



AMERICAN ACADEMY OF NURSING

transforming health policy and practice through nursing knowledge

June 26, 2020

The Honorable Lamar Alexander
Chairman
Health, Education, Labor, and Pensions
Committee
United States Senate
Washington, DC 20510

The Honorable Patty Murray
Ranking Member
Health, Education, Labor, and Pensions
Committee
United States Senate
Washington, DC 20510

Dear Chairman Alexander and Ranking Member Murray:

The American Academy of Nursing (Academy) is pleased to offer the following comments in response to the Senate Health, Education, Labor, and Pensions (HELP) Committee's request for information regarding necessary preparations for future pandemics. The Academy serves the public and the nursing profession by advancing health policy and practice through the generation, synthesis, and dissemination of nursing knowledge. Its more than 2,800 fellows are nursing's most accomplished leaders in education, management, practice, research, and policy. They have been recognized for their extraordinary contributions to the promotion of the public's health through evidence and innovation.

The Academy appreciates the Committee's efforts to improve our country's response to future pandemics. We encourage the Committee to focus on building the public health infrastructure for all communities, with special focus on communities with health inequities. Racial and ethnically disparate communities as well as rural and tribal areas will require increased focus to better prepare for future pandemics especially as these communities disproportionately suffer more than others. After reviewing the white paper "[Preparing for the Next Pandemic](#)," the Academy offers the following recommendations in the areas the Committee identified for a legislative response from Congress:

1. Tests, Treatments, and Vaccines – Accelerate Research and Development
2. Disease Surveillance – Expand Ability to Detect, Identify, Model, and Track Emerging Infectious Diseases
3. Stockpiles, Distribution, and Surges – Rebuild and Maintain Federal and State Stockpiles and Improve Medical Supply Surge Capacity and Distribution
4. Public Health Capabilities – Improve State and Local Capacity to Respond
5. Who is on the Flagpole? – Improve Coordination of Federal Agencies During a Public Health Emergency

Tests, Treatments, and Vaccines – Accelerate Research and Development

RECOMMENDATION 1.1: Congress and the administration should identify and implement public-private manufacturing models to improve and maintain sustainable domestic vaccine manufacturing capacity and capabilities. One approach has been the advanced development manufacturing program.

The Academy supports this recommendation of public and private partnerships. We caution the Committee to consider the oversight including stipulations about price gouging that must be put in

place for these types of partnerships to be successful. Additionally, the Committee should consider solutions that ensure health care distribution equity across the economic spectrum as well as prioritize distribution to vulnerable populations including families with young children, older adults, and those who are immunocompromised. Finally, the Committee should consider whether the Food and Drug Administration (FDA) needs additional authorities and/or resources to expeditiously review and consider new vaccines as this function is different from any research function of the agency.

RECOMMENDATION 1.2: Congress and the administration should continue to support NIH research and its academic partnerships, which have provided key infrastructure to rapidly pivot to COVID-19 research and clinical trials.

Across the country, academic research centers are searching for answers to better testing, faster results, and a vaccine. Like others in the research community, the Academy supports increased funding for basic, biomedical, and behavioral science and appreciates funding that has been invested to allow the progress that has already been made. Agencies within the U.S. Department of Health and Human Services like the National Institutes of Health (NIH), Centers for Disease Control and Prevention (CDC), and the FDA will need additional resources, both intramural and extramural, to ensure their research capacity does not drop during times of crisis. The Academy remains concerned about the impact of the disruption of funds for pre-COVID research projects. Allocations for both federal research and research at academic and private institutions during a future pandemic must supplement and not supplant research funding.

RECOMMENDATION 1.3: Congress and the administration must work together to implement the Medical Countermeasure Innovation Partner program so tests, treatments, and vaccines can quickly be identified, researched, and developed for the next pandemic.

Over the past 20 years, an increasingly robust evidence base has documented that the physical, social, and economic circumstances in which people live, work, play, and learn directly impact their health and well-being.¹ Specifically, when considering how best to prepare for future pandemics, the Committee should ensure that research for the development of tests, treatments, and vaccines is conducted with a diverse representation of the country's population.

