SHEA
The Society for Healthcare Epidemiology of America

March 11, 2022

Office of the Assistant Secretary for Preparedness and Response (ASPR)
Department of Health and Human Services (HHS)
200 Independence Avenue
Washington, DC 20201
Submitted to NHSS@hhs.gov

RE: 2023–2026 National Health Security Strategy

Dear Assistant Secretary for Preparedness and Response Dawn O'Connell:

The Society for Healthcare Epidemiology of America (SHEA) appreciates the opportunity to submit comments to inform the development of the 2023–2026 National Health Security Strategy (NHSS).

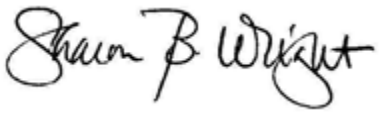
SHEA represents more than 2,000 physicians and other healthcare professionals globally with expertise in healthcare epidemiology, infection prevention, and antibiotic stewardship. SHEA is dedicated to advancing the science and practice of healthcare epidemiology and preventing and controlling morbidity, mortality and the cost of care linked to healthcare-associated infections (HAIs) and antibiotic resistance.

In brief, SHEA respectfully submits the following comments:

- **Healthcare-associated infections (HAIs), multidrug-resistant organisms (MDROs), and emerging/re-emerging infections** are critical national health security threats that warrant increased attention over the next five years.
- Mitigating these challenges requires **a One Health approach to addressing the rising threat of antimicrobial resistance; more robust surveillance systems; more dedicated funding towards antibiotic resistance research; increased resources for workforce education, training, and support; stronger medical supply chains; and more clear and timely science-based public communication.**

Thank you in advance for your consideration of our comments. Please do not hesitate to reach out with questions to Lynne Batshon, Director of Policy and Practice, at (703) 684-0761 or lbatshon@shea-online.org.

Sincerely,



Sharon B. Wright, MD, MPH, FIDSA, FSHEA
President, SHEA

The COVID-19 pandemic has brought renewed attention to core infection prevention and control practices in all healthcare settings. Healthcare professionals (HCP) on the frontlines, despite their best efforts, cannot adequately prepare for and respond to the current and future challenges of healthcare-associated infections (HAIs), antimicrobial-resistant infections (ARIs), multidrug-resistant organisms (MDROs), and emerging infections without significant and strategic improvements to integral components of the nation's public health infrastructure.

Despite years of steady reductions in HAIs, significant increases in HAIs in 2020 due to the COVID-19 pandemic emphasize the need to hardwire basic infection control practices within our HCP and healthcare systems to bolster health care facilities during inevitable times of stress.[1] Major increases in HAIs were found in 2020 compared to 2019 in four serious infection types with associated morbidity and mortality: central line-associated bloodstream infections, catheter-associated urinary tract infections, ventilator-associated events, and antibiotic-resistant staphylococcal ("staph") infections.[2] Increases were attributed to factors related to the COVID-19 pandemic, including more and sicker patients requiring more frequent and longer use of catheters and ventilators, as well as staffing and supply challenges. Currently available data demonstrate the erosion of gains made toward the reduction of HAIs during the previous decade and may have consequences for years to come. We will continue to learn more about the impact of the pandemic on HAI rates as new research continues to emerge, which could show the impact of COVID-19 on HAIs to be more widespread than originally thought.

The 2019 *Antibiotic Resistance Threats in the United States* report, published by the Centers for Disease Control and Prevention (CDC), concludes that we are now in a "post-antibiotic era" where some drugs no longer cure the infections they were designed to treat.[3] In the United States, 2.8 million antibiotic-resistant infections occur each year resulting in 35,000 deaths. Separately, suboptimal antibiotic use and prescribing practices have led to nearly 223,900 *Clostridioides difficile* infections, from which at least 12,800 people died in 2017.[4] The CDC estimates that a subgroup of resistant pathogens caused more than $4.8 billion in medical costs in 2017.[5]

Mitigating these challenges requires the following:

- **More robust surveillance systems**

The COVID-19 pandemic has magnified the impact of chronically underinvesting in the nation's public health data infrastructure. The use of antiquated, fragmented, time consuming, and error prone processes – such as paper records, faxes, and phone calls – has hindered the COVID-19 response making timely data submissions difficult and additionally diverted critical resources away from infection prevention and control practices. Modernizing the public health data system at CDC and at state, local, tribal, and territorial health departments will enable public health professionals to get ahead of emerging and urgent HAI and ARI threats and allow access to actionable data. Additionally, continuously investing in and improving our public health systems and keeping pace with

[1] https://www.cambridge.org/core/journals/infection-control-and-hospital-epidemiology/article/abs/healthcareassociated-infections-during-the-coronavirus-disease-2019-covid19-pandemic/81E1C620D606E0E5C4874C2A6598DACB#access-block
[2] https://pubmed.ncbi.nlm.nih.gov/34473013/
[3] https://www.cdc.gov/drugresistance/pdf/threats-report/2019-ar-threats-report-508.pdf
[4] https://www.cdc.gov/drugresistance/pdf/threats-report/2019-ar-threats-report-508.pdf
[5] https://aspe.hhs.gov/system/files/pdf/264126/CARB-National-Action-Plan-2020-2025.pdf

technological advancements will allow policymakers to make better data-driven and timely decisions during the current and future public health emergencies.

As the nation responds to the next phase of the COVID-19 pandemic, advanced molecular detection (AMD) is crucial to robustly tracking and combatting emerging variants of COVID-19 in real-time. AMD supports the integration of genomic sequencing with bioinformatic and epidemiology to detect diseases faster, identify and respond to outbreaks sooner, and protect people from emerging and evolving disease threats. Through partnerships with state and local health departments, public health laboratories, and academic institutions, AMD increases access to the specialized technologies and expertise necessary to empower public health professionals at the frontlines to take action before disease-causing pathogens become more widespread. An increased investment in AMD will better position the U.S. to respond more strategically and effectively to the evolving COVID-19 pandemic and future infectious disease outbreaks.

- **More dedicated funding towards antibiotic stewardship and infection prevention research**

Even with the accelerated development of new antibiotics, therapeutics, and vaccines, the growing trend in antibiotic resistance underscores the urgency for the U.S. to increase its investments in antibiotic resistance research. Antibiotic resistance undermines medical breakthroughs in life-savings drugs by quickly making new antibiotics obsolete and threatening the success of cutting-edge treatments for cancer, organ transplantation, and other medical conditions that can be complicated by infections.

The Antibiotic Resistance Solutions Initiative (ARSI) supports 50 state health departments, four large city health departments, and Puerto Rico to detect, respond, and contain antibiotic-resistant pathogens.[6] CDC bridges the gap in local laboratory capabilities and data-driven responses to antibiotic-resistant threats through ARSI's Antibiotic Resistance Lab Network, which equips the 55 states and localities with comprehensive lab capacity and facilitates coordination of activities through seven regional labs and the National Tuberculosis Molecular Surveillance Center.[7] The aggressive strategies of ARSI have reduced deaths and hospitalizations from antibiotic resistance (18 percent and 28 percent fewer since 2013, respectively).[8] Boosting investments in ARSI will further strengthen the nation's epidemiology, laboratory, and diagnostics capacity to combat emerging antibiotic resistance.

- **Increased resources for workforce education, training, and supports**

A strong expert workforce is necessary to support a successful response to COVID-19 and to effectively prepare for future pandemics and other infectious diseases threats such as HIV, hepatitis C and drug-resistant bacterial infections. The shortage of HCP trained in infectious diseases and infection prevention and control, which existed prior to the pandemic, was further strained because of the need for staff to focus on the pandemic response. Supporting the infectious diseases workforce and other HCP in obtaining adequate education and training in evidence-based infection prevention and control as well as antibiotic stewardship practices will ensure that the U.S. is prepared to face the next pandemic.

[6] https://www.cdc.gov/drugresistance/solutions-initiative/ar-lab-network.html
[7] https://www.cdc.gov/drugresistance/pdf/cdc-ar-lab-network-final-H.pdf
[8] https://www.cdc.gov/drugresistance/pdf/threats-report/Prevention-Works-More-Action-Needed-508.pdf

Investing in programs such as CDC's Project Firstline, which provides training for frontline health care and public health workers, and OneLab, which supports the public health and laboratory workforce in responding to public health emergencies, are critical to ensuring that the U.S. maintains a necessary state of readiness.[9,10] Supporting the workforce also includes strengthening the workforce to ensure its resiliency against future threats. Investing in the resiliency of the healthcare and public health workforce, which must include incorporating working functional infection prevention and control knowledge into all education programs for HCP, will protect the U.S. from drastic shortages in future pandemics when frontline workers are most needed.

