

Statement of Dr. Clay Marsh
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To the U.S. House Ways and Means Committee
Subcommittee on Health
Virtual Hearing: “The Path Forward on COVID-19 Immunizations”
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Good afternoon Health Subcommittee Chairman Doggett, Health Subcommittee Ranking Member Nunes, and members of the House Ways and Means Subcommittee on Health. My name is Dr. Clay Marsh, and I am West Virginia University’s Vice President and Executive Dean for Health Sciences and West Virginia’s Coronavirus Czar as appointed by Governor Jim Justice. I am also a physician specializing in pulmonary and critical care medicine, and I have been invited to provide you with an overview of West Virginia’s efficiency of COVID-19 vaccine delivery and detail critical elements of the state’s approach. I appreciate the opportunity to be with you today. I want to especially thank Congresswoman Carol Miller for taking time out of her very busy schedule to introduce me and especially for her unrelenting support for COVID-19 vaccination distribution, as well as funding patient care, research and academic initiatives at West Virginia University and our partner institutions around the state.

Regarding the COVID-19 vaccine distribution, we believe there are a number of issues critical to West Virginia’s successes:

- 1) Moving from complexity to simplicity in our West Virginia purpose – save lives.
- 2) Commitment to higher purpose to target most vulnerable citizens first and keep state from fracturing around vaccination priorities;
- 3) Using state and national epidemiology data to design prioritization scheme and to guide ongoing decision making (such as initiating in-person schools for all PreK-8th grade);
- 4) Creation of “Team of Teams” approach led by National Guard logistic experts to facilitate an adaptable, agile, flexible team focusing on rapid learning cycles in this dynamic “Black Swan” COVID-19 event;
- 5) Understanding critical unique factors for West Virginia and solve these central problems;
- 6) Outreach to rural, underserved and minority populations;
- 7) Creating Joint Information Center to coordinate all communication to drive messaging, constant communication and evaluation.

West Virginia Culture

West Virginia is a state of approximately 1.75 million citizens where people know each other. The culture in the state strongly contributes to our success and drives service, hospitality and commitment to shared higher purpose. Other elements that are more visible simply reflect the willingness to sacrifice for the greater good, to come together as West Virginians often do, and as Gov. Jim Justice says, “run to the fire.” In rapid learning cycles, as discovered in Google’s Project Aristotle, high degrees of psychological safety are critical for team members. **The culture of our citizens and state is a critical success factor in our response to COVID-19. Our culture created the environment of sacrificing personal vaccine acquisition for our most vulnerable.**

National Guard Logistical Approach with “Team of Teams” Structure

We look at COVID-19 as a “black swan event.” This is a reference to Nassim Taleb’s book *The Black Swan: The Impact of the Highly Improbable*. He noted these types of events as rare, usually with a powerful negative impact (think 9/11, the Great Depression, flu pandemic of 1918.) Tremendous unease occurs that rocks the foundation of our social, cultural and financial

stability. In these events, cause and effect are very difficult to define, and predicting outcomes is impossible. Thus, rapidly adaptable approaches, rapid cycle learning and transparent communication are key. Gen Stanley McKrystal wrote about this kind of adaptive learning model in his book, *Team of Teams*. Breaking down barriers to communication and dissolving parallel structures to unite all individual agencies and business sector organizations to a single team is key for rapid adaptability in fluid environments like COVID-19. **We formed a Joint Interagency Task Force (JIATF) led by National Guard logistics experts to create a “team of teams.” Carefully selected leaders representing all of prioritized sectors that sit on the JIATF contribute specific expertise, but the ultimate decision making focuses solely on West Virginia.**

Centralized Purpose – Save Lives

At the beginning of the pandemic, Governor Jim Justice established priorities to *save lives, promote wellbeing, and support capacity and function of vital healthcare and community assets*. We knew that 50% of our deaths from COVID-19 were from our nursing home population. In addition, our average age of death from COVID-19 in West Virginia is 77; 77.5% of our deaths are in residents greater than aged 70; 92% of our deaths are in residents greater than aged 60 years old; and 97% of our deaths are in residents greater than aged 50 years old. It was essential to make sure this vulnerable population was among the first to be vaccinated. Using guidance from the Advisory Committee on Immunization Practices/CDC, The United Kingdom and West Virginia state epidemiology data, we created a priority list that focused on hospital workers, nursing home and assisted living residents and staff, first responders at all ages; and critical workers over aged 50 and our most vulnerable citizens over aged 65 as our priorities for vaccination. Using this approach, we have seen a 72% reduction in weekly deaths from week 1-6 during 2021, an over 70% reduction in hospitalizations and fewer ICU and mechanically ventilated citizens since November 2020. **Our clearly stated centralized driving purpose (saving lives) and clarity in prioritizing older West Virginians for immunization is a key component of our success.**

Use of West Virginia and National/International Epidemiology Data in Ongoing Decision Making