We also suggest the Committee place an emphasis on health equity in this area as the U.S. Department of Health and Human Services is doing the same for the Healthy People 2030 guidelines. Emphasis on health equity within Healthy People 2030 marks a critical shift away from focusing on disease outcomes, which are often attributed to individual behaviors. A health equity approach in preparation for future pandemics should address historical and current structural as well as systematic prejudice and discrimination that result in health disparities. Prejudice and discrimination lead to unfair practices within public and private institutions, broader health systems, and society at large. As we have seen from the current pandemic, certain populations are at a higher risk for COVID-19.² Equitable access to and distribution of tests, treatments, and vaccines especially for vulnerable populations will be key to future pandemic preparations.

Additionally, the Academy recommends there be oversight in the race to develop vaccines and therapies for future pandemics. Specifically, the Academy urges that key steps in conducting this type of research not threaten the safety of a future vaccine for all recipients. Nurse scientists with expertise in the development of vaccines and other therapies in collaboration with other health care professionals should be utilized to conduct this type of research. Nurse scientists should also be included in any governmental panel responsible for reviewing the safety of future vaccines.

RECOMMENDATION 1.4: Engage and partner with the private sector early to develop diagnostic tests, ensure flexibility to develop and use laboratory-developed tests in a public health emergency, and ensure that the stockpile is better prepared to address diagnostic needs.

The Academy recognizes and appreciates the need for a public and private partnership in the development of diagnostic tools for future pandemics. We share the same concern as stated above in recommendation 1.3 that health equity will be key to ensuring everyone including vulnerable populations have equitable access to these diagnostic tools. Additionally, we encourage more domestic production of tests and other materials necessitated by a public health emergency as the country has seen challenges with acquiring the diagnostic tools needed for the current pandemic from international sources.

As the Committee is developing a legislative answer for future pandemic preparations, the Academy stresses the importance of developing a universal diagnostic tool that can be utilized in the National Strategic Stockpile. Additionally, the Academy is concerned the country did not utilize the diagnostic test guidelines developed by the World Health Organization (WHO).³ As you know, this is a global pandemic and it is certain that future pandemics will be as well. Participation in the WHO is essential for global access to resources and protecting global health security.⁴ Withdrawing from the WHO will have long-term implications for both the current COVID pandemic as well as future pandemics. We encourage the Committee to consider the value of our continued partnership with the WHO in future pandemics.

The Academy recognizes the need to ramp up research, development, and use of diagnostic tools quickly to meet the demand during a pandemic. We encourage the Committee to think strategically about how the FDA's review of these diagnostic tools can be done at a quicker pace while also balancing the safety of these potential new diagnostic tools. The Academy encourages clinical review of these new tools by committees or task forces should include a nurse scientist with experience in patient care and outcomes as well as clinical trials or medical product development.

**Disease Surveillance –
Expand Ability to Detect, Identify, Model, and Track Emerging Infectious Diseases**

RECOMMENDATION 2.1: Ensure timely communication between health professionals, states, the CDC, and the public, as appropriate, of case data and information regarding how emerging infectious diseases affect populations, including who is at higher risk for severe disease and death, to help inform state and local response and address any potential disproportionate impact on minority populations.

The Kaiser Family Foundation reported earlier this year that data from 32 states and Washington, DC shows communities of color are disproportionately affected by COVID-19. In the majority of states reporting data, African-Americans accounted for a higher share of confirmed cases (in 20 of 31 states) and deaths (in 19 of 24 states) compared to their share of the total population.⁵ The data also show disparate impacts for Hispanics and Asians in some states, although a smaller number of states report data for these groups and there are inconsistencies in how states report these data. The CDC recently began reporting national data on confirmed coronavirus cases by race and ethnicity. Similar to the state data, CDC also found that the virus is having disproportionate effects, with African-Americans accounting for a higher share of confirmed cases with known race/ethnicity compared to their share of the total population.⁶ Missing or unspecified race and ethnicity data absent for the majority of the CDC-reported cases limits the ability to interpret the data and take the necessary measures to protect communities, including indigenous populations. The Academy supports widespread, comprehensive, accurate, and timely data collection of health and economic factors associated with race and ethnicity.

Additionally, the Academy encourages the Committee to not just focus on ethnicity in data collection, but to also focus on risk factors in a legislative solution. Vulnerable populations, of all age groups, such as those with pre-existing conditions and immunodeficiencies, older adults, socially isolated individuals, as well as people who have serious acute and chronic medical conditions, require essential safe guards that extend to their family members and other caregivers. We implore the Committee to also consider vulnerable populations at a higher risk due to their surroundings such as in our indigenous communities. In the Navajo community, 15 percent of homes do not have access to running water and that number may be higher.⁷ Lack of running water is contributing to the spread of COVID in these communities. We must also consider those in densely populated living environments like Veteran group homes, long-term care facilities, homeless shelters, and others living in crowded conditions, such as incarcerated individuals, where social distancing is difficult, if not impossible. Active monitoring and testing are needed as community spread has occurred in these environments with devastating effect.

