

Transcript Prepared by Clerk of the Legislature Transcribers Office
Appropriations Committee February 17, 2022

STINNER: Well, let's get started. Welcome to the Appropriations Committee hearing. My name is John Stinner. I'm from Gering and I represent the 48th Legislative District. I serve as Chair of this committee. I'd like to start off by having members do self-introductions, starting with Senator Clements.

CLEMENTS: I'm Rob Clements from Elmwood, represent District 2, Cass County and eastern Lancaster.

HILKEMANN: Robert Hilkemann, District 4, west Omaha.

STINNER: John Stinner, District 48, all of Scotts Bluff, Banner, and Kimball Counties.

KOLTERMAN: Mark Kolterman, District 24: Seward, York, Polk, and a sliver of Butler County.

VARGAS: Tony Vargas, District 7, downtown and south Omaha.

DORN: Myron Dorn, District 30, Gage County and part of Lancaster.

STINNER: Assisting the committee today is Tamara Hunt and to my left is our fiscal analyst, Suzanne Houlden. Our page today is Jason Wendling. At each entrance, you will find green testier sheets. If you are planning to testify today, please fill out a sign sheet and hand it to the committee clerk when you come up to testify [RECORDER MALFUNCTION] --at each entrance where you may leave your name and other pertinent information. These sign-in sheets will become exhibits in the permanent record at the end of today's hearings. To better facilitate today's proceedings, I ask that you abide by the following procedures. Please silence or turn off the cell phones. Order of testimony will be introducer, proponents, opponents, neutral, and closing. We ask that when you come up to testify that you first spell your, your first and last name for the record before you testify. Be concise. It's my request to limit your testimony to five minutes. Written materials may be distributed to committee members as exhibits only while testimony is being offered. Hand them to the page for distribution to the committee and staff when you come up to testify. We need 12 copies. If you have written testimony, but do not have 12 copies, please raise your hands now so the page can make copies for you. With that, we will begin today's hearings with LB703. Good afternoon, Senator.

WILLIAMS: Good afternoon, Senator Stinner and members of the Appropriations Committee. My name is Matt Williams, M-a-t-t

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W-i-l-l-i-a-m-s. I'm from Gothenburg, representing Legislative District 36 and you'll be happy to know I'm not here to talk about housing.

HILKEMANN: OK.

WILLIAMS: I'm here to introduce LB703, which would provide part of the funding for an important new University of Nebraska facility in Lincoln in collaboration with ag-related partners. I appreciate this opportunity to brief the committee about this project, which can bring huge long-term benefits to the state by strengthening agriculture and Nebraska's overall economy. LB703 can magnify the benefits to Nebraska from a major \$140 million investment the U.S. Department of Agriculture is planning to make at the University of Nebraska Innovation Campus. The USDA project will create a world-class agricultural and natural resource research facility. To support that project, LB703 will, will support creation of a companion facility to convert the center's research findings into real-world products and services for Nebraska farmers, ranchers, and food manufacturers. This effort will provide a partnership of the University of Nebraska, the USDA, and the private sector. The companion center under LB703 will also provide business incubator support for ag-related Nebraska startup companies. Under LB703, Nebraska would direct \$25 million in ARPA funds toward construction of this companion center. Private donations would also provide an additional \$25 million. The benefits to Nebraska from this collaborative initiative is significant. First, innovative agricultural natural resource research findings will help our producers to, among other things, boost yields, better deal with drought, and improve animal health. Second, an efficient commercialization process will get those innovations more quickly to Nebraska producers and producers across the world. And third, Nebraska will receive a major boost in our state's ability to nurture home-grown ag startups to grow our economy. Behind me, experts from the University of Nebraska will highlight key details about this landmark collaboration and the benefits that will flow from it. But first, I'd like to talk about how this process all started. It began with the recognition by the U.S. Department of Agriculture of two things. First, the USDA recognizes the practical value of expanding scientific knowledge to help American agriculture meet an array of real-world challenges. Second, the USDA recognizes that the creation of the University of Nebraska's Innovation Campus in 2012 led to the foundation of far-reaching collaboration in agricultural research. The adoption of such scientific innovation is vital to our farmers and ranchers so they can remain competitive and be able to meet ever-evolving conditions. This is why the USDA devotes enormous

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researches to advance agricultural science. That research, focused on practical, applicable use, is conducted by its own staff and by land-grant universities such as UNL. To carry out that mission, USDA's Agricultural Research Service operates facilities all across the United States. Ever since the University of Nebraska created Innovation Campus a decade ago, USDA has looked to that Lincoln complex as the likely location for a federal research facility to partner with UNL's world-class scientists in agricultural and natural resource studies. Now, USDA is set to make that investment at Innovation Campus. USDA plans to direct their \$140 million to build a 120,000-square-foot building, 20,000 square foot of which will be greenhouse space. The building will house a national research center staffed by 42 federal scientists and at least 100 scientific support staff positions. The impressive scale of the department's investment here makes a strong and clear statement about the importance of the USDA places on Nebraska as a major center for cutting-edge agricultural research. It makes tremendous sense, then, for Nebraska to provide this complementary project that will magnify the benefits to us-- to our state. I'm sponsoring this legislation, LB703, whose funding would provide for an 80,000-square-foot building to enable the scientific findings to be passed on efficiently and quickly in usable products and services to Nebraska and our nation's producers and startups. I want to emphasize that the kind of research we're talking about isn't ivory tower activity with meager relevance to practical agriculture. On the contrary, the USDA researchers, along with direct participation by dozens of UNL faculty members, will be expanding scientific knowledge with the utmost real-world utility to farmers and ranchers. The University of Nebraska leaders behind me will explain the collaboration between the university, the USDA, and the private sector for this initiative, as well as the tremendous value the partnership will bring to Nebraska agriculture and our state's economy as a whole. Agricultural stands tall. It's a key pillar of Nebraska's economy. We know that one out of every four jobs in our state is related to agriculture, food processing, and a wide range of ag-related products and services. Agricultural production is the foundation of countless communities across our state. In 2017, the total output of Nebraska's agricultural production complex was nearly \$82 billion, accounting for nearly 34 percent of the state's total output. We must, I believe, as a Legislature, make smart, strategic investments to ensure the long-term viability of Nebraska's ag sector and strengthen our overall economy. That's why I'm here today promoting LB703. And I would like to pass out the ARPA eligibility checklist that--

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STINNER: Thank you.

WILLIAMS: --we have filled out for this project. Senator Stinner, that would be near and dear to you. And with that, there are those behind me that can answer the specific questions, but I would be happy to address anything.

STINNER: Any questions? Seeing none, thank you, Senator. Good afternoon.

TED CARTER: Chairman Stinner and members of the Appropriations Committee, good afternoon. My name is Ted Carter, T-e-d C-a-r-t-e-r, and I am president of the University of Nebraska System. Thank you for the opportunity to be with you. I'm here in support of not only LB703, but all eight bills that you'll hear today that would invest federal relief dollars into workforce development and research initiatives at the University of Nebraska. The chancellors of our four university campuses, along with other experts and supporters, will follow me with detailed testimony on each of these projects. I want to say on behalf of all of us how grateful we are to the senators who have introduced ARPA legislation on behalf-- on our behalf: Senators Williams, Hilkemann, Kolterman, Dorn, DeBoer, Vargas, and McDonnell. Thank you for your leadership and partnership. These one-time federal funds offer our state a rare opportunity not only to recover from the pandemic, but to grow our economy and quality of life for generations to come. As you consider how best to use these dollars, I want to tell you what type of return you're going to get when you invest in the University of Nebraska. We just received a new analysis of the economic impact of our university system done by national experts in the field. They found that the university grows Nebraska's economy by \$5.8 billion for every-- for a year, equivalent to a nine to one return on the state's investment. That's both direct and indirect dollars. The last time we had this analysis done three years ago, our annual impact was \$4.5 billion. We have grown our impact right in the middle of a global pandemic that dramatically altered every aspect of university life. To me, that's a powerful case for what Nebraskans get when they entrust their precious resources to the university and that's to say nothing of the returns that can't be measured in a statistic, the communities touched by the Nebraska Extension, or the lives saved by our medical research. It's anyone's guess what our economic impact might have grown to if not for COVID-19. What I can tell you is that the University of Nebraska has momentum and we are truly excited about the opportunity to work hand in hand with you to solve some of the urgent challenges facing our state. The chancellors and I put a great deal of thought into deciding what proposals to

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bring to you for consideration. We quickly agreed on several core principles: number one, we were not interested in back-of-the-napkin concepts. Every proposal you will hear today represents an existing strength and priority of the University of Nebraska: agriculture, rural healthcare, STEM education, cancer research, counterterrorism. These are areas where we have some of the very best talent in the world right here in Nebraska, including the distinguished colleagues sitting behind me. And they are areas that we believe are so vital to the future of our state that we will pursue every opportunity to bring them to fruition. Number two, only bold ideas with long-term impact to Nebraska would make the cut. We wanted ideas that will transform Nebraska not just next year or the year after that, but 10, 20, even 50 years out so that our children and our children's children will benefit. And number three, we agreed we would bring you ideas that can only be carried out by the University of Nebraska. As you know better than anyone, our state's challenges are varied and complex, ranging from workforce shortages to declining rural populations, devastating disease to hunger and terrorism. As Nebraska's only public university system with a comprehensive mission spanning education, research, and outreach, we have a special opportunity and responsibility to offer bold solutions. These ideas will require close collaboration with public and private partners, but they are solutions that the University of Nebraska is uniquely positioned to deliver. The proposals before you today meet our criteria. I am passionate about every item on our list. Imagine being able to provide new hope to patients facing a devastating diagnosis of pancreatic cancer or delivering new solutions to keep the brave women and men of our military safer on the battlefield or transforming agriculture for the next century or ensuring that every Nebraskan, no matter where they live, has access to quality healthcare. These are the kinds of conversations the chancellors and I have every day and they inform the proposals that you have before you now. We hope you will agree that these are once-in-a-lifetime opportunities for the state of Nebraska, opportunities to work together to deliver the workforce and resource solutions-- research solutions our state needs to grow and prosper well into the future. Thank you again for allowing me to speak with you. I'd be happy to answer any questions.

STINNER: Any questions? Seeing none, thank you.

TED CARTER: Thank you.

MIKE BOEHM: Senator Stinner, members of the Appropriations Committee, my name is Mike Boehm, M-i-k-e B-o-e-h-m, and I have the privilege and honor of serving as the vice chancellor for the Institute of

Agriculture and Natural Resources at the University of Nebraska-Lincoln and also as the vice president for agriculture and natural resources at the University of Nebraska. I'm pleased to be here today to testify on behalf of the university system in support of LB703 introduced by Senator Williams. We greatly appreciate his support of Nebraska agriculture and for sponsoring LB703 that has the power to transform the future of Nebraska agriculture and our state's economy. Agriculture and food processing and manufacturing are changing quickly and for Nebraska and U.S. farmers to remain competitive and feed, fuel, fiber a growing world, both industries must adapt and adopt new tech-- tools and cutting-edge technologies to be efficient, resilient, safe, and importantly, profitable. LB703 will accelerate the transition of innovative ideas and bold discoveries into real-world solutions for farmers, ranchers, and food manufacturers, strengthening ag economies in Nebraska, the Midwest, and beyond. LB703 supports the U.S. Department of Agriculture's plans to locate a major \$140 million research center known as the National Center for Resilient and Regenerative Precision Agriculture. The establishment of this center in Nebraska supercharges the long-standing and productive partnership UNL has enjoyed with the USDA for the past 120 years. The national center is an innovative, next-generation platform that draws together USDA and university scientists and engineers with entrepreneurs, startups, industry partners, and producers to develop and drive innovative solutions to some of the most critical scientific gaps facing agriculture. LB703 provides funds that will allow us to create a companion facility adjacent to this national center. This national center will accelerate not only our science and innovation, but the conversion of these cutting-edge ideas and discoveries mentioned previously into innovative products and services that increase productivity and profitability for Nebraska producers. This facility also allows us to bolster the ecosystem of innovation at the Nebraska Innovation Campus that directly supports and nurtures Nebraska entrepreneurs and startups while aggressively expanding our pipeline of highly-skilled ag and food tech workers. In short, LB703 will turn ideas and drive innovations into scalable solutions that add value for Nebraska's farmers, ranchers, and others involved in agriculture and the food value chain. Together, the proposals under LB703 and LB904, which would greatly increase Nebraska's computing and ag cybersecurity capabilities, form a set of important strategic steps that solidify Nebraska's role as a leader in resilient and regenerative precision agriculture and food manufacturing. Under LB703, the state would appropriate \$25 million in federal ARPA funds to be matched dollar for dollar from the private sector. This private investment illustrates a

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key dimension of this project in which the public and private sectors come together to promote innovative research and accelerate product development and commercialization. These collaborative efforts will make this a world-class public-private partnership with an undeniable range of direct benefits for Nebraskans. The first floor of this planned 80,000-square-foot facility will enable collaboration and provide supports for entrepreneurs and early-stage startups to advance their business plans. Connecting established companies in search of new innovation, technologies, and talent will also be a focus of what happens in this building. This public-private initiative will also include partnerships with venture capital firms to provide an efficient development process for products and services. The building's second through fourth floors will accelerate the development and deployment of these products and services. These floors will contain cutting-edge spaces and facilities where UNL scientists, engineers, and students will work side by side with private-sector partners to develop field deployable prototypes. UNL and USDA scientists will then test, analyze, and value engineer these prototypes at locations across Nebraska, ensuring that these new technologies address real-world conditions. And when services and products reach ultimate development, Nebraska Extension will work hand-in-hand with Nebraska's innovative farmers and ranchers to adopt these next-generation and value-added innovations. This multifaceted public-private collaboration will yield important economic benefits for our state. In all, this initiative has an estimated economic impact of \$1 billion annually, \$170 million in labor income, and creates some 3,200 high-quality, high-paying Nebraska jobs. I urge the Appropriations Committee, you, members to include this funding via LB703 in the state budget and for the Legislature to give it final approval. In doing so, state senators can promote an important long-term set of benefits to Nebraska agriculture and our economy. I'm happy to answer any questions.

STINNER: Thank you. Questions? Thank you very much.

MIKE BOEHM: Thank you.

STINNER: Afternoon.

LISA LUNZ: Good afternoon, Senator Stinner and members of the Appropriation Committee. My name is Lisa Lunz, L-i-s-a L-u-n-z. I am the current, current president of Ag Builders and I-- my husband and I, Jim-- my husband, Jim, and I farm in northeast Nebraska in Dixon County. We have no-tilled for over 25 years and we grow corn and soybeans. Our corn is hauled by my husband to Siouxland Ethanol to be

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used for ethanol production and the production of distillers grain for livestock feed. Our soybeans are hauled at harvest to an elevator and they're either exported to other countries or processed into soybean oil for cooking or renewable diesel and soybean meal for livestock feed. I am testifying today in support of LB703. I am in support of the private-public partnership to help build a building that will be connected to the National Center for Resilient and Regenerative Precision Agriculture. As a farmer, we have seen how university research and technology has benefited our operation. We have used grid soil sampling and variable rate fertilizer application for the past 20 years. This helps us apply the correct amount of nutrients where they are needed in the field. Our co-op has autosteer and automatic shut-offs on their sprayers so that there is a precise placement when applying herbicides. Over the years, we have been increasing yields on our corn and soybean acres with fewer inputs. Our operation is 100 percent dryland and we value one of our most important resources, water. Nebraska is the center of U.S. agriculture and we have a unique state and resources. The climate in this state is very different from east to west and north to south. The Ogallala aquifer allows us to be the number one state in the nation in irrigation acres. We need research and technology to take advantage of the limited resources we have. As farmers, we are challenged with producing food, food, fuel, and fiber for a growing population. Agriculture needs to share their story and attract the best students to help grow the workforce and turn innovation into tools that farmers and ranchers can use to improve their safety, profitability, efficiency, and resiliency. Technology continues to help agriculture reach a new plateau for production. Twenty years ago, if you had suggested that we would be producing 200-plus bushels of corn per acre, we would have questioned that assumption. With today's technology, our yield monitor, monitor can read over 350 bushels per acre. With technology and innovation, will we be able to average 350 bushels in our fields? What is the potential for Nebraska farmers and ranchers? At the present time, Innovation Campus is serving as an incubator for startup businesses. This is a great asset to the state and to agriculture. The investment from LB703 will only enhance the ability to use technology and innovation to help farmers and ranchers produce more food with less resources. For example, there are two startups that have started at Innovation Campus that have had a direct benefit to agriculture. They are the Grain Weevil, a small robot designed by two university undergraduate students to help with grain safety and help save lives. The other one is Sentinel Fertigation, which was developed by a university graduate student to work with crop nitrogen and apply the needed nitrogen through irrigation. It has always been a challenge for

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science to take the research and their findings and bring a product or technology to the farmers and ranchers in the state. As a farmer, we are challenged to make decisions for our farm. How do we protect the soil? How do we use resources efficiently? And what technology and research is available to help us make these decisions? We are challenged with producing more food, fuel, and fiber for a growing population. The mission of the land-grant university, such as University of Nebraska-Lincoln, is to use research-based information to innovate for farmers and ranchers in the state. As a farmer, we need nonbiased research and this partnership will help develop and deploy technologies and information to the farmers and ranchers in the state of Nebraska. The national center, along with this public-private partnership building, will be an investment in the farmers and ranchers in Nebraska. For this reason, I strongly support the advancement of LB703. I'm happy to answer any questions.

STINNER: Thank you. Questions? Seeing none, thank you.

LISA LUNZ: Thank you.

STINNER: Afternoon.

MICHAEL JUNG: Good afternoon, Chairman Stinner and members of the Appropriation Committee. For the record, my name is Michael Jung, spelled M-i-c-h-a-e-l J-u-n-g. I appear before you today as president and chief executive officer [sic] of Burlington Capital International in support of concepts outlined in LB703. I especially want to thank Senator Williams for introducing this proposal for discussion. We at Burlington Capital have been involved in the agriculture and agribusiness space, both domestically and internationally, since our founder, Mike Yanney's, first entrees into Russia back in the mid '70s. Since then, we have continued to explore and develop new ag-related opportunities, both here in the U.S. and overseas. One of these new areas for us has been in the ag tech and innovation space. I personally have been intrigued with ag tech over the years and have been observing it from a distance. Back in the early-- back in early 2020, we at Burlington decided to conduct a more thorough due diligence in understanding the world of ag tech. For those of you unfamiliar with the term, ag tech is innovation software and hardware solutions that solve problems across the food and-- the ag and food value chain. Part of our due diligence was focused on first defining ag tech and understanding what ag tech means to Nebraska, the Midwest, the U.S., and ultimately globally. Through these exercises, I uncovered two points that deserve emphasis here today. The first point, when evolve-- when evaluating the entire tech space, ag tech

was considered a laggard in the overall tech world. Ag tech is not attracting the investment, the innovation, the headlines, the exits, and the multiples that other tech areas such as medtech, pharma tech, and biotech are receiving. As we continue to peel back the layers, the second point we discovered is that the, the states leading the charge in new ag tech innovation and investment were being driven outside of the Midwest. Of the top 15 states leading ag tech investments, only two were from the Midwest. From my perspective, that just seems wrong. It's no secret that Nebraska and many of our neighboring states are driven by agriculture. It's what we do, it's what we've been doing for a long time, and we're pretty darn good at it. It didn't make sense how Nebraska and the Midwest, who ultimately are responsible for feeding the world, are not relevant or leading the conversations in ag tech and ag innovation. We have a tremendous amount of generational and institutional experience, as well as knowledge in our great state. Through LB703 and the proposed P3 facility, Nebraska can capitalize on creating these new ag tech solutions to solve our producers' problems, as well as elevate the university's presence as a global leader in precision agriculture. In seeing and understanding this opportunity, we at Burlington Capital, along with our partners at Invest Nebraska, created a platform that would serve as a catalyst to expand and strengthen the ag tech ecosystem in Nebraska and the Midwest. It is our goal, through, through partnerships with the University, Invest Nebraska, and other public and private-sector organizations, that with LB703, it will position Nebraska and the Midwest to become the global ag tech hub. The proposal and effort presented in LB703 align and strengthen both public and private sectors, which will ultimately enhance a more vibrant ecosystem throughout the state and will allow for Nebraska to become a leader in developing, attracting, and retaining these ag-minded entrepreneurs, engineers, startups, and innovative thinkers. In conducting our initial due diligence, we were told repeatedly by producers, ranchers, cattle feeders, processors, manufacturers, and distributors across this state that the solutions or technologies that are currently being developed on the coasts are not addressing the problems that the producers are dealing with. They are supportive of our mission and efforts and feel strongly that we need Nebraska/Midwest ag-minded entrepreneurs and companies to lead the charge in developing the new wave of ag technologies. In working with the University of Nebraska, its students, professors, and thought leaders, we will be successful in creating these new breakthrough innovation solutions for the ag value chain. Partnerships through the university, the combine, and others have already validated this idea and over the past year, has provided a launching pad for these ag tech entrepreneurs. A few examples of these are Grain Weevil, Birdseye, and

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Marble. All three were chosen by the American Farm Bureau as part of the top-- as part of their top ten new ag innovations in 2021. Grain Weevil was ultimately awarded first place in the National Ag Innovation Challenge and Birdseye was awarded runner up. There is a tremendous amount of opportunity and momentum in the ag tech space and through the efforts of LB703, Nebraska can secure its place as one of the leaders in driving this innovation. For those reasons, I support LB703 and I'm happy to answer any questions.

