AAMC-member institutions helped address some of these challenges through dashboards and data visualizations that

synthesized publicly available information to help track the course of the outbreak. While these innovations undoubtedly represented a public service, they in no way are a substitute for a reliable public health data infrastructure supported by all levels of the government. In addition to forcing the use of imprecise proxies to inform decision-making about allocation of resources such as supplies and potential countermeasures, the shortcomings of our current patchwork of data capabilities also prevent meaningful progress in promoting an equitable approach because current data collection efforts lack key sociodemographic and other social measures.

Reliable funding to modernize and maintain data systems at public health departments must be a key component of the needed investments in core public health infrastructure described above, and similar investment is important to upgrade and maintain the digital architecture of health care facilities nationwide. In addition to the need to ensure sufficient and sustained resources, the following recommendations outline other important considerations in strengthening the nation's public health data infrastructure.

Identify Essential Data Elements in Advance and Establish A Framework for Enhancing as Needed

Congress should direct the establishment of a working group convened by the Government Accountability Office, the National Academies of Medicine, or another body to determine and define a manageable minimum set of key data elements that are essential for decisionmakers at the local, state, and federal levels to facilitate an effective and rapid response to any public health emergency. This should include adoption of a broad set of inclusion criteria to include important sectors beyond public health and medicine to connect via data collection, including housing, education, employment, criminal justice, and agriculture.

In any infectious disease threat, there will be geographic variation in the disease's impact, and this impact likely will change over time, making state and local health authorities key partners in the response to an outbreak. At the same time, federal plans and coordination must recognize that a virus does not respect state boundaries, and, as a result, local variation in data capabilities and processes can have national consequences. Therefore, guidance and resources provided to states by the federal government must ensure that data collected and provided to a central repository can be readily combined and used to shift resources quickly from one area to another. To the extent possible, the definitions, reporting standards, and specific fields that will be provided by states and other entities to the federal government should be defined in advance. Establishing a working group to anticipate certain core elements ahead of the next large-scale event will help facilitate this process.

In addition to representatives from key federal agencies, state and local officials, and public health experts and public health data analysts (whose experience can help guide the structure and of data and data sharing), the working group also should include representatives of the health care community (including academic medical centers), electronic health system vendors, and patients and communities, who may be able to advise how to overcome common barriers to consistent and inclusive data collection. **Congress should prioritize targeted investments to support modernization of data systems at every level such that, at minimum, they are capable of consistent and interoperable collection and reporting of the key data elements with as much automation as possible.**

Because data capabilities will evolve over time, **the working group also should establish a process for reviewing the core data set regularly.** Additionally, under the assumption that future public health crises may present unique data needs, the working group should be prepared to rapidly reconvene as necessary to determine a common framework for all jurisdictions and facilities to collect and report any additional temporary and situation-specific data elements necessary to address emergencies as they arise. To the

extent they are not members of the standing working group, national associations can provide guidance and input throughout these processes that also will be informative to this work.

These steps will go a long way in avoiding in the future some of the challenges that arose during the COVID-19 pandemic. In the midst of unrelenting surges and already depleted staff bandwidth, hospitals and other health care facilities repeatedly were asked for extensive, duplicative, frequently changing, and at times conflicting information, with little coordination among local, state, and federal officials and via varying formats that necessitated manual entry for processes that otherwise would be easily automated. Reaching agreement on common definitions and formats now, and to the extent possible, identifying ways to consolidate such requests, will help lessen the burden on facilities moving forward and ensure a more complete picture of the situation on-the-ground.

Promote A Commitment to Transparency and Trustworthiness

In addition to logistical challenges that data collection efforts imposed on teaching hospitals and other health care facilities and providers, the lack of transparency in how such information was being used also complicated such efforts. The variable and opaque process for collecting the data and making decisions about how resources would be distributed could have been better coordinated earlier to result in more transparent allocation decisions initially and to increase public trust in the federal government's efforts.

Prior to the next major pandemic threat, there needs to be a process in place defining how states and other entities will receive diagnostics, treatments, vaccines, and/or supplies, and what the federal government's expectations are for how states allocate and track use of these resources, with a focus on equitable and need-based distribution. (We offer specific suggestions about how to consider addressing health equity above/below and in Tables 1 and 2 of the appendix.) In the COVID-19 experience, the federal government relied heavily on state governments for the development of state-specific testing goals, reopening strategies, and allocation of scarce resources such as initial allotments of the vaccines. This decentralized approach resulted in inconsistencies and planning challenges for both states and health care providers. Differing policies and procedures in different states resulted in confusion and led to increased public distrust of health care and governmental entities.

Additionally, while the federal and state governments should be working with the private sector on the manufacturing and development of key components of diagnostics, treatments, and vaccines, the public sector and academic institutions have unique perspectives and critical data on the effect of a disease on patients and communities. Partnerships between the government and the private sector that do not fully take advantage of the resources, expertise, and input from other sectors in the context of a pandemic will undoubtedly result in decisions that fall short of being efficient and effective. Ensuring that clinical partners have a seat at the table similarly will augment critical public health expertise to inform decision-making and a coordinated response.

Likewise, meaningful community engagement will be crucial in ensuring that the government is able to earn the public's trust – and, by extension, the valid data needed to mount an equitable response. With support from the CDC and the engagement of the [AAMC Collaborative for Health Equity: Act, Research, Generate Evidence \(CHARGE\)](#) — the AAMC's national collaborative of health equity scholars, practitioners, and community partners — the AAMC Center for Health Justice gathered perspectives from a diverse set of 30 community members from across the United States to establish and issue [10 Principles of Trustworthiness](#). These principles are meant to guide health care, public health, and other organizations as they work to demonstrate they are worthy of trust and may be a useful framework as Congress considers opportunities to apply such an approach to data collection and preparedness efforts more broadly.

