



THE RECORD

Interagency Institute for Federal Health Leaders

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From the Director...

I am pleased to report that the 142nd Institute was held very successfully from April 8 to 19, 2024, at the Milken Institute School of Public Health, The George Washington University.

Once again we had a good group from the five agencies plus DHA, USU and Canadian Armed Forces participants. In addition it has been possible to have Reserve/National Guard members in the class.

As the DHA Conference was held in Oregon during the first week of this Institute it posed some scheduling challenges for the Institute faculty. Fortunately we were able to keep the second week clear to make it possible for quite a number of our traditional faculty members who were in Oregon to speak then.

For some years we have been fortunate to hold the 'Lessons From Other Countries' session and the Federal Senior Health Leaders Panel at the Embassy of Canada. On this occasion, however, it was held at the Embassy of France, thanks to the very kind invitation of COL Sandrine Duron, the French Health Liaison Officer at the Defense Health Agency. In the Fall I am hoping that we will be able to have this part of the course at the new Embassy of Australia. Following that we will see if we can return to Canada!

On a sad note I report that Dr. Anthony Cordesman, who held the Arleigh Burke Chair in Strategy at the Center for Strategic and International Studies, died recently. Dr. Cordesman had been a faithful and highly respected faculty member with the Institute for many years. His standard comment to me when I called to ask him to speak was 'What do you want me to discuss to depress your participants this time?' Dr. Cordesman held numerous high level positions in the US Government throughout his distinguished career and was a frequent commentator on international affairs on television and in the press. We miss his strong intellect, challenging questions and commitment to the Interagency Institute and personal friendship.

We continue to live in very worrisome times with all the conflicts going on in Ukraine, Israel, Gaza and other parts of the world and the political deadlocks that are all too frequent here in the U.S. All of these make it even more imperative to have strong leadership within the federal health services from persons who are willing to challenge the status quo, stop 'playing it safe', and think strategically.

Best wishes,

Richard F. Southby, LLD (Hon), PhD (Med), FFPHM, FRSPH, FCHSM, FCLM (Hon)

Funding for the Institute from the Defense Health Agency and the Uniformed Services University, with continuing education credits awarded through the DHA J-7 CEPO, is gratefully acknowledged.



Message from the President, FHCEIAA

In Spring, Walter Hagen's famous quote comes to mind: "You're only here for a short visit. Don't hurry. Don't worry. And be sure to smell the flowers along the way." Spring is undoubtedly the most-awaited and anticipated season globally. The sudden warmth of the sun marks the end of winter's cold breezes. It brings promises of happiness, prosperity, and new changes, dulls past mistakes, creates new paths and is a wonderful time to spend with family, friends, and significant others!



Congratulations to the alumni of the 142nd Interagency Institute and welcome to the Federal Health Care Executives Institute Alumni Association! We are thrilled you have joined us.

Our Annual FHCEIAA Business Meeting was held in conjunction with AMSUS on 13 Feb 2024 at the beautiful Gaylord Hotel in the National Harbor, Maryland. Dr. Richard Southby presented the Director's Report, followed by the election of officers. Our officers are President, Col John Mammano, USAF, Ret; 1st Vice President, Dr. Kathryn Sapnas, VHA; 2nd Vice President, Mr. Joe Salvatore, VHA; Treasurer, CAPT Aaron Middlekauff, USPHS, Ret; and Secretary, Col Jim Kile, Canadian Armed Forces, Ret.

We had the honor of hearing from guest speaker, RDML Brandon Taylor, USPHS, Director, Defense Health Agency Public Health, speak about DHA transformation and new public health initiatives. There are exciting changes coming and I am thankful and blessed to have great leaders like RDML Taylor and our alumni focused on taking care of our Service Members and beneficiaries.

I was pleased to announce that Dale C. Smith, Ph.D., was the recipient of the Distinguished Service Award this year. Dr. Smith is Professor Emeritus, Uniformed Services University of the Health Sciences, Bethesda MD. He has been a long-time supporter of the Interagency Institute and a loyal and dynamic faculty member for many years, lecturing on the history of medical care and the evolution of the health professions. Congratulations Dr. Smith!