Further, the Academy recommends the Committee consider incorporating culturally and linguistically appropriate services (CLAS) standards⁸ as developed by HHS as a way to improve the quality of services provided to all individuals during a crisis like COVID. CLAS standards information distributed with multiple modalities could help to inform, educate, and support the communities most at risk of infectious disease during a pandemic. By tailoring information on infectious disease to an individual's culture and language preferences, community spread could potentially be slowed or eliminated in vulnerable populations who are at higher risk.

RECOMMENDATION 2.2: CDC, states, and health professionals should work together to identify barriers to earlier identification of cases, including whether case definitions and testing recommendations were overly narrow for too long.

The Academy is on record emphasizing the importance of testing and contact tracing to identify COVID cases during this pandemic.⁹ As the Committee explores solutions, it will be important now more than ever to ensure there are resources for education and testing as well as the efficient and accurate interpretation of these results. Also, did the CDC's testing capacity limit testing? If this is the case, testing should have been expanded sooner with the use of other laboratories. In future pandemics, it will be important to ensure state and local communities have the capacity to rapidly and accurately test everyone with an emphasis on our most vulnerable populations and perform contact tracing until herd immunity is reached or a vaccine is developed. This will be especially important as we continue to learn more about COVID and in future pandemics.

Additionally, the Academy encourages the Committee to consider mechanisms for capturing and recognizing unusual signs, symptoms, and timing of illnesses that could be contributing to the spread in a future pandemic. Specifically, we need to be able to capture symptoms outside of the normal recognized symptoms of an infectious disease to be able to trace its spread. Recent COVID related examples include the mysterious inflammatory condition similar to Kawasaki disease that impacts children¹⁰ as well as the sudden loss of smell or taste.¹¹ Clearer communication avenues for all health professionals are essential to improving outcomes and decreasing incongruent care.

RECOMMENDATION 2.3: The Departments of Health and Human Services, Homeland Security, and Transportation should coordinate to improve access to passenger contact information by appropriate public health officials to inform public health responses to infectious diseases, like measles and COVID-19, with necessary privacy protections in place. CDC should, in coordination with state health officials, review and improve the systems used to communicate such information to states.

Surveillance for COVID or any other infectious disease must consider privacy implications and data ownership balanced against public health considerations. Congress will need to clarify who owns this data – the US government or the provider who is enabling the surveillance services - as we prepare for future pandemics. Additionally, Congress will need to consider if privacy concerns are superseded by concerns about health and well-being. The Academy recommends that clear contact tracing protocols be developed and utilized for health officials to universally follow. This will require significant investments at all levels of government. Further, these protocols and surveillance technology will need to be compatible with state and local governments.

RECOMMENDATION 2.4: Congress should pass the Public Health Data Systems Modernization Act, included in the Lower Health Care Costs Act, to modernize our nation’s biosurveillance systems.

As Congress looks for legislative solutions related to modernizing our disease surveillance systems, the Academy encourages Congress to consider the following recommendations. The nation’s current surveillance system leads to confusion and duplication. The Academy recommends standardized and uniform operating systems to assist in collecting this data. We further recommend reduced complexity of data that also includes specific information such as ethnicity as well as other uniform data such as risk factors. This will require significant investment into the public health infrastructure at all levels of government.

**Stockpiles, Distribution, and Surges –
Rebuild and Maintain Federal and State Stockpiles and Improve Medical Supply Surge
Capacity and Distribution**

RECOMMENDATION 3.1: Utilize existing authorities to build public/private partnerships, such as vendor managed inventory contracts with manufacturers and distributors, to create excess medical supplies managed by private sector partners that could be needed for the next pandemic or public health emergency. Additionally, the Strategic National Stockpile could contract with manufacturers to maintain manufacturing capability for certain products, such as N95 masks or other personal protective equipment, to rapidly manufacture supplies needed for a future pandemic.

RECOMMENDATION 3.2: States should establish distribution plans and procedures to better inform and communicate with health care providers that request supplies. The Strategic National Stockpile should provide states, territories, and tribes with guidance on best practices to coordinate and distribute medical supplies, including procedures to request resources from the federal stockpile.