Collect Sociodemographic, Social Needs, and Social Determinants Data to Promote Equity

The disproportionate impact of COVID-19 on communities of color has illuminated pervasive health inequities and the need for action informed by meaningful, valid data. Race and ethnicity represent only a small part of the data collection needed to ensure coronavirus vaccinations and other interventions are administered equitably. Indeed, neither race nor ethnicity are modifiable risk factors. Rather, they are poor proxies for the social risks and social determinants to which communities of color and the residents who live within them are exposed.

Beyond accurately capturing sociodemographic data like race and ethnicity, we need standardized, valid, inclusive data collection on the social needs and social determinants most likely to correlate with increased exposure, susceptibility, and severity of infectious diseases. Fortunately, those data points are known. The CDC released a Social Vulnerability Index (SVI) in 2011 and noted that a “number of factors including poverty, lack of access to transportation, and crowded housing may weaken a community’s ability to prevent human suffering and financial loss in a disaster” (CDC 2011). Unfortunately, the SVI have not been incorporated into national COVID-19 response activities to date.

To successfully promote health equity, surveillance system data must:

- Include standardized, core measures that all relevant sectors (health care, public health, social services, etc.) agree to use.
- Allow for data sharing across those sectors while protecting individuals’ information.
- Relate to and complement other crucial data collections (such as using formal ICD-10 Z codes to identify social needs in clinical settings, or vital statistics reporting for public health departments).
- Capture macrolevel data on the social determinants of health (such as existing SVI or Agency for Healthcare Research and Quality data) geocoded to home addresses when possible, at units of geography that correspond to meaningful, locally defined neighborhoods (i.e., census block, not 5-digit zip code, which will not be specific enough for densely populated communities likely to be most impacted by infectious disease).
- Capture self-reported social needs and vulnerabilities and sociodemographic data (including but not limited to race and ethnicity) in ways that allow for the valid, non-stigmatizing collection of potentially sensitive personal information.
- Be patient-centered and developed in collaboration with local community members and community-based organizations who have trusted and established relationships with local residents to identify communities disproportionately at-risk and to suggest structural interventions to ensure just, equitable preparedness and response during a pandemic. At minimum, broad community input should inform the development of national standards.

These recommendations will strengthen federal and state efforts, but we also note that any effort to promote true community resilience will require a multi-sector approach that extends beyond public health and health care to engage housing, education, employment, criminal justice, and other sectors. Connecting and expanding the parameters for data collection and access across the federal government and across sectors will be important to make meaningful progress in addressing the social determinants of health.

Prioritize Equity

The coronavirus pandemic has laid bare the racial health inequities harming Black, Indigenous, and other communities that historically have been marginalized. COVID has exposed the structures, systems, and policies that create social and economic conditions that lead to health disparities, poor health outcomes,

and lower life expectancy. Local data shows that Black Americans are more likely to get sick and die from the novel coronavirus. This is not because the virus is naturally more harmful to racial and ethnic minorities. Rather, this is the result of policies that have shifted opportunities for wealth and health to a narrow segment of society putting those with fewer economic resources and with preexisting health conditions more at risk and vulnerable to illnesses like COVID-19.

In recognition of the disproportionate impact that health crises will have on communities of color, it will be critical to ensure that a deliberate commitment to proactively address health inequities, centered on a community-informed approach, is prioritized throughout all elements of pandemic preparedness and response. Accordingly, we have integrated such an approach throughout all of our recommendations. We also urge Congress to consider the following concrete actions that promote and prepare us for an equitable and rapid response.

Apply A Health Equity Framework to All Elements of Pandemic Planning

The disproportionate impact of public health crises on marginalized and disadvantaged populations is driven by factors that predate the crisis itself. Communities that face everyday barriers to health confront even higher barriers during a pandemic. In many cases, these barriers have social, environmental, and economic roots. Thus, to prevent inequities in a pandemic, not only should policymakers consider targeted efforts to reach vulnerable populations in response to an emergency, they also should consider interventions to minimize inequity at its roots.

We commend to your attention a recent publication⁴ summarized in the appendix to this letter, outlining such a framework for integrating an equity-forward approach to both pandemic preparedness (Table 1) and response (Table 2). Necessary considerations in preparedness include not only engaging in “traditional” preparedness actions with an equity mindset, such as developing plans for equitable distribution of supplies and access to testing and countermeasures in an emergency, but also require attention to everyday gaps in internet access, technology support, and paid sick leave, among other potential items. Planning for a pandemic response should include equity-oriented actions as well, such as a multipronged strategy to effectively communicate health risk – by engaging trusted community leaders and ensuring materials are accessible to broad audiences based on reading level, language, and cultural understanding – and implementing socio-culturally appropriate surveillance, for example. These efforts should augment the recommendations made elsewhere in this letter, such as ensuring that data systems capture meaningful sociodemographic, social, and environmental information (as described above).

In recognition of the fact that health and health care inequities – including those that manifest during a pandemic – are deeply rooted in the conditions in which people are born, grow, live, work, and age, the AAMC supports the Social Determinants Accelerator Act (H.R. 2503), which would authorize planning grants for state, local and Tribal governments to establish accelerator programs that address non-medical factors of health. The legislation also would establish at HHS an interagency technical advisory panel on social determinants of health, with representatives from the Department of Housing and Urban Development, Department of Labor, Department of Agriculture, and state and local governments. These actions would take an important step to make it possible for all people to have the same opportunity to reach their full health potential, including during a crisis.

⁴ Alberti, PM, Lantz, PM, and Wilkins CH. Equitable Pandemic Preparedness and Rapid Response: Lessons from COVID-19 for Pandemic Health Equity. J Health Polit Policy Law, May 28, 2020. <https://doi.org/10.1215/03616878-8641469>

Promote Meaningful Community Engagement and Consider Unique Needs of Certain Populations

To create an effective framework to conduct meaningful outreach to underserved communities, health departments at all levels and other stakeholders must engage diverse citizen- and community-leader voices when developing response plans that can better mitigate language barriers, cultural disconnects, and access to care for the most vulnerable populations.