CAPT Middlekauff presented the Treasurer's Report. Then, I presented the FHCEIAA board members with an Interagency Institute coin in appreciation for their steadfast dedication and continuing support of the Institute and Alumni Association. Thank you, Richard. After adjournment, a lovely reception was held in the hotel atrium with a view of the Potomac River.

Please consider becoming a member of the FHCEIAA if you have not already done so. This commitment assures the maintenance of essential connectivity and collaborative wisdom to maximize our resourcefulness and effectiveness. Noteworthy FHCEIAA membership benefits include receiving the newsletter, offering dependent children or grandchildren the opportunity to apply for a \$1,500 scholarship (two are offered each year), and eligibility to apply for a \$2,000 professional development scholarship.

It is an honor and I am humbled to serve as your president. Enjoy Spring and the upcoming Summer season. I look forward to keeping in touch through email or the website.

God bless, be well, and wishing you all the best!

President, FHCEIAA
Colonel (Ret) John "Mambo" Mammano, USAF
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RDML Taylor and Col Mammano



For this Institute, three groups of participants were given the following exercise as an opportunity to share opinions, ask questions and discuss their responses:

For the past 25 years there has been increasing dissatisfaction from Members of Congress, along with numerous public and private organizations, and many beneficiaries with the military health system (MHS). This has resulted in the creation of the Defense Health Agency (DHA) and a major restructuring of the organization, financing and delivery of health services to active duty, retirees and dependents. In spite of these developments there are ongoing pressures from Congress and the Administration for further reforms of the MHS, including the roles and responsibilities of the Surgeons General of the Army, Navy and Air Force. Your task is to function as an external review group charged with undertaking a comprehensive review of all aspects of the current military health system and provide a plan for a MHS which will ensure access for all beneficiaries and meets the criteria of comprehensive, coordinated, efficient and effective health care.

The members of the three groups are listed on page 15.

Two groups worked together to respond. The first addressed Health Workforce Problems and Service Delivery/Access; the other addressed Governance, Leadership, Financing, Logistics and Artificial Intelligence.

Health workforce issues were listed as:

- No DHA joint manning structure/ authorizations
- Manning priorities are service dependent
- Recruiting / retention challenges
- Competitive remuneration
- Quality of work life
- Career advancement
- Workload measurements

Service Delivery/Access issues included:

- Medically Ready Force & Healthcare Delivery
 - Empanelment & provider availability
 - Staffing, hiring processes, and network availability
- Ready Medical Force & Healthcare Delivery
 - Service members/families do not generate enough complexity to generate new/deployable physicians, nurses and allied healthcare providers

A memorandum from the Deputy Secretary of Defense in December 2023 directed a stable, predictable workforce sufficiently staffed, trained, and routinely available to provide health care to our beneficiaries. Primary obstacles to strengthening the workforce are related to the ability to successfully attract and retain a robust civilian healthcare staff, non-competitive remuneration, perception of poor-quality work-life balance and lack of career advancement opportunities. Also, civilian positions may not be adequately distributed across the system.

To ameliorate these concerns, first, large-scale use of title 38 should be employed to offer competitive compensation. Second, MTF/DTF (Medical/Dental Treatment Facilities) practices and culture may be enhanced by employing industry best practices (e.g., joining the Healthy Work Environment National Collaborative) to improve quality of work-life balance. Third, dedicated resources are needed for training and professional development opportunities. Career advancement roadmaps via academic, clinical, or managerial/leadership career paths should be developed and implemented. Finally, the mandated audit of all military and civilian positions should be a priority activity and conducted utilizing a standardized, systematic methodology across all MTF/DTFs.

Another obstacle to overcoming staff shortages is the absence of standardized joint DHA manning document/requirements. With each service determining priorities of military personnel distribution, the DHA is left with little control or input into the distribution of the workforce. Tri-service collaboration with DHA is required to determine the distribution and assignment of personnel that addresses workload and



mandatory education, training, and readiness requirements. Manning requirements and workload trends across the MHS should be addressed through systems such as the Financial Management Information System (FMIS) and the Defense Medical Human Resources System-internet (DMHRSi). FMIS, an integrated resource execution system, enables MHS Resource Management to rapidly compile operational data from disparate internal and external legacy financial, acquisition, logistics, personnel, and payroll data sources. DMHRSi, a web-based, tri-service, and powerful human resource management tool, delivers time-sensitive data that support efficient planning for a multitude of human resource requirements within the MHS.