STINNER: Any questions? Seeing none, thank you.

MICHAEL JUNG: Thank you.

STINNER: Is there any additional proponents? Are there any opponents? Anyone in the neutral capacity? Seeing none, would you like to close, Senator?

WILLIAMS: I can't tell you how proud I am of this university and what they mean to our state. This process that we're talking about today, let me just sum this up in, in short order. This has been a lengthy process to get the USDA to agree to and financially fund 140,000 million-dollar-- excuse me, \$140 million building on the campus. That would not have happened without a world-class university and the investment that we chose to make over ten years ago from this body to start Innovation Campus. And if you haven't been there recently, we need to go because it is growing leaps and bounds. So what we have now is the opportunity with the federal government investing \$140 million into a 120,000-square-foot facility. Research, research. But what do we do with that research? The companion building that we are here today talking about, \$25 million from the state, \$25 million from private investment, building an 80,000-square-foot facility. It's the companion building that turns that research into real-world solutions for our state's number one industry. That's what we're talking about. I think that's a small investment when we look at what agriculture means to this state. The producer that you heard, knowing what those things are going to be, the proven results that we've had from the combine at Innovation Campus makes me look to the future and it's bright. Thank you and I hope you will look kindly on LB703.

STINNER: Thank you. Any questions? Seeing none, thank you, Senator. We have 11 letters of support and 1 in opposition on LB703 and that concludes our hearing on LB703. We will now open with the hearing on LB721. Afternoon.

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HILKEMANN: Good afternoon, again, Senator Stinner and members of the Appropriations Committee. My name is Robert Hilkemann, that's R-o-b-e-r-t H-i-l-k-e-m-a-n-n, and I represent District 4, which includes west Omaha. I'm here today to introduce LB721, a proposal that would appropriate \$60 million in American Rescue Plan Act funds for the establishment of the new University of Nebraska Medical Center rural healthcare facility to be located at the University of Nebraska at Kearney campus. I am grateful to have Senator Stinner and Kolterman as cosponsors of this crucial legislation and you will also hear from another one of those cosponsors, Senator Lowe, after my testimony. Ensuring adequate healthcare workforce for rural communities has been a long-standing challenge for Nebraska and the need for collaborative and innovative approaches to address this challenge has never been more pressing. The pandemic has accentuated this challenge and the need for definitive action. Changes in the health workforce and healthcare delivery in rural communities particularly continue to significantly impact access to quality healthcare. The COVID-19 pandemic has also provided a new view of long-standing issues and potential opportunities to reimagine the concept of rural health. The survival of health services in rural areas of Nebraska depends on the economic viability of the community and vice versa. From a greater focus on population health to education, technology, infrastructure, workforce, and community economic development, the rapidly changing landscape requires comprehensive, collaborative, and innovative thinking to address this critical challenge. While Senator Lowe will provide some additional background on how the expansion of UNMKC [SIC] at University of Nebraska-Kearney campus has come about over the past few years through the legislative interim studies, I want to reiterate the idea of a rural medical college is something this committee discussed back even in my first years as a senator. Those conversations were centered around the opportunity of iExcel, which Senator Stinner, you and I introduced eight years ago at this time. But how that would impact rural healthcare, we've seen that come to fruition. We've seen what that's happening. That brings us back to self-- LB721, which aims to respond to the harmful disruptions resulting from COVID-19 emergency by enhancing Nebraska's workforce infrastructure. The bill would appropriate \$60 million from ARPA funds to the University of Nebraska for the establishment of a rural health education facility for the University of Nebraska Medical Center on the University of Nebraska-Kearney campus. Additionally, the bill includes an initial \$13 million on appropriation for the ongoing funding support for that expansion operation of the existing UNMC program in Kearney. This includes allied health professions, a nursing college, and the new regional educational programs and the colleges of

medicine, pharmacy, public health that prepare learners to meet the unique healthcare demands of rural areas. I have passed around an amendment that incorporates the ongoing General Fund appropriation to fund the expanded rural academic programs. This is preliminary based on the program expansions from the main UNMC campus to Kearney campus. But please note that in my conversations with the university, we will continue to explore the timeline that these funds will be needed to ensure the opening of the proposed facility. Nebraska's rural communities face an increasingly severe crisis in maintaining access to healthcare for their residents and you will hear more about those from our testifiers. Delivering high-quality, team-based care for complex health conditions is getting more challenging in rural communities with limited or no access to crucial healthcare specialists and nursing professionals who are needed to case-manage and care for the increasingly complex patients. One proven way to reduce disparities in healthcare provider distribution is by increasing the number of students in the profession of healthcare and that these students would come from rural backgrounds. We need to maintain those connections and we need to train in rural communities. Simply put, if we want individuals to practice healthcare in rural areas, they must be trained in rural areas. Leveraging the, the proof of concept and successful outcomes of the initial UNMK and the UNMC collaboration for the health science education center that opened in 2015 with two colleges, the allied health and nursing program and UNMC, aims to create a one-of-a-kind, a one-of-a-kind rural health-- and I was-- as I was thinking about this, this is going to be a model that will be used in other states as well because I'm convinced with the leadership that we have at UNMC and at UNK, this is going to be one of the more successful projects that ever-- and again, we'll be the model. Nebraska will be the leader. As part of the healthier rural Nebraska project, UNMC is proposing the following: the college of allied health professions would expand enrollment in occupational therapy program and add programs in medical nutrition, genetic counseling, and respiratory therapy, resulting in an estimated expanded enrollment of 50 learners at full implementation. The campus currently offers physical therapy, physician's assistants, medical laboratory science, radiography, magnetic resonance imaging, or MRIs, diagnostic medical sonography, and occupational therapy programs already exist at the college. The college of medicine would increase the medical school class size by 10 and add a regional training program on the camp-- on the Kearney campus. The college of medicine anticipates initially training up to 10 students per year for 40 enrolled students in the fourth year of implementation. Forty new physicians in Nebraska that we would not have without this program all

trained in a rural healthcare facility. The college of nursing would increase the number of students in the accelerated BSN program by 16 annually and increase the number of learners in the graduate program by 6 each year. The college of pharmacy will develop a regional training program initially training up to 10 students per year for a total of up to 40 enrolled students in the fourth year of implementation. The college of public health proposes to offer in-person training for up to ten students annually in both the master of public health and the master of health administration programs. Additionally, the college of public health intends to develop and implement a rural, community-focused outreach program to support the existing rural public health workforce. I was thinking if there's any area that the COVID has really exposed, it's our need to be stronger in public health and I'm glad that this is going to be a component of this university. The enhanced presence of UNMC's program at Kearney will allow for the development of interprofessional clinical education models that will help students work in and lead teams in rural, real-world clinical settings. The expansion of simulation facilities with high-fidelity mannequins, virtual and augmented reality, standardized patients, and the linkage with iExcel on the Omaha campus can supplement clinical placements and increase opportunities for students to prepare for learning in real-world environments. Programs to support degree advancement and continuing education for already practicing healthcare professionals in the region can be an expanded [INAUDIBLE]. Think about the, the, the family physicians being able to go take extended-- even evening catch-up courses or, or learning about specific things and having it so they can have it in Kearney, Nebraska, and not have to drive all the way to Omaha or Denver. That's a huge thing about the, the-- that whole thing of the continuing education of our physicians and new certificate and degree options for health professional students can develop that meet the emerging needs of clinical and community environments. Expanding health professions pipelines and education on the UNK campus can transform opportunities to prepare and secure rural health workforce for the future and advance the knowledge of rural health needs, interventions, outcomes, and strategies to ensure health equity. You will hear from Senator Lowe, Chancellor Jeff Gold, and Doug Kristensen, along with those who would help address the workforce needs and would be impacted by a new rural health education facility. This is truly a once-in-a-generation opportunity for the Legislature and our state to address rural healthcare needs by educating students in the setting where they practice, rural Nebraska. Thank you again for your willingness to further explore this bold proposal that President Carter talked about. I would be happy to answer any questions you may have.

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STINNER: Any questions? Seeing none, thank you.

HILKEMANN: OK.

STINNER: Afternoon.

LOWE: Afternoon. Thank you, Chairman Stinner and members of the Appropriations Committee. My name is John Lowe. That's J-o-h-n L-o-w-e and I represent District 37: Kearney, Gibbon, and Shelton. One point four billion dollars. I can't imagine it. Nebraska's Capitol is 362 feet tall, not including the sower, the sower on top, \$1 million stacked on top of each other. One million dollars is 358 feet, almost as tall as this Capitol. Space is 62 miles from Earth. One billion dollars is 67.9 miles, so 60-- 1.4 billion--\$1.04 billion is more than 70 miles from where your feet are sitting right now. That top dollar doesn't feel gravity, but the weight of that billion-- \$1.04 billion stack of dollars has got to be heavy on you at this time. And thank you, thank you for taking this on. I want to also thank you for allowing me to speak on LB721 today, a bill that will appropriate funds to the University of Nebraska Medical Center Rural Health Complex. I want to thank Senator Hilkemann for bringing this bill. LB721 is the product of years of hard work from the University of Nebraska Medical Center, University of Nebraska-Kearney, and members of the Health and Human Services Committee, members of the Appropriations Committee, and countless members of other interested parties. In 2019, I introduced LR139, which was designed to look at ways to further expand the relationship between UNMC and UNK, University of Nebraska-Kearney. This LR was heard by the HHS committee while they were in Kearney. In 2020, I introduced LR392, which also looked at ways to further then strengthen the relationship between UNMC and the University of Nebraska-Kearney. That LR was heard by this committee. These two interim studies were introduced so the Legislature could learn more about the great work being done at UNK and highlight the opportunities for further expansion between UNMC and UNK. And remember, this is when a fiscal note on a bill killed the bill. LB721 will ensure these opportunities now become reality. LB721 is a product of years of hard work and I believe this bill is critical for my district. My understanding is that when this project is fully up and running, it will employ over 40 people in Kearney, with many of these jobs being very high-paying jobs. The program will also bring in roughly 214 students at any given time. UNK students are the key component to the economy of Kearney and being able to bring these highly skilled students exact-- is exactly what we need to grow my district. But this bill does not just benefit Kearney, it will benefit Nebraskans. During the special session in September, we had numerous

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conversations about the need to grow western parts of Nebraska. There is no better piece of legislation in this year's session to grow central and western Nebraska than LB721. We know students are more likely to stay in communities if they intend-- if they attend a school in western Nebraska. Once a student leaves and goes, goes to UNL and UNO-- nothing against them-- they will probably find a spouse in that area and the spouse determines on where they will live. If we can get them to stay in central and western Nebraska, it will benefit all of Nebraska. And quite frankly, we know it's almost impossible to grow any community unless, unless residents have high-quality medical care. LB721 is designed to ensure this high-quality medical care and will be available for rural Nebraska for decades to come. In 2017, my wife and I attended the opening of the Fred and Pamela Buffett Cancer Center and Kim said that that was an amazing place. It would transform what medicine does in Nebraska. LB721 will do the same. I'm just following my wife's lead as we all should. Thank you very much.

STINNER: Thank you. Questions? Seeing none, thank you, Senator. Good afternoon.

DOUG KRISTENSEN: Good afternoon. Members of the committee, it's a true privilege to be here to present LB721. My name is Doug Kristensen, D-o-u-g K-r-i-s-t-e-n-s-e-n, and I am the chancellor at the University of Nebraska at Kearney. I want to thank our sponsors of this bill. We dearly appreciate that. I'm here on behalf of the University of Nebraska System in support of LB721. This appropriates, as you've heard, the ARPA funds to construct a rural Nebraska health education building on the UNK campus. Senator Hilkemann did an excellent job of outlining all the programs that are going to be there. I won't do that, but they're going to be provided by our good colleagues from the University of Nebraska Medical Center on our campus. The building is going to be adjacent to the existing health science education complex on the western portion of our campus. It will be about 107,000 square feet. It will complement the existing building not only esthetically, but programmatically as well. As most of you know, I've spent my entire life in rural Nebraska. I'm really proud of that fact. For 14 years, I had the privilege of serving Nebraska in the seat you're in. Obviously, it's-- was a whole lot easier then than it is today. But I had the opportunity to just see-- and I hope you agree with me-- that Nebraska is really a very connected state, despite our differences in geography, population, and experiences. My experience was that Nebraskans had a common goal and that was to address the needs of the entire state. That's the reason everyone is here and that's the reason I was there. LB721 fits that common goal. Rural Nebraska is at risk. It's at risk because it does not have adequate healthcare providers.

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The initiative-- this initiative responds to the ongoing shortages of healthcare workforce across rural Nebraska. Fourteen of our 93 counties don't have a primary care physician. The shortages affect every health profession in rural Nebraska. The pandemic has had a major impact on every facet of rural health. Your clinics, hospitals, nursing homes can all confirm the problems that they have in hiring staff to provide care to the residents of this state. Those shortages limit the healthcare that we in rural Nebraska can access. They severely impact the ability of our communities to attract new residents, to keep the residents that we have, and to attract new businesses. Quality, appropriate healthcare benefits the people of our state and it strengthens every one of our communities if we can provide that healthcare. For the last 20 years, I've had the chance to be the chancellor at the University of Nebraska-Kearney. I've had a chance to understand rural education of all of our disciplines. There's another common theme that I want to provide to you and you've heard it before, but if you provide students comprehensive, quality education in rural Nebraska, they will stay in rural Nebraska. I found that true of teaching, of business, and now even more with the successful health science education complex that you invested in some years ago. In 2015, we opened that facility and we did that as a promise to you that we would address it as a proof of concept. Could we do that? Would it work to increase healthcare in rural Nebraska, increase the education? The answer is a resounding yes. The outcomes you've been provided, you've seen them, you've seen them in Senator Lowe's interim studies. Those programs quickly filled. The buildings are at capacity. The cohorts are full. But more importantly, 85 percent of those students who go through that facility start their career in rural Nebraska, 85 percent. That's an incredible amount of success. Our goal today is to take those once-in-a-lifetime federal funds, combine them with the world-class skills of the University of Nebraska Medical Center in a meaningful way that will change rural Nebraska forever. We're going to be able to increase the number of rural health professionals. We can educate doctors by not just sending them out a few weeks, but we can educate them in rural Nebraska for their entire career. Our collaboration with UNMC is unbelievable to most. We've had incredible amounts of acceptance rates. LB721 is not just a building. It's a chance to deliver to Nebraska the rural-- high-quality rural healthcare it so desperately needs. I want to speak just one moment to the amendment that Senator Hilkemann provided. Our portion of the ongoing costs are essential to the success of this initiative. We need to start pipelines of students in middle schools and high schools to prepare them a path to come to an undergraduate campus to be ready for their professional education. That needs to

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happen today to be ready to have those students there in '24, '25, '26 and beyond. We need to increase the funds for our KHOP program, which is a scholarship program, and we also need to increase our staff and faculty advisors to make sure we deliver the students the rural health that they so desperately need from education. That's approximately \$484,000, Senator. I'd be happy to answer any more questions.

STINNER: Senator Kolterman.

KOLTERMAN: Thank you, Senator Stinner. Mr. Speaker, welcome back.

DOUG KRISTENSEN: Hey, it's great to be here.

KOLTERMAN: So at the University of Nebraska-Kearney, what percentage of your students that you get early on in your enrollment are Nebraska students to start with?

DOUG KRISTENSEN: Oh, we're probably-- of our undergraduate, Senator, probably a good 80 percent-plus are Nebraskans. That varies in any one given year. Roughly 9 percent of them are international students and the rest are nonresidents. It might-- it probably-- between 80 and 85 percent.

KOLTERMAN: And about the same amount that go into the healthcare arena stay in the healthcare arena?

DOUG KRISTENSEN: Though-- of those that go through the rural health, health science education complex, about 85 percent of them stay. So when I first started, we probably had 100 to 150 students who were interested in healthcare professions. Today, I think we're getting close to 900, probably will soon be over 1,000. If that's what the interest is, we need to provide the professional opportunities for them, the professional education. They're going to go somewhere.

KOLTERMAN: Thank you.

DOUG KRISTENSEN: We want them to stay here.

KOLTERMAN: Thanks for coming all the way from Kearney.

STINNER: Senator Dorn, did you have a question?

DORN: Thank you, Chairman Stinner and thank you for being here today, Chancellor. You, you answered a little bit of my questions. My question is what's the deal with the amendment or whatever? And I guess help us understand-- you talked about, I call it filling with--

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going in and visiting those high school programs. Are any of these-- this facility proposed and those programs that will come about with this, are any of those currently going on at Kearney or is this something that will be brand new or--

DOUG KRISTENSEN: That, that's a, that's a good question. In 2015, we started with programs from two of the colleges of UNMC; nursing, which has been on our campus for a long, long time, but they've certainly put it on steroids and increased the numbers. Allied health came out. The thing is I had no idea what allied health was, Senator. I've since learned. I mean, those are the PTs, those are the medical stenographers, PAs, and so on. Those are existing programs. We're now talking about bringing the other colleges of UNMC, medicine, public health, pharmacy, and so on. We would add to nursing and we would-- and you'll, you'll hear that testimony this afternoon and we would add to the college of allied health as well. And so we proved the concept with the first two and now we're ready to go and, and I think really make a big change here.

DORN: One more quick question in relation to that then. Many of these programs that are going to be developed or be part of this new complex, they are in addition to a four-year college degree or how is that stacking up?

DOUG KRISTENSEN: That's, that's correct. So let's take-- well, any of the, the programs, the college of medicine, pharmacy, and so on. You would get an undergraduate degree, a four-year degree, and this would be your professional degree.

DORN: Yes, OK.

DOUG KRISTENSEN: And so that's the reason we've got to start in the seventh grade to get them to an undergrad to be able to get them ready to take the right classes in chemistry, biology, that they'll be successful in these professional programs.

DORN: Thank you, thank you for your--

DOUG KRISTENSEN: Yeah, you're very welcome.

STINNER: Any additional questions? Seeing none, thank you.

DOUG KRISTENSEN: Thank you very much.

STINNER: Good afternoon.