As the coronavirus pandemic emerged, many local and state government officials and public health agencies called upon nearby academic medical centers to provide guidance and assistance in leveraging relationships with trusted community partners to effectively communicate about how to access testing and treatment and provide support for underserved populations. For example:

- One institution partnered with government and nonprofit partners to distribute complimentary Community Care Kits that include isolation-grade masks, hand soap, hand sanitizers, toothbrushes, and toothpaste, which also allowed community members in need of information and guidance on COVID-19 testing and treatments to be more quickly linked to the services needed.
- Faculty and students from a medical school partnered with the city health department to provide COVID-19 testing in neighborhoods with the highest rates of infections and for other at-risk populations such as essential workers and people living in nursing homes. The partnership also maintains a registry for people who have tested positive to look for health and health care disparities.

Fostering opportunities to identify, develop, and support efforts and relationships that are truly collaborative – i.e., ones that are driven by and responsive to the needs of the communities themselves – ahead of a crisis will greatly enhance their success in the event of a future pandemic.

Additionally, there must be more thought, guidance, and coordination regarding how hospitals, clinics and nonprofit social service providers can best support populations of people experiencing homelessness, people who are justice involved, and people with disabilities in a pandemic response. During the COVID-19 pandemic, a number of issues surfaced for each of the aforementioned groups. For example:

- People experiencing homelessness face a number of barriers, including an inability to participate in stay-at-home orders due to a lack of housing, an inability to wash hands frequently because many cities lacked an abundance of handwashing stations, and an inability to self-isolate in shelters because of space constraints.
- Jails and prisons pose significant risks for the spread of coronavirus for the incarcerated population and the people who work in them because of the lack of ability for individuals to socially distance and common movement of justice involved people in and out of facilities. Additional testing and reporting for inmates and staff, more protective equipment, guidelines for inmate medical treatment, and clearer cleaning protocols in jails and prisons could help reduce the number of future infections.
- People with disabilities and their caregivers rely on services and businesses that were not deemed essential in many states. Service providers and translators are often low-wage workers and provide critical assistance to people with disabilities, often in the home setting. Benefits that increase financial security and stability, including paid leave, unemployment insurance expansion, and increasing Medicaid coverage to expand access to testing and treatment, would better support people with disabilities and the services they rely on. In addition, guidance should be provided to states and health care providers setting forth clear requirements to ensure that the health care rationing decisions comply with federal nondiscrimination laws.

Make It Easier to Reach Communities Where They Are

One glaring example of how inequities manifested during COVID-19 is in access to diagnostics and countermeasures. As testing and vaccinations became available, residents of typically underserved communities have faced challenges finding and reaching traditional sites due to inflexible hours of operation, transportation limitations, inaccessible venues (e.g., drive through sites are not pedestrian friendly), or other barriers. Homebound individuals encounter similar difficulties.

Mobile units can help fill these gaps by bringing resources to the community rather than forcing the community to find the resources. The AAMC supported the Mobile Options for Testing In Our Neighborhoods (MOTION) Act in the 116th Congress, which would authorize grants to academic medical centers, health centers, health departments, and nonprofit organizations to establish or expand mobile COVID-19 testing initiatives, and funding for similar efforts in the American Rescue Plan has helped advance state and federal vaccination efforts. **Grants to establish, equip, and deploy truly mobile testing and vaccination units to serve hard-to-reach populations would be particularly effective if implemented with a commitment to community engagement, with grantees working in partnership with community-based organizations and leaders to develop resources, conduct outreach and program evaluations, and take other steps to understand and meet the community's needs.** Such programs serve as an important complement to other ongoing efforts to increase the availability and accessibility of testing, vaccinations, and other key outreach, and to address and resolve health inequities.

Advance and Facilitate Medical Research and Innovation

The rapid development of diagnostic tests, treatments, and vaccines are all dependent on continued progress in scientific research, including an advanced understanding of virus biology and studies of vaccine types and efficacy. To be positioned to tackle future infectious disease challenges, the government needs to continually invest in sustained and predictable funding for biomedical research, through NIH as well as other federal research agencies that fund basic research, interdisciplinary work, and translational science. Over half of the life-saving research supported by the NIH takes place at [medical schools and teaching hospitals](#), where scientists, clinicians, fellows, residents, medical students, and trainees work side-by-side to improve the lives of Americans through research. Supporting strategies to continue such successful public-private/academic partnerships in research and to foster an environment where innovation can continue to flourish will be key tools in building resilience against future pandemics. The remarkable success of the Biomedical Advanced Research and Development Authority (BARDA)-supported Operation Warp Speed in accelerating vaccine development and distribution was the result of the rapid partnerships between the federal government and industry, facilitated by the investment over time in BARDA. To help replicate this success in anticipation of future threats, the AAMC offers the following recommendations.

Maintain a Robust Commitment to Medical Research Supported by the NIH

Without question, the decades of federal investment in NIH-supported foundational research are directly responsible for our relatively rapid recent success in identifying and developing vaccines to contain the pandemic. As you know, the federal commitment to medical research supported and conducted by the NIH not only has been core to the extraordinary progress the U.S. has made against COVID-19 through multiple effective vaccines and other countermeasures, but also is instrumental in combatting every other health threat facing patients and their families.

We are grateful to Congress for the strong, bipartisan investments in NIH through the annual appropriations process in recent years, and we look forward to working with you to continue that

trajectory of sustained, robust growth in FY 2022 with at least \$46.1 billion in core funding for the agency, in addition to any funding for the president's Advanced Research Projects for Health proposal or other targeted initiatives. Likewise, we appreciate the supplemental funding that Congress has directed to NIH over the last year to advance research on COVID-19. **To fully optimize the nation's potential to advance new therapeutics, diagnostics, preventive interventions, and cures, and lay the groundwork for the scientific "miracles" that the next pandemic will necessitate, it will be essential to ensure that the nation sustains a commitment to robust growth for the agency over the long term.** These investments are particularly critical given the lasting impact that the pandemic is having on the research workforce and the broad portfolio of pre-pandemic research supported by the NIH. As a result of disruptions caused by the pandemic, NIH Director Francis Collins, MD, PhD, most recently estimated a \$16 billion loss to NIH-funded research, predominantly extramural grantees, in testimony before the Senate Labor, Health and Human Services, Education, and Related Agencies Appropriations Subcommittee on May 26.