The MHS requires heavy reform in service delivery and access to care to achieve the DHA priorities of a Medically Ready Force, Ready Medical Force, and healthcare delivery for beneficiaries. For medically ready forces and beneficiary healthcare, the primary problem in both the direct- and purchased-care sectors is access. Beneficiaries are unable to receive the care needed when needed. At the individual level, the root causes are empanelment and provider availability. At the community level, staffing and hiring practices contribute and are confounded by heterogeneous care availability in the purchased-care sector including behavioral health services. The primary hurdle to producing a ready medical force is that Service Members and their families do not present with conditions of sufficient medical complexity to generate fully trained, deployable physicians, nurses, and allied health care providers.

The MHS must eliminate “ghost panels” in primary care to ensure high quality of care. To do this, the MHS must prioritize the clinical availability of current staff members according to guidance in the DHA Procedural Manual 6025.xx planned to be released and put into practice in October 2024. Where the Services are unable or unwilling to fill military provider vacancies, the MHS must have the ability to hire civilian providers; however, the MHS is hampered by outdated industrial-age hiring practices in the information-age. The MHS must be able to hire by provider skill, not the degree. For example, a hiring action should allow selecting either a physician, nurse practitioner, or physician assistant into a primary care manager position maximizing the number of potential applicants and the probability to fill the position. Within specialty care, where the Services are unable or unwilling to fill requirements, the local demand should be permitted to hire civilians into those positions; however, specialty care hiring needs to be informed by local purchased care weighed against demand for those services from the MHS.

The MHS requires a blanket exception to policy from the priorities of care listed in DHA-PM 6025.xx for specialty care providers and to collaborate with the Veterans Health Administration and local academia to drive sufficient acuity and complexity into the MHS to generate the next generation of physicians, nurses, and allied healthcare providers and to keep current providers prepared to deploy. There are also opportunities within the Congressionally mandated Centers of Excellence framework to improve patient outcomes by funding MHS beneficiaries to receive specialty care at these various locations. When the MHS is unable to fill provider positions, aggressive and lucrative contract solutions are recommended.

Our opinion is that the deficiencies experienced in the MHS and civilian healthcare systems are complex, multifaceted, and interrelated. Without adequate resources for personnel dependent on funding many of these recommendations cannot be implemented. When considering priority of healthcare delivery limited resources should be considered with the focus on fortification of product lines not incentivized in the civilian healthcare system: Aggressive primary prevention optimizing human performance coupled with high quality capability and capacity for trauma care in the battlefield and evacuation care to preserve the force.

References are listed on page 15.

**Governance and Leadership Challenges:**

- Equipment acquisition and management
- Talent management and training

Proposed Solutions:

- Standardized acquisition processes
- Comprehensive leader development programs

Financing and Logistics Challenges:

- Inefficient Resource Allocation
- Supply Chain Management

Proposed Solutions:

- Performance-Based Funding
- Enhance Supply Chain Management

These solutions are proposed to emphasize the importance of standardization and leadership development for MHS success.

Governance and Leadership:

Equipment Acquisition and Management. The MHS lacks standardized acquisition processes for medical equipment that results in inefficiencies and increased costs. A study by the Government Accountability Office found that the Department of Defense must improve its equipment procurement practices to avoid duplication, fraud, and waste (2021).

The MHS needs standardized procedures for acquiring medical equipment across all its platforms. These guidelines should outline clear criteria for selecting and purchasing equipment and encourage collaboration among its entities to reduce duplication and waste. Standardization will enable collective purchasing power to negotiate better prices and allocate resources more effectively leading to significant cost savings and better resource allocation.

Talent Management and Training. Another critical issue is the need for effective talent management and leadership training. The MHS needs competent military and civilian leaders who understand healthcare management principles and practices. The Association of Military Surgeons of the United States presents annual leadership awards yet the MHS has not defined the criteria for becoming a healthcare system leader. The most current research on MHS leadership is from 2011 before the establishment of the Defense Health Agency (Kirby). Defining, prioritizing and funding a leader development continuum to meet the needs of the system should strengthen how facilities are managed to meet the needs of beneficiaries and respond to Congressional mandates.