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JEFFREY GOLD: Well, good afternoon, and thank you, Chairman Stinner and members of the committee. My name is Dr. Jeffrey Gold, J-e-f-f-r-e-e-y G-o-l-d. I have the honor of serving as the chancellor of the University of Nebraska Medical Center. I'm the executive vice president and provost of the University of Nebraska System. I appreciate the opportunity to speak with you today as-- and address the impact of three of the bills that you'll be hearing about this afternoon that will span across the entirety of the 500-mile-wide Nebraska communities that we serve. You've heard from my colleagues and I hope to be able to add to that. The three UNMC requests that I will address are all highly sustainable and are all highly consistent with the explicit intent and the regulatory requirements of the American Rescue Plan Act, or ARPA. We very much appreciate the senators who have sponsored and supported these bills. First, let me address LB766 you'll hear more about in a few minutes, the \$15 million towards the creation of a pancreatic cancer center of excellence at UNMC. As many of you know, pancreatic cancer is the fourth-leading cause of cancer death in Nebraska, claiming the lives of over 200 Nebraskans a year. The incidence of pancreatic cancer in Nebraska increases every year due to the particular difficulty to diagnose it early and even more difficult to treat in its later stages. Further, the COVID pandemic has significantly delayed access to all cancer screening widely across the state, resulting in later diagnosis, which then results in later treatment, which then results unfortunately in increasingly tragic and potentially preventable suffering and loss of life. This is particularly true for pancreatic cancer. Our research success and our national distinction in this field has created a solid foundation. With this additional funding, the center will provide UNMC with critically important new resources needed to help our scientists and physicians develop and test novel early screening modalities and promising therapies for pancreas cancer, many of which will be applicable to other solid tumors such as breast, prostate, ovarian, and many others. The second bill I wish to address is LB950, that's \$10 million towards the UNMC Global Center for Health Security. UNMC's Global Center for Health Security has made Nebraska a national voice on health security expertise. Beginning over 20 years ago, this expertise was critical in our nation's response to the Ebola pandemic and many others. And more recently, while generating over \$46 million in extramural funding for UNMC, the center has helped inform and support global, national, and local COVID responses. It also has provided technical consultation to Nebraska's industries, universities, K-12 schools, the arts, athletics, and a myriad of other services as they navigated through this pandemic. This investment will help the center to maintain its leadership role in infectious diseases

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while maintaining Nebraska in national prominence in healthcare preparedness and response for all hazard events such as national disasters and other challenges to the health and security of Nebraska and our nation. As the pandemic has demonstrated, our health security not only impacts our personal and family safety, but our economy, our education, our travel, our spiritual, as well as our emotional well-being. From an economic perspective, it is estimated that this investment will have an annual economic impact of over \$27 million and add over 220 high-paying jobs. And then finally, as Chancellor Kristensen addressed and Senator Hilkemann and Senator Lowe, the critical need for a new facility. I wish to speak today regarding the ongoing funds to support the new program offering housing in the Kearney campus. For a long time, but accelerated over the past two COVID pandemic years, the rural Nebraska healthcare workforce has become more critically depleted. Retirement and career burnout have touched every community in our state, but a very high impact to rural Nebraska, which was at critical levels before. By expanding the educational programs through the Healthier Rural Nebraska Initiative at Kearney, UNK and UNMC will contribute significantly to the current and future state of rural physical and mental health workforce needs while also strengthening the economic growth, job creation, and in many instances, the very survival of some of our rural communities. I thank you today for your time and I'm very willing to answer any questions on any of these three bills that you may have. Thank you.

STINNER: Any questions? Senator Kolterman.

KOLTERMAN: Thank you, Senator Stinner. Welcome again, Dr. Gold. I've had the opportunity to work with you now for four years and it's key that we get the pancreatic cancer, which you addressed, the center of excellence up and running. Can you talk a little bit about the quality of candidates that are coming or the one that's coming for sure to run the program and the type of candidates who we'll have that apply to become part of the center of excellence?

JEFFREY GOLD: Well, first of all, thank you for your question and thank you for your support of this, Senator. The, the pancreas cancer research and clinical programs at UNMC are highly regarded worldwide. We have existing excellent programs in early diagnosis and, of course, state-of-the-art care, but I think you're referring to the recruitment of Dr. Sunil Hingorani from the Fred Hutchinson Cancer Center in Seattle, who is clearly regarded as one of the very top pancreas cancer physician scientists in the United States. Sunil will bring with him a team of investigators and clinicians to just add to the breadth and depth. We have been recognized by the National Institutes

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of Health with extensive extramural research funding, and by the way, as I'm sure you know, well supported by the private philanthropic community. The attraction to Dr. Hingorani and to others to join the center was based on the potential that this bill will be successful and I thank you for that.

KOLTERMAN: Thank you.

STINNER: Additional questions? Seeing none, thank you very much.

JEFFREY GOLD: Pleasure, thank you for the privilege.

JULIANN SEBASTIAN: Good afternoon, Chairman Stinner and members of the Appropriations Committee. Thank you for the opportunity to provide testimony related to LB721. I'm Juliann Sebastian, J-u-l-i-a-n-n S-e-b-a-s-t-i-a-n, dean of the University of Nebraska Medical Center College of Nursing. I am representing UNMC and the other deans whose programs are part of the Healthier Rural Nebraska Initiative of which you've been hearing about. I speak in support of LB721. As part of this initiative, the UNMC Colleges of Medicine, Pharmacy, and Public Health would add new programs to the UNK campus and the colleges of nursing and allied health professions would expand enrollments on that campus. Expansions would be made possible by the additional space in the building being-- that is being proposed, as well as the ongoing funding. As you know, shortages of healthcare personnel have worsened throughout the pandemic. Healthcare professionals have been reporting exhaustion and burnout, with some leaving their fields and others leaving one organization to seek better opportunities in another, leading to spiraling turnover and greater instability among clinical staff. Staff have been out due to COVID either because of illness or for quarantine or isolation. Many staff are retiring and some choosing to retire earlier than they had originally planned. The Nebraska Center for Nursing reports that 21 percent of the current registered nurse workforce was born between 1946 and 1964. This means that over the next eight years, that entire group will be of retirement age. This comes at a time when the population of the state is aging, with many people in need of healthcare. Further, data from the 2021 Registered Nurse License Renewal data indicate that more nurses are considering leaving their positions than in prior years. Similar issues and shortages are present in each of the other health professions as well. We know that rural areas experience a disproportionate impact of these shortages. All counties except Douglas and Lancaster have been designated by the state of Nebraska as shortage areas for at least one type of primary care specialty. The medicine and nursing workforces are not alone. For example, the number

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of practicing pharmacists in the state declined between 2017 and 2019 and now 17 Nebraska counties have no pharmacist at all. Health professional shortages themselves are a threat to the public's health. Nursing shortages are related to increased mortality, increased numbers of medical errors and injuries, closed beds, reduced access to surgeries and procedures, and inability to care for people when needed. In addition, with nearly 22 percent of Nebraska's population identifying as racial or ethnic minorities and none of the health professions groups reflecting that demographic composition, there is work to be done to ensure culturally congruent care for Nebraskans and opportunities to pursue these careers for all Nebraskans. The Healthier Rural Nebraska Initiative is a solution built on success. We thank all of you, the Nebraska Legislature, for the support provided for the first phase of the nursing and allied health expansion in Kearney. That investment resulted in the construction of the Health Science Education Center on the UNK campus and the expansion of our programs from 130 students enrolled in 2015 to 306 students enrolled in 2021, which is a 135 percent increase. Additionally, two programs were added beyond the original projections. Those are the occupational therapy program from the college of allied health professions and the accelerated program-- the accelerated BSN program from nursing. This success laid the foundation for this current request. The deans of the UNMC colleges have submitted letters on the legislative portal indicating their support and specific details for expansions building on this success. In closing, I wish to thank each of you-- Senator Stinner and each of you on the committee for the opportunity to provide support and testimony in support of this initiative. Dr. John Craig from Minden will follow me and will address similar issues from his perspective in clinical practice. I'd be happy to answer any questions.

STINNER: Any questions? Senator Clements.

CLEMENTS: Thank you, Mr. Chairman. Thank you, Dean Sebastian. Regarding the nursing program at UNK, is it full?

JULIANN SEBASTIAN: It, it is full.

CLEMENTS: You taking any applicants now?

JULIANN SEBASTIAN: No, we're admitting all the applicants that we can-- that we receive who are qualified. I'm pleased to share with you that our program has grown from roughly 124 students when we began the first expansion in 2015 to now 167 students and we're projecting adding 40 more with the new proposal.

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CLEMENTS: And there's enough demand or interest in students to fill the program--

JULIANN SEBASTIAN: There is.

CLEMENTS: --there?

JULIANN SEBASTIAN: There is. We work at it. We are building pipelines. We build connections with the community colleges. We never take it for granted, but there is interest and people-- many of our students are telling us they want to be part of the solution in terms of healthcare issues.

CLEMENTS: And are you finding those nurses want to work in rural Nebraska?

JULIANN SEBASTIAN: Yes, especially those that we educate in rural Nebraska and I would amplify Chancellor Kristensen's comments about 85 percent of graduates staying in the area. Those are close to the numbers. We're seeing anywhere from 80 to 90 percent staying in Nebraska statewide, depending on the program that they're in.

CLEMENTS: Thank you.

JULIANN SEBASTIAN: Thank you.

STINNER: Thank you. Additional questions?

JULIANN SEBASTIAN: Thank you.

STINNER: Thank you very much. Afternoon.

JOHN CRAIG: Good afternoon, Chairman Stinner and members of the Appropriations Committee. Thank you for the opportunity to provide testimony in support of LB721, a bill that appropriates funds for the University of Nebraska-Kearney and the University of Nebraska Medical Center's healthier rural Nebraska project. And thank you, Senator Hilkemann, for introducing the proposal. I'm John A. Craig. That's J-o-n-- J-o-h-n C-r-a-i-g. I currently live in Minden, Nebraska, where I'm lucky enough to practice as a rural family physician. I work for Kearney County Health Services. Today, I'm before you representing two factions of people: number one, as a rural community dwelling Nebraskan concerned about the preservation of the healthcare workforce in Nebraska; and two, the hundreds, if not thousands, of rural medical practitioners working every day to provide quality medical care to those we serve. I also had the opportunity to grow up in Minden,

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Nebraska, which is a town southeast of Kearney, around 22 miles. As a child, I saw the value of a local physician in a rural community and I made it my life goal to be some-- be one someday. In 2003, I graduated from Minden High School and then following that time, pursued secondary education at the University of Nebraska in Kearney, graduating in 2007. I got married and convinced my wife to return to Kearney in 2008, where I was lucky enough to be selected as one of the first classes of the Kearney Health Opportunities Program, where at that time, was a nontraditional student program. I completed that year and pursued my medical degree at University of Nebraska Medical Center. I graduated from UNMC in 2013. In 20-- 2012, I was accepted into the Accelerated Family Medical Residency Program, which was a program that was geared towards providing an additional year of experience to residents who planned to practice in rural settings. I graduated residency in 2016 and moved to Minden in that time, where my wife and I are raising our four children. I'm very proud to serve the community in which I was raised. Rural healthcare practice has been a major focus in my life. Providing quality healthcare to those in rural Nebraska is a problem that has recently been a focus of my thoughts, as the hardworking people of rural Nebraska deserve quality healthcare practitioners that are trained in a rural-focused setting. The opportunity to expand UNMC programming to the Kearney campus piqued my interest, as this would certainly help solve some of the challenges faced in recruitment and retention to those to rural practice. With the potential for increased students in the area, preceptorship of those students is something that our clinic and our organization has already given some thought to. Currently, we're signed up to be a rural preceptor site for family medicine residents from UNMC. Helping those students and residents interested in practicing in rural areas complete a rural-focused clinical training and experiential learning in the communities they plan to serve is something that is very, very important and something that I continue to explore in terms of educational opportunity for years to come. Training in rural Nebraska allows health professionals to, to be well-prepared to meet the health needs of our rural communities, become integrated into those communities, and experience the culture of the community. Rural healthcare practice is best experienced by learners in a rural setting, as it does provide unique challenges which student, students will be subsequently prepared for. I strongly believe that expanding UNMC's medical education to Kearney would attract students with a rural focus, thus increasing the probability that those students would eventually return to rural practice following training. Students would be able to see themselves living, working, and perhaps raising a family in a rural community and the importance of the economic

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viability for such communities are experiences that could be provided by expanding rural-focused education. As the healthcare workforce in Nebraska ages and eventually retires, recruitment to rural areas would be of importance, as studies show that most students practiced where--near where they trained. Providing expanded rural-focused medical education would provide-- would be progress towards preserving the viability of our healthcare workforce in rural Nebraska. Certainly, if I was given the opportunity to train in Kearney near my support system of my family and to learn the medical resources and systems that I would utilize in practice, I would have taken that opportunity without question. For all the reasons noted, I respectfully ask that you support both the \$60 million ARPA federal fund appropriation request to support the construction of the building to support this expansion and the \$15 million ongoing funding request necessary for the operation of the programs in allied health, nursing, medical--medicine, pharmacy, and public health. The healthcare workforce of the future, especially in rural Nebraska, depends on an investment and progress like this, innovative and based on proof of concept. In closing, thank you, Senator Stinner and members of the Appropriations Committee for the opportunity to provide testimony in support of the Healthier Rural Nebraska Initiative. I welcome any questions you may have.

STINNER: Thank you. Questions? Seeing none, thank you.

JOHN CRAIG: Thank you.

STINNER: Afternoon.

NOAH LIMBACH: Good afternoon, Chairman Stinner, members of the Appropriations Committee. My name is Noah Limbach, spelled N-o-a-h L-i-m-b-a-c-h, and I currently serve as the student body president and student regent at the University of Nebraska at Kearney. I want to thank you all for this opportunity. I'm here today on behalf of the University of Nebraska System to support LB721, which appropriates federal ARPA funds to construct a Nebraska rural health education building at UNK. This building will be home to a rural expansion of our state's health sciences education, including future physicians, mental health professionals, allied health professionals, along with an expansion of our training and nursing, all delivered in collaboration with the University of Nebraska Medical Center. This is a project that I'm personally very passionate about, as I was born and raised in rural Nebraska and I have a dream of practicing healthcare in the Kearey area, my home. However, this project isn't about me. It's about the betterment and advancement of our great state as a

whole. It is well known that the rural parts of our state are in desperate need of more providers across the entire healthcare network and UNK is uniquely poised to meet this ongoing challenge. As a Kearney native, I've had the privilege of watching my hometown grow over the last 21 years and I think that it's the perfect example of what happens when investments are made in healthcare. One specific example of this is UNK's exercise science department's impact on fighting childhood obesity in our community, a significant impact due to outstanding leadership and strong external partners. Kearney has developed a strong culture of health and that could not have happened without the collaboration of the University of Nebraska and the State Legislature. Kearney is unique in this fact, as most of rural Nebraska is facing an epidemic of healthcare inaccessibility. To solve this problem, we need to build a sustainable system. This system cannot exist without education serving as the foundation. When a student like myself is weighing the options of our future, we want to go where we're going to be supported and where we can grow. Investment in this project will send a strong message to the over 750 students at UNK pursuing a career in health sciences and countless others across the state and the nation. If senators like yourselves commit to supporting students through foundational and continual education here in rural Nebraska, we will not be talking about a rural healthcare shortage for much longer. This program presents the opportunity to set a national example on how to address the rising need for healthcare professionals effectively. As proven through exceptional professional program acceptance rates, UNK prepares students for careers in healthcare better than many peer institutions. I personally could not have asked for a better undergraduate experience to prepare me for the next step. UNK boasts a student body with over 40 percent being first-generation college students and boasts-- most being from rural Nebraska. Our students go into healthcare to better their communities and the pipeline that UNK has built into the healthcare field is admirable. However, there's a great need for additional resources in order for us to grow our healthcare network in rural Nebraska. This project will provide the education, the training, and the culture needed to allow students like myself to stay in rural Nebraska and provide help to those who make our rural communities so special. The beauty of healthcare is that it is a team effort, not a single person or profession. This project provides opportunities for nearly every player in this team. By investing and providing comprehensive healthcare education in Kearney, we will not only expand the number of providers in our state, but also train them in an environment that will prepare them to best serve the uniqueness of rural Nebraska.

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Thank you for your time. I'd be happy to answer any questions you may have.

STINNER: Thank you. Questions? Seeing none, thank you. Any additional proponents? Any opponents? Anyone in the neutral capacity? Seeing none, would you like to close, Senator?

HILKEMANN: Yes, I would. First, I want to address Senator Dorn and your question. As I was sitting there and you asked that question, I got thinking back. I didn't go to the University of-- I went to Nebraska Wesleyan. And in my entering class in 1965, I'm guessing that there were probably 100 of us that were interested in pre-med. I think maybe out of that 100, maybe only 8 to 10 of us got a terminal degree, either as an M.D. or podiatrist or dentist, physical therapy, osteopathy. Can you imagine-- when this gets going, there's probably going to be-- as Chancellor Kristesen-- you got 900. There's probably going to be 500 more students, at least, go to Kearney just because of the potential of getting into the medical school program. So it's going to be a huge thing for their whole undergraduate education then. That just came to me during that whole-- your, your, your question prompted that. So why is a senator that represents urban Omaha bringing this bill? As many of you know, I was raised on a farm in northeast Nebraska, Randolph. And you've probably all heard the story, you can take the boy off the farm, but you can't take the farm out of the boy, and that's me. I still love rural Nebraska. I know the importance of our healthcare. I was fortunate in Randolph, Nebraska, when I was growing up, there were actually two M.D.s in the town. Now they have an M.D. occasionally that comes into the town and now it's a physician's assistant, at least have some type of healthcare. While I was training or when I was practicing in Omaha, I developed a rotation to the University of Nebraska Medicine with their rural health or family physicians. And they actually did an elective rotation in my podiatry practice as would-- they would be there from anywhere from two weeks to a month and it was-- again, it was an elective that they had. I probably, over the years, helped train 30 or 40 of their family practice residents and some of these people had been part of the, the, the KHOP or RHOP-type program. And I would, I would talk with and said, now, are you going back to so-and-so, are you going back to wherever your-- particular area you were coming from? A lot of them, no, well, I got here and I met my wife or, or I met my husband or whatever and I'm going to-- I have to be within 50 miles or whatever. And I thought it's important that we train these people where they want to practice down the line. And when I first-- in my first conversation with Dr. Gold, I said, what are the possibilities of getting a medical school at the University of Nebraska-Kearney? He

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said, oh, there's so many components to that and that's-- it's easier said than done and it's so forth. But he said, you know, we, we, we, we're training them some out there now, but it's not like having an M.D. school. I've never, I've never quit asking that question of our presidents and I've brought it up to Chancellor Gold numerous times. When are we going to establish a medical school at University of Nebraska-Kearney? I was so honored at this point that they now with-- the potential, this one-time potential that we have of using these funds to start a transformative medical school that will-- for-- dedicated to rural healthcare. Just as you and I, Senator Stinner, took that trip out-- we didn't really know what iExcel was until we saw iExcel. That facility, if you haven't seen it in Omaha, take the time to do it. It is-- it, it not only has been great for the medical school, for our state, for our nation, it has international prominence. I can see this medical school starting off being very important to rural Nebraska, to our state. And with the leadership that we have at UNMC, this will be the model that other states will take in, in establishing rural healthcare facilities. And with that, I would answer any other questions you may have.

STINNER: Senator Clements.

CLEMENTS: Thank you, Mr. Chairman. Thank you, Senator Hilkemann. I'm just not sure how comprehensive this facility would be. Would a-- would family physicians be able to receive all of their training in Kearney?

HILKEMANN: Absolutely.

CLEMENTS: Really?

HILKEMANN: Yes, they would-- you would go-- you would start-- get your-- you could get your-- every-- you have-- for physicians, you have to have the, the bachelor's degree to begin with. And if you got accepted to that program, you could become-- get your M.D. program right there at Kearney.

CLEMENTS: So you wouldn't have to go to Omaha for part of it?

HILKEMANN: You would not have to go for that. You could go directly from that program and get your M.D. And, and they've-- already doing some training of residents. I don't know how the expansion-- if they may even have the-- but believe me, if we've got the students there, we'll have the residents that will come there.

CLEMENTS: Thank you.

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HILKEMANN: You bet and I-- it's-- it will-- yeah, it, it, it's--

CLEMENTS: I wasn't sure--

HILKEMANN: --going to mushroom.

CLEMENTS: --whether it was just an in between or--

HILKEMANN: No, it's not an in between.

CLEMENTS: OK.

HILKEMANN: This will be-- they will come out with a terminal M.D. degree.

CLEMENTS: OK.

STINNER: Additional questions? Seeing none, thank you, Senator Hilkemann.