The pandemic-related funding shortfall notwithstanding, we appreciate the flexibilities NIH has offered through the pandemic to address some of these challenges and encourage action to address the limited instances where such flexibility required intervention from Congress (e.g., the ability for NIH to offer no-cost extensions for multiyear RF1 grants).

Establish Clear Rules and Procedures for Engagement of Labs in Testing for Pathogens During a Public Health Emergency

The country needs clearly defined authority, a pre-established chain of command, and a decision-making rubric for directing activities during a public health emergency, and test development and deployment is the most essential tool to detect emerging public health threats. As described elsewhere in this letter, the nation's testing capacity was far less robust than needed as a result of supply chain issues and a piecemeal, state-based approach to testing strategies. Further frustrating efforts to increase capacity was a dizzying array of shifting policy interpretations that made it difficult to determine how academic and research labs could contribute supplies, expertise, data, and excess capacity to accelerate testing.

During COVID-19, to maximize the efficiency and speed of diagnostic production and testing capacity, there needed to be clearer guidelines and processes from the U.S. Food and Drug Administration (FDA) on use of the Emergency Use Authorization (EUA) authority for oversight of diagnostic and serological tests and from CMS on the rules related to how sophisticated labs without certification through the process set forth in the Clinical Laboratory Improvement Amendments (CLIA) can be engaged to increase testing capacity.

Confusion over the responsibility and authority of FDA to regulate and oversee the development of laboratory developed tests (LDTs) hampered early testing efforts. Assertions that no newly-developed PCR tests could be deployed until the FDA had issued an EUA for their use led to a months-long backlog of validated tests that academic labs could not begin using. The situation was remedied in part by the FDA's decision to allow labs to validate tests and begin testing while the FDA was reviewing the submitted data, but then further complicated by a sudden announcement from HHS that the FDA did not have the authority to regulate LDTs and furthermore would not be reviewing validation data, even for voluntary submissions. For those labs that were relying on the issuance of an EUA for reimbursement and liability protection purposes under the PREP Act, this shift in policy was concerning. **In advance of the next pandemic, the FDA's role with respect to emergency development and deployment of tests must be clarified and a plan must be in place to shift FDA personnel and resources to meet the extraordinary demands of addressing quickly developing public health threats.**

Ensuring that lab results provided to patients are accurate is critical, especially when those results are used to make decisions about clinical care. In a public health emergency however, when we need to marshal all available resources, there must be a clear mechanism to engage labs without CLIA certification to enhance our surveillance and testing infrastructure. The system for certifying clinical labs is set forth in the CLIA, which is administered by CMS. In general, this requires that a lab that returns results to individuals must be CLIA-certified. Academic labs that are connected to hospitals or health systems are overwhelmingly CLIA-certified, but those academic labs set up for research purposes or part of universities or other facilities that do not provide care to patients (veterinary schools, for example) do not have CLIA certification. Non-certified labs had personnel, supplies, equipment, and expertise to contribute, but were unsure how to help when initially told that without CLIA certification there was no role for those labs in contributing to the testing effort. For example, research labs involved in the Seattle Flu Study saw the potential for their work to detect the rise of COVID-19 in the local community but were prohibited from identifying individuals infected with the deadly virus.⁵ Memos issued by CMS to increase the engagement of non-CLIA certified labs through affiliation with CLIA-certified labs were issued months into the pandemic.

While preserving the important role of CLIA certification to ensure accurate, validated, clinically relevant test results to providers and patients, we must install a better, more centralized mechanism to be able to collect and share data that can inform state and national public health responses. **During a public health emergency, decision-makers should be able to avail themselves of an existing, coordinated data collection repository with a well-defined mechanism to submit surveillance test data and provisional test results for individuals who have been advised to confirm a positive test result through a CLIA-certified lab.** Such a data repository could act as an early warning system for public health officials and a more accessible but less structured collection point for surveillance data from many sources to speed virus mitigation responses.

Support Multisector Public-Private/Academic Research Partnerships to Accelerate New Medical Countermeasures

The federal government plays an irreplaceable role in supporting medical research, particularly as it relates to fundamental research for which there is not immediate commercial potential. Private companies may require federal incentives to pursue public health related research and development opportunities. **Through public-private partnerships with academia and industry, federal agencies can help advance potential solutions to otherwise intractable challenges or lay the groundwork for science to overcome challenges that have yet to manifest.**

Academic medical centers are already leading the way in initiating public-private partnerships to better respond to future pandemics. For example, one AAMC-member institution is a founding member of an international public-private consortium focused on rapidly developing anti-viral medications against viruses with high pandemic potential, with the aim of placing new therapeutics into Phase 1 clinical trials within 5 years. Leaders from another research intensive academic medical center have launched a multi-sector partnership focused on discovering and validating monoclonal antibodies for the 100 most likely causes of epidemics. In yet another example, an institution is exploring opportunities to embed private and/or federal experts into their research enterprise for a period of time to enhance each party's understanding of the other. The President's Science Advisor Eric Lander, Ph.D., recently outlined a vision in which the scientific community and industry are able to have a vaccine ready within 100 days of the next viral threat being identified. Fulfilling such an ambitious goal will require active engagement from

⁵ 'It's Just Everywhere Already': How Delays in Testing Set Back the U.S. Coronavirus Response. *New York Times*. March 10, 2020. <https://www.nytimes.com/2020/03/10/us/coronavirus-testing-delays.html>

the government, academia, and industry, and federal agencies should continue to identify strategies to support such partnerships ahead of the next threat.