RECOMMENDATION 3.3: Require appropriate levels of personal protective equipment and ancillary medical supplies to be stockpiled and replenished, both at the federal and state level. Additionally, stockpiled supplies and countermeasures should more frequently and consistently utilize the shelf-life extension program to extend the life of a product in reserve or better identify the expiration of such products and plan to use those products before expiration.

RECOMMENDATION 3.5: Moving forward, state and health system stockpiles must be developed and maintained, with some federal support, to ensure the United States is ready for the next public health emergency. The federal Strategic National Stockpile must also be replenished and expanded to include certain supplies we now know are needed to respond to a pandemic and maintained with more oversight and accountability.

The Academy is condensing our comments for Recommendations 3.1, 3.2, 3.3, and 3.5 as a result of their interconnectivity. With over 2.3 million confirmed coronavirus cases,¹² we cannot stress enough how indispensably important it is to ensure that healthcare professionals have the appropriate Personal Protective Equipment (PPE) and other supplies they need to provide optimal patient care and to protect themselves. The Academy consistently called upon the use of the Defense Production Act during the COVID pandemic to increase production of PPE and appreciate its use to increase production of much needed medical supplies. In preparing for future pandemics, the Academy calls for the development of a plan to maintain and manage the National Strategic Stockpile. This plan should also include procedures for the regular rotation of PPE and supplies nearing expiration dates to schools, academic centers, and clinics in underserved areas for practice purposes and training. This plan should also include resources needed for maintaining the Stockpile to prevent the shortages we experienced earlier this year. The distribution of PPE is not limited to our hospitals and medical centers but to all health professionals working within our communities including distribution to public health, home health, and nursing home facilities.

The Academy further recommends that PPE and other supplies in the National Strategic Stockpile should be sufficient so that the rate in which supplies are used is not changed, even during a pandemic or public health emergency. We encourage the Committee to establish or assign an existing entity with this responsibility to determine the amount of PPE and other supplies for the Stockpile. The Academy further recommends health professionals with public health infrastructure background be included in determining the types and amount of supplies needed both under normal situations and during a crisis. Additionally, we urge Congress to provide resources for the development of safe and effective reusable PPE with evidence-based policies and procedures on fitting, testing, and cleaning of equipment to prevent further damage to the environment that can be brought about through the disposal of single-use PPE in future pandemics.

RECOMMENDATION 3.4: The federal government, states, and the private sector must work more effectively together to distribute tests, treatments, and vaccines. Plans should be established in advance for how the federal government, states, and the private sector will coordinate to assess needs and distribute newly developed tests, treatments, or vaccines.

While the Academy supports this recommendation, this is not the experience during the COVID pandemic. We strongly recommend that a plan be developed with defined leadership at various stages of this process to make it efficient and effective. For example, when is it appropriate for a federal agency such as the CDC to take the lead and when is it appropriate for the lead to be handed over to state and/or local governments? The Committee should hold a hearing with key stakeholders from all levels of government regarding lessons learned during the current pandemic. It will be especially useful for the Committee to hear from Governors and local health departments for their perspective.

RECOMMENDATION 3.6: Better leverage the support provided by FEMA and their emergency management experience and assets by improving a coordinated process between HHS and FEMA to more rapidly distribute supplies to states, health care providers, and other entities on the front lines, while utilizing HHS expertise with respect to public health and medical care and medical supplies.

The Academy recommends that the responsibilities of FEMA and HHS be clearly defined in the legislative solution the Committee is considering. As stated above in recommendation 3.4, consideration should be given to calculating the appropriate time in the process for the states to take the lead. We further recommend that distribution of supplies be based on the demand and available data.

Public Health Capabilities – Improve State and Local Capacity to Respond

RECOMMENDATION 4.1: Get Americans back to their routine health care safely, and develop better plans for the future so that doctors and hospitals can continue to provide health care services and outpatient treatment during a pandemic.

RECOMMENDATION 4.2: Ensure that the United States does not lose the gains made in telehealth.

The Academy is combining our responses for recommendations 4.1 and 4.2 in one response. We applaud efforts undertaken to ensure patients can safely receive care beyond the traditional clinical setting while social distancing during the COVID pandemic. This pandemic has shown the value of telehealth, but telehealth may be more difficult to access in rural and other underserved areas that are lacking infrastructures, which will only exacerbate rural health inequities and the digital divide. Additionally, these temporary telehealth changes during this pandemic only covers the use of devices with audio and video. This creates a health equity concern as many patients and providers may not have access to devices with video chat, internet service, or broadband speed.¹³ The Academy recommends the expanded use of telehealth and to provide infrastructure investments after the pandemic passes. This will ensure everyone has access to care needed during normal times as well as during a crisis to manage their health and well-being regardless of location or background. Additionally, we further recommend the Committee amend recommendation 4.1 to reflect the other front-line providers like nurses and other clinicians who also provide health care to patients.

