



Statement by Lehigh Valley Health Network

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Good morning, Majority Chairwomen Ward and Brooks, Majority Vice Chairmen Yudichak and Mensch, Minority Chairs Collett and Haywood and members of the Senate Aging & Youth and Health & Human Services committees. I am Robert X. Murphy Jr., MD, Executive Vice President and Chief Physician Executive at [Lehigh Valley Health Network](#) (LVHN). Thank you for inviting me to speak today to discuss the challenges and opportunities we are experiencing at LVHN in the rollout of the COVID-19 vaccines.

We recognize the complexities of the issues surrounding the responsibilities and intersections of multiple levels of government and have been grateful for the responsiveness of staff members at the Department of Health (DOH) when we have reached out for clarification and information. The lack of vaccine supply available from the federal government, coupled with decades of underinvestment in public health infrastructure and planning, is creating incredible challenges for the DOH team. I think we're all learning along the way, and for that reason, as we start moving larger supplies of vaccine across Pennsylvania, I think there are critical factors we must consider if the Commonwealth and nation are to quickly vaccinate as many citizens as possible in an effort to save lives, stay ahead of mutations, get our children back to school, and get our families and neighbors back to work. So, I want to thank you again for holding this important hearing today.

Let me first set the stage on what the opportunity to vaccinate means to my colleagues at LVHN and to health care professionals across the Commonwealth.

Time stood still on Dec. 17, 2020, as intensive care unit nurse Chantal Branco, RN, received the first COVID-19 vaccine at LVHN. Chantal is a mother with a young family, and alongside physicians, nurses and other health care professionals, she comes to work every day selflessly putting herself in harm's way to care for our sickest community members. She will say that she is just doing her job – a demanding job before the pandemic that intensified many times over since last year. People who have not seen someone take their last breath, separated from their loved ones, after battling COVID-19 can never comprehend what health care heroes such as Chantal have experienced day after day since March 2020.



As Chantal received her vaccine, a feeling of relief filled the room as her colleagues became overwhelmed with emotion, some shedding tears. For the first time in months, there was optimism for better days ahead. There was hope.

While we all know the effective and timely administration of the vaccines will save lives and kick start the economy, I cannot overstate how the ability to administer vaccine to the community, rather than intubate patients, provides relief and bolsters morale for exhausted health care professionals who have been on the front lines, witnessing the suffering and human toll caused by COVID-19 every day for nearly a year.

Background

Lehigh Valley Health Network includes 10 hospital campuses; Lehigh Valley Reilly Children's Hospital, the community's only children's hospital; nearly two dozen multispecialty locations including ambulatory

surgery centers and orthopedic injury centers in northeastern Pennsylvania and western New Jersey; 26 health centers; numerous primary and specialty care physician practices; 20 ExpressCARE locations including the area's only Children's ExpressCARE; and pharmacy, imaging, home health, rehabilitation and lab services.

The Lehigh Valley is the third largest metropolitan area in the Commonwealth. Because of our region's proximity to New York City, many communities that LVHN serves were early hot spots for COVID-19 cases. The region is home to two very capable and effective health systems ready to vaccinate the masses at a moment's notice, and that capability extends well beyond the Allentown-Bethlehem-Easton area.

LVHN serves nearly 2.5 million Pennsylvanians in Berks, Bucks, Carbon, Lehigh, Luzerne, Monroe, Montgomery, Northampton and Schuylkill counties. With hospitals and outpatient facilities spread across this service area, LVHN's vaccine allocation doesn't just serve residents of the Lehigh Valley but reaches far into our nine-county region. LVHN applied to be a vaccine provider under the hub-and-spoke model, allowing us to reposition vaccine to our locations in Monroe, Schuylkill, Luzerne and elsewhere.

Mass vaccination expertise

Every flu season for more than 20 years, LVHN has distributed free flu vaccines to the community at our drive-through flu shot clinics. Our ability to scale operations and leverage technology comes together each year when we host mass vaccination events in our community. In 2020, we extended our drive-through events beyond the Lehigh Valley to Monroe, Luzerne and Schuylkill counties. At our peak, we have administered more than 8,000 vaccinations in a single day at these events. You might say we've been practicing for just such a public health vaccination response for more than 20 years.

Just last week, we put this expertise into practice with our first COVID-19 drive-through mass vaccination clinic at Dorney Park near Allentown, registering 1,000 residents age 75-plus in just five hours.