Make Telehealth Flexibilities Permanent to Support Clinical Trials, in Addition to Clinical Care

To maintain social distancing and prevent unnecessary visits to hospitals and clinics, many researchers, with the support of institutions, industry sponsors, and IRBs, adapted clinical trial protocols to continue the research while addressing the safety of research participants. Researchers adopted new electronic processes and procedures to speed the initiation of research, promote the ease of IRB review and data sharing, and reduce contract negotiation turn-around time. Specifically, utilizing telehealth to collect research participant consent and conduct follow up assessments that did not require procedures or interventions increased efficiency of the clinical trial enrollment process and was viewed favorably by participants and researchers alike. The regulatory flexibilities described elsewhere in this letter were instrumental in facilitating this change, but without action, they will end once the PHE declaration expires. **In addition to the clinical care benefits, the AAMC urges lawmakers to make the telehealth flexibilities permanent to help improve the efficiency of clinical trials and improve the experience of clinical trial participants.**

Create the Structure to Rapidly Address Complex Bioethical Issues

In addition to practical considerations, it is also advisable to have a permanent advisory body such as a national bioethics commission in place to provide real-time guidance on difficult ethical questions that arise in response to the nation's needs and scarce resources during a pandemic. Issues related to the enrollment of COVID-19 patients in clinical trials, access to testing, allocation of therapeutics such as remdesivir and monoclonal antibodies, vaccine distribution, and addressing the significant inequities in the impact of and resources to address the disease across communities all would have benefitted from a specific advisory group convened to provide public recommendations to policymakers.

Ensure Ample Workforce to Mount A Nimble and Effective Response to Public Health Crises

The nation's health care, public health, and scientific workforces have worked around the clock for over a year to combat the pandemic and keep the country safe. Their efforts, often under harrowing circumstances, are directly responsible for our ability to contain the pandemic. There is no question, however, that the COVID-19 crisis stretched our already over-extended workforce even thinner. Projected and existing shortages of physicians and other health professionals proved to be a limiting factor in the nation's response, and unlike other essential resources, qualified clinicians cannot be created overnight. We must invest now in resources to support our existing workforce as they recover from the effects of the crisis, as well as in efforts to expand our physician workforce and other health professionals to address current and projected shortages. Failure to address expected shortages under normal circumstances will threaten collapse of our human health care infrastructure in the next pandemic.

Increase Federal Support for Physician Training

The AAMC projects that the United States will face a shortage of between 37,800 and 124,000 physicians by 2034, in both primary care (between 17,800 and 48,000) and specialty care (between 21,000 and 77,100). If everyone had the same health care access and the same utilization rates regardless of race, where they live, and whether they have health insurance, the AAMC estimates the country would need up to an additional 180,400 doctors today, on top of the projected shortages by 2034. These shortages strain

patients' ability to access timely care under even the best of circumstances, but the consequences of such deficits are particularly acute during a crisis. COVID-19 laid bare these shortages of crucial providers, such as infectious disease specialists, but also the overall shortage of physicians as doctors were called to the front lines of COVID-19 sometimes regardless of their specialty.

The major factor driving demand for physicians continues to be a growing, aging population. With the demand for physicians simply outstripping our expected supply, we must advance a multifaceted strategy to ensure that people have access to the care they need when they need it. A broad bipartisan coalition of members of Congress representing diverse districts, states, and communities worked together last year to provide 1,000 new Medicare-supported graduate medical education (GME) positions in the Consolidated Appropriations Act, 2021—the first increase of its kind in nearly 25 years. This increase in residency positions was an important initial investment and first step, but more is needed to help ensure that patients throughout the country can access the primary and specialty care they need and a diverse physician workforce. **The AAMC strongly supports the bipartisan Resident Physician Shortage Reduction Act of 2021 (H.R. 2256, S. 834) which would build upon last year's bipartisan effort and increase teaching hospitals' ability to train physicians by gradually lifting the current freeze on Medicare support and adding 14,000 new Medicare-supported residency positions over the next seven years.**

Consider Challenges Related to Workforce Staffing in Emergencies

Though the physician shortage continues to threaten everyday patient access to care, these challenges are especially acute in public health or disaster emergencies. When demand increases rapidly, additional health professionals such as nurses and allied health professionals are needed throughout hospitals to ensure enough personnel are available to mount a full response. While responding to the COVID-19 emergency, hospitals had to surge not only their physical capacity to treat patients, but also their available personnel to staff the additional beds and patients, off-site locations, and other facilities. Though all teaching hospitals take measures to prepare for emergencies, the expenses associated with expanding a facility's staffing capacity in an emergency can be substantial. Moreover, with child care and schools effectively closed for a period of time, many hospital personnel with caregiver responsibilities were faced with unworkable situations, further straining the workforce. **In addition to taking steps to help fill expected daily operations shortages in the health care workforce, Congress should consider strategies to make resources available quickly for hospitals and health professionals to address workforce challenges unique to surges and public health emergencies.**

Invest in Health Professions Students and Education Infrastructure

To be prepared for future pandemics, the nation must invest in our health education infrastructure to better support health professions students and practitioners in the field. To that end, **the AAMC supports robust funding for the Health Resources and Services Administration (HRSA) Title VII health workforce and Title VIII nursing workforce development programs.**

The HRSA National Center for Health Workforce Analysis, including seven Health Workforce Research Centers across the country, conducts research and data analysis to advise future decision making on America's health workforce preparedness. Vital to the country's response to any future pandemic, the HRSA Public Health Workforce Development program trains our nation's public health workforce to identify underlying causes of health issues, health disparities, and other public health issues.

The HRSA Health Career and Opportunity Programs, Centers of Excellence, Scholarships for Disadvantaged Students, and Nursing Workforce Diversity programs support students from diverse backgrounds throughout the health workforce pipeline. These programs aim to mitigate persistent health

inequities, such as those seen during the COVID-19 pandemic, by recruiting and training a more diverse and more culturally competent health workforce.