To ensure effective leadership, a comprehensive, longitudinal health policy and management development program should be implemented along with appropriate oversight. This program must focus on talent management, succession planning, and providing leaders with the necessary skills and knowledge to manage healthcare facilities and develop effective policy. By investing in leadership development, the MHS will build a strong, capable workforce that is prepared to meet the organization's current and future needs.

Financing and Logistics:

Resource Allocation. The MHS has faced criticism for its inefficient use of resources. A GAO report found that the DoD could improve its allocation of healthcare resources by evaluating the performance of its programs and prioritizing funding based on demonstrated effectiveness. Collaboration between the Surgeons General (operational units) and DHA leadership (treatment facilities) is required to standardize medical equipment throughout the roles of care. This will help the MHS optimize its resources and enhance healthcare quality (2023).

To allocate resources more effectively, the MHS must adopt a **performance-based funding model**. This approach involves evaluating programs and initiatives based on their outcomes and effectiveness and will enable the MHS to prioritize funding for the most successful and impactful programs (GAO, 2023).



Supply Chain Management. Effective supply chain management is responsible for ensuring that healthcare platforms have the necessary supplies and equipment. Inefficiencies in this area leads to stockouts, delays and increased costs. Streamlining the supply chain processes will help the MHS deliver high-quality care more efficiently and cost-effectively.

In an era of constrained resources, the MHS must update its medical supply chain management processes. This will require implementing new technologies, such as automated inventory tracking systems that incorporate machine learning (see comments below) and fostering collaboration among supply chain stakeholders. Through improving supply chain efficiency, the MHS will reduce costs, minimize stockouts and improve patient care (GAO, 2023).

Incorporating Artificial Intelligence for Enhanced Decision-Making in the Military Health System:

The role of artificial intelligence (AI) in leveraging past data for future optimization needs to be addressed. AI applications will support business decisions to improve operational efficiency, reduce costs and ultimately enhance health-care quality for beneficiaries (Alowais, 2023). By harnessing the power of AI applications, such as predictive analytics, machine learning, and natural language processing, the MHS will be empowered with data-driven decisions that positively impact various aspects of healthcare operations.

Predictive Analytics will help anticipate future healthcare needs and allocate resources accordingly. By analyzing historical data and identifying trends, predictive models forecast operational and patient demands enabling the MHS to optimize staffing levels, improve patient flow and reduce wait times (Alowais, 2023).

Machine Learning algorithms will assist the MHS to optimize its supply chain management by identifying inefficiencies and predicting supply needs. By analyzing data from various sources such as hospital burn rates and operational deployment lessons learned, machine learning models forecast demand for medical supplies and equipment optimizing inventory levels and minimizing stockouts (Yelne, 2023).

Natural Language Processing will help improve patient care by analyzing unstructured data, such as electronic health records and patient feedback. These algorithms can extract insights from these sources, enabling healthcare providers to identify trends, understand patient needs and improve care delivery (Yelne, 2023).

To successfully implement AI in the MHS, it is essential to address potential challenges, such as data privacy concerns, algorithmic bias, and integration with existing systems. By investing in AI and addressing these challenges early, the MHS will enhance its decision-making capabilities, optimize operations, and improve healthcare quality for beneficiaries without a requirement for increased staffing.

Conclusion:

Addressing the governance, leadership, financing, and logistics challenges within the MHS is essential for providing accessible, coordinated, efficient, and effective healthcare for beneficiaries. By standardizing equipment acquisition processes, investing in healthcare leadership development, implementing performance-based funding, streamlining supply chain management, and leveraging AI for decision-making, the MHS will enhance its performance and better serve the healthcare needs of its beneficiaries.

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This is the response of the third group which responded to the exercise stated on page 3.

Introduction: In Fiscal Year 2024, the Military Health System (MHS) projected cost is \$58.7; 7% of the Department of Defense budget (Congressional Research Service, 2023). In Fiscal Year 2017, the Secretary of Defense was directed to consolidate the authority, direction, and control of the military treatment facilities under the Defense Health Agency (DHA) (Kamarck, 2017) including the reduction of 13,000 uniformed medical personnel, closure/restructure of 50 treatment facilities, and provision of necessary healthcare services in the civilian system as needed. A Government Accounting Office report in July 2023 reviewed the structural changes and policy decisions within the MHS and raised concerns whether it was fully capable of ensuring the medical readiness of the force and caring for service members and families. This report assesses the MHS across multiple dimensions and offers an innovative strategy to address shortfalls.