- **Stronger medical supply chains**

Throughout the COVID-19 pandemic, hospitals and other healthcare facilities have experienced shortages in personal protective equipment (PPE), alcohol-based hand rub, antibiotics, laboratory diagnostics and reagents, and other medical supplies. In many cases, disposable PPE has been reused. These disruptions to critical supplies may lead to transmission of MDROs such as methicillin-resistant *Staphylococcus aureus* (MRSA), *Clostridioides difficile* infections (CDI), or carbapenem-resistant Enterobacteriaceae (CRE). Medication and equipment shortages require the use of substitute, sometimes inferior products that may inadvertently impact patient safety. A lack of transparency about the Strategic National Stockpile (SNS), including what materials are in the SNS and what is available for distribution, prevents healthcare facilities from planning and implementing mitigation measures to address shortage concerns. These combined issues present challenges to optimal infection prevention practice.

Medical supplies need to be equitably distributed to hospitals and facilities on the frontline of infectious disease threats. The SNS must be stocked with materials that are aligned with what is needed during pandemics. Healthcare facilities need insight into the status of stockpiles and distribution plans. Even with adequate supplies in the SNS and the distribution pipeline, it is important to remember that not all PPE is interchangeable. In the case of N95 respirators, if a particular brand or manufacturer is no longer available in the distribution system or SNS, HCP must be re-fit tested and/or retrained, which can cause disruption throughout the healthcare facility or health system that may be experiencing a surge.

Additionally, the U.S. must invest in medical countermeasures that align with what is needed to combat infectious disease threats. Novel broad-spectrum antimicrobials are vital to ensure timely, appropriate treatment of infections, especially as antibiotics are becoming increasingly ineffective due to drug resistance. The BARDA Broad Spectrum Antimicrobials Program and CARB-X, programs within the Office of the Assistant Secretary for Preparedness and Response, have successfully supported the development of new FDA-approved antibiotics. An investment in these programs, along with investments in efforts for equitable distribution and transparency, will sustain the nation's pipeline of robust medical countermeasures and ensure that hospitals and health care facilities are prepared to protect their employees and patients from infection.

- **More clear and timely science-based public communication**

The COVID-19 pandemic has underscored the importance of clear, consistent, and timely public communication and messaging that is grounded in the best available science to help the public make informed decisions to reduce the risk of infectious disease transmission. Fragmented and inconsistent messaging originating from a variety of

[9] https://www.cdc.gov/infectioncontrol/projectfirstline/index.html
[10] https://www.cdc.gov/labtraining/onelab.html

sources and delivered to various audiences has contributed to confusion, misinformation, and distrust in scientists and public health leaders.

The nation needs investments in communication strategies to uphold and maintain public confidence in federal agencies, to deliver important information from trusted community experts, and to coordinate responses between federal agencies, regardless of political divides. To reduce confusion, federal agencies responsible for developing and publishing guidance should be required to better align the content and instructions and to better coordinate deployment. The communication strategy should consider communication platforms and structures that can help insulate subject matter experts from sources of misinformation. It is critical also to invest in infrastructure that can accommodate two different types of communication workflows: 1) communication lines between CDC and state/local public health departments with healthcare facilities and infection prevention and control subject matter experts, and 2) communication lines between state/local public health with the general public. These lines of communication must be able to support and sustain rapid coordination and communication between the federal, state, and local levels to reliably deliver important information to the public, including information regarding disease transmission and antibiotic resistance.

Conclusion

The next iteration of the National Health Security Strategy must recognize basic infection prevention and control and antibiotic stewardship practices as critical components of our nation's effort to prevent, detect, assess, prepare for, mitigate, and recover from 21st century health security threats. Infection prevention and control and judicious antibiotic prescribing must be hardwired into our state of readiness to ensure a strong and reliable response to any catastrophic event. SHEA thanks ASPR/HHS for the opportunity to inform the next iteration of the National Health Security Strategy.