Elderly populations may be more vulnerable to future pandemics, as we saw with COVID-19 disproportionately impacting older Americans. The HRSA Geriatrics Workforce Enhancement Programs and Geriatrics Academic Career Awards prioritize interprofessional and team-based care to improve treatment of the nation's aging patient population.

Other HRSA programs are structured to train health professionals to adapt to changing delivery systems and models of care that have increased during COVID-19. Telehealth is one example; another is Area Health Education Centers (AHECs) that support interdisciplinary, community-based training programs for healthcare professionals and provide support for health care delivery in rural and urban underserved areas. Investing in training programs such as AHECs prioritizes the specific health needs of local communities.

Currently, over 117 million Americans live in Health Professions Shortage Areas (HPSA) and can have more difficulty accessing care during public health emergencies. The National Health Service Corps (NHSC) and Teaching Health Centers GME (THCGME) help build a health care infrastructure in rural and other underserved areas. Despite strong interest from health professionals to participate in the NHSC, the program still falls far short of fulfilling the health care needs of all HPSAs due to growing demand for health professionals across the country. **The AAMC urges Congress to provide a level of funding for the NHSC that would fulfill the needs of all current HPSAs and to continue strong funding for the THCGME program.**

Additionally, public service loan repayment programs offered by HRSA, the NIH, the Department of Education, the Department of Veterans Affairs, the Department of Defense, and the Indian Health Service are effective, targeted incentives for recruiting physicians and other health professionals to serve specific vulnerable populations. Increasing federal investment in these programs is a proven way to increase the supply of health professionals serving HPSAs, nonprofit facilities, and other underserved communities. For example, the Public Service Loan Forgiveness (PSLF) program administered by the Department of Education encourages physicians to pursue careers that benefit communities in need. The AAMC supports preserving physician eligibility for PSLF to help vulnerable patients and nonprofit medical facilities that use the program as a provider recruitment incentive.

Our nation's medical and health professions schools are also critical to preparing the next generation of providers for future pandemics. Recognizing the financial impact the coronavirus pandemic has levied on colleges and universities, the AAMC appreciates that Congress provided funding to the Higher Education Emergency Relief Fund (HEERF). However, independent health professions schools were underrepresented in the HEERF formula since their student bodies primarily consist of graduate and professional students who are not eligible for Pell Grants. As a result, these institutions received disproportionately less funding to help their students during COVID-19 and to restart their programs. **The AAMC urges Congress to support graduate health professions institutions as we look train our future health workforce who will be on the frontlines of fighting the next pandemic.**

As Congress considers legislation that prepares our nation's health workforce for future public health emergencies, there is an opportunity to invest in the rural workforce pipeline. **The AAMC supports the Expanding Medical Education Act (H.R. 801), which would authorize grants to enhance current and establish new regional medical campuses (RMCs), thereby helping expose more future providers to rural and other underserved settings.** RMCs are important settings for medical schools to expand their reach and help fulfill their unique missions. RMCs often have targeted missions, such as

training future providers in primary care and in rural settings. Increasing investment in RMCs will make sure providers are being trained in rural and other underserved areas, and in high need specialties.

Promote Health Professionals' Health and Well-being

Physicians and other health professionals dedicate their careers to keeping people healthy, but too often they do not receive the care they need to address their own well-being. AAMC data shows that, like the overall U.S. physician population, a large percentage of medical school faculty have experienced higher levels of stress, and nearly a third of medical faculty face one or more symptoms of burnout. In addition to their detrimental effect on health professionals and their families, burnout, stress, and other behavioral health issues negatively affect patient care, patient experience, and overall health outcomes.

There are numerous systemic and other sources for the high levels of stress and burnout that have long plagued health professionals and clinician trainees, and the COVID-19 pandemic has only exacerbated the problem. Yet, stigma, bias, and other barriers can hinder both aspiring and practicing health professionals from seeking and receiving care for new or ongoing mental and behavioral health challenges.

The AAMC is proud to support the Dr. Lorna Breen Health Care Provider Protection Act (LBA, S. 610/H.R. 1667), which would take steps to reverse these troubling trends through investments to prevent suicide, reduce burnout, and promote care for mental and behavioral health conditions among health care professionals and trainees. While the ability of any single educational intervention on its own to overcome pervasive systemic challenges is limited, the bill's grants to help train health professionals in strategies to reduce stress and burnout would represent an important effort to raise awareness among health care professionals about the need to prioritize their well-being, particularly if teaching hospitals also are eligible for such awards. The AAMC appreciates inclusion of \$140 million in grants for health professions institutions and health care providers in the American Rescue Plan Act of 2021 to address provider burnout and mental health. We encourage Congress to advance the LBA, which would authorize grants to promote use of mental and behavioral health care services among health professionals and two studies to identify the factors contributing to such challenges and evidence-based best practices for reducing and preventing self-harm and burnout.

Other Key Structural and Programmatic Priorities

In addition to the recommendations outlined above, the AAMC proposes the following recommendations to facilitate sustained investments in key priorities and streamline operational issues associated with a public health emergency.

Ensure Sustained Funding for Core Needs and Emergency Investments as Needed

The AAMC is grateful for Congress's work since the beginning of the pandemic to pass legislation to equip federal agencies with needed emergency supplemental resources to prevent the spread and address the effects of the pandemic. Quick, bipartisan action by lawmakers in such scenarios is essential to ensure public health and scientific agencies have the resources they need to address threats as they arise. Because such action is not always immediate, **the AAMC continues to support robust investment in the Infectious Disease Rapid Response Reserve Fund and the Public Health Emergency Fund**, which give the Secretary of HHS access to funding reserved for emergencies, intended as a bridge until Congress can appropriate the needed resources for that particular crisis.