Here's what they had to say about the experience:

"Today, I went to Dorney Park and it wasn't for any of the fabulous rides they have there. I went there to get my first COVID vaccine shot thru Lehigh Valley Health Network. I was really impressed with how the process was laid out and the professionalism of the nursing staff and everyone involved. I am looking forward to my second COVID vaccine shot in exactly four weeks. Thanks to all the Lehigh Valley Health Network personnel!"

— Vernon Conaway

"Scheduled for first COVID-19 shot today at Dorney Park. I arrived at 9:15 for a 9:30 appointment. My shot was over by 9:30. The people and organization at Dorney Park were fantastic. I was so happy, I sent an email to Gov. Wolf about my experience. Thank you, God bless and stay safe."

— Patrick Ferrell



Media coverage of Dorney Park drive-through

[WNEP-TV 16 News, Scranton/Wilkes-Barre](#) - LVHN Holds Mass COVID-19 Vaccine Clinic at Dorney Park

[Fox 29 News, Philadelphia](#) - COVID-19 Drive-through Vaccinations at Dorney Park

[CBS3 News, Philadelphia](#) - COVID-19 Drive-through Vaccinations at Dorney Park

[WGAL-TV 8 News, Harrisburg/Lancaster](#) - COVID-19 Drive-through Vaccinations at Dorney Park

[WFMZ-TV 69 News](#) - LVHN COVID Vaccine Clinic at Dorney Park

[NBC10 News, Philadelphia](#) - LVHN COVID Vaccine Clinic at Dorney Park

[6ABC News, Philadelphia](#) - LVHN COVID Vaccine Clinic at Dorney Park

[The Morning Call](#) - Seniors line up for COVID-19 vaccines at Dorney Park, St. Luke's clinics with limited supply of shots available



On Jan. 27, we vaccinated 1,005 people at Dorney Park and 1,146 at all other sites for a total of 2,151 people vaccinated in one day.

With adequate supply, LVHN was consistently vaccinating 3,000-plus people per day. Today, LVHN has either administered or scheduled 100% of the doses we have received. Yet, we have the capacity to deliver 25,000 vaccinations per week and can readily grow that capacity to more than 30,000 if we receive enough vaccine to utilize all of our resources we have ready to be deployed at a moment's notice.

Our full-scale vaccination operations include:

- Five hospital campuses
- 30 physician practices
- Four mass vaccination sites with the capacity to vaccinate more than 4,000 people in a single-day event
- Two potential big box operations in, for example, vacant department stores and other similar locations
- Four mobile vaccination teams to serve vulnerable communities

Community trust

We all know vaccine hesitancy is a hurdle to reaching herd immunity. That's when assuring vaccinations can be delivered by familiar, trusted providers comes in to play. Residents of the Lehigh Valley have been going to Dorney Park and/or Coca-Cola Park (in Allentown) to be vaccinated in drive-through events for more than 20 years. In many cases, we have lifelong relationships with the people we serve. We care for all family members at every stage of life. We know the people getting sick and dying from

COVID-19, and we know the lives we're saving with the vaccine. They turn to us for guidance, and we can leverage these trusting relationships to educate and ensure they have a chance to be vaccinated.

While there are talks of government-run mass vaccination clinics to be set up in every county, many likely staffed with teams who have never done this before, LVHN has one mass vaccination clinic site currently operational and staffed by experienced infection control teams and others ready to go on short notice. ***All we need is the vaccine to get started.***

It is going to take time for federal funds to flow to Pennsylvania, for the locations to be identified and for the staff to be lined up to support government-run mass vaccination clinics. The virus isn't waiting. ***We are ready NOW.*** All we ask is for more vaccine. We are not seeking any other resources. We will supply the people, the places, the communication, the coordination and everything else necessary to get shots in arms.

Evidence of our readiness occurred during this week's snowstorm. When a vaccine delivery unexpectedly arrived at the Allentown Health Bureau during the middle of the nor'easter, the bureau was unable to vaccinate because their facility had not been plowed and staff could not come to work. Rather than let the doses spoil, the director called LVHN late in the afternoon, and our ever-ready vaccination team had 300 appointments scheduled and administered within hours, not wasting a single dose.

Media coverage of Allentown Health Bureau partnership

[WFMZ-TV 69 News](#) - AHB teams with LVHN to ensure vaccine is used

[6ABC, Phila.](#) - AHB teams with LVHN to ensure vaccine is used

Leveraging technology and communications expertise

We also understand the importance of education to combat vaccine hesitancy as well as the limitations of reaching and scheduling those eligible for vaccination.