HILKEMANN: --very much.

STINNER: We have 19 letters of support for LB721 and one in opposition and that concludes our hearing on LB721. We will now open the hearing for LB766.

VARGAS: That's one way of going about this.

DORN: Way different name and all that.

STINNER: Senator Kolterman.

KOLTERMAN: Good afternoon, fellow members of the Appropriations Committee. For the record, my name is Mark Kolterman, M-a-r-k K-o-l-t-e-r-m-a-n. I represent the 24th Legislative District. I come before you today to introduce LB766 for your consideration. As introduced, LB766 is a bill that allocates \$15 million of federal ARPA dollars to create a center of excellence at the University of Nebraska Medical Center that would focus on pancreatic cancer research. Before any state dollars are appropriated from Nebraska's share of the federal ARPA dollars, the university must raise \$15 million in private funds for this same purpose, thus creating a private-public partnership to research this terrible disease. While LB766 appropriates these dollars from ARPA, I would encourage the committee to explore other funding sources should the ARPA not be proper vehicle for funding this important project. I will tell you I have handed in an ARPA form to Senator Stinner. As you know, my involvement in this

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proposal is based on personal experience. I lost my wife, Suzanne, to pancreatic cancer four years ago. Her diagnosis came without warning, as she was a picture of health until she began noticing symptoms after the cancer spread throughout her body. Unfortunately, this could happen to anyone, any one of us, any of our families without warning until it's too late. In visiting with the medical professionals on how to screen for this cancer, it's-- it became quickly evident that there is no such screening available and there's very little that can be done to prevent the onset of this disease. Today, you'll hear from Dr. Kelsey Klute, a researcher who studies this cancer, Dr. Jim Armitage, a highly regarded oncologist who lost his first spouse to pancreatic cancer and his, his new spouse is with him today. One day as Dr. Armitage and I were talking, he shared the idea of establishing a pancreatic cancer center for excellence at the University of Nebraska Medical Center and I told him I wanted to help. This idea was endorsed by the Board of Regents and now we're working on funding the center. It's my hope that this new center will help many in the generations to come as UNMC focuses on pancreatic cancer research and treatments. Our goal is that one day, they will discover a screening for this disease and eventually find a cure. The reality is that currently there is inadequate focus on this, this specific type of cancer and is considered unfunded, and is considered unfunded research, largely because of how rare it is and the high mortality rate. While it's a relatively rare type of cancer, approximately 62,000 Americans or 170 people every day are diagnosed with this disease each year. Sadly, I'm certain that each one of you know somebody who's died from this horrible disease or is currently undergoing treatment. I believe in the University of Nebraska Medical Center and the great work that they're doing and I wish them the best as they look for a screening, new treatments, and maybe someday a cure. I'm hoping that with the establishment of this new center of excellence, we, as the Nebraska Legislature and citizens of Nebraska, can help them achieve their goal. With that, I'd be happy to try and answer any questions you might have.

STINNER: Any questions. Seeing none, thank you, Senator. Good afternoon.

KELSEY KLUTE: Good afternoon. My name is Kelsey Klute, K-e-l-s-e-y K-l-u-t-e. I'm here today representing the University of Nebraska Medical Center and the Fred and Pamela Buffett Cancer Center. Thanks for the invitation to speak in support of LB766. I'm a medical oncologist. My specialty is treating cancers of the digestive tract, especially pancreatic cancer, and I lead our clinical research program in GI oncology at the Buffett Cancer Center. It's no secret that

pancreatic cancer is a terrible disease. It's one of the deadliest cancers. The odds of someone who's diagnosed with pancreatic cancer surviving five years is only 10 percent and the reality is that most people die within a year of diagnosis. Why is it so deadly? First, we almost always find it too late. Most of the time, it's spread to other organs by the time it's diagnosed and a curative surgery is no longer even a possibility. Second is disease biology. It's more aggressive and resistant to chemotherapy than almost any other cancer, which is why, even with our most effective therapies, most people die within a year of diagnosis. Here in Nebraska, pancreatic kill-- pancreatic cancer kills more than 200 people a year. Taking care of these patients with pancreatic cancer has always been a challenge, but as Dr. Gold mentioned, COVID-19 has only compounded these challenges. In the past year, we've seen more advanced stage incurable cancer driven by COVID-19 related delays or difficulty accessing care and we know that the pandemic impacted cancer screening. Across the U.S., 10 million less cases of cancer were diagnosed than expected in 2020 alone. Clinical trial enrollment took a huge blow in the height of the pandemic and our clinical research infrastructure was all but dismantled by pandemic effects and so we expect we'll see lingering effects on the development of new therapies and on cancer mortality for years to come. In terms of pancreatic cancer, there's two ways to improve outcomes; one is early detection, the second is better therapies. The Buffett Cancer Center has built a comprehensive pancreatic cancer research project-- program, which is dedicated to these challenges. The program now is internationally recognized for its expertise and depth in pancreatic cancer research and is currently funded by \$8 million a year in grants from the National Cancer Institute. And these grants have allowed our program to establish, establish several unique resources. One is a program that I lead, our early detection and pancreatic cancer study. We're the first in the country to formally explore blood biomarkers of early pancreatic cancer in high-risk individuals. Our study opened in 2018 and we've enrolled almost 500 Nebraskans, several of whom have gone on to develop pancreatic cancer. The blood samples that we've collected from those individuals during the months and years before their diagnosis are precious to researchers both here in Nebraska and to our collaborators across the country who are developing blood tests, which could detect pancreatic cancer at its earliest stages. As Dr. Gold mentioned, to expand the existing foundation of basic science research and patient care, the cancer center has proposed a pancreatic cancer center of excellence and Dr. Sunil Hingorani has been named the first director of the center. He's internationally recognized as a researcher and oncologist and he was recruited from Seattle. And with

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his leadership and innovative approach to studying novel treatment strategies, the center is expected to accelerate UNMC on its path as a world leader in pancreatic cancer research and treatment. A program like this does not just benefit people with pancreatic cancer. Progress in one cancer type almost always trickles down to other tumor types. These research programs also create new jobs in science, technology, medicine, and attracts trainees and faculty to Nebraska. I'm one of many examples of this. I didn't grow up here. My medical training took me from medical school in North Dakota, where I grew up, to residency in St. Louis and fellowship at Cornell Hospital in New York City. But the depth and breadth of the pancreatic cancer program at the Buffett Cancer Center and its potential for growth and innovation is what sealed the deal for me on my recruitment to Nebraska six years ago. Our current funding supports about 20 percent of our best ideas, meaning four out of five of our best ideas for how to better diagnose and treat this disease are delayed or not even investigated because of insufficient funding. The state funds, combined with existing philanthropic funds, would support recruitment of scientists, clinicians and really allow us to pursue more of our more innovative approaches to treating and detecting this disease. So I ask you to please consider the impact of LB766 to accelerate progress and realize the full potential of a pancreatic cancer center of excellence at UNMC. Thanks for your time and attention and I'm happy to take any questions at this time.

STINNER: Thank you. Questions? Senator Hilkemann.

HILKEMANN: Doctor, isn't it true that Nebraska has a much higher incidence of pancreatic cancer than other states?

KELSEY KLUTE: It's higher here than it is across the nation, yes.

HILKEMANN: OK. What percentage of your patients, when they get the diagnosis, just basically go into hospice-type care?

KELSEY KLUTE: 10, 15 percent.

HILKEMANN: Thank you.

KELSEY KLUTE: You're welcome.

STINNER: Additional questions? Seeing none, thank you very much.

KELSEY KLUTE: Thank you.

STINNER: Good afternoon.

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JIM ARMITAGE: Hello, Chairman Stinner and members of the Appropriations Committee. My name is Jim Armitage, J-i-m A-r-m-i-t-a-g-e. and I'm here with my wife, Shirley, Shirley Young Armitage, S-h-i-r-l-e-y Y-o-u-n-g A-r-m-i-t-a-g-e, and we are here to speak in favor of LB766. I'm a professor and oncologist at UNMC and I will make a few remarks and we will both be happy to respond to any questions or comments. We are two of the many people whose lives have been changed by pancreatic cancer. Shirley's husband, Jim Young, who some of you might have known, and my wife, Nancy, died of the disease. Because of other cases in our families, we are very concerned for our children and grandchildren since approximately 15 percent of pancreatic cancers seem to be inherited. But we are just two of many whose lives have been disrupted by this terrible disease. You have previously heard from Doctors Gold and Klute how terrible the outcome-- [INAUDIBLE]. You heard from our friend and university chancellor, university provost, Jeff Gold, who lost his father to this disease. We just heard from Mark Kolterman. You know our friend Gary Sadlemyer, I believe. Both he and Mark lost their wives. Creighton University lost Father Schlegel. University Board of Regents recently lost former regent Bob Whitehouse. Our state not too long ago lost one of our very best athletes and the best pitcher ever, Bob Gibson. Unfortunately, we could go on and on and on. You previously heard from Doctors Gold and Klute about how terrible the disease is, although some pancreatic cancers have a better outlook. By far, the most common is the typical ductal adenocarcinoma. Because the disease is usually widespread or locally extensive at the time of diagnosis, the ultimate cure rate is only about 5 or 10 percent. Despite the fact that this is only the 11th most common cancer, it will soon become the second cause of cancer death in America because its incidence continues to increase and treatments are improving for other cancers. Directors of movies and authors of books now regularly give an individual in their story pancreatic cancer when they want the viewers and readers to know that that person has a fatal disease. University of Nebraska Medical Center has outstanding basic research in pancreas cancer and was one of the developers of a type of radiotherapy used to treat this disease. As you've heard from Dr. Klute, we have a leading program in studying approaches for early diagnosis, which are desperately needed. We have extraordinarily young medical oncologists and surgeons, as exemplified by Dr. Klute. A group of committed people, including Jeff Gold and Shirley and you heard Mark Kolterman and myself, decided some years ago to take advantage of the strengths at, at UNMC to try to build a world-leading program in pancreatic cancer, a place where people will come from all around the world for care because we will offer hope for a better outcome. UNMC has done this before in transplantation and

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lymphomas. There is no reason why we in Nebraska can't be the best of this anywhere if we all pull together and have the right leadership. After all, Tom Osborne showed us years ago that this was possible. The regions and the leadership at UNMC have committed to a pancreatic cancer center of excellence. We have raised funds for a presidential endowed chair for the director and the community, including both corporations and individuals, will match the funds that we hope you will allocate. The first director will be Dr. Sunil Hingorani, as you heard from Dr. Klute and Dr. Gold. He really is a world-famous clinical and basic investigator in pancreatic cancer who committed his life to this work when his father died from the disease while he was training in oncology in Boston. He's also a great guy and I hope that you all have a chance to meet him when he gets here in a couple of months. Success will not come cheap, but your support will make it happen. You will launch a program that will bring resources to our state that we would not have had, cause pride in what will be accomplished, give hope to patients and families facing this terrible disease, and the final outcome will be people surviving that would have been dead. Thank you for all you do for our state. Shirley and I would be happy to respond to any questions or comments.

STINNER: OK. Any questions?

HILKEMANN: Just--

STINNER: Senator Hilkemann.

HILKEMANN: Just a quick personal question. How is your son, Joel, doing?

JIM ARMITAGE: He is loving doing general internal medicine.

HILKEMANN: Wonderful. His son did a-- was one of those who did an internship in my office while he was going through his residency, so good to hear he's doing well.

JIM ARMITAGE: He's having a good time.

STINNER: Any additional questions? Seeing none, thank you very much.

JIM ARMITAGE: Thank you.

STINNER: Good afternoon.

KAREN GRIFFIN: Thank you. Hello, Senator Stinner and members of the Appropriations Committee. My name is Karen Griffin, K-a-r-e-n

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G-r-i-f-f-i-n, and I'm here today to provide testimony in support of LB766 and I thank you for the opportunity to speak. As you have just heard from the medical professionals at UNMC, pancreatic cancer is an absolutely devastating disease. The statistics are very clear. The survival rate after five years after-- five years after diagnosis for all types and stages of pancreatic cancer is only 10 percent. Think of it this way: what if all nine of you committee members and me were, were diagnosed with pancreatic cancer? With the current survival rate, that would mean that only one of us would be here in five years. Well, guess what? I'm that one, I'm that one per--

HILKEMANN: Wow.

KAREN GRIFFIN: --that 10 percent. In 2015, I was diagnosed with pancreatic cancer. Although it has not been easy with surgeries, radiation, and monthly treatment injections, I truly am one of the lucky ones. I am so grateful for every single day since 2015 when I heard my news-- the news of my diagnosis, but I am not here to talk about me. I'm here to talk about the future. Think about what might come to pass if the scientists at UNMC are successful with their research. What if the rate of survival went from 10 percent to 20 percent because of the new techniques for early detection? Going back to my analogy, that would mean that two of us would survive past the five-year mark and I wouldn't be sitting here alone saying this. Furthermore, with two-- with new treatments and therapies from UNMC, the survival rate could go up again from 10-- from 20 to 30 percent and so on. That would mean that there would be new hope for the positive outcomes for those that are diagnosed with pancreatic cancer in the future. That is what I hope for and for that reason, I ask that you support LB766 and the appropriation of \$15 million for pancreatic research. Thank you for your consideration and I'll answer any questions.

STINNER: Any questions? Seeing none, congratulations.

HILKEMANN: Thank you for being here.

KAREN GRIFFIN: Thank you.

HILKEMANN: --sharing your story.

STINNER: Any additional proponents? Any opponents? Anyone in the neutral capacity? Saying none, Senator, would you like to close?

KOLTERMAN: First and foremost, I'd, I'd really like to thank the testifiers that have been here today: Dr. Klute-- Dr. Hollingsworth

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couldn't join us-- Dr. Gold-- Dr. Cowan couldn't be here-- and also, Jim and Shirley. I appreciate that. And Karen, what a powerful statement. Dr. Klute talked about the, the programs that are available, the research programs that are available. I'm happy that every time I hear somebody getting pancreatic cancer, I ask them to reach out to the Med Center and get involved in those programs because that all helps us-- my, my own children and my brother-in-laws and sister-in-laws are enrolled in that program. It's a wonderful program. It's a way that we can educate the public about the possibilities of finding a cure or finding early detection. Fifteen million dollars sounds like a lot of money. Well, not really anymore, not the way we throw dollars around in this room, but the reality is in last Sunday's newspaper, we saw the economic impact study of the University of Nebraska on the state of Nebraska. Where are you going to get a nine-to-one return on investment any better than putting \$15 million into a program like this? You know, you already heard that Dr. Klute came from New York to be in this program. She's the best of the best. You put her with the good doctor that's coming from the West Coast, we have a lot to be proud of in this state and we need, we need to continue to promote good quality paying jobs like this-- these would create. But more importantly, we need to lead the nation in finding a cure for this dreaded disease. So with that, I'd-- I would ask that you, if it doesn't qualify for ARPA, that we find a way to fund this program and that we advance it to the floor of the Legislature. So with that, I would entertain any questions.

STINNER: Senator Clements.

CLEMENTS: Thank you. This talks about creating a center. Is there a new building, brick-and-mortar involved or is there already a place for it?

KOLTERMAN: Well, when the Buffett Cancer Center was built, there was room in, in that facility for research. And at the present time, I believe they're utilizing that research area right now for this program. So it wouldn't take a new building and they have approved-- the, the regents have approved the idea of creating this center of excellence. They actually did that a couple of years ago when I first brought the bill. And so no, there is, there's no brick-and-mortar that would be involved. We have adequate facilities to handle the program.

CLEMENTS: OK, thank you.

STINNER: Additional questions? Seeing none, thank you, Senator.

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KOLTERMAN: Thank you.

STINNER: We have 15 letters of support for LB766, no opposition, and no neutral. That concludes our hearing on LB766. We'll now open with LB904.

DORN: Good afternoon, Senators-- Chairman Stinner and members of Appropriations Committee. I am Myron Dorn, M-y-r-o-n D-o-r-n, and I represent District 30, which is all of Gage County and the southeastern corner of Lancaster County. I am here today to introduce LB904 for your consideration. This bill would appropriate \$50 million in ARPA funds to the University of Nebraska to invest in a new Nebraska Innovation Campus data center as part of the Holland Computing Center. Investment in this new data center would be-- boost real-time data availability and cyber attack prevention for Nebraska ag producers and businesses. With enhanced capabilities through connectivity and data comes the risk of cyber threats. Our state and our businesses are and have experienced cyber attacks. For instance, a recent cyber ransom of \$11 million happened to the JBS meat processing company in Grand Island. Another recent \$5.9 million ransomware attack was at the new cooperative, an Iowa-based co-op, which is part of the ag industry supply chain. To put it into perspective, a 1 percent disruption to Nebraska's ag complex would equal an \$880 million loss. This new data center with more artificial intelligent computing and cybersecurity capabilities would use these ARPA funds to help Nebraska businesses, agribusinesses, and ag producers protect their data. In the ten years-- in ten years, this \$50 million investment could conservatively turn into \$1 billion for Nebraska and in turn, provide more high-tech jobs for Nebraska. These are the type of jobs we need and we want to have in this state. Chancellor Green is here to speak to more of the technical side of the cybersecurity and the Holland Computing Center on the behalf of the university. But I also wanted to-- part of why I kept my written remarks shorter was one of the-- also a little bit like Senator Hilkemann, tell a little bit of a story. About two weeks ago-- I don't remember exactly when we, we had the opportunity to have lunch with the independent insurance agents. And I sit down at that table not knowing who the individuals were, they're always from your district and one of those was from Lincoln. And early on in the conversation, we got into the part of cyber-- how he had risen or how his business had grown. He started 14 years ago. It was never on his radar. Nobody ever talked about it and how over the years, particularly the last two to four years, the increase in interest in having some type of insurance program not only for companies, but banks and all kinds of people or individuals. He said that part of his business has grown beyond what he ever expected. And

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the reason I bring that up is not because that part of the business has grown, but that is a need as we go forward in not only the state of Nebraska, but in the ag industry and protecting all of those ransomware cyber security issues that-- we will be facing greater amounts of those in the future. So we will let other people have the mike and talk about this. If anybody has any questions for me, I'd be glad to answer them. Otherwise, we'll be around later here.

STINNER: Additional questions? Seeing none, thank you, Senator.
Afternoon.