It is important to note, however, that as critical as emergency supplemental funding is in addressing the unique, one-time needs associated with different crises, it is no substitute for sustained, robust

investments over the long term. Boom and bust cycles of funding that only take the country from one crisis to the next are counterproductive in our national efforts to build resilience against future threats. The value of ongoing investments in public health, health care preparedness, and medical research cannot be overstated. **To the extent possible, lawmakers should prioritize mechanisms that allow for reliable, uninterrupted funding for such programs and agencies – including through dedicated and protected line items for priority programs, no-year funding as appropriate, and mandatory appropriations – with the appropriate oversight from key Congressional committees.**

Additionally, the Federal Emergency Management Agency (FEMA) has been a lifeline in many ways throughout a wide range of disasters that the country has faced. As has become evident across a number of dimensions, however, a pandemic scenario is not entirely analogous to other emergencies, particularly as it relates to the impact of the crisis on the health care system. **Ahead of the next pandemic, the AAMC urges Congress to consider alternative strategies to complement the strong work that FEMA leads with investment in a federal entity focused on emergency support for the health care system in a pandemic or other large scale public health emergency.**

The AAMC also applauds the timely resources provided by Congress through the Provider Relief Fund. Hospitals, physician practice plans, and other providers faced severe financial challenges as they postponed elective procedures and regular operations to become hubs to test, treat, and eventually vaccinate patients, and the PRF proved to be an essential lifeline. We urge Congress to utilize similar mechanisms to distribute emergency funds in the future. However, we encourage policymakers to apply the lessons learned and ensure stability and certainty in the program by prescribing the appropriate latitude provided to federal agencies administering these resources and the ability and frequency with which they can alter the definitions and parameters for use of the funds.

Exempt Key HHS Agencies from Discretionary Spending Limits

As described above, ongoing investments in public health, medical research, and health care preparedness are critical to prevent and respond to existing and emerging threats. Specifically, programs and projects supported by the CDC, NIH, and ASPR are key tools in supporting our nation's health security and guarding against future crises. Too often, however, investments in these important priorities have been limited by impractical discretionary spending allocations that handcuff the ability of appropriators to invest sufficiently and do not reflect the bipartisan recognition of the importance of these programs. **To ensure that appropriators have the necessary flexibility to invest in key priorities without risking underinvestment in other core elements of our public health infrastructure the AAMC supports proposals to exempt key health programs, including CDC, NIH, and ASPR from annual discretionary spending limits, potentially through creation of a new budget category.** Already, we have spent trillions of dollars to address the consequences of underinvestment in public health – and lost over half a million lives in the process. We cannot afford to repeat the same mistake.

Streamline Processes for Administrative Flexibilities in a Public Health Emergency

The AAMC is appreciative of the temporary health care-related regulatory flexibilities and emergency authorities granted by the federal government in response to the coronavirus. These flexibilities have been granted by the White House, HHS, and CMS, among others. **To better coordinate these flexibilities, the AAMC recommends that all health-related waivers be consolidated under the authority of the HHS Secretary.** For example, "Section 1135" waivers have offered essential relief and assistance for health care providers during the pandemic by relaxing several requirements, including practice across state lines and timelines for federal reporting requirements. For the 1135 waivers to remain in effect, both a public health emergency and a national emergency must be declared by the HHS Secretary and President, respectively. The AAMC recommends that all health-related flexibilities be under the direction of the HHS Secretary, and not reliant upon the declaration of a national emergency.

Appendix

Table 1: Essential Multi-Sector Actions for Pandemic Health Equity Preparedness
Adapted from Alberti, PM et al.⁴

Build Strong Public Health Infrastructure That Includes:

- Stockpiles of essential materials to prevent exposure (e.g., high-quality masks, hand sanitizer, personal protective equipment, etc.).
- Stockpiles of essential materials for testing, diagnosis, antibody testing.
- Plans for the equitable distribution of stockpiled materials.
- Access to rapid disease testing, antibody testing, diagnosis and follow up.
- Rapid contact tracing.
- Increases in funding to local, state, regional, tribal and federal public health agencies.

Ensure the Material Conditions of Health for All (as defined by the World Health Organization):

- Strong food access and security systems.
- High levels of housing security and affordability.
- Low levels of housing crowding.
- High levels of air and water quality.
- Prohibitions on evictions and significant rent hikes during epidemics/pandemics.
- Prohibitions on water and other utility shut-offs during epidemics/pandemics.
- Financial access to health care (health insurance coverage).
- Strong health care safety net system, including community health centers and public health clinics.
- Sufficient health care providers (doctors, nurses, psychologists, community health workers, etc.) to meet all communities' needs.

Ensure Basic Economic Security for Individuals and Families:

- Living wage policy to reduce poverty and economic hardship in communities.
- Paid sick leave.
- Rapid and easy access to unemployment benefits and other public assistance.
- Consider Universal Basic Income (UBI) proposals.

Provide/Subsidize Access to Important Technology for Information, Home Schooling, Public Services, Personal Finances, Public Health Surveillance and Voting:

- Widespread access to free or low-cost internet for individuals and families.
- Technology support for home-schooling and home-based work.
- Financial technology: Widespread access to online banking, automobile registration and licensure, rent or mortgage payments, etc.
- Design and implementation of efficient and user-friendly systems for applying for and receiving public assistance, financial assistance and social services.
- Smart-phone technology for infectious disease exposure and contact tracing.
- Clear policies that make voting by absentee ballot and by mail easy and secure.

Implement and Enforce Infectious Disease Prevention and Control in Congregate Settings:

- Better enforcement of current regulations in nursing homes, psychiatric hospitals, rehabilitation centers, jails and prisons, shelter, transitional housing, etc.
- Plans for prevention/control of infectious disease in community epidemics/pandemics.
- Reduce number of people incarcerated.

Safety Standards/Plans for Public Transportation:

- Protection of drivers and other essential workers.
- Plans for physical distancing boarding, disembarking and traveling.