Current Status Review:

Access. In November 2023, the DOD Inspector General published an advisory addressing concerns with access to care and staffing shortages within the MHS. Specific concerns were the ability of government civilian and contract employees to access health care services overseas, access to care at smaller MTFs, staffing shortages in CONUS and OCONUS MTFs, and impacts of DHA policies/processes on the ability of beneficiaries to access care. Examples of service member dissatisfaction with access to routine primary and mental care and data revealing that the TRICARE health networks supporting smaller MTFs were unable to meet beneficiaries' needs were noted. The report disclosed that there were 2,107 MTF contractor full-time equivalent positions vacant due in part to increased consumer demand for omnichannel care, a national healthcare workforce shortage, and the MHS's bureaucratic and lengthy civilian hiring process.

TRICARE/Civilian Care. The TRICARE benefit manages beneficiary access to the purchase/civilian care network. Patient choice of provider and healthcare system is an important component. TRICARE reform has resulted in increased cost shares as a counterbalance to honoring patient preference, access to care, and program solvency. TRICARE has become over-reliant on purchased care, operating without adequate data on healthcare outcomes. Lack of functional electronic health record interfaces between civilian and MHS systems results in fragmented and siloed care. Further, there is a downward trend in civilian practices enrolling or retaining TRICARE contracted services which leads to decreased access to care in the civilian sector (Anand 2021).

Expeditionary Medicine. A central element of the MHS mission is to provide a ready medical force in support of the national security mission. This translates to creating an environment conducive to training and sustaining medical skills of service members by exposure to complex medical pathology and injuries. Despite a large beneficiary population, financial and policy decisions have outsourced care and limited access to older Medicare beneficiaries and retirees impacting the readiness by reducing access to sicker and more complex patients. Military-civilian partnerships have sprung up as a remedy but fail to address the scope of the problem. A shift in the management of the medical force to operational billets compounds the problem, further diluting the available time providers are devoted to clinical care and increasing the need for high-value patient encounters that build readiness and challenge critical thinking.

Graduation Medical Education (GME). The Army, Navy, and Air Force fund over 3,000 physician trainees within 183 internships, residency, and fellowship programs, all accredited by the Accreditation Council for Graduate Medical Education (True 2020). With increased numbers of patients receiving care outside of the MTF, the training programs have reported a decrease in the complexity and volume of cases. This has been mitigated somewhat through military-civilian and military-Veteran Health Affairs (VHA) training agreements. However, lost training opportunities and reduction of medical personnel impact the quality of military training platforms some of which are now at risk for loss of accreditation.

**The Way Forward:**

The December 2023 Deputy Secretary of Defense memo directed the stabilization of the MHS to add capacity to reattract patients and beneficiaries, improve access to care, and increase opportunities to sustain military clinical readiness (Congressional Research Service 2024).

In parallel, we propose exploring a more robust partnership with the VHA. Both federal healthcare systems, the MHS and VHA operate independently leading to inefficiencies and gaps in care. To enhance the stability of the MHS and ensure better healthcare outcomes for both active-duty personnel and veterans, further integration with the VHA is necessary.

In the context of integration, it is crucial to acknowledge the significant budgetary resources allocated to the Veterans Affairs (VA). The VA budget of \$390B is a notable increase of 9.8% from the previous year; this amounts to an additional \$60B over the past five years (Veterans Affairs 2024). To provide perspective, this \$60B increment is equivalent to the entire annual budget of the DHA which oversees the MHS.

A key aspect of integration involves enhancing service lines by aligning and standardizing protocols across both systems to eliminate redundancies and streamline care delivery. This would reduce administrative burdens and ensure consistent care for service members transitioning to veteran status. Integration would provide the MHS with greater patient complexity, competency and GME experience by leveraging the VHA's diverse patient population with complex medical needs and foster knowledge-sharing and cross-training opportunities. Additionally, integrating the MHS with the VHA can significantly enhance patient access to care utilizing each other's extensive network of facilities and community care programs for easier access. This partnership would ensure that beneficiaries receive timely and comprehensive care irrespective of their geographic location or service-connected disabilities.