RONNIE GREEN: Good afternoon, Chairman, Chairman Stinner and members of the Appropriations Committee. My name is Ronnie Green, R-o-n-n-i-e G-r-e-e-n, and I have the privilege of serving as the chancellor of the University of Nebraska-Lincoln. I'm pleased to be here today to testify in support of LB904, introduced by Senator Dorn. We are very appreciative of Senator Dorn's recognition of the transformational importance of this proposal to-- for Nebraska and his commitment to this legislation. LB904 proposes a \$50 million investment at the Nebraska Innovation Campus to dramatically expand the University of Nebraska's Holland Computing Center capacity and a new data center for enhanced high-speed computing, new cutting-edge research, and company growth. This expansion will include new infrastructure and capacity targeted at artificial intelligence computing and cybersecurity. This effort will provide differentiating capacity for research and development, engineering design, operations, and logistics. Key participating partners will include agricultural and food industries, logistics, finance, defense, space, cybersecurity, medical and life sciences, as well as education and human services institutions. The data center is planned and budgeted as a modular building especially suited to data center requirements. The data center and computing hardware will be sited at the Nebraska Innovation Campus and will leverage advanced networking and sophisticated energy investments already in place on that campus. The NIC centralized renewable energy system-- we refer to it as CRES-- utilizes a city wastewater stream as a heat sink to heat and cool the buildings on the campus. The proposed data center will be hooked to this CRES and will pool heat from the data center to make the CRES even more efficient. With a microgrid employed to supply power for the data center, it is possible to utilize the methane produced by the city's wastewater treatment facility to power the electric generation. This will in fact be a green data center that increases the profitability of the CRES and lowers energy costs at Nebraska Innovation Campus. This new capacity will serve Nebraska companies on a cost recovery basis. It will impact student recruitment, workforce development, and retention of a high

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technology labor force. In addition, it will enhance the University of Nebraska's capacity to coordinate and leverage national research and development programs in artificial intelligence, machine learning, data science, cybersecurity, agriculture, manufacturing, and medicine. Agriculture, in particular, will be a direct beneficiary of the expanded Holland Computing Center. Nebraska agricultural producers and agri and food businesses are using the latest technologies to make their operations more effective than ever, but the advanced tools of today and tomorrow are only as good as their access to real-time data and the security and integrity of that data in the face of real and present cyber threats. With enhanced capabilities through connectivity and data, and data comes the increased risks of cyber threats, which Nebraska companies are already facing, as you just heard from Senator Dorn. Two recent examples include the \$11 million in cyber ransom targeting of JBS meatpacking company at their location here in Nebraska and the \$5.9 billion ransomware attack at the new cooperative. This new data center, with more artificial intelligence computing and cybersecurity capabilities, will help Nebraska business, agribusiness, and ag producers protect their data and boost real-time data availability. The expansion is also directly complementary to support the National Center for Resilient and Regenerative Precision Agriculture, a national facility of the U.S. Department of Agriculture's Agricultural Research Service now under development at Nebraska Innovation Campus in full partnership with UNL. Companion efforts to accelerate internships, entrepreneurship, and startup companies, as elucidated in LB703 proposed by Senator Williams, will directly leverage the new Holland Computing Center as well, as you have heard earlier this afternoon in testimony. The expansion will offer opportunities for the NU National Strategic Research Institute to scale R&D partnerships with the Joint Artificial Intelligence Command of the Department of Defense and other military enterprises focused on cybersecurity, as well as be complementary to the efforts around nuclear command and control renovation that I think the Legislature heard about earlier from President Carter. This effort will build on emerging partnerships that UNL has established with two different national artificial intelligence institutes funded by the National Science Foundation. It will offer opportunities to leverage national efforts underway for a network of cybersecurity research and service facilities. With this network, we envision a regional cybersecurity extension organization that will support small- to medium-sized businesses, much like our current manufacturing extension program and the Nebraska Business Development Center. Additional cybersecurity opportunities include regional facilities for a cybersecurity range and a cyber observatory, both supported via grant

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or partner funding. Over a ten-year period, this initial \$50 million investment will conservatively enable more than \$1 billion in capital investment and R&D spending in the state of Nebraska. Senators, this investment will ensure that Nebraska is the regional hub of excellence in economic growth in cybersecurity and artificial intelligence for generations to come. It is crucial in safeguarding Nebraska's agricultural, manufacturing, financial, logistics, and other industries while spurring advances in other key digital domains important to Nebraska, including civic infrastructure, Omaha's architectural and engineering complex, national defense, and healthcare sectors. I hope that you will fully support this transformational proposal for Nebraska and I would be happy to address any questions that you may have.

STINNER: Any questions? Senator Kolterman.

KOLTERMAN: Thank you, Senator Stinner. Chancellor Green, thank you for coming today. You talked about the Holland Computer Center [SIC]. I'm not familiar with that program. How, how successful has it been? And, and you also talk about, in your opening here, leveraging it to expand it. Talk a little bit about that.

RONNIE GREEN: Yeah, Senator, thank you for the question. The Holland Computing Center was established by the university in the early 1990s as our first supercomputing facility to enable and undergird our research programs across not only UNL, but also the other campuses in the system. So that, that current computing center has that basic infrastructure for supercomputing that has, that has been very successful. The leveraging of those dollars into the, the R&D process for us has been huge over that period of about 30 years. This proposal expands that Holland computer-- Computing Center in terms of enhanced data center and particularly the high-level software and hardware requirements for cybersecurity and artificial intelligence that we don't have today. So that's-- hopefully, that gives you--

KOLTERMAN: Yeah.

RONNIE GREEN: --a little better--

KOLTERMAN: So in other words, it would fit right in with the other programs that you're talking about that we've listened to already today.

RONNIE GREEN: Correct, absolutely.

KOLTERMAN: All right, thank you.

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STINNER: Any additional questions? Seeing none, thank you.

RONNIE GREEN: Thank you.

STINNER: Afternoon.

ROB ROBERTSON: Good afternoon, Senator Stinner and members of the Appropriations Committee. I'm Rob Robertson, R-o-b R-o-b-e-r-t-s-o-n. I'm chief administrator of Nebraska Farm Bureau Federation here today in support of LB904. Nebraska Farm Bureau is the state's largest farm organization. We represent-- our members represent about one-third of the farmers and ranchers across the state. Investing \$50 million in new data center at Nebraska Innovation Campus as a part of the Holland Commuting Center [SIC] will be a huge first step in partnering and serving Nebraska farm and ranch families and, and agriculture overall. With the rapid growth of precision agriculture and the use of the GPS systems in agriculture, producers rely heavily on, on high volumes of real-time data to make production decisions on how we raise, grow, and market livestock and crops. The data and artificial intelligence, intelligence involved in today's agriculture production provides producers the technology tools to effectively manage planting rates, fertilizer inputs, water usage, pesticide applications, livestock health, precision, feed rations, healthy soil practices, just to name a few. The tools not only reduce costs on ag operations, but they also are used to improve their environmental footprint, allowing agriculture to be more sustainable and regenerative in the future. Having our land-grant university by our side with the latest research and enhanced computing capacity for a huge amount of time that we-- the-- of data that is being created by agriculture will go a long way toward keeping our state's largest industry on the cutting edge of producing food, fiber, and fuel supplies. With all this data in agriculture, the risk of cyber threats and attacks have increased exponentially. The recent ransomware events costing \$11 million at JBS and \$5.9 million, as you heard earlier, at the new cooperative are just the tip of the iceberg of what could come to agriculture in the cyber security area. The new and very huge risk for farm and ranch producers has become cybersecurity. Unfortunately, agriculture industry is way behind in the cyber security world in terms of government and land-grant university assistance. We strongly believe that this new data center created by LB904 could enhance the computing and cybersecurity capabilities at UNL to support and protect not only Nebraska agriculture, but agriculture in the Midwest and across the nation. Agriculture requires a super strategy on cybersecurity. It is no longer an option. Today, farm tractors, combines, and other ag equipment are less mechanically driven and are more software driven.

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Just imagine 10 percent of the John Deere combines being shut down on October 15 in the state of Nebraska. What impact would that have on our economy, our food supply, and everything else in Nebraska? And it, it could happen. Our food supply could be the next Colonial Pipeline shutdown situation. We could all get along without gas or tires for a few weeks, but we could not get along without our food supply for even a few days. Looking at what is on the horizon in agriculture, it is imperative that Nebraska makes this investment to keep its largest industry on the cutting edge of data connectivity and usage. At the same time, at the same time, this investment would address the very real threat of cybersecurity that could not only shut down our state's economy, but also shut down our food supplies nationwide. Currently, we have a small shield in agriculture that's against cyber threats, but we have huge swords out there, as evidenced by the private industry notification issued by the FBI cybersecurity division on September 1, 2021, and that's attached to your, your testimony. It was a cyber security alert to the food and agriculture sectors. We believe LB904 would be a very wise investment in Nebraska and could put our state on-- our agriculture industry and our land-grant university in a leadership position in data management research area across the country and it would build a protective shield against the potential cyber threats that now face agriculture. Thank you for your time and I'll be happy to answer any questions that you folks might have.

STINNER: Thank you. Questions? Seeing none, thank you.

ROB ROBERTSON: Thank you.

STINNER: Good afternoon.

JEREMY WILHELM: Good afternoon. Mr. Chairman, members of the committee, I am Jeremy Wilhelm, J-e-r-e-m-y W-i-l-h-e-l-m, and I'm the president and chief executive officer of Frontier Cooperative with headquarters here in Lincoln, Nebraska. I also serve on the board of directors of the Nebraska Cooperative Council and I'm here appearing today in support of LB904. Frontier Cooperative is a farmer-owned agriculture cooperative that maintains 60 locations throughout eastern Nebraska and employs 425 full-time employees. We're a full-service cooperative serving our 6,000 farmer-owners in grain, agronomy, fertilizer, seed, feed, energy, and related goods and services. Prior to my tenure at Frontier, I served as chief operating officer at Western Milling in Goshen, California. I've also held a variety of executive and board positions with various ethanol companies in the Midwest. In addition, I still play an active role in our family farm operating near Syracuse, Nebraska, growing corn and soybeans. I can

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tell you with full confidence that agriculture from the farm to the table is just as reliant upon digital technology, electronic data, high-speed computing, and cybersecurity as any other industry. From the agronomist planning with agricultural producers to establish their input needs for the growing season throughout the application and growing season to paying our farmers for their commodities, information technology plays an increasingly present and important role in how agriculture cooperatives interact with their farmer-owners. In the fall of 2021, two well-publicized ransomware attacks occurred targeting farmer-owned cooperatives, one in Iowa and one in Minnesota. Within days of these attacks, federal authorities warned Nebraska cooperatives that we, in fact, could be the next to be targeted. Why during the fall? The bad actors behind such threats know that this is when crops are harvested, transported, stored, and exported. The foundation of our food supply rests in the ability of the agriculture industry to move commodities from the field to the table in an efficient, uninterrupted manner. Within the last five years, cybersecurity has gone from being an element of risk management for the cooperatives to the priority of risk management. We see this in the heightened levels of interaction that our cooperative system has with the Department of Homeland Security and the FBI. We experience this not only in rapidly increasing costs of cybersecurity insurance, but also the increasingly difficult technological standards that we must obtain to meet the needs of the cybersecurity insurance carriers. This evolving risk management environment demonstrates how rapidly the risks have increased to our information technology systems. I am here today to support LB904 because the University of Nebraska, as the state's land-grant university, is perfectly positioned by location and existing connections to Nebraska agriculture to be the national center to research and develop information technology platforms and cybersecurity innovation specifically targeting-- targeted to enhance and protect the agriculture food chain from the farm to the table. Most casual observers would be surprised by how many of our employee positions require IT training and experience in a variety of specialized digital platforms. In fact, as our labor crisis in rural Nebraska deepens, you will see more and more companies turn to artificial intelligence and robotics. While this may help with the workforce shortage, new technologies in agriculture must have practical application now rather than in the future and must be secured immediately rather than someday. The investment sought through LB904 to create the infrastructure in Nebraska targeted at artificial intelligence, cybersecurity, and digital innovation in agriculture will help secure not only the nation's food chain, but also secure Nebraska's farmers

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and the companies like the cooperatives that exist to serve them. I have heard it said by members of the Legislature that the federal funds that the state will receive from the American Recovery Plan Act present a once-in-a-lifetime opportunity for transformative change in Nebraska. There should be no higher priority for this transformative change than developing the infrastructure to support and protect the digital platforms relied upon by Nebraska agriculture and the nation's food chain. As a leader of a farmer-owned ag cooperative and as a Nebraska farmer, it is my opinion that LB904 represents the best opportunity for the state and the University of Nebraska to meet this priority. I would like to thank Senator Dorn for sponsoring LB904 and thank you to the committee for your consideration. I would be happy to answer any questions.

STINNER: Questions? Seeing none, thank you. Any additional proponents? Any opponents? Anyone in the neutral capacity? Seeing none, Senator, would you like to close?

DORN: I'll try to keep it short here. I just-- I think what Mr. Wilhelm said there was very key and important that the cybersecurity issue, that not only the state, but really agriculture-- well, agriculture and everybody in the state is-- five years ago, they were just looking at it as a little kind of blip on the radar. Now it's real. Going forward, it's going to be more than real. It will be affecting us greatly. So just thank you for the opportunity to present the bill and thank you for the opportunity to listen to us.

STINNER: Any questions? Seeing none, thank you, Senator. We have eight letters of support for LB904 and three in opposition. And that concludes our hearing of LB904. We will now open on LB950, Senator DeBoer. This is your maiden voyage, isn't it?

DeBOER: This is my first time in Appropriations. I don't like to spend money, I guess.

STINNER: Good luck.

DeBOER: Good afternoon, Chairman Stinner and members of the Appropriations Committee. My name is Wendy DeBoer, W-e-n-d-y D-e-B-o-e-r. I represent District 10 in northwest Omaha. I'm here today to introduce LB950, a bill that would appropriate \$10 million in, \$10 million in American Rescue Plan Act funds for academic research and development at the University of Nebraska Medical Center's Global Center for Health Security. You know, the doctors and scientists behind me will tell you about the amazing programs and the

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incredible return on investment of this program and UNMC in general, but I'd like to take a moment to remind you about our personal connection to the global center. On March 10, 2020, in the Warner Chamber, with much of the same cast that's here today in this room, it was a Tuesday and we were gathered for a briefing on something called COVID-19. That was the day many of us learned terms like social distancing and PPE as Doctors Gold and Kretochvil told us the various scenarios that might be coming at us in a pandemic. And I remember sitting there thinking this sounds like the plot of a sci-fi movie and yet, there they were, describing it to us rather calmly because they had some of the best insight on what it was about to befall us. After that meeting, I called my parents who were on an extended trip out of state, like so many people in their 40s and 50s did around that time, and I had a conversation with them and I told them to come home because I knew that at their age, they were at a, at a higher risk. They argued that they should stay where they were because there were fewer cases where they were than in Omaha. And I said, yes, that's true, but they don't have UNMC there and they packed up their bags and came home the next day. I felt then and I do now that one of the safest places to be in a time of a public medical threat or crisis is here in Nebraska because of the work done at the global center and UNMC. I thought that, I thought that back then because I'd been to visit their facilities and I'd seen how UNMC and its clinical partner, Nebraska Medicine, had been a national leader in response to infectious disease threats on American soil since 2014. I knew of the national and international leadership they have shown in responding to high-consequence infectious diseases like Ebola and I know today that the citizens of Nebraska are among the safest in the country when facing threats from diseases and pandemics doing-- due to the cutting-edge work of the global center and UNMC and how they have responded to this pandemic. But the global center didn't just provide academic research. They provided technical consultation to Nebraska's industries and services to aid them in navigating the pandemic, including meatpacking plants, schools, long-term care facilities, government shelters-- governments, shelters, correctional facilities, banks, insurance, and hospital venues. This work in biopreparedness, infectious disease, and high-consequence infections research brings us to LB950. The appropriation outlined in LB950 will allow you-- the UNMC Global Center for Health Security to expand its broad portfolio of research development to include multiple disciplines such as the healthcare preparedness and responses to all-hazard events. In simple terms, the \$10 million appropriation will allow UNMC to recruit and launch faculty and-- in additional subject matter-- and additional subject-matter experts expanding beyond infectious diseases to other

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areas such as disaster and emergencies, including chemical, radiological, explosions, biological, and other natural events. ARPA funding will also provide seeding research funding to develop activities related to the health system, to health system preparedness and response and epidemiologic systems. This critical research work can then be incorporated into health security training programs that assist public and private entities statewide, as well as assist UNMC in developing both health innovation networks that will help healthcare providers improve response and operations as impacted by disasters and emergencies. As this committee has heard in prior testimony, research done at the University of Nebraska Medical Center has historically generated a significant return on investment with state research dollars. With LB950, this is no exception. An independent economic impact projection report by Tripp Umbach reveals the one-time \$10 million investment the UNMC Global Center for Health Security's research work would produce an annual \$27.5 million economic impact, with as many as 220 jobs statewide. The report further explains that the initial investment will generate \$1.375 million annually and-- to Nebraska's tax revenue. We don't know what medical, biohazard, or other threats, what new words future senators like us will face when they have their equivalent of our March 10, 2020, briefing. But whatever they face, in these fields, I want to know that we have helped equip them to meet those challenges by keeping the global center as the leader in their field. ARPA funds are intended to respond to the pandemic and build for the future. There is probably no better investment sitting squarely at the back crossroads than this one. This expertise, this renown both serves our state and brings immense economic opportunities at a time when other states are just starting programs like this one. We need to reinforce our standing in this area. Let's tell the country that these people and this work, this is Nebraska. We excel at this work. We are and will be known for this work and if you want to work at the top of this field, come to Nebraska. Aside from the testimony that you will hear from Chancellor Gold, Dr. Chris Kretovich and Shelly Schwedhelm from the global center will be testifying about the impact UNMC has had in this area and how LB950 will help expand their research portfolio for the betterment of the state and our residents. Thank you again and I'd be happy to answer any questions that you have.

STINNER: Any questions? Seeing none, thank you.

CHRIS KRETOCHVIL: Good afternoon.

STINNER: Good afternoon.

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CHRIS KRETOCHVIL: Thank you very much for your time. So Chairman Stinner and members of the committee, I'm Chris Kretochvil, C-h-r-i-s K-r-e-t-o-c-h-v-i-l, and I have the honor of serving as the associate vice chancellor for clinical research at UNMC, as well as the distinguished chair of the Global Center for Health Security and I'm here representing UNMC today in support of LB950. So the Global Center for Health Security was established as the Nebraska Biocontainment Unit in response to 9/11 and at that time, it was a resource to Nebraska citizens as well as U.S. citizens in case of bioterrorism, who are naturally occurring special pathogen outbreaks. And even at that time that it was established, it was established as a, a collaboration between UNMC, Nebraska Medicine, the state of Nebraska, and the federal government. As you've heard, our group rose to national prominence with the Ebola outbreak in 2014-2015 and we established a solid collaboration with the Department of Defense as well as HHS. We subsequently established a federal quarantine facility in partnership with the Assistant Secretary for Preparedness Response. We established federal training programs in partnership with the Air Force and we have permanently stationed Air Force active duty personnel who are within our team who work, train, and provide clinical care within our facility. As you've heard, as the COVID-19 pandemic began, we were called upon by the U.S. government in several ways, one of which was to care for U.S. citizens who were being repatriated from Wuhan, China. And this was done in partnership with the Nebraska Guard and Camp Ashland, which was an amazing partnership on behalf of the country in collaboration with, with our state. Subsequently, some of the first U.S. citizens who were infected with COVID were rescued from the Diamond Princess cruise ship and brought back to our federal quarantine facility, which had just been opened three months earlier. As Dr. Gold referenced, over the past two years, the global center has produced science that's informed global, national, and local COVID-19 responses. But importantly, throughout this time, we've provided technical consultation, as Senator DeBoer mentioned, throughout the state of Nebraska and those activities will be highlighted by my colleague, Shelly Schwedhelm, after my testimony. So why are we here today? Well, this major one-time investment and growth plan in the Global Center for Health Security is necessary really for two purposes: one is to maintain our leadership role in infectious diseases as the, as the competitive landscape increases, ensuring that Nebraska has expanded access to the world leaders in this area. But two, it will propel the unprecedented potential of this Nebraska center to be a national expert in healthcare preparedness and response for all-hazard events, whether it's another pandemic or a tornado, a train derailling releasing toxic gases, or an overseas

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military conflict with tens of thousands of U.S. soldiers returning for American hospitals for treatment. We need to be ready. Also important, this funding does hold the potential for fostering tremendous economic development. So how will we do this? Well, a number of ways: the first being we'll launch self-sustaining resources statewide, including consultations to Nebraska packing plants, critical infrastructure corporations, and rural health facilities. We'll expand our broad portfolio of research and development across the NU System with research infrastructure and capacity for new technologies in surveillance, diagnostics, and treatments. We'll continue to recruit top-tier faculty and build world-class support for programs to produce revolutionary solutions for health security and healthcare in our state, catalyzing new biotechnology industries across the state. We'll also be developing new career opportunities, such as our proposed Health Security Fellowship and importantly, we'll strengthen and expand our strong external partnerships and funding with the U.S. military, with other federal agencies, and with philanthropy. As far as the return on investment, first of all, and quite importantly, we'll have a more propelled-- prepared healthcare workforce and resilient disaster preparedness system across the entire state, but also there will be a yield economically. Our external partners that we work with work with us because we're typical Nebraskans in that we follow through on our commitments and do what we say we're going to do and then some. LB950 will allow for expanded external collaborations and based on our prior successes in securing grants and contracts, you've heard the economic impact from Trump Umbach [SIC] that's been presented by President Carter as well as Senator DeBoer. In closing, I want to thank you for your strong consideration of this funding and I'd be honored to answer any questions you might have.

HILKEMANN: Thank you, Dr. Kretochvil. Are there questions from the committee? Seeing none, thank you for being here.