Services, grants, or programs supported through the Substance Abuse and Mental Health Services Administration (SAMHSA), the NIH, as well as direct support to local, state, and tribal health departments and first responders are ways funding for mental health services can be directed to those in desperate need. We must enhance the availability and provision of mental health services for these courageous individuals who have been exposed to mental, physical, and emotional strain while caring for those infected. At the same time, the general population will need support to address trauma that arises from social isolation as well as the trauma of unresolved grief for loved ones who died from COVID separated from family. This is particularly true for older adults, as we have seen with other disasters.¹⁴ The well-being of healthcare providers is something the health community has recently been working to address. As front-line providers are facing higher levels of patients affected by COVID, their mental and emotional needs must be addressed. The Academy further recommends strengthening and providing funding for mental health services for all healthcare providers traumatized from working on the front-lines or who are affected by the long-term consequences of the response to COVID. Finally, we recommend that reimbursement for mental health services for in person visits as well as services provided via telehealth be reimbursed at the same rate and for all providers.

RECOMMENDATION 4.3: States need to maintain the capacity to trace contacts for emerging infectious diseases, and have programs in place to surge that capacity if necessary.

Contact tracing is needed at all times during a pandemic and most especially during a surge. The Academy encourages the Committee to consider the resources and infrastructure needed for states to do contact tracing in future pandemics. This is an area where the federal government may need to provide grants to the states for this type of program.

RECOMMENDATION 4.4: Remove red tape and allow states to use Public Health Emergency Preparedness and Hospital Preparedness Program funds to respond to a public health emergency and report back to HHS on how they were used, rather than having to wait for written approval from Washington.

During a pandemic, the Academy agrees there are areas of an emergency response that require less regulation. While the recommendation focuses on public health and hospital funds, we encourage the Committee to consider other non-hospital facilities that have also been directly impacted during the COVID pandemic. As you know, long-term care facilities, group homes, homeless shelters, and prison systems have become hot spots for COVID transmission. Healthcare in settings other than acute care hospitals remains a priority to slow community spread. These facilities should not be overlooked in the fight against COVID as they need resources and support to protect not only the residents, but also the employees. Support for interprofessional teams to immediately bolster care in order to decrease mortality among vulnerable populations in these facilities is vital. The Academy recommends increased resources to these facilities, better coordination of services, and most critically, testing to support older adults, vulnerable populations, and those with disabilities needing long-term services during this pandemic.

**Who is on the Flagpole? –
Improve Coordination of Federal Agencies During a Public Health Emergency**

RECOMMENDATION 5.1: Congress must clarify who is in charge and has the ability and authority to keep a continued focus on preparedness for pandemics and other major public health threats when other priorities may seem more pressing, and improve how federal agencies will coordinate during a pandemic. These roles and responsibilities must also be clearly communicated to states and local governments so they can include this information in their own preparedness planning.

The Academy recommends the roles and responsibilities in a public health emergency be clarified for before, during, and after a pandemic or public health emergency. The United States should have a permanent pandemic response team. This response team should have a clear chain of command of government agencies' roles and responsibilities to prevent equipment shortages and ensure coordination at all levels. The Academy urges the reinstatement of and dedicated funding for the National Security Council Directorate for Global Health Security and Biodefense.

Nurses and other public health professionals in local and state Departments of Health have experienced years of funding setbacks. The lack of funding resulted in a decrease of nurses in these departments at a time when they are the front-line defense to this pandemic. Nurses are our greatest resource in countering COVID and are a vital component within Departments of Health. Nurses with critical public health expertise must be included in future preparedness planning and response to pandemics at all levels of government.

RECOMMENDATION 5.2: A key lesson from Crimson Contagion and COVID-19 is that plans and systems cannot be improved upon if they are not practiced. More training is needed, as well as more opportunities to exercise plans and processes nationwide.