Conclusion:

The most effective way to care for our 9.6 million beneficiaries, increase clinical readiness, mitigate risks to requirements, and reduce long-term cost growth in private sector care is to reattract beneficiaries to MTFs and maximize medical education and training pipelines. Reattracting care to MTFs requires a predictable workforce sufficiently staffed, trained, and routinely available to provide health care to our patients. Stabilizing the MHS will require judicious human capital distribution to balance operational medical requirements with force sustainment needs in the MTFs. Strategic partnership with the VHA represents an opportunity to optimize collective resources to improve access, reduce purchased care costs, and support medical readiness operational requirements while taking care of those who serve in support of the National Defense Strategy and the Combatant Commands.

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For this Institute, two participant groups were given the following exercise as an opportunity to share opinions, ask questions and discuss their responses:

You are tasked to prepare a comprehensive review of *The Deadly Rise of Anti-Science* by Peter J. Hotez, MD, PhD. What are the strengths and weaknesses of his analysis of the rise of anti-science activism? What are the implications of anti-vaccine activists and others who are attacking biomedical sciences more broadly for research and patient care? Specifically in relation to the Covid-19 pandemic, what were the successes and failures by politicians, government agencies, non-governmental organizations, the academic community and the general public? What do we, as a society, need to do to be prepared better for the next pandemic?

Group members: CAPT Darryl Arfsten, MSC, USN; CDR Deb Belsky, USPHS; Col(s) Carl Bhend, USAF, DC; LTC Nicole Brown, SP, USA; Col Patti Fries, ANG; Dr Brian Hertz, VA; CDR Daniel Honl, DC, USN; COL Tracy Ostrom, AN, USA; Dr Kevin Stanford, VA.

Group Report: *The Deadly Rise of Anti-Science* explores the increasing challenges posed by anti-science activism. Dr. Hotez, a renowned scientist and advocate for vaccines, emphasizes the dangerous consequences of the cancel culture and the impact on public health and scientific progress. This review examines the book's strengths and weaknesses; the broader implications of the anti-vaccine narrative on the American public; the successes and limitations of government agencies, non-governmental organizations, academia, and the general public's reaction to the COVID-19 response; and what society should do to prepare for the next pandemic.

Dr. Hotez highlights the impact of anti-vaccine activists on research and patient care as a warning for negative implications on future research and the ability to relate scientific evidence effectively. He maps the complex interplay of factors contributing to the rise of the anti-science movement such as the role of social media, political polarization, the health freedom movement and general distrust in institutions. He illustrates the concerted effort of a dozen organizations that propagated an anti-science narrative and how that messaging, adopted by right wing politics, expanded across the globe impacting formerly well-accepted public health campaigns. Historical parallels to authoritarianism and the chilling effect on scientists and science are cited.

Unfortunately, Dr Hotez failed to delve deeply into the root causes of anti-science sentiment and the failures to effectively communicate scientific data and public health guidance. His important messages about science and public health resonates with those who align with his knowledge and experience but not with the contrary viewpoint or with those not interested in his personal story and anger as the target of anti-vaccine and science attacks. This undermined his intent to "raise the alarm" about the risks of growing anti-science influence across social media, politics, and globally. He fell short in exploring underlying factors (i.e., socioeconomic disparities, a lack of scientific/health literacy, cultural beliefs); does not address concerns over documented vaccine side effects that dissuade compliance; or address the mistrust from unethical research (e.g. Tuskegee syphilis study). A more nuanced look at these underlying factors would provide a better holistic understanding of the issues and broaden the appeal of his message.

The COVID-19 pandemic painfully showed that the implications of anti-science activism can be deadly. The widespread reverberation of anti-vaccine messaging on television and social media platforms created distrust in well-established public health measures that saved lives (e.g. prevention of measles, polio, diphtheria) and made it difficult to deliver evidence-based guidance. Individual attacks against scientists had a negative impact on the scientific community and may well discourage the willingness of many to speak out in support of life-saving public health measures.