CHRIS KRETOCHVIL: Thank you very much.

SHELLY SCHWEDHELM: Good afternoon. My name is Shelly, S-h-e-l-l-y, Schwedhelm, S-c-h-w-e-d-h-e-l-m. I'm a nurse and executive director of emergency management, biopreparedness, and clinical operations in the Global Center for Health Security at UNMC/Nebraska Medicine. I am a rancher in northeast Nebraska, grow alfalfa for our cattle and hops, which we sell at local breweries, and have some CRP land as well. So being a Nebraska girl, rural girl my whole life, I take our responsibility to our state very seriously, as do all the other members at the Global Center for Health Security. Within the official

record today, you have several letters of support from partners across the state, a map showing the diversity of locations of our onsite support, and various playbooks that we developed to guide stakeholders safely through the pandemic. As you recall, cases in the U.S. rose quickly in the spring of 2020. The Global Center for Health Security team, comprised of infection control nurses, infectious disease physicians, and industrial hygiene and aerosol scientist experts, visited 19 meatpacking plants across the state. We were there to help their leadership implement infection prevention and control mitigation strategies to keep the plants open. Weekly meetings with plant leaders, the Department of Ag, pork and beef association leaders, and the Governor were used to share best-practice ideas such as barrier materials, screening strategies, and other practices, ideas, and improvements, as well as to problem solve collectively. Ultimately, this kept open essential industry of the nation's food supply. The elderly in long-term care facilities were also among the first to see coronavirus outbreaks. The team partnered with state and county public health leaders and agencies to provide hands-on support to over 89 facilities across the state to improve the care and safety of this very vulnerable population. As a result of these efforts, Nebraska maintained a very low case fatality ratio in long-term care facilities as compared to other states across the U.S. Schools, shelters, and correctional facilities also received site visits from us, as well as technical assistance, and we continue to provide webinars, conference calls, and updates as requested or as new evidence comes to light. Our team also supported hospitals across the state. Twice-weekly statewide calls were initiated when the coronavirus began and it continues to today. The call includes state officials, hospital leaders, public health districts, Nebraska associations, school leaders, coalition coordinators, and various businesses. We share new evidence in the literature, we share hospital and public health data trends, and it serves as a forum for problem-solving and sharing of best practices. An example of sharing a best practice in healthcare facilities occurred very early in the pandemic and that was to create a new cleaning method that we could use using ultraviolet lights so that N95 respirators, which was a very scarce resource, could be reused safely multiple times by frontline healthcare workers. Again, we got on the road. We took UV light machines along with our standard operating procedure and members of our team to help each of the six coalition regions within the state and helped them launch the program, which was in place for over a year during the scarcity of those respirators. We also were active in support of businesses. Many critical infrastructure businesses such as Tenaska, OPPD, Union Pacific, and MUD benefited by having the global center provide site visits to

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review their processes and procedures. In addition, we supported getting Omaha back open and the state back open by working with the Omaha Airport Authority and others like the Omaha Symphony, to name a few. As evidenced by the examples I've shared, the Global Center for Health Security embraced meeting Nebraskans physically where they were to provide our hands-on support and technical assistance in mitigating the negative impacts of the virus and we continue to do so today. Thank you for your time and I'm open to answering any questions you may have.

HILKEMANN: Thank you. Are there questions for Ms. Schwedhelm? You must-- was your father or grandfather was the physician in Norfolk for years?

SHELLY SCHWEDHELM: Yes, correct. It was my husband's great uncle, great-great uncle.

HILKEMANN: OK.

SHELLY SCHWEDHELM: Yeah.

HILKEMANN: Yeah, the name Schwedhelm--

SHELLY SCHWEDHELM: Yes.

HILKEMANN: --I knew you had to be northeast Nebraska.

SHELLY SCHWEDHELM: There aren't many of those.

HILKEMANN: Thank you very much for being here.

SHELLY SCHWEDHELM: Thank you.

HILKEMANN: Are there other testifiers in behalf of LB950? Are you coming as a proponent for LB950? Please come.

ANNE WALDMAN: Hello, senators. My name is Anne Waldman, A-n-n-e W-a-l-d-m-a-n, and I'm an intern at Research Nebraska, an organization committed to the advancement of health science policy. Our goal is to promote the betterment of public health through protecting and promoting scientific research within legislation. I am here today to support LB950 because the plethora of positive short- and long-term economic and medical outcomes are much needed after the past two years. The UNMC Global Center for Health Security has provided-- or has proved its importance during the COVID-19 pandemic as a leading hub for epidemiology and biocontainment. In the beginning, they were

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one of the first hospitals equipped to take in COVID patients. The national praise that followed brought in thousands of dollars in research, research grants, great optics for the state, and innovations in medicine like the first double lung transplant being performed on a COVID-19 patient. The global center has been an incredible resource for Nebraskans in how to proceed with daily life in unforeseen and unimaginable circumstances. Their advice, which influences us through news stations and local government mandates, has led us all to be in here in person today. The doctors and researchers at the global center are our chance for sustaining normalcy. Why would we not appropriate money from the federal coronavirus state recovery fund to the place that can help us the most? The fund is specifically for recovery and I understand that other causes need money too, but this center is directly tied to recovery in every sense of the word. These hardworking doctors and researchers have been helping COVID-19 patients recover since 2020, saving lives during a lack of medical supplies and an immense amount of severe cases. They have helped the economy recover, keeping local businesses open and allowing money to be spread throughout the community. And finally, they have helped relationships recover from periods of isolation and limited face-to-face conversations. Like many of you, I spent much of 2020 indoors. I have a disorder called Ehlers-Danlos Syndrome, which impacts my immune system, and I was very fearful for myself and the rest of disabled and ill Nebraskans, but I'm here now and so are you. Because of these doctors' hard work, we're not frozen in time. And as a college student, I still wear a mask in lectures, as directed by medical professionals, but seeing only a third of my classmates' faces is so much better than the small digital versions I met on Zoom. We have all felt the strain that COVID-19 has put on our state, but through appropriations towards the UNMC Global Center, it doesn't have to be like this forever. Investment in the academic programs, research infrastructure, and opportunities for employment proposed by LB950 are clearly a necessity. This funding would provide the support needed to create and sustain current and future jobs. And with a recent job growth of negative 2.2 percent in Omaha, there's obvious room for improvement. Inversely, UNMC's number of new students enrolled increased last year, setting a record high for the 21st year in a row. We have the talent and we have the money. The current workforce crisis has made legislative action for job growth even more important and the work that would be supported through this bill has never been more pertinent to our ability to function. Our economy has been completely tethered to UNMC. I and the rest of the team at Research Nebraska wholeheartedly support LB950. Not only does it have a great effect on the state and nationwide scientific community, but it is simply a

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practical recipient for federal fund appropriations. The UNMC Global Center for Health Security benefits every sector and every citizen of the state. Thank you, senators, for your time.

HILKEMANN: Thank you, Ms. Waldman. Are there questions from the committee? Seeing none, thank you very much for being here.

ANNE WALDMAN: Thank you.

HILKEMANN: Are there additional proponents for LB950? Seeing none come forward, are there any in the negative-- opponents for LB950? Seeing none, are there anyone that would like to testify in the neutral on LB950? Senator DeBoer, you may close.

DeBOER: Thank you very much, Senator Hilkemann. I don't have a lot to say, I just-- I do want to take this moment to say that like our industrial and commercial counterparts that owe so much to the intelligent and helpful recommendations of UNMC and the global center, I want to thank the global center and UNMC for all that they did for us as a body to answer our questions. I know we had several meetings with them over the course of this pandemic where we could get on and talk to them and they would answer questions for us as we were trying to navigate how to best provide legislation and just messaging to our constituents and that sort of thing. So I want to say thank you to them and I really ask for your support of this, this measure and I'll answer any questions that you have.

HILKEMANN: Do we have any questions? Yes, Senator Vargas.

VARGAS: Well, less of a quest--I just want to thank you for bringing this legislation. I know that the work in terms of studies and support-- I know there was mentioned the meatpacking plant workers, but I just appreciate you bringing this. Thank you.

DeBOER: Absolutely.

HILKEMANN: OK. Any additional questions? Yes, Senator Clements.

CLEMENTS: I should have asked Dr. Kretovich, but I'm wondering if this research-- medical research is researching treatments for COVID.

DeBOER: I would, I would suspect, from my conversations with them, that that is not the prime-- that's not-- certainly not the only-- there might be some piece of it that would go to that, but that part of this is to look at all of the hazards that can come to us as we're expanding sort of the various ways in which we respond to basically

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this-- the "unanticable," so how we anticipate the "unanticipatable." And so I think that developing some of these kind of how do you respond to a huge gas explosion, how do you respond to a biohazard, all of those kinds of things. So as they're, they're cultivating the, the, the researchers and the, the, the medical professionals that would work on those areas, that's, that's the main understanding that I have of what, what this is rather than just one specific disease one time.

CLEMENTS: All right. Well, if, if they have some information about that, that area that they are doing their research, I would be interested.

DeBOER: I will be happy to make sure you get it.

CLEMENTS: Thank you.

HILKEMANN: Senator DeBoer, you and my parents have something in common. When my wife and I got the COVID, we were in Texas and I drove back because I wanted to be in Omaha, Nebraska. In case we got sick, I wanted to be close to UNMC.

DeBOER: That's exactly right.

HILKEMANN: So are there any other questions for Senator DeBoer? Seeing none, our Chairman is back and we'll close. We do have ten proponents for, for LB950.

STINNER: Hey, I got a playbook. Is that a football on it? OK, we'll open-- did we close on that one?

HILKEMANN: We closed it, yep.

STINNER: OK. We'll now open on LB961. Senator Vargas.

VARGAS: Chairman Stinner, members of the Appropriations Committee, committee I've been proud to be part of for six years, my name is Tony Vargas, T-o-n-y V-a-r-g-a-s. I represent District 7. It's the communities of downtown and south Omaha and I'm here today to introduce LB961, a bill that would appropriate \$4 million in American Rescue Plan Act funds for significant equipment and technology upgrades at NCITE, the National Counterterrorism Innovation, Technology, and Education Center, based at the University of Nebraska at Omaha. Now, I want to start this afternoon by telling you two UNO stories. The first is about UNO itself, namely the students. Now, just over one-third of this year's freshman class is Pell Grant eligible--

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I was also a Pell Grant student-- which means they're from low- to moderate-income families, the families most likely to experience the greatest disruptions from the COVID-19 pandemic. Now, almost four in ten UNO freshmen are nonwhite, almost five in ten are first in their families to go to college, better known as first-generation college students. If we know that low-income and minority students come from the communities-- and we know this-- the communities hardest hit by the virus at UNO, they are poised to get a foothold on the ladder to success. Now, here's the other story I want to tell you about UNO. It's about a UNO business professor who used her Ph.D. in something called industrial organization or IO psychology, a domain normally used in H.R. consulting for companies. This individual became an internationally recognized expert in terrorist groups, specifically Salafi jihadist groups better known as ISIS. UNO Professor Gina Ligon has combed through captured battlefield cell phone data from ISIS members to help counter their activities. But she's not just an expert in this field, she's a visionary for UNO, who in 2020, convinced the U.S. Department of Homeland Security to award UNO its ten-year home for counterterrorism research and she recruited eight new research faculty from around the country to join our state in the fight against terrorism. This research consortium she's built, called NCITE, is the counterterrorism research hub, the R&D arm for the Department of Homeland Security. This puts UNO and Nebraska on the national map in ways that help our state attract outside talent and expand our workforce development efforts. Now, in a few short years, NCITE is helping the brain gain by making sure they're providing internships, training, and certifications, not just to help out our law enforcement friends in Homeland Security, but everyone from a banker in Omaha working to implement the know-your-customer laws to the Scottsbluff County Sheriff Department who is charged with keeping a large swath of our state safe. Now, Dr. Ligon will testify after Chancellor Joanne Li and they'll tell you a little bit more about NCITE, what they do and why LB961 can be so impactful. Now, with less than three years old, NCITE is poised to impact Nebraska in many ways, including the following: it's going to become a draw not just for students who might never have considered a career in Homeland Security or network vulnerability industries and not just for research faculty who see unique opportunities here. NCITE is poised to make our institutions safer and more resilient to viruses. This is going to address some of our brain drain. It's going to be a brain gain. NCITE is developing technological innovations like suspicious activity reporting chatbot that can improve a community response and prevent tragic outbreaks and violence. I don't have to tell our rural friends who have broadband service hampers response time and that poor broadband. NCITE is aware

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and can work on this. This is going to address our technology gap. Our state economy is rooted in agriculture, which frankly could benefit from NCITE's work in helping protect our critical infrastructure from attack. This is-- can help our ag industry. Nebraska's businesses can benefit from NCITE-trained workforce that can increase industry resilience and security. This is going to help our businesses. By the way, NCITE's research isn't being conducted in some underground bunker. It is public by design. NCITE is trying to build community resilience by demystifying subjects of counterterrorism, opening itself to the community and blunting the mainstreaming of extremism, which we have seen across this-- across the globe. This is for the public. Nebraska has a chance to see the work of UNO by funding the kind of cutting-edge technology that NCITE can use for research, for recruitment, and developing the national security workforce of the future through LB961 right here in Nebraska and at UNO. The center's vision to have a larger headquarters to become the premier academic resource for counterterrorism and targeted violence studies pictures UNO and the Omaha area as a place where federal agencies send their workers for more training, where students gladly come from a unique opportunity to become part of the antidote for extremist violence. Nebraska can be a place leading the U.S. from the center, helping pull people from the extremes to reduce violence, build resilience, and create a more stable future. That can happen here with this appropriation. With that, I ask you to support LB961 and there will be people testifying to answer some more specific questions about some of these addressed improvements that are also included in that one-pager and detailed there and I'm happy to answer any questions.

STINNER: Questions? Seeing none, thank you.

VARGAS: Thank you.

STINNER: Chancellor, good to see you again.

JOANNE LI: Good to see you, Senator. So good afternoon, Senator Stinner and members of the Appropriations Committee. My name is Joanne Li, J-o-a-n-n-e L-i, and I proudly serve as the chancellor for the University of Nebraska at Omaha. I want to thank each of you for taking time today to hear our system proposal for the use of ARPA funds. It is my hope that by the end of our time together today, two things will happen. First, I want you to be as inspired as I am by UNO's mission to serve as our state's engine for workforce development. Second, I want you to understand how strategic investment in UNO's national security, STEM education, and human mobility programs will give Nebraska a competitive edge in educating,

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retaining, and attracting the talent we need to drive our state forward, improve our quality of life. As an international student whose parents fled communist China amid a national conflict, I want to stress that feeling safe and secure is foundational to our ability to learn, teach, and grow as people. I'm immensely proud to say that UNO's National Counterterrorism Innovation, Technology, and Educational Center, also known as NCITE, plays a vital role in our nations to make that possible. NCITE is a U.S. Department of Homeland Security, DHS, Center of Excellence and is a national leader in understanding, preventing, and counteracting terrorist violence. It is commitments to Americans is translate research into tools for frontline Homeland Security professionals and help build a workforce pipeline to a wide array of career fields. With a strategic investment of \$4 million, we can meet the technology needs that our team of experts requires to understand emerging threats and our national security officials can counteract them and keep us all safe. Because of UNO's standing as our state's only public urban university, we are compelled to share our knowledge with our community. Through this investment, there will be ample opportunities for researchers, students, community partners, and children to experience the NCITE model of real-world STEM education and collaboration. If the last two years have taught us anything, the difference between economies that thrive and those that struggle to survive is an agile workforce equipped with skills in science, technology, engineering, and math. That is what UNO's STEM TRAIL Center does every day from our campus. The center supports our students, faculty, and our community through engaging programming, training, reskilling, outreach, and entrepreneurial ventures. The STEM TRAIL Center's purpose is to ensure that a STEM education is accessible to everyone at any age or any stage of life in order to fill our state's most pressing workforce needs. To expand the center's impact, accelerate its valuable work, and build stronger pipelines to employers, UNO requests \$5 million to establish a headquarter that everyone in our community can experience. Today, I have shared with you existing projects that will continue to be immensely valuable to our state's workforce development and to our nation counterterrorism work. I want to stress if we're not living long, healthy lives filled with motion and activity, we cannot fully enjoy the benefits of our work in each of all these areas. Our division of biomechanics and research development and our school of health and kinesiology already nationally recognized leaders in understanding and improving human mobility. If you want to visit our campus and explore our health and human science facilities, you will see awe-inspiring research in gait rehabilitation, fall prevention, low-cost 3D printing of prosthetics, elderly physical function, and so

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much more. You will also see dedicated faculty developing the next generation of public health, health research, kinesiology, athletic training, and sports medicine professional, but we owe it to ourselves and future generation to think bigger. We need to lead the world if we truly want to improve our quality of life. With an investment of \$6 million, we can purchase equipments for cardiovascular device manufacturing, soft tissue imaging and analysis. Not only will these technologies give us a greater understanding of human tissue, but the knowledge we produce through device testing will also build a strong partnership between our state and medical device industry. An additional \$10 million investment will allow us to repurpose 2,200 square feet of existing space on our campus to create a better environment for health and kinesiology teaching, learning, and research. I understand what my university system colleagues and I are asking you to consider is not an insignificant amount of money. Our state is facing generational challenges that are worthy of support as well. These strategic one-time investment opportunities I have shared with you will position the state of Nebraska to compete in the economy of the future. With your support, we're excited for our people, our future, the community of Omaha, and the state of Nebraska. With that, I want to thank you for your time and welcome any comments and questions.

STINNER: Very good. Questions? Seeing none, thank you very much.
Afternoon.

GINA LIGON: Good afternoon. Distinguished members of the Appropriations Committee, my name is Gina Ligon, G-i-n-a L-i-g-o-n, and I'm the director of NCITE. I'm appearing today on behalf of the University of Nebraska System in support of LB961. I'd like to take you back to when I was a sophomore in Weatherford, Oklahoma. It's a little bit smaller than Kearney, but also off I-40 in western Oklahoma, far away from the city, which is what we called OKC. I was sitting in the history class when I learned that Tim McVeigh had killed 168 Oklahomans that looked a lot like us in this room, people who were doing the business of government and people who were supposed to be safe from terrorism. April 19, 1995, has brought me here today to you. It's also shaped my whole career and I'm here to ask you for resources to train the next generation of workers to help us keep, to help us keep Americans safe from the terrorism that I experienced as an impressionable teenager. Let me give you a brief example of how your investment will have a return on investment for all of our safety. In 2013, I had just won a grant from the state of Nebraska. I used it to purchase tech to study groups like the Taliban and Al-Qaeda and I trained students all over UNO's campus to study them as well. In

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our analysis, the students identified this new terrorist group, but this one had more money. It had more technology and it had these shiny, white Toyota pickup trucks that it drove to all the meetings. It was enough for me to pick up the phone and call a trusted leader in the Pentagon. I remember that call like it was yesterday, but the months that followed were a blur and that's because the group that the students had found turned out to be ISIS. That's right, students in Omaha at UNO were the first academic center to identify the terrorist group of ISIS. I'm here today to tell you that those students wouldn't have been able to do this and we wouldn't have been able to become the center of excellence for Department of Homeland Security without that initial investment from the state of Nebraska. The bottom line is your investment allowed the federal government to see promise in Omaha as the center for terrorism research outside of the Beltway, where all the other centers seem to exist. It's important that NCITE exists in the Midwest for at least three reasons. First, technology developed to combat terrorism needs to be situated in places that share the same demographic characteristics and technology constraints that places like Nebraska have. For example, as you heard from Senator Vargas, we're working closely with the Sarpy County law enforcement to develop a chatbot that will be able to, to work in Scottsbluff just as well as it can work in Papillion, Nebraska. Second, we want to be seen as the academic partner for every job in the middle of the country that's charged with keeping Americans safe. We want to be a resource for the anti-money laundering professionals in our banks from First National Bank in Omaha all the way to the ones in Scottsbluff, where Senator Stinner seems to know very well. We also want to work with ag operators to protect our nation's food supply. The centers that the bills that you heard earlier today, our center will also collaborate with and support. Finally, we want to inspire the future workforce through training that's hands on, meaningful, and interdisciplinary. Academia is siloed. Weaving digital and STEM skills focused on national security of our communities, our neighbors is the key to sustainability of our workforce and also the future of higher ed. We have to inspire our students with meaningful problems to make them stay in our state and I'm eager to hear-- for you to hear from one of Nebraska's best next. In closing, I'm asking you to invest in this idea that's bigger than all of us. Invest in a hub for security innovation right here in our state. Like I said to Homeland Security when I was fighting against University of Maryland to win the center, Omaha is not in the middle of nowhere; it's in the middle of everywhere.

