UNeMed Corporation 2024 ANNUAL REPORT

Technology transfer for the University of Nebraska

UNeMed Corporation

MISSION

UNeMed fosters innovation, advances research, and engages entrepreneurs and industry to commercialize novel technologies

402-559-2468 unemed@unmc.edu unemed.com @UNeMed

4460 Farnam St., Ste. 3000 Omaha, Nebraska, 68198-6099

Greetings from the President & CEO

Looking back on 2024 creates some contrasting feelings.

On one hand, we didn't break a lot of records this year, yet this might be one of the most successful years of technology transfer and commercialization that I can remember.

You can see the standard metrics for yourself on pages 6-7, and you'll note that by most measures we landed just short of previous benchmarks. However there are some things for which we don't have good metrics, but remain massively important parts of our mission.

In fact, if I had to narrow down our mission into one simple objective: Moving innovations to the public sphere where they can do some real good.

And, I must say, we absolutely nailed that one.

Years (decades really) in the making, we finally put the cherry on top of two incredible innovations that will improve lives here, there, everywhere.... and even out there, far removed from the confines of this planet.

For starters, Carecubes and its FDA-cleared isolation device will make infectious disease outbreaks safer for care providers everywhere. And Virtual Incision's surgical robotics platform can now provide laparoscopic access to people that live hundreds or even thousands of miles from a traditional surgical center. Yes, it's even been tested in orbit, and everyone from folks in rural or developing nations to astronauts on their way to other worlds can now benefit from Nebraska innovation.

Additional successes that don't track easily with standard metrics are the achieved milestones we see from companies like Exavir, University Medical Devices, Automated Assessments, and Impower Health. All are UNMC- and UNO-based startups, and all are gearing up for their own push for FDA approvals.

Exavir is doing incredible work in treating HIV; University Medical Devices has an elegant solution to the painful nasal swabs that gained notoriety during the height of the COVID-19 pandemic; Automated Assessments found a better way to make surgeries safer for very sick people; and Impower Health has the world's first truly self-pacing treadmill.

And there's much more in the pipeline—A pipeline that, by the way, is already benefitting from a new networking initiative we launched this year. As a part of our Idea Pub seminar series, every month we now host "Morning Edition," a short program that brings together University Innovators with community members who can help support new inventions...and the companies we sometimes build around them.

Insight and support from the community are great, but we also made a few additions of absolute pros to our board of Directors. If you take a look at the length and breadth of the expertise on pages 10-11, you'll see what I'm talking about. The value of having that level of expertise and experience at our fingertips cannot be overstated.

And, it's against that backdrop that I can know in my bones there's more to come very soon. How do I know?

Well, the record 74 patents issued to our inventors in the last year is certainly one indicator. While a patent is a far cry from a guarantee for commercial success, it often is the first step toward that aim.

Looking at the tallest stack of patents we've ever seen is certainly a good reason for optimism, because that is usually the first real indication for us (and potential partners) that an innovation might have a chance.

Will any of them ultimately succeed?

The honest answer is no one really knows, nor will they know for quite some time. Afterall, the earliest patents for Virtual Incision are almost old enough drink.

Tech transfer is a long game, and I'm proud to report that University of Nebraska Innovators have the staying power to continue making this world a better one for all of us.



Michael

Michael Dixon, PhD

FDA approves UNMC innovations

Within weeks of each other, in early in 2024, a pair of UNMC innovation reached a critical milestone: FDA approval.

Both born from highly collaborative projects, the Carecubes isolation unit and Virtual Incision's surgical robotics platform are now available in the open market.

VIRTUAL INCISION

Virtual Incision gained FDA authorization to use its ground-breaking surgical robotics platform, called MIRA, for adult patients undergoing colectomy procedures. FDA clearance finally opens the door for the Nebraska-born innovation to be used in hospitals, possibly enabling wider access to minimally invasive procedures to millions of Americans.

"While this is an important milestone, there's always more to do," said Michael Dixon, PhD, president and CEO of UNeMed, the tech transfer and commercialization office at UNMC that helped establish Virtual Incision. "The surgical robots need to be made and surgeons need to be trained to use them. But for patient safety and functionality, it's passed the major hurdles. It's been a long, decade-plus odyssey to go from an idea to an



approved product, so this didn't happen overnight. And getting to widespread adoption probably won't happen overnight either; however, I am optimistic that this technology will have a major impact on healthcare over the next decade."

MIRA, short for Miniature In vivo Robotic Assistant, is the product of a cross-campus collaboration between University of Nebraska-Lincoln robotics professor, Shane Farritor, PhD, and former UNMC surgeon Dmitry Oleynikov, MD.

It will be initially limited to colectomies, also referred to as a colon resection. Considered a major surgery, colon resections are among treatment options for patients with lower gastrointestinal diseases including diverticulitis, colon lesions and inflammatory bowel disease. Colon resections often involve a large incision so the surgeon may remove the damaged or diseased portion of the bowel.