The government and public health officials should review both the successes and failures of the COVID-19 response. A resounding success, Operation Warp Speed enabled the cooperation amongst scientific



organizations to collaborate in parallel lines of effort to achieve unprecedented swift development of a novel vaccine, at-home testing for COVID-19, and evidence-based infection control with mask standards. While social media has its faults, this important public health information spread with unprecedented quickness to the general public.

Notable failures includes confusing and disjointed messaging with no clear unifying source for valid information. Injecting politics into the scientific sphere eroded the credibility of scientists. Many political leaders behaved in ways that undermined public health messaging as they were seen at social events not taking the precautions they were advising, e.g., masking. By officials being overly prescriptive on varying courses of action over time, the public became confused. When people did not receive clear messaging from government sources, they filled in the education gaps from other sources they trusted.

From a global perspective, there must be a clear strategy to promote and strengthen global cooperation to enhance surveillance and early warning systems to mitigate the impact of future outbreaks. From a U.S. perspective, the development and fostering of trust and cooperation among national influencers (politicians, community leaders, celebrities, and the like) is a priority as the public expects messages of solid and sound scientific evidence. Developing trust will require leaders to build equity now. National level lessons learned from COVID-19 should be clearly communicated to the public so there is better buy-in, including reaching out to community and local government leaders whose words influence (i.e., faith leaders, teachers, health departments).

Guidance should be provided now to communities for steps to take in the event of a future pandemic. The content should be practical and achievable for the average citizen. If the guidance has challenges that may burden particular industries, leaders should communicate with those entities to be prepared to meet the demands. Our governments must develop comprehensive communication strategies to tackle the broad, misguided messaging of the anti-vax community and its attack on individual scientists and science in general.

Prepping the next pandemic battlefield:

Normalize infectious disease precautions such as handwashing, self-isolation and masking as a normal part of daily, considerate culture. *Focus on consistency of messaging*, keeping it simple and easy to comply, while considering second and third-order effects. Health is not merely the absence of disease and social lives matter.

Actively monitor national stockpile and medical logistics chains to ensure the existence of adequate supplies. Ensure the capability to increase manufacturing of identified supplies within the U.S. during times of crisis to reduce foreign dependence on these needs.

Re-establishing trust in science and government:

Ensure clear, nonjudgmental communication by appealing to the angels instead of demonizing opposing views. Message that we are all in this together and ask for help. For future scientific endeavors, *be aware of the impact that higher level scientific language* has on non-scientists, such as “gain of function”, “mutation”, “genomic research”, “mRNA vaccine.” Just as the public has a duty to consider science in its evidence-based form, scientists have a duty to speak with clarity understandable to a lay public to achieve impact and to avoid political and insulting tones.

In conclusion, *The Deadly Rise of Anti-Science* by Dr. Peter J. Hotez offers valuable insights into the challenges of anti-science activism that pose far reaching implications for research, patient care and public health. His analysis and call to action are commendable and solid; however, his sometimes divisive approach may trouble some readers. A more inviting, collaborative tone would be a valuable revision while including a holistic examination of underlying factors. A comprehensive approach to addressing challenges is needed to effectively combat anti-science sentiment and to prepare us better for future global health crises. ▲



The following group also responded to the exercise cited on page 9 about the book, *The Deadly Rise of Anti-Science*, by Peter J. Hotez, MD, PhD.

Group members: Col Beth Bowman, USAF, DC; CAPT Janiese Cleckley, MSC, USN; COL Sharon Daye, VC, USA; Ms. Brenda Faas, VA; Dr. Nellie Jafari, VA; COL Jennifer Saenz, AN, USA; CDR Elle Marie Schollnberger, MC, USN; CDR Chris Sheehan, USPHS; Col Mei-Ling Taylor, AFRC

A visual summary of the group’s written report is shown below:

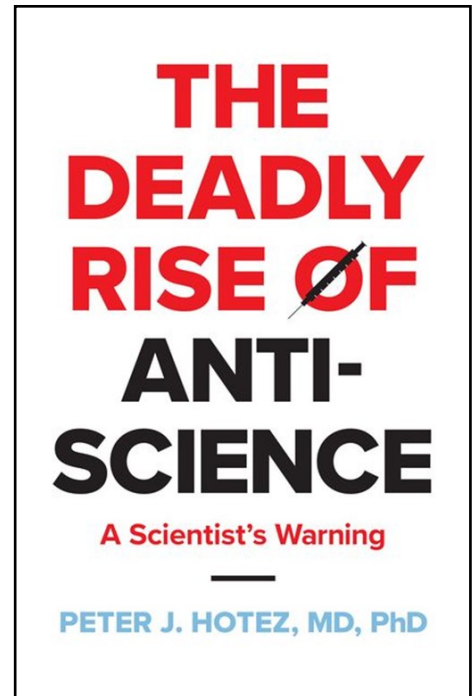
Analysis of the Rise of Anti-Science Activism:

STRENGTHS

- Data to support the increase in anti-vaccine activism and consequences
- Recognition of shortfalls in communication
- Relationship building within the science community as a contributing factor to challenges

WEAKNESSES

- Tendency to make assumptions and only consider conservatism and the far right as the source of anti-science/anti-vaccine sentiments
- Failure to address any counter argument or other potential contributing factors



Implications of Anti-Vaccine Activists:

- 1

Slow biomedical science progress

▶ Impact to gene editing and gene therapy, systems biology, nanomedicine, stem cells and organoids, neural networks, functional brain imaging, vaccinology, and virology

- 2

Risk to childhood vaccination program

▶ Return of diseases such as measles or polio

▶ May risk development of new medicines and vaccines since focus will be on containing the spread of vaccine preventable diseases

- 3

Disrupt health /medical infrastructure

▶ Patient surges that overwhelm hospitals and intensive care units

▶ Increase in mental health needs and lack of resources to support



Successes and Failures RE: COVID-19 Responses:

	Politicians	Government Agencies	Non-governmental organizations	Academic Community	General Public
Successes	<ul style="list-style-type: none"> ▶ Activated public health discussion although led to promotion of anti-science ideas and spread of disinformation 	<ul style="list-style-type: none"> ▶ CDC launched a website to provide timely and accurate information on the COVID-19 vaccine ▶ Surgeon General issued a new advisory and community toolkit 	<ul style="list-style-type: none"> ▶ Adapted their programs and developed new ones to connect with the population much faster than the federal, state, and local governments 	<ul style="list-style-type: none"> ▶ Continued advancement in science and development of vaccinations and related treatments ▶ Attempted to stay neutral and focus on evidence-based statistics 	<ul style="list-style-type: none"> ▶ Many Americans still vaccinated and embraced public health measures
Failures	<ul style="list-style-type: none"> ▶ Did not use their positions/office for support of public health ▶ Lack of unification and coordination to save lives ▶ Lack of accuracy and transparency of information to the public 	<ul style="list-style-type: none"> ▶ Unable to slow or halt the flow of misinformation 	<ul style="list-style-type: none"> ▶ Lack of access to their constituents due to COVID-19 restrictions and reduction in staff from budget shortfalls 	<ul style="list-style-type: none"> ▶ Delay in response to the public ▶ Remained on the defensive rather than acting as a leader 	<ul style="list-style-type: none"> ▶ Increased polarization, leading to many opposing scientific evidence and accepting anti-science rhetoric ▶ Distrust of scientists and science

Lessons Learned for the Next Pandemic:

	Strengthen health systems and supply chains	Strengthen essential health services and systems. Coordinate within health systems and with national and local government to distribute supplies.
	Enhance government coordination	Agencies such as the VA, NIH, CDC, CMS, HHS, FEMA, and DoD need to have stronger relations and work together with a focus on preparedness, prevention, and response.
	Decrease political rhetoric	Public health will be politicized. However, there needs to be a focus on disincentivizing anti-science to depoliticize the outbreak and related issues.
	Use of education and communication	Anti-science groups took control of social media narrative. Scientists need to use the internet and social media to educate the general public using lay language.



Photographs taken during the 142nd Interagency Institute for Federal Health Leaders



In session at the Milken Institute School of Public Health, The George Washington University.



Dr. Douglas Robb gave the opening address.



President Peter Kilpatrick spoke at the dinner event.



Dr. Matthew Levinger addressed national security.



The Rev. Bertie Pearson discussed ethics.



The 142nd Interagency Institute for Federal Health Leaders participants at the Embassy of France, Washington DC, April 18, 2024



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