HILKEMANN: Amen.

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GINA LIGON: The Oklahoma City bombing occurred during my sophomore year. Nearly 30 years later, here I am, the mother of a sophomore and an eighth grader. They're going to be embarrassed I said this, but they're right behind me-- wave, Kate and Henry-- and they're sitting in this government building with us today. Your support for our legislative bill is not only for our university, but it's also for Nebraskans like Kate and Henry Ligon, who deserve to know that we are investing in their safety. Thank you so much. Open for questions.

STINNER: Thank you. Questions? I always thought it was Cozad that was the middle of everything.

GINA LIGON: Thank you.

STINNER: Yeah. Afternoon.

LAUREN O'MALLEY: Good afternoon, distinguished members of the Appropriations panel. My name is Lauren O'Malley, L-a-u-r-e-n O'-M-a-l-l-e-y. I'm an MBA student at the University of Nebraska-Omaha. I'm appearing today on behalf of the University of Nebraska System in support of LB961. You know those memories that even years later you still think about, it doesn't matter how long it's been? I'd like to tell you about three of mine. First, 16 years ago. I remember visiting this very building as a fourth-grade student from Omaha's Black Elk Elementary. Second, I'm a senior at Millard West High School finding out I got a full-ride scholarship from UNO, which was funny because I swore I would go to college as far away from Omaha as possible. But once I got that letter from UNO, I realized I could get more opportunity if I stayed than if I went to college somewhere else. The third memory is a conversation I had with Dr. Gina Ligon two years ago. I got my undergraduate degree from UNO with four business concentrations: finance, investment science and portfolio management, banking and financial markets, and marketing. I had just graduated and I wasn't sure what to do next. I knew I wanted to get an MBA, but I thought I needed to leave Omaha to find the challenging opportunity that I craved. That day, Dr. Ligon asked me to be part of a terrorism research center now known as NCITE. My first reaction was what? I'm a business student. I studied finance. What would someone like me bring to terrorism research? That day, she challenged me to use my degree in a different way by looking at how terrorists financed themselves. Now, I'll be frank. You have to take a lot of finance classes to get three finance majors, but I can assure you that out of all those finance classes, terrorism came up zero times. Who thinks that way? Who thinks about terrorism when you're thinking about finance? NCITE does. I've seen this firsthand in the brilliant people that I get to work with

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and the products I've helped produce like a guide for researchers to measure the return on investment of their projects. Now a few weeks ago, I was interviewing with a Nebraska company for a job once I graduate in May and while talking about my time at NCITE, one of the executives asked, who thinks of terrorism when they think about finance? And my first thought was how could you not? Don't worry, I didn't say that out loud, but that's when I remembered my first conversation with Dr. Ligon where I had the exact same question. It was then I realized just how much I've grown and just how unique the mindset at NCITE truly is. See, when most people think about the price of bitcoin, they're not making the connections between cryptocurrency and terrorism. NCITE does. And when you read about the metaverse, people aren't talking about how terrorists could use it to recruit people from all over the world. NCITE does. And ever since that moment as a student at Millard West, I knew I wanted to be part of something bigger, but I wanted all of this without having to give up the good life that I live here in Nebraska. I admit that I, like many of my talented peers, have thought that career-advancing opportunities were only found if you leave Nebraska, but thanks to NCITE, I got the opportunity of a lifetime to work in counterterrorism as a business student alongside the best researchers in the world and luckily for me, only 20 minutes away from home-cooked meals at my parents' house. Now I know you've listened to many people tell you why their organization deserves a share of these federal ARPA dollars. As someone with a degree in investing, I empathize with you because I'm sure these decisions are tough. As a future business leader, I can say that investing in NCITE is a sound investment decision. It will impact both the state and local economy by creating jobs and bringing in high-caliber talent to Nebraska. It will incentivize local talent like MBA students at UNO to plant roots here by providing world-class opportunities for education and employment and it will create valuable resources for law enforcement, government officials, and even businesses to keep communities safe. Now, I believe today will also be one of those moments I'll remember for years to come, hopefully for a good reason, and I feel now more than ever prepared for my next step in the world because of NCITE and because of the investment UNO made in me. And I'll leave you with this: investing in NCITE is investing in the future of Nebraska and people like me who were born here, grew up here, and want to stay here. Thank you.

STINNER: Thank you. Questions? Senator Dorn.

DORN: Thank you, Chairman Stinner. Thank you for being here and thank you for staying in Nebraska. I guess I-- until your last comment and you finally talked about finance or investing and all of that, the

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whole rest of the time was on NCT-- or whatever. How much of your degree do you use in that part of that research or that part of that funding?

LAUREN O'MALLEY: Thank you, Senator, for your question. I would say all of it. There's-- something that's really unique about NCITE is they look at terrorist organizations like a business. So I thought being a business student, I wouldn't have anything to add to the conversation of terrorism, but actually, there are a lot of similarities and that's thanks to the incredible work from Dr. Ligon and the rest of the NCITE team.

DORN: We missed-- just-- you kind of missed out on a golden opportunity to talk to this committee about finance. No, thanks--

LAUREN O'MALLEY: Oh, sorry.

_____ : She can come back.

STINNER: Yeah. Right now, we need a lot of help.

DORN: We need help, yeah, but thank you.

LAUREN O'MALLEY: I am looking for a job.

STINNER: Any additional questions? I think you've got quite a fan club back there. They're all beaming right at us, so.

LAUREN O'MALLEY: Thank you.

STINNER: Thank you for your testimony. Any additional proponents? Any opponents? Anyone in the neutral capacity? Would you like to close, Senator?

VARGAS: Chairman Stinner, members of the Appropriations Committee, I just want to thank you. I think there's, there's not a lot I can add, but I do want to thank Chancellor Li, Dr. Ligon, Lauren O'Malley and this is a space that we don't often talk about or hear about. I think we also forget that we are a hub. We're a leader. We've been recognized by the Department of Homeland Security. And as you've heard, return on investment-- this is a return on investment on being a leader from here on in. This is about investing in a workforce that truly doesn't exist largely outside of a state like ours. We're creating homegrown individuals that-- and what you just heard is a finance individual with an MBA utilizing their skills and expertise to be proactive about getting ahead of future terrorism. That's happening

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in Omaha. That's happening in our state. This can cement us as a leader across the country. I think this is what we should be looking at, which is also what are we going to do that's thinking about the future in sectors and workforce that others are not spending the time to invest in? That's what this is about. I urge you to support this. I think it is a fantastic idea, especially when you look at the price tag. We can't find that many better investments in a space where we don't often do something. And I want to thank the people that testified and I want to thank you for taking the time to listen to the stories.

STINNER: Thank you. Questions? Seeing none, thank you very much.

VARGAS: Thank you.

STINNER: That concludes our hearing on LB961. We-- excuse me, we had 11 letters of support for LB961 and so that concludes our hearing on LB961. We'll now open with LB962. Senator Vargas.

VARGAS: Back to back. One-pager, checklist-- Chairman Stinner and members of the Appropriations Committee, my name is Tony Vargas, T-o-n-y V-a-r-g-a-s. I represent District 7, including the communities of downtown and south Omaha. I'm here today to introduce LB962, a bill that would appropriate \$5 million in the American Rescue Plan Act funds for facility and laboratory upgrades at the University of Nebraska at Omaha STEM TRAIL Center. Now, first, some background on the UNO STEM TRAIL Center. The center offers family programming welcoming all ages to STEM. Community engagement efforts and reskilling opportunities through customized professional development opportunities, the center is working hand-in-hand with community partners to reduce the number of unfilled STEM jobs while simultaneously improving the quality of life for many Nebraskans through economic development. Now, the following are just two examples of the impact that STEM TRAIL Center had on our state. The first is their small business administration, SBA, STEM projects. Now, this is where UNO stems-- UNO students are provided with experiential learning opportunities through three avenues. They develop out of their own companies by taking existing university-owned intellectual property, IP, and generating a Nebraska-based business as a university-affiliated startup. Two, their taking university-owned IP and developing out the research and development, the R&D, further in partnership with an existing Nebraska business for whom this type of IP serves as a potential expansive economic engine. And three, they place students with existing corporations, but include also called comentorship from industry to academia. This is the full cycle of what

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we talk about when we're trying to invest in STEM and workforce. The second is the center participation as national leads advising and generating roadmaps to effective economic development, particularly for EPSCoR states. For background, EPSCoR is the established program to stimulate competitive research that was created by Congress in 1979 to strengthen STEM research and education infrastructure in states that receive a disproportionately low amount of federal research dollars. Now, this national and statewide collaboration by the UNO STEM TRAIL Center is helping drive federal research funding into economic growth for Nebraska and create new opportunities for our workforce. Now, during the COVID-19 pandemic, as we have heard from the Nebraska Department of Education, the effect on student learning has been tremendous. As a domino effect, the loss of learning, both through time away from the physical classroom space due to illness, combined with the increased challenges on understanding and retention, have exponentially impact students and their caregivers. Further, the educational deficits generated also affect teachers as they work to continue to support the learner in the classrooms, regardless of their level of preparation and understanding of content. This is where the UNO STEM TRAIL Center can help our state address these challenges and gaps and serve our learners and students and future workforce, regardless of their entry point or their current state of knowledge through hands-on, minds-on experiential learning that engages the learner and their families. With LB962, \$5 million in ARPA appropriations would help UNO retrofit existing-age classroom space into the STEM TRAIL Center's laboratory space that assists with both course innovations and teaching practices for STEM-related education, expanded research capacity, and community engagement. Testifying on the impact the STEM TRAIL Center had on-- including Dr. Christine Cutucache, UNO Student Body President Maeve Hemmer, and K-12 partner Jeff Cole will also be testifying. Now, as a former middle school biology teacher, which some of you may or may not have known that-- I taught middle school biology and also Earth science. I can tell you how difficult science and other STEM-related subjects are to teach in an ever-changing educational setting. The work that UNO faculty and researchers do every day at the STEM TRAIL Center is not only cutting edge, but it also is impactful to both the campus and broader educational and business communities, many of which come in here and talk about these workforce gaps. If we are to fill the needed STEM workforce in our state, entities like the STEM TRAIL Center will need the laboratory space to train and recruit students, educators, researchers, business partners who can only grow in talent. LB962 helps the UNO STEM TRAIL Center begin that process with needed one-time laboratory and equipment upgrades that impact, that impact

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both populations significantly affected by the COVID-19 pandemic, including K-12 and university students. I'd urge the committee to look favorably on this and the unique economic development related to this program and will be happy to answer any questions. My only thing that I'll state is I was a former STEM-- I was a former science teacher, but in addition to that, I was a STEM teacher trainer. For part of my career, I worked in classrooms, training and developing teachers in some of the most under-resourced communities. And I also worked on doing higher education training and preparation with universities on some of these standards. And I will tell you, when we don't invest in our workforce by making sure they have the facilities and the resources they need, we are missing out. And this is a very, very clear connection to our workforce gaps in STEM and I've seen them in the classrooms and what we're talking about is making sure that our STEM individuals that are not just only educators, but are thinking about every other sector, this is one an opportunity where we're trying to make sure they have the cutting-edge laboratory engagement community space that's going to make a difference here in Omaha. Thank you very much.

STINNER: Thank you. Questions? Seeing none, thank you.

VARGAS: Thank you.

CHRISTINE CUTUCACHE: Good afternoon, Chairman, members of the Appropriations Committee. Thanks for a warm welcome this almost evening, but that joke usually works a little better with my students. My name is Christine Cutucache, C-h-r-i-s-t-i-n-e C-u-t-u-c-a-c-h-e. I'm joining you today as the director of the STEM Teaching, Research, and Inquiry-based Learning Center, also known as the STEM TRAIL Center. I am here in support of LB962, specifically requesting a physical facility to be generated through the renovation of existing underutilized space on the UNO campus to support STEM learning. This one-time, one-time request will support the preparation of learners to fulfill STEM jobs, including STEM teachers across our state. The STEM TRAIL Center was created in 2019 and provides programming, partnership, and expanded resourcing in STEM education. The COVID-19 pandemic has placed an acute demand on our educators, while similarly providing significant challenges for learners of all ages, as Senator Vargas mentioned. All the while, the workforce needs in STEM continue to increase in demand. The U.S. Department of Labor predicts that in the coming years, nearly 35,000 STEM jobs will be needed in Nebraska alone. These STEM jobs represent a way to bolster economic development long term through strategic investment. However, we also know that if students are not well supported at every age, pursuing a STEM major

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and ultimately a STEM job can be out of reach. As such, it's essential to meet learners of all ages where they are. I recognize that I've just shared some of our state's challenges with you, but I'm a solution-oriented person. I hope that you'll support my vision to use these one-time dollars to provide synergy and expansion of opportunity across Nebraska and have the greatest return on investment for our state. We partner with nonprofit agencies, small businesses, and industry partners, as well as schools across the state, the state to support STEM learning. However, we are critically in need of a place to provide community for such programming. The center has existed only virtually since inception, at this time, offering 100 percent of programming online. However, the process of STEM requires hands-on participation. Consequently, we envision a hybrid model moving forward. There are advantages to being able to livestream a talk from a Nobel laureate, but kids should be getting their hands dirty when they're working through a science experiment. I'd like to share with you just three categories of programming that we offer and that would be in the requested facility. These are programs for our younger learners, university students, including pre-service teachers, and our lifelong learners. For younger learners, we have a program called Nebraska STEM 4U, or NE STEM for short, which provides a venue for kids to participate as science-- scientists in the after-school space. Our interventions for college students provide putty for an otherwise leaky STEM pipeline, demonstrating high retention rates and job placement thanks to customized professional development and networking preparation. For our lifelong learners, we host family nights to enable STEM curiosity and discovery across generations. As we host key speakers, members of our community can take advantage of the expertise welcomed to the state by the center. We've even had our first Fulbright applicant request to join us all the way from Australia. We appreciate partners voting with their feet and demonstrating that we need a facility for our events. I should mention that the facility is all we need. At this time, 74.4 percent of our programming, staffing, and supply budgetary needs are supported by extramural funding and we have plans in place through indirect returns to maintain such a facility long term. This request is truly a one-time, nine-month build request and as you can see from the renderings pictured in your handouts, we are ready to start the renovation tomorrow. There are no ongoing costs that accompany this request. This proposed renovation would completely transform a space that's unusable to usable by thousands of stakeholders each year. As we aim to help learners of all ages expand their training or skill set to meet the needs of H3 jobs here in Nebraska, it's imperative that we have a physical facility in which to welcome them. Thank you to the committee for your time and

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hearing my excitement for the UNO STEM TRAIL Center facility proposal. This small-scale, high-impact project will provide a legacy opportunity for this Legislature to demonstrate how you responded to the COVID-19 crisis in a synergistic way. Welcome your questions.

STINNER: Thank you. Questions? Seeing none, thank you.

CHRISTINE CUTUCACHE: Thank you.

MAEVE HEMMER: Good afternoon.

STINNER: Afternoon.

MAEVE HEMMER: Chairman Stinner and members of the Appropriations Committee, my name is Maeve Hemmer, M-a-e-v-e H-e-m-m-e-r, and I am the student body president and student regent for the University of Nebraska-Omaha. Thank you for taking the time today to listen and learn more about our proposal for the use of ARPA funds. I'm testifying in support of LB962, but also want to share my support for LB961 and LB1054 as well. As a representative of UNO's student body and interests, I have the opportunity to hear from and act on behalf of more than 15,000 students who study, develop their skills, and maximize their career potential at the university system's urban institution. These areas with opportunity for investment all hold massive potential for me and my fellow students to make an incredible impact on the state of Nebraska. We are proposing a \$5 million-- \$5 million of ARPA funding for technology and infrastructure needs within UNO's STEM TRAIL Center. The next generation of STEM professionals is needed to meet the evolving workforce needs of the state and the nation. UNO's STEM TRAIL Center plays a vital role in meeting these needs by providing access, developing interest, and sharing resources on campus and beyond. In 2019, the Nebraska Department of Labor projected thousands of job openings through 2026 in occupations like nursing, accounting and auditing, engineering, and IT-related areas. Courses that prepare students for these fields take on new meaning and importance when students recognize what they're learning has an incredible potential for real-world app-- real-world impact. UNO's STEM TRAIL Center combines teaching, research, and outreach to support and advance STEM education and workforce development for high-wage, high-demand, and high-skill jobs. Their efforts include resources and support for mentorship, professional development, and enhancing teaching practices through inquiry-based learning. They also foster an interest in STEM, STEM education among younger students through STEM activities and lessons that can be done in K-12 schools or at home with their families. These are more than resources for the community.

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These are also ways for UNO students like me to get involved and impact a young person's life. A great example is NE STEM 4U, a program that brings undergraduate students to share their love for STEM education in classrooms in Omaha, Kearney and Lincoln Public Schools. Through this program, undergraduate students work alongside elementary and middle school students to teach, develop their interest in STEM fields, and show them that attending UNO and obtaining a degree in STEM is within reach. UNO's STEM TRAIL Center has developed and implemented these resources, working to build the future of STEM professionals in Nebraska all without a permanent home on campus. Imagine what could be done at UNO if there was a permanent, dedicated place where these resources could be brought under one roof. Imagine how our local communities and our campus community could come together to continue advancing the future of STEM fields in Nebraska together. Any investment in the University of Nebraska System is an investment in the future of Nebraska. What I've spoken about here today would provide funding to help UNO meet the state's workforce demands in STEM fields and expand research opportunities to help us all live our best lives. I look forward to seeing the amazing work that can be done with these funds. Thank you for the opportunity to speak with you today and a special thank you to Senator McDonnell and Senator Vargas for introducing UNO proposals. I welcome any questions you may have.

STINNER: Thank you. Questions? Seeing none, thank you.

MAEVE HEMMER: Thank you.

STINNER: Afternoon.

JEFF COLE: Good afternoon, Chairman Stinner, members of the committee. My name is Jeff Cole, J-e-f-f C-o-l-e, and I'm a vice president of Nebraska Children and Families Foundation, where I help oversee Beyond School Bells, Nebraska's statewide after-school and summer learning network. As we've heard here today, the COVID-19 pandemic has challenged all of us, but it has also brought out exceptional leadership across the state. As Senator Vargas reminded, COVID has had dramatic impacts on families, teachers, and students. Nationally, both McKinsey and the Department of Education have reported major deficits in learning and students are losing ground academically. We at Nebraska Children and Families Foundation Beyond School Bells have seen disrupted learning taking place in communities across Nebraska and we're proud to be working with the Nebraska Department of Education to develop new and support existing after-school and summer programs to help address this growing statewide challenge. In this work, we are so fortunate to have Dr. C and her team and NU-- NE STEM

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4U to help us address both the need for quality programming and the staffing shortages that challenge informal STEM education. NE STEM 4U, which is administered by UNO's STEM TRAIL Center, brings high-quality STEM programming engagement to after-school and summer programs across the state and it's contributing to a pipeline of experiences and supports that facilitate student success. The NE STEM 4U program uses energetic college students, as we've just heard, who serve as near-peer mentors for the K-12 students in the after-school programs and provide holistic support for kids to learn about STEM concepts that will be crucial to our state's economic future. This helps participating youth in after-school and summer programs, many of whom come from groups that are historically underrepresented in STEM fields, see STEM as something that's fun, engaging, and a possible future career path. Importantly, these programs also give youth access to real-world near-peer role models, the undergraduate students who are actively engaged in STEM learning. It offers professional development for these undergraduate student mentors and in doing so, addresses staffing shortages and encourages skills development for our next generation of STEM professionals. NE STEM 4U is a win-win-win proposition. With the high-tech, inviting renovation of the STEM TRAIL Center that you've seen earlier in this presentation, Dr. C and her team will be able to welcome learners to a dynamic new facility on UNO's campus and I'm excited to see the kids' faces light up when they get to see a new cutting-edge facility. With retention numbers above 95 percent, it's clear that NE STEM 4U directly contributes to addressing the brain drain issue we currently face here in Nebraska and we need to expand these kinds of programs and facilities. So the new and improved STEM TRAIL Center envisioned by LB962 will expand on this impressive starting point. It will create a dynamic statewide resource that will support and grow internal STEM programs-- programs for decades to come, creating a homegrown STEM learners and innovators that can work in some dynamic new investments in the NU System you're considering today. So thank you, Senator Vargas, for introducing this bill and to the committee for your time and your consideration of this important investment.