We have leading-edge technology to scale our vaccination efforts. We also have communications expertise to provide people with the trusted information and education they need to make the critical choice to get vaccinated by a trusted partner.

We are leveraging MyLVHN, Lehigh Valley Health Network's secure and free patient portal, to quickly and efficiently schedule vaccinations and manage vaccination records. Everyone with a MyLVHN account is now preregistered for the vaccine and will receive a notification from MyLVHN when they are eligible to schedule an appointment.

We have experienced dramatic growth in the adoption of MyLVHN in the past 12 months, and it is currently the foundation of our health network's COVID-19 vaccination strategies. Currently, we have 591,000 patients using MyLVHN. In January, we averaged 2,802 new MyLVHN accounts per day as people signed up to be preregistered for a vaccination.

Our community is so eager to receive the vaccine that even populations that are typically hesitant to use technology are utilizing MyLVHN to secure their spot. The 1,000 vaccination appointments made

available for people age 75 and older prior to a vaccination event ***filled in just five hours***. Most of the appointments were made using MyLVHN, with some through our dedicated, toll-free COVID-19 hotline. ***MyLVHN is a highly reliable, secure and scalable platform to ensure vaccination scheduling, second-dose delivery and hour-to-hour reporting.***

LVHN is in constant communication with our community during the COVID-19 pandemic. Our website, [LVHN.org](https://www.lvhn.org), is a hub for any information someone could need, including FAQs, resources, testing, treatments and, now, vaccines. Our news blog, [LVHN News](https://www.lvhn.org/news), serves as a hub of information for our community with health tips, inspirational stories and up-to-date news about COVID-19 vaccinations and more. As the vaccine becomes available, we continue to experience higher traffic to pages on LVHN.org and our news blog.

	2019	2020	January 2021
LVHN.org	3.75 million users	5.56 million users	820,000 users
LVHN News blog	45,500 page views	1.2 million page views	367,000 page views

Google search results from the first 100 days of the pandemic show that our content ranked No. 1 in 210 terms related to COVID-19. On certain dates, some search results even ranked above the Centers for Disease Control and Prevention (CDC) and The New York Times in Google search results. ***This is evidence that the people of our community look to their local health care provider first for information about the virus and the vaccine, and that trust will help get more people vaccinated faster.***

One size fits all approach is not the answer

We all hope that the supply of vaccine quickly increases. Until it does, some difficult choices need to be made. We suggest the imperative to vaccinate as many Pennsylvanians as quickly as possible cannot be achieved in the same way for every county. Different resources are available in different counties. Certainly the efficiency and capabilities of each provider need to be considered. The reach of the provider, as per LVHN across nine counties, also should be considered.

We urge the state not to use “one size fits all” metrics to determine vaccine distribution.

Sometimes, applying metrics such as “percentage of occupied ICU beds” to guide vaccine allocation won’t reflect the differences between large and small health systems. For example, a large health system serving multiple counties may be consumed with caring for hospitalized COVID-19 patients while the community is also burdened with positive cases of COVID-19. However, since the large health system has more ICU beds, and can flex beds at several locations, the large system could receive fewer vaccines compared to a smaller system that may have fewer hospitalizations and less community burden because the smaller system’s ICU beds are occupied at a higher percentage. Additionally, the standard of care is to *avoid* ICU admissions as much as possible by using monoclonal antibody therapy, high flow oxygen and other medications to help patients fight COVID-19 away from ICUs.

Instead, vaccine distribution should be based on an organization's ability to quickly and efficiently distribute vaccine to the largest number of people across the largest region.

We understand the challenges faced by smaller hospitals given that several hospitals in our health network are in smaller, more rural communities. These hospitals, and the people they serve, have benefited from being part of a larger health network.

The region served by LVHN has been a hot spot for confirmed COVID-19 cases since the beginning of the pandemic because of our proximity to New York City and the commuter population, frequently crossing the border between Pennsylvania and New Jersey.



As of Jan. 15, U.S. Department of Health & Human Services data show LVHN hospitals were caring for the most COVID-19 patients in our communities for many months. That makes us more motivated than ever to get vaccine to our community.