As part of viewing the COVID-19 pandemic as a Black Swan event, we were committed to not only implementing creative solutions, as rapid learning cycles, but also culturally focus on trust and psychological safety for team members to not be afraid to fail forward and fast. We also focused on continuously monitoring COVID-19 transmission in key areas. One of the important areas we monitored for transmission was West Virginia schools. In 2020, we hypothesized that community transmission would define in-classroom transmission, so we created a state public health COVID-transmission map that limited in-classroom activity for county schools where COVID-19 transmission was low. Monitoring school transmission during 2020, we found little in-classroom transmission in any grade, including higher education, when disciplined mitigation measures were used. National data agreed with this finding and epidemiology suggested that PreK-8 transmission in classroom was half that of the surrounding community, while high school transmission was the same as the surrounding community. Based on this data, Governor Justice decided to begin PreK-8 schools for in-person learning and offered vaccination to teachers and school service personnel that were under age 50, not as a precursor to starting in-person learning (as we stated, our epidemiology showed little in-classroom transmission), but to both provide added security for our teachers/service personnel, and to also continue our immunization of West Virginians aged 50 and older (that make up 97% of the age range of deaths of West Virginians during the pandemic.)

The Impact of Shared Higher Purpose

In West Virginia, we have been able to successfully administer 101.3% of total doses allotted to us. Through “Operation Save our Wisdom,” we were the first in the country to fully vaccinate our nursing home and assisted living residents and staff (finished first doses in arms before the new year and this week finished second doses.) To date, we have also immunized 150,000 West Virginia residents over 65 years old with one vaccine, and 75,000 with both vaccine doses. As mentioned, we have experienced a remarkable improvement in deaths, hospitalizations and ICU admissions from COVID-19 during the first six weeks of 2021.

Customized Distribution Network Based on West Virginia Unique Attributes

Through the JIATF, there is a spirit of innovation and bottoms-up solutions that are welcomed, as long as everyone is moving in the same direction. Gov. Justice calls this “pulling the rope in the same direction.” As has been shared, West Virginia was the only state in the country not to initially activate the Federal Pharmacy program. As a key clarifier, we did not make this decision based on any pre-conceived concept but came to this conclusion after leaders of the long-term care association and pharmacy board on our JIATF explored the details of West Virginia’s needs. We realized that the centralized federal pharmacy rollout plan would not work in our small state of rural communities and scattered long-term care facilities with limited or no access to the large, national pharmacy chains. We submitted information and logistics to Operation Warp Speed, and they agreed with our plan to engage the state’s more than 200 independent pharmacies (many privately owned with pre-existing relationships with rural nursing homes). Led by the CEO of the Long-Term Care Association and the leadership of this sector to work with our representative from the West Virginia Pharmacy Board and WVU’s School of Pharmacy, we designed a hub and spoke system where vaccines are delivered from Operation Warp Speed to five strategically-located hubs (north, east, central, southwest and southeast) that place vaccine within maximum 2 hours of driving time. The decentralized component was empowering nursing home/assisted living and pharmacy partners to determine how they would best immunize their population of residents and staff. The commitment was to immunize all residents of nursing homes in our state in a three-week time frame. This series of contributions allowed us to plan on finishing our second doses in this highly vulnerable population before the end of January.

Outreach to Rural, Underserved and Minority Populations

The COVID-19 Advisory Commission on African American Disparities is working to educate at-risk minority communities in the areas of prevention, testing and treatment and developing strategies to remove barriers to testing and vaccinations and make recommendations to broaden the inclusion of underserved communities in the state’s expanded plans. A 12-member commission consists of representatives from community and grassroots groups, healthcare systems, state legislature and faith-based organizations. Mobile vaccine units are being set up directly in rural and minority communities to help reach those citizens.

Joint Information Center and Pre-Registration System

As part of the JIATF, we also created the Joint Information Center (JIC). This team is an integrated team that vets all external media requests and also helps shape messaging and listens to the requests of the populous. As part of this effort, we recognized that there was confusion about when people would be vaccinated, where they should go and if they were registered, understanding their place in line. To address this issue, West Virginia became the first state to partner and implement an online portal – Everbridge – that allows residents to pre-register to receive the vaccine. Within five days of launch, we have pre-registered more than 100,000 citizens who want to receive the vaccine when doses are made available. This

interactive system facilitates ongoing communication with residents in this queue to let them know where they stand in line, contact them when they are eligible for vaccination and allow messaging to be customized and directed at each registered citizen.

Ideas for Federal support:

- 1) Continue expansion of vaccine supply for COVID-19.
- 2) Centralized and robust molecular epidemiology program to monitor for variant strains of COVID-19 in states.
- 3) Secure networking site hosted by DHHS/CDC for state leaders to have immediate access to federal administrators to be able to weigh in on specific issues, including:
 - a. exchange insights and learnings with other federal and state COVID-19 experts;
 - b. an area outlining mistakes encountered with solutions;
 - c. wicked problems area (for help solving the most vexing problems states are experiencing); and lessons learned.
 - d. Need simple and real time access to other responsible state officials to use the “wisdom of the crowd” in a no-blame and psychologically safe environment.
- 4) Input from logistics experts from military, business and government sectors available to assist state planning (for most efficient distribution and supply chain issues).
- 5) Funding for ongoing infrastructure needs – testing, vaccine distribution, contact tracing, innovations.