It may take months to recover fully from such an open procedure, but recovery would be significantly reduced when the same procedure is performed laparoscopically. A surgical robot like MIRA, can provide that option to more patients.

Other surgical robotic options exist, but they are massive units that take up an entire room and reach into the body from outside the patient. MIRA, however, is a small, self-contained surgical device that is inserted through a single midline umbilical incision in the patient's abdomen. It does not require a dedicated operating room or specialized infrastructure, so it is expected to be significantly less expensive than existing robotic alternatives for laparoscopic surgery. Virtual Incision's technology promises to enable a minimally invasive approach to surgeries performed today with a large open incision.

Virtual Incision said it will begin commercializing MIRA in select centers across the United States, and will eventually ramp up to additional sites over time. Virtual Incision added that it will seek additional approval for uses in other conditions related to gynecology, general surgery, urology and other soft tissue and solid organ surgery.

Studies of MIRA in gynecological procedures are already planned for later this year; and a new version of MIRA that is designed for general surgery is expected to be used in a first-inhuman study outside the U.S., also later this year.



CARECUBES

Carecubes was created through the work between UNMC's world-renown infectious disease team and a San Francisco-based research and development lab, Otherlab.

The original designs were initially created in a response to concerns related to Ebola outbreaks in Africa. But the recent COVID-19 pandemic sparked the creation of Carecubes as a path to commercialize the new technology for wider use. The Carecube now provides a better way to treat patients with highly infectious diseases, particularly for care providers that work in areas that lack the kind facilities found at UNMC or other major medical centers.

The Carecube can be rapidly deployed, setting up in less than 20 minutes. Some key features of the Carecube include lean-in glove walls and "passthroughs." The glove walls allow for rapid and improved patient access. The "pass-throughs" provide a safe and easy route delivering food, personal items, and equipment into the unit without breaking airborne isolation precautions.

Rebekah Gundry, ER team highlight 2023 Innovation Awards

OMAHA, Nebraska (November 3, 2023)— UNeMed's annual Innovation Week concluded on Thursday, Nov. 3, with its Research Innovation Awards Ceremony.

UNMC researcher Rebekah Gundry, PhD, earned top honors as UNeMed's Emerging Inventor.Other top awards included the Startup of the Year and the Most Promising New Invention of 2023.

The ceremony featured remarks from UNMC Vice Chancellor for Research Ken Bayles, PhD, before UNeMed CEO and President Michael Dixon, PhD, delivered a short presentation in review of the previous fiscal year.

Dr. Bayles opened the evening with remarks that touched on the "long journey" that can take an innovation from an idea to a commercialized technology that benefits people everywhere.

"You've got to have that grit to take the seed of an idea and make it through the highs and lows," Dr. Bayles said.

Dr. Bayles, who also served as associate vice chancellor for research and creative activity at UNO, highlighted a key strength of Nebraska's Omaha campuses.

"You hear people come from the outside and say how great it is here (in Omaha)," he said. "Fundamentally, I think it's the people. That's our advantage over the coasts...we just work together really well."

The awards ceremony recognized all UNMC and UNO inventors who contributed to a new invention disclosure, had a U.S. patent issued or had a technology licensed.

Dr. Gundry, the Stokes-Shakelford Professor and Chair of UNMC's Department of Cellular and Integrative Physiology, earned the Emerging Inventor award in recognition of her innovations and accomplishments in the field of mass spectrometry, bioinformatics and the cell surfaceome.

Dr. Gundry, who earned her doctorate from Johns Hopkins in 2006, is an inventor on eight new inventions over the last five years. Her work focuses primarily on developing and applying novel mass spectrometry-based technologies and bioinformatics tools to better understand cell surface glycoproteins and glycans. Several pharmaceutical companies have expressed an interest in working with Dr. Gundry and her innovative technologies in pursuit of new therapeutics.

UNeMed presented a trio of UNMC clinical faculty with the 2023 Startup of the Year Award: Michael Wadman, MD; Thang Nguyen, PhD; and Wesley Zeger, DO. The trio are co-founders of the UNMC startup, University Medical Devices, Inc., which was built around one of their inventions: MicroWash.

MicroWash is a new alternative to collecting nasal samples rather than the intrusive and uncomfortable swabbing technique that gained notoriety during the height of the COVID-19 pandemic.

University Medical Devices was accepted into NMotion's 2022 Growth Accelerator cohort, and went on to close a \$1.6 million seed financing round.

Finally, UNeMed presented the Most Promising New Invention of 2023 award to a collaborative team of UNO and UNMC innovators.

Three UNO researchers from the biomechanics department— Alexey Kamenskiy, PhD; Anastasia Desytova, PhD; and Ali Akbar Ahmadi—teamed with UNMC surgeon, Jason MacTaggart, MD, to create the "Optimized Vascular Stent."