Additionally, while many state and local governments conduct natural disaster and terrorism training there is little to no sustained training in response to a pandemic. This highlights the urgent need for pandemic training drills across agencies, departments, and health systems at both the local and regional levels. Training for pandemics can help identify challenges in areas such as communication and gaps in care to better prepare for a future pandemic. The Academy recommends support for emergency and disaster preparedness training so that nurses and other health professionals will be better prepared to face the next pandemic and respond to other emergencies. This training should include an emphasis on vulnerable and historically underserved populations.

The Academy represents expert nursing Fellows, from around the globe, that have documented experience in responding to public health crises. Within the organization's Expert Panels, focused on [24 aspects of care, populations, and systems](#), are recognized leaders who are working within their communities to combat the spread of infectious disease. If you have any questions or need additional information, please feel free to contact the Academy's Senior Director of Policy, Christine Murphy, at cmurphy@aannet.org or 202-777-1174.

Sincerely,



Eileen Sullivan-Marx, PhD, RN, FAAN
President

¹ US Department of Health and Human Services. (2018). *Secretary's Advisory Committee for Healthy People 2030: Issue Briefs to inform Development and Implementation of Healthy People 2030*.

https://www.healthypeople.gov/sites/default/files/HP2030_Committee-Combined-Issue%20Briefs_2019-508c.pdf

² *Growing Data Underscore that Communities of Color are Being Harder Hit by COVID-19*. (2020, April 21). Kaiser Family Foundation. https://www.kff.org/coronavirus-policy-watch/growing-data-underscore-communities-color-harder-hit-covid-19/?utm_campaign=KFF-2020-Medicaid&utm_source=hs_email&utm_medium=email&utm_content=86645517&hsenc=p2ANqtz-a4Ry-gLC1yuPWGamshiallshrwWKDOyktmMdU9ONd1GRzx5rAhl16Kt8CeRjPPWqXGp36wMllac18hpmVRloQZHLcfw&hsmi=86645517

³ Maxmen, A. (2020, April 9). Thousands of coronavirus tests are going unused in US labs. *Nature*. <https://www.nature.com>

⁴ American Academy of Nursing. (2020b, June 2). *Membership in the World Health Organization Must Remain a Priority for Global Health* [Press release]. https://higherlogicdownload.s3.amazonaws.com/AANNET/c8a8da9e-918c-4dae-b0c6-6d630c46007f/UploadedImages/Membership_in_the_World_Health_Organization_Must_Remain_a_Priority_for_Global_Health.pdf

⁵ Kaiser Family Foundation, 2020.

⁶ Kaiser Family Foundation, 2020.

⁷ (2020, April 18). Navajo Nation: Water shortage is contributing to COVID-19 spread. *Azcentral*. <https://eu.azcentral.com>

⁸ US Department of Health and Human Services Office of Minority Health. (n.d.). *National Standards for Culturally and Linguistically Appropriate Services (CLAS) in Health and Health Care*.

<https://Thinkculturalhealth.Hhs.Gov/Assets/Pdfs/EnhancedNationalCLASStandards.Pdf>

⁹ American Academy of Nursing. (2020, April 29). *American Academy of Nursing letter to Congressional leaders with recommendations to address the coronavirus pandemic*. https://higherlogicdownload.s3.amazonaws.com/AANNET/c8a8da9e-918c-4dae-b0c6-6d630c46007f/UploadedImages/04_29_2020_FINAL_American_Academy_of_Nursing_COVID-19_Rescue_Package.pdf

¹⁰ Mostafavi, B. (2020, May 14). *Rare, COVID-Related Inflammatory Disease Affecting Children*. Michigan Health. <https://lablog.uofmhealth.org/rounds/rare-covid-related-inflammatory-disease-affecting-children>

¹¹ *Coronavirus Disease 2019 (COVID-19) – Symptoms*. (2020, May 13). Centers for Disease Control and Prevention. <https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html>

¹² Coronavirus Research Center. John Hopkins University, Retrieved from <https://coronavirus.jhu.edu/>

¹³ Pew Research Center. (2018, May). *What Unites and Divides Urban, Suburban and Rural Communities*.

<https://www.pewsocialtrends.org/2018/05/22/what-unites-and-divides-urban-suburban-and-rural-communities/>

¹⁴ American Red Cross, & American Academy of Nursing. (2020). *Closing the Gaps: Advancing Disaster Preparedness, Response and Recovery for Older Adults*. Retrieved from <https://www.redcross.org/content/dam/redcross/training-services/scientific-advisory-council/253901-03%20BRCR-Older%20Adults%20Whitepaper%20FINAL%201.23.2020.pdf>