STINNER: Any questions? Seeing none, thank you.

JEFF COLE: Thank you.

STINNER: Any additional proponents? Any opponents? Anyone in the neutral capacity? Senator Vargas, would you like to close?

VARGAS: Thank you, Chairman Stinner, members of the Appropriations Committee. I want to thank Dr. C and Maeve Hemmer, UNO body president,

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and Jeff Cole for being here. Last thing I'll say is this-- look, we have-- U.S. Department of Labor, again, has said that we're going to have about 35,000 STEM jobs that are going to be unfilled in Nebraska. We have to start early. We obviously have K-12 education, but if we don't catch students when they're in college and find pathways to STEM careers, we're going to miss out on a whole workforce that-- we have companies right now and I haven't-- I don't have to tell you that 50,000 unfilled, you know, high-wage, high-demand jobs that we have, these 3H jobs, many of them are STEM. This has the programmatic support already. It's not going to need anything. Here on in, it's one time. I think this is a worthwhile investment and as you've heard from the people, we need to make sure we're investing in our STEM careers now so that we can fill those jobs in our workforce down the line. Thank you.

STINNER: Thank you. Questions? Seeing none, thank you.

VARGAS: Thank you.

STINNER: There were four letters of support for LB969-- or LB962. That concludes our hearing on LB962. We'll now open on our last L-- last hearing on LB1054.

McDONNELL: Thank you, Senator Stinner, members of Appropriations Committee. My name is Mike McDonnell, M-i-k-e M-c-D-o-n-n-e-l-l. I represent Legislative District 5, south Omaha. I'm here this afternoon to introduce LB1054, a bill that would appropriate \$16 million in American Rescue Plan Act funds to support the University of Nebraska at Omaha's College of Education, Health and Human Services, particularly the department of biomechanics and school of health and kinesiology, with a modernization of facility space and equipment needed for research. As we have heard so far this afternoon, UNO is a hub of innovation that substantially contributes to the vast economy of this state through both real dollars and real-world contributions that support people and communities-- communities across Nebraska. Equally as important as the bill you previously heard, LB1054 appropriation of ARPA funds will support critical infrastructure on the UNO campus for the department of biomechanics and the school of health and kinesiology. Academic research, public service projects conducted by these two units produce world-leading innovations in health and human science. Some of their major partners are the National Institutes of Health, the Centers for Disease Control and Preventing-- Prevention, the Nebraska Department of Health and Human Services, the Nebraska Department of Education, the U.S. Department of Defense, just to name a select few. Additionally, these units

contribute to the much-needed workforce in Nebraska. For example, the public health program graduates the professionals who will continue to lead the critical work in public health projects and support the drain-- the drained teachers and childcare providers who have borne much of the brunt of the COVID-19 pandemic. The department of biomechanics and the school of health and kinesiology collaborate regularly and impactfully through the combination of biomechanical-- biomedical and laboratory-based sciences, social/behavior sciences, and educational development, which strengthens their ability to provide critical solutions to contemporary problems, including those known and currently unknown outcomes and results of COVID-19 pandemic. The department of biomechanics does cutting-edge research in cardiovascular biomechanics, which results in the development of new devices and materials to treat cardiovascular disorder. COVID-19, in addition to being a disease of the lung, also impacts the heart because of the same receptors, the ACE-2, line the heart and blood vessels. In short, people with preexisting heart-related issues, particularly elderly patients, experience higher rates of complications that impact their recovery from COVID-19. Support for this bill will provide new resources and capabilities that will be used to develop new cardiovascular disease treatments. This investment will-- not only supports new treatments, but also will contribute to the workforce in Nebraska in the biomedical device industry. Students who work in these labs also, also become the next generation of researchers in this area. Like the department of biomechanics, the school of health and kinesiology provides multiple programs, research lines, the public service projects, and it is notable to me that the school has only-- the only undergraduate public health program in the state. Graduates of this program are becoming and will continue to become our public health workforce. Faculty, staff, and students from this program currently support COVID-19 testing, contact tracing, and mitigation efforts through the collaboration work with the health departments and other community partners. Beyond public health per se, efforts from the school continue to support our schools, particularly through their work with teachers and child care providers. It is notable to me that the faculty from the school also work in the area of intellectual and developmental disabilities. People with these disabilities have experienced many negative outcomes from the pandemic and will continue to need additional services due to the pandemic. Furthermore, the athletic training program graduates licensed medical providers, many of whom work in critical areas like orthopedics, emergency medicine, and pediatrics. The impact of UNO-- UNO's work also extends nationally. One important part of their work focuses on optimizing the performing-- performance and safety of soldiers in the

field. COVID-19 has brought new concerns about soldiers' training, readiness, and safety and UNO faculty and researchers are working directly with the U.S. Department of Defense to conduct timely and needed research that impacts how our soldiers operate. This is why LB1054 is important to our state, our future workforce, and our ability as a state to position ourselves as national leaders in biomedical research and training that grows opportunities are-- in our economy. The testifiers behind me will provide in great detail the impact of their work and how ARPA funding in LB1054 will modernize needed laboratory and research space to advance not just UNO and the University of Nebraska System, but advance our state in the competition for talent and innovation through the intellectual property and invent-- inventions. I'm here to answer any of your questions.

STINNER: Any questions? Seeing none, thank you.

ALEXEY KAMENSKIY: Good afternoon, Chairman Stinner and members of the Appropriations Committee. My name is Alexey Kamenskiy, A-l-e-x-e-y K-a-m-e-n-s-k-i-y. I'm a professor and chair in department of biomechanics at the University Nebraska-Omaha and my research focuses on understanding human artery function and health and disease with the goal of developing more efficient and practical solutions to vascular problems. I'm here today to support LB1054, which appropriates federal ARPA funds to UNO Department of Biomechanics for critical equipment and technology upgrades. Cardiovascular diseases are the leading cause of death and disability worldwide and their economic burden surpasses that of cancer. Throughout the COVID-19 pandemic, this has been dramatically exacerbated within the state, nation, and the world. The department of biomechanics at the University of Nebraska-Omaha is on the cutting edge of cardiovascular device research. It has several patents on how to make better stents and stent grafts to help patients with vascular pathologies. With the support that we would receive from LB1054, we'll be able to significantly expand and strengthen our device manufacturing and testing capabilities and offer unique opportunities for collaboration among academia and industry across the United States and worldwide. Additionally, this investment would also directly benefit many ongoing projects, including those focused on the development of new stents for vascular disease, special devices for hemorrhage control for use in rural areas and on the battlefield, where surgery may not be an option. Another example of a collaborative project is improving outcomes for pregnant women and people suffering from blood clot disorders, including those resulting from COVID-19. We also envision that these device manufacturing and testing capabilities will allow us to attract funding from the biomedical device industry

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to Nebraska and expand our portfolio of industry-funded projects focused on the endovascular device development and testing. In addition to strengthening our capabilities in cardiovascular device manufacturing, we also propose to expand our strength in soft tissue imaging and analysis. These new imaging capabilities will allow accurate characterization of thick human arteries, which will inform cardiovascular material and device development. It will also significantly strengthen our cardiovascular team. It has assembled one of the largest databases of human artery tissue in the world, with over 1,000 human samples. This is a unique resource for us to learn about vascular disease and develop effective treatment methods. In summary, the new capabilities in device manufacturing and advanced imaging of soft tissues will provide a strong foundation for research activities in Nebraska aimed at developing novel cardiovascular disease treatments. It will strengthen our relationships with the biomedical device industry, attract and retain biomedical talent in Nebraska, and support the development of life-saving technologies. LB1054 will position Nebraska as a leader in cardiovascular biomechanics and is an opportunity to improve health outcomes for Nebraskans. I urge you to support this critical investment and I will be happy to answer any questions.

STINNER: Any questions? Senator Hilkemann.

HILKEMANN: Just a comment. As maybe one of the only members of the Legislature, Legislature-- maybe Senator Hansen, Ben Hansen has as well-- studied biomechanics, it's incredible for me to hear you talk about biomechanics for cardiovascular diseases and to think how far that, that study has come from my work with it in the early '70s to where you are today, it's just incredible. I've been to your lab and it's just-- it's world class and just another example of why it's hard not to be proud of the University of Nebraska.

ALEXEY KAMENSKIY: Thank you.

HILKEMANN: Thank you.

ALEXEY KAMENSKIY: Thank you.

STINNER: Senator Kolterman.

KOLTERMAN: Thank you, Senator Stinner. Alexey, thanks for coming today. When you-- when the university or you develop, as an example, a new stent that's, that's used in the industry, does the university

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hold the patent on that going forward and then do we get royalties from patents like that?

ALEXEY KAMENSKIY: We work with UNeMed and UNeMed decides and divides the IP issues depending on how the invention was conceived. If it was partially federally funded, then federal government would own part of the invention. If it was conceived in the lab using the resources of the university, then the university would own the IP.

KOLTERMAN: So the more, so the more we can be involved in that, the greater that expands our ability to do more research and bring in more researchers--

ALEXEY KAMENSKIY: That's correct.

KOLTERMAN: --so you continue to expand the business, right--

ALEXEY KAMENSKIY: That's correct.

KOLTERMAN: --and the model-- and educate.

ALEXEY KAMENSKIY: That's correct.

KOLTERMAN: Thank you.

ALEXEY KAMENSKIY: Thank you.

STINNER: Additional questions? Thank you very much.

ALEXEY KAMENSKIY: Thank you.

DANAE DINKEL: Hello. My name is Danae Dinkel, D-a-n-a-e D-i-n-k-e-l, and I am an associate professor in the school of health and kinesiology. I also serve as the biomechanics and kinesiology doctoral program chair of our joint program with the department of biomechanics. As a native Nebraskan and beneficiary of the University of Nebraska System, I thank you for the opportunity to speak in favor of LB1054. I grew up in Elmwood, Nebraska, in an active family and sports were always a part of our life. This love of sports led me to the University of Nebraska at Kearney, where I went to play softball, but genuinely enjoyed my education there. After graduation, I moved back home and while volunteering at a Bible study for children, found my true passion; helping those who did not have the same opportunities I did to be physically active and receive the many benefits associated with it. When looking for graduate programs, the physical activity and health promotion concentration at UNO was a perfect fit for my

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interests. I was fortunate to be hired as a graduate assistant, leading a family-based childhood obesity program. I never intended to go on past my master's degree, but I began to love the research side of my work. Working with community partners and students, identifying new research questions, and developing resources to increase physical activity and overall health was extremely rewarding. I decided to pursue my doctorate at UNMC's College of Public Health. UNO did not have a Ph.D. program at the time. As I was completing my Ph.D., a faculty position in health and kinesiology became open and I was blessed enough to get hired. My teaching and research focus on promoting physical activity across the lifespan in both urban and rural Nebraska. A lot of my work is with children and families and is conducted in collaboration with community partners. For example, recently I began collaborating with the Latino Center of the Midlands and other NU colleagues to develop an intergenerational dance program for Hispanic and Latino seniors and children called BAILAMOS. This past summer, community members led the program and our faculty and students worked together to evaluate the initial offering of the program. Despite the challenges of COVID, it went over well and we are currently working on identifying additional funding to test the full four-month version of the program this fall. As someone who comes from generations of small-town Nebraskans, I also truly love finding ways that my work can help to support rural communities. One such research area is my work in early childhood education. Over the past seven years, I have worked to develop physical activity researches--resources, which have been, been disseminated to early childhood educators across the state. Further, I developed a statewide advisory board with representation from early childhood educators from Chadron, North Platte, and Kearney, among others. Our collaboration has resulted in the first childcare professionals renewal summit, a two-day training hosted at Camp Comeca in Cozad focused on childcare professionals' own well-being. A second summit is planned for this fall. Also in collaboration with a local business HERE For You For Them and other NU colleagues, we are currently offering a four-month virtual program focused on rural family childcare home providers and children's mental and physical health. Our feedback so far has been great. One rural family childcare home provider stated, I'm still recovering from COVID. Home on oxygen, the breathing, mantra, and yoga has been very helpful in guiding my mindset during the struggle. Another rural provider said, I'm trying to be kinder to myself, leading by example. If we make a mistake, it's OK and we can just take a deep breath and start over. We currently have a small business innovation research grant under review and will use the results of this project cycle to support future grant submissions. During my

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tenure at UNO, I've had the opportunity to work with faculty across the University of Nebraska System and specifically at UNO within the department of biomechanics. While we share a joint program, the concentrations and research vary greatly. One thing that ties the faculty together is the passion for supporting students and engaging them in research. Our college, and specifically our two departments, are typically top in the university for student presentations and internal research grants. Our faculty not only includes students in research at all levels, undergraduate, masters, and doctoral level, we truly value their contributions to our work. In my eight years, I cannot think of one research project that I have been a part of that did not have student involvement in some capacity. As someone who personally has benefited from being involved in research which paid for my schooling, I am passionate about finding funding and engaging more students to give back to other students, just like the faculty before I invested in me. Like me, most of these students also stay in Nebraska, where they continue the cycle of supporting future students, engaging in the workforce, and contributing to society in multiple ways. Notably, our graduates have skills that are versatile. Their science and practical skills poise them perfectly to be leaders as we continue to respond to COVID and address chronic health issues, many of which affect rural Nebraskans at rates much higher than the general population. I urge you to support LB1054 to help myself and other faculty continue our work supporting students in the state of Nebraska. Thank you.

STINNER: Thank you. Questions? Senator Clements. I was going to call on you without even--

CLEMENTS: Thank you, Mr. Chairman. Thank you, Mrs. Dinkel. It's been a joy watching you grow up in Elmwood and known of your talent and intelligence for a long time and your family, of course. I had a question. This bill says it's going to modernize academic research labs and equipment. Have you found a deficiency in some of the labs and equipment?

DANAE DINKEL: So it would provide an expansion. So, for example, my lab is a physical activity health promotion lab. And currently, if we want to do any research or develop-- like, I usually develop resources like trainings or videos. I have to go other places to do that. So we either have to find spots, which, for example, I just conducted a research study in a conference room where we brought infants on campus to do things. So this would provide us space to better support some of those research and along with the other unique-- my fac-- my colleagues have a lot of different unique research areas, but would

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just help us to repurpose a very underutilized space to better support that research and development of resources.

CLEMENTS: So it's going to upgrade or remodel the existing space--

DANAE DINKEL: Um-hum.

CLEMENTS: --not add a new--

DANAE DINKEL: Yeah.

CLEMENTS: --building?

DANAE DINKEL: Yeah, it's an existing space that we would remodel.

CLEMENTS: All right. Well, thank you for your good work.

DANAE DINKEL: Thank you.

STINNER: Additional questions? It must be after five. My committee gets chatty.

DANAE DINKEL: I understand.

JASON COLEMAN: Well, I think the good news might be I'm the last scheduled testifier.

STINNER: OK. And I could just-- anybody else testifying-- good aft-- or good evening, I guess. It's after 5. I can say evening.

JASON COLEMAN: Sure thing. Good evening. Thank you, Senator Stinner and members of the committee. My name is Jason Coleman. That's J-a-s-o-n C-o-l-e-m-a-n. I'm a professor of public health and the director of the school of health and kinesiology at the University of Nebraska-Omaha. In my role, I have the pleasure of working with faculty, staff, and students whose impact on the state of Nebraska and across the country often goes unrecognized. I'm here today on behalf of the University of Nebraska System to support LB1054, a bill that would allow us to renovate 22,000 square feet of underutilized space and add new space to advance the work that we do in biomedical physiology, public health, healthcare, education, and social and behavioral sciences. So today I want to start by explaining who we are. I think it's pretty easy for most people to understand that in an apartment-- a department of biology, they are biologists who work on biology. It's a little more complex sometimes to explain what we do in a school of health and kinesiology and how it all fits together. We

mix both traditional laboratory-based sciences with, with social and behavioral sciences. We work to understand more about the human body and how it functions and we tie that with social and behavioral sciences, which explain how people function in societies, what drives individual behavior, and how communities work together to address contemporary challenges. Today, in my testimony, I want to highlight five examples of some of our most critical and impactful work that relates directly to the COVID-19 pandemic relief. First of all, we conduct applied and translational research in the area of exercise and cardiovascular physiology. Our faculty have long-standing partnerships with the U.S. Department of Defense and the focus of our work is to optimize the performance and safety of soldiers in extreme environments. Our exercise in cardiovascular physiologists also developed new techniques in, in molecular biology and biochemistry. This work is particularly critical in the time of COVID-19 pandemic, as new concerns continue to emerge about soldier training, readiness, and safety. Our work helps with our commitment and responsibility to support our soldiers at home and abroad. A second highlight of our school is our athletic training program, which is nationally accredited. Many people don't know that athletic trainers are licensed medical providers who not only support athletes, but also a variety of medical areas, including orthopedics, emergency medicine, and pediatrics. Our students and graduates provide clinical care to patients in settings that include industrial, industrial and occupational settings, military and government settings, and as first responders. Thirdly, our work impacts schools across Nebraska, as Dr. Dinkel just discussed. Our faculty work in both urban and rural schools to develop resources and training materials for healthy child development and academic enhancement. We partner with many of the state's educational service units to disseminate those. We provide support to teachers and other professionals to train them in child development, particularly in the areas of physical activity and nutrition. Additionally, we conduct research on mindfulness and well-being among childcare professionals and study infant movement behaviors to improve the trajectory of healthy children to grow into healthy adults. Our work specifically addresses educational disparities, particularly in rural areas, with a focus on academic, social, emotional, and mental health needs and issues. A fourth highlight, and one that I'm particularly proud of, is our work with children with intellectual and developmental disabilities. These children have been and will continue, and will continue to be disproportionately impacted by this pandemic. We address issues including reduced access to care, high-risk status for negative health outcomes, and psychological and behavioral challenges for this

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population. Our faculty work closely with leading organizations like the Special Olympics in this area. Finally, our work in public health continues to support the response to the pandemic. The school of health and kinesiology has the only undergraduate program in public health in the state and it's nationally accredited. Throughout this pandemic, our faculty, staff, and students have provided support for, for testing, contact tracing, and mitigation efforts for COVID-19 with local health departments and on our campus. Many of our graduates work in both local and state health departments and for a variety of organizations that address health in this state. Graduates from our program will continue to be the primary public health workforce in Nebraska and lead responses to both the current pandemic and future public health challenges. Your support for this bill will provide us with desperately needed resources to advance the critical work that we currently do. Our research, engagement, and community hub initiative supports an expansion and consolidation of our activities, allow for continued growth in a multitude of areas, including advanced research, increased public service, focused workforce development, expanded statewide reach, and new academic programs. Advancing this bill will ensure that we can provide current, advanced, and new services to a variety of groups, including soldiers, teachers, children, people with disabilities, and others who experience the greatest health and educational disparities in Nebraska. I encourage you to support this bill to help extend our impact. I'll be happy to answer any questions that you have.

STINNER: Questions? Seeing none, thank you.

JASON COLEMAN: Thank you very much.

STINNER: Additional proponents? Any opponents? Anyone in the neutral capacity? Seeing none, Senator, would you like to close?

McDONNELL: Unless there's questions, I'll waive my close and let you guys go to your four-day weekend.

STINNER: Senator waives his closing. There are 17-- 27 letters of support for LB1054 and one opposition. So that concludes our hearing on LB1054 and concludes our hearings for today.