The proposal for the Pennsylvania National Guard to “establish and operate in each county a site for the mass distribution and administration of any vaccine for COVID-19, including the administration of the vaccine to individuals by members of the Pennsylvania National Guard,” may be a solution for rural or other counties with limited health care providers or, such as Pike County, with no hospital at all. Setting up all of that will take time. For now, large health systems with mass vaccination capabilities across multiple sites available now should be fully stocked with vaccine. LVHN, for one, is ready to roll with

mass vaccination sites today. ***We need to make sure we don't duplicate efforts between the public and private sectors.***

Serving the entire community

For more than 120 years, LVHN has been furthering its mission to heal, comfort and care for our community by helping people when they need help the most. With a big footprint in both center city Allentown and downtown Hazleton, we are a trusted provider for diverse, underserved communities.

We recognize that one size does not fit all. From the beginning of this pandemic, we have made educational materials available in Spanish and have prioritized our connections with vulnerable and diverse populations. As the DOH focuses on equitable distribution of vaccine to underserved communities, LVHN is well positioned to deliver vaccine to inner-city populations disproportionately impacted by COVID-19.

To vaccinate all members of our community – especially our most vulnerable populations – we have long-standing partnerships with community organizations who are ready to help us get to our community members wherever they are.

During Phase 1A as it was initially defined, we vaccinated our high-risk, front-line health care workers. We also began to take our supply and our vaccinators to our most vulnerable community members outside of our hospitals, those in skilled nursing and long-term nursing facilities. For example, we held a [vaccination event at Saucon Valley Manor in Hellertown, Pa., to help ensure those considered at the highest risk for infection began receiving protective shots.](#)



LVHN continues to visit long-term care facilities with our mobile vaccination teams to vaccinate staff and residents as we receive calls from facilities still waiting for the federal pharmacy vaccination program to reach them. We also know the federal pharmacy program is a limited contract and will not provide repeat visits needed for new residents, or those who were delayed in getting their consent forms completed by family members in time for the pharmacy vaccination clinic. These facilities will be counting on LVHN to help fill in these gaps. They will turn to us a trusted community partner.

Media coverage of long-term nursing facility vaccination

[WFMZ-TV 69 News](#) - 20 at Saucon Valley Manor Receive Vaccines

[Lehigh Valley Live](#) - Lehigh Valley senior living facilities start receiving the COVID-19 vaccine



In conclusion, ***we recommend that the state deploy a strategy based on operational science¹ to optimize and maximize the expeditious delivery of vaccine.*** In phase I and II, when production of vaccine is still mounting, the largest channels of vaccine delivery (with the largest capacity) should be exploited. The goal should be to exhaust weekly supplies as quickly as possible. Hospitals and health systems such as LVHN and our peer organizations are the fastest channels to vaccinate the most citizens.

The state should lean on established health system partners for the fastest possible rollout, while perhaps establishing state-sponsored vaccination centers in communities that need additional support. Communities know us and trust us for their care. The hospitals and health systems of Pennsylvania are eager to leverage our enormous capacity and community trust to deliver the best vaccination rate in America for our citizens. We are sitting at 4,000 RPMs at a relative stop light awaiting robust supplies. We are eager to take this on for the communities we serve.

Thank you again for inviting LVHN to submit this statement. We appreciate your interest and look forward to working together as we continue to navigate the challenges and opportunities of the vaccine rollout.

¹ *Operations Research and Health Care: A Handbook of Methods and Applications*. Edited by Margaret L. Brandeau, Francois Sainfort and William P. Pierskalla. Springer Science & Business Media, 2004.

Appendix

Theory of Constraints and Operational Measures

The theory of constraints, developed by Dr. Eliyahu Moshe Goldratt in the 1980s, measures operational performance in key areas and uses the results to streamline operations. While another constraint always replaces the one you identify and remove, repeated applications of the theory should result in continuous improvement, increasing efficiency and output.

How the theory works

The theory of constraints assumes that your performance can't improve because of some specific problems (e.g. vaccine supply) or inefficiencies (e.g. ordering imprecision, badly-designed manufacturing or distribution sequences or vaccinator portfolio capacity) that are holding you back. You can find the constraints by looking for undesirable effects. Typical examples include extended waiting times, a buildup of supplies or materials, production errors and variable production volumes. In the case of vaccine delivery, at this moment in time, demand radically exceeds supply. While we may find several causes for our underperforming vaccination rate in Pennsylvania, **the main constraint causes the most undesirable effects and should be dealt with first**. Today, we believe the solution is to appropriately select vaccinating providers with the greatest capacity to deliver the vaccine. Pennsylvania is blessed to have universities with extraordinary talent in operational science and operations research that also have great health care reputations (e.g. University of Pennsylvania and University of Pittsburgh). We should lean on these types of resources to provide input to our state vaccination plan with the wisdom of operational science at the core.