Table 2: Pandemic Health Equity Rapid Response Tactics
Adapted from Alberti, PM et al.⁴

Effectively Communicate Health Risk:

- Engage trusted community organizations and leaders to develop and disseminate messaging.
- Develop messaging that is relevant to socially vulnerable communities and recognizes the varying socioeconomic needs and differing levels of trust of health systems and government.
- Create materials at the appropriate reading level for broad audiences.
- Make information available in multiple languages using processes beyond translation that include a cultural understanding of specific communities with limited English proficiency.
- Use channels viewed as trusted and credible by socially vulnerable communities.

Implement Socio-culturally Appropriate Surveillance and Risk Reduction Strategies:

- Create community-based surveillance programs that leverage community assets.
- Use community health workers and public health educators to collect surveillance data and share risk reduction information.
- Distribute information and supplies for risk reduction such as masks and hand sanitizer via community and faith-based organizations.

Have Emergency Policies/Executive Orders Ready to Be Rapidly Implemented:

- Determine before a crisis what constitutes “essential” versus “non-essential” services.
- Require employers of front-line service providers (e.g., grocery and other retail stores, pharmacies, food plants, delivery services, etc.) to provide workers with PPE and paid sick leave.

Ensure Timely and Easily Accessible Testing:

- Use community-level data such as social vulnerability indices, availability of transportation, and population density to determine location and hours of operation for testing sites.
- Locate testing within the most socially vulnerable communities, ideally co-located with trusted community organizations.
- Provide testing at no cost, regardless of insurance status.
- Offer free transportation to testing sites.
- Monitor testing access data disaggregated by race, ethnicity and language, and rapidly shift or expand testing based on identified inequities.
- Provide resources and post-testing information in multiple languages.

Provide Equitable and Rapid Access to Quality Health Care:

- Broadly disseminate maps and location details of health care providers and clinics.
- Deploy mobile testing and treatment units in communities with limited transportation access.
- Engage trusted community organizations in messaging and ensure information is available in multiple languages.
- Extend hours of access and provide free transportation.
- Suspend any requirements for insurance or documentation of residence.

- Prioritize support for health care providers in socially vulnerable communities.
 - Local, state and national funds should give priority to safety net providers and recognize differential needs given availability of resources at baseline.
 - Government, public health and health systems with greater resources should share tools, protocols and knowledge to enable community-level response.
- Compare hospitalizations, use of specific treatments, and deaths by race, ethnicity, language, as well as social risk factors and determinants and create plans to address any differences identified.
- Ensure treatment and discharge information is available at the appropriate reading level and in multiple languages.
- Provide follow up care at no cost.

Provide Equitable and Rapid Access to Social and Economic Relief Programs:

- Prioritize distribution of economic relief to communities identified as having the most urgent need based on surveillance data.
- Provide financial support to community- and faith-based organizations and other social service agencies to ensure service continuity and capacity.

Table 3: Examples of Activities in Academic Medicine’s Mission Areas to be Conducted Through Community Partnerships

Research

- Develop patient- and community-engaged, public health research projects to gather information crucial to developing effective local intervention and communication strategies.
- Assist and/or create local community-based public health surveillance efforts, particularly in historically under-resourced and marginalized communities, to facilitate testing, tracing, and vaccinations, gather social risk data, connect to appropriate social service and public health departments, and, importantly, to evaluate these efforts.
 - Use community health workers and public health educators to collect surveillance data and share risk reduction information.
- Augment health services and quality improvement research to identify and address necessary health care related-improvements to COVID-19 care and treatment.
- Use community-level data such as social vulnerability and area deprivation indices, availability of transportation, and population density to determine location and hours of operation for testing sites.
- Compare hospitalizations, use of specific treatments, and deaths by race, ethnicity, language, as well as social risk factors and determinants and create plans to address any differences identified.

Education

- Develop experiential learning opportunities for individuals at academic medical centers, including health profession learners (e.g. medical students, nursing students, pharmacy students, medical residents, etc.), to assist the public health and social service workforce with testing, contact tracing, patient navigation, answering hotlines, developing and disseminating public health information through social media, and communicating with local health care providers.
- Enable learners to provide additional services in chronic disease management; screenings; telehealth visits; mental health support and other assistance as needed.
 - Learner activities would be matched to individual ability and level of expertise, with proper supervision and use of remote technologies as appropriate and attention to safety of both the patient and the learner.
- Support local health departments/other public agencies and medical schools/teaching hospitals to develop a memorandum of understanding (MOU) with each other to create an ongoing partnership with the ability to rapidly expand during emergencies. These partnerships would also include Medical Reserve Corps units.
- Co-develop, between the local public health agencies and the teaching hospital/medical school, an ongoing curriculum for medical students, residents and fellows. Both real-time and asynchronous learning opportunities would be embedded about prevention, control and treatment of COVID-19 or other infectious diseases in general. Learning modules would also include handwashing/disinfection, personal protective equipment, quarantine, social distancing, clinical aspects of COVID-19, treatment options, testing and screening, and other related topics.

(cont’d)

Community Engagement

- Leverage relationships with local community- and faith-based organizations to develop messaging that is relevant to marginalized communities and recognizes the varying socioeconomic needs and differing levels of trust of health systems and government.
 - Ensure these materials are at the appropriate reading level for broad audiences and available in multiple languages using processes beyond translation that include a cultural understanding of specific communities with limited English proficiency.
- Distribute information and supplies for risk reduction such as masks and hand sanitizer via community and faith-based organizations.
- Locate testing and vaccinations within the most socially vulnerable communities, ideally co-located with trusted community organizations.
- Broadly disseminate maps and location details of health care providers and clinics.
- Ensure funding is made directly available to local social service, community- and faith-based organizations to ensure sustainability of efforts.
- Leverage the health care workforce (faculty, various providers including community health workers, environmental and administrative staff, etc.) to assist in community health efforts as appropriate.

Health Care

- Prepare for a “wave” of chronic disease resulting from untreated illness during the pandemic. This could include expansion of telehealth services, deployment of health professional learners in service of well visits or disease management visits (see above).
- Prepare for the multidisciplinary care needed for PASC patients.
- Help promote greater parity between mental/behavioral health care and physical health care