The invention is a promising solution to vascular stents in the legs, which are notoriously difficult to successfully implant because leg vessels are delicate. The repeated bending of the leg can damage the vessel, stent or both. The inventors are working on prototypes that can balance improved durability while avoiding increasing the risk of damaging the femoropopliteal artery in the legs.

Innovation Week began, Monday, Oct. 30 with the Kick-Off, which featured free T-shirts, coffee and doughnuts, along with the chance to meet UNeMed staff. I-Week also featured a panel discussion of Women Innovators, a seminar about clearing regulatory hurdles in drug development applications, and a startup showcased that featured several new companies built on University of Nebraska innovations.

More information about Innovation Week and the Innovation Awards ceremony, including its history and awardees, can be found at https://www.unemed. com/innovation-week.

INNOVATION AWARDS HISTORY

Most Promising New Inventions			
2023	Optimized Vascular Stent	 Alexey Kamenskiy, PhD Anastasia Desyatova, PhD Ali Akbar Ahmadi Jason MacTaggart, MD 	
2022	System for Measuring Blood Pressure in Wearable Electronic Devices	 Cody Anderson Song-young Park, PhD 	
2021	Improved Self-Pacing Treadmill	• Brian Knarr, PhD • Travis Vanderheyden • Russell Buffum	
2020	Anterior Cervicial Space Spreader	 Joseph McMordie, MD Daniel Surdell, MD 	
2019	PDE4B Selective Inhibitors	Corey Hopkins, PhD	
2018	Multiplex Assay for Rapid Detection of HSV1, HSV2, EBV and CMV by qPCR	• Catherine Gebhart, PhD • Varun Kesharwani, PhD	
2017	Nanofiber Sponges for Hemostasis	• Jingwei Xie, PhD • Shixuan Chen, PhD • Mark Carlson, MD	
2016	Compositions for Modulated Release of Proteins and Methods of Use Thereof	 Joyce Solheim, PhD Tatiana Bronich, PhD 	
2015	Emergency Medicine Care Portfolio: Wound Irrigation System & Oral Airway Management	• Michael Wadman, MD, FASEP • Thang Nguyen, MSN, APRN, FNP-C	
2014	Orthagonal AquaBlade	• Jason MacTaggart, MD	
2013	Targeted Glyoxalase-1 Gene Transfer to Prevent Cardiovascular and End-Organ Complications in Diabetes	Keshore Bidasee, PhD	
2012	Small Molecule in Vivo Inhibitors of the N-Terminal Protein Interacting Domain of RPA1	Gregory Oakley, PhD	
2011	Novel Target for the Treatment of Renal Fibrosis	• Babu Padanilam, PhD	
2010	Noninvasive Monitoring of Functional Behaviors in Ambulatory Human Populations	Stephen Bonasera, MD, PhD	
2009	Novel Antibiotic Compounds	Paul Dunman, PhD	
2008*	Anti-HIV Peptides and Methods of Use Thereof	• Guangshun (Gus) Wang, PhD	
2008*	Sex Hormone Binding Globulin: New Target for Cancer Therapy	 Janina Baranowska- Kortylewicz, PhD 	

Special Awards

2023	Rebekah Gundry, PhD	Emerging Inventor
2023	University Medical Devices	Startup of the Year
2022	Bin Duan, PhD	Emerging Inventor
2022	Exavir Therapeutics	Startup of the Year
2021	Hanjun Wang, MD	Innovator of the Year
2021	Ensign Pharmaceutical	Startup of the Year
2020	COVID-19 Inventors	Innovators of the Year
2020	BreezMed	UNeTech Startup of the Year
2019	Benson Edagwa, PhD	Emerging Inventor
2019	FutureAssure.	UNeTech Startup of the Year
2018	Biomechanics Dept., UNO	Innovator of the Year
2018	Centese, Inc.	UNeTech Startup of the Year
2017	Donny Suh, MD	Emerging Inventor
2016	Irving Zucker, PhD	Innovator of the Year
2015	Tammy Kielian, PhD	Innovator of the Year
2014	Marius Florescu, MD	Emerging Inventor
2013	Howard Gendelman, MD	Innovator of the Year
2012	Tammy Kielian, PhD	Emerging Inventor
2011	Jonathan Vennerstrom, PhD	Lifetime Achievement
2010	Amarnath Natarajan, PhD	Emerging Inventor
2009	Rodney Markin, MD, PhD	Lifetime Achievement
2008	Dong Wang, PhD	Emerging Inventor
2007	Robert LeVeen, MD	Lifetime Achievement

Core Metrics



6





104

new invention for the sixth time in seven years to reach triple digits, and is the fifth most in UNeMed's 33-year history, just seven short of the all-time record of 111 set back in 2018





2024 Annual Report UNeMed Corporation

tech transfer for nebraska



tech transfer for nebraska

UNeMed Corporation Annual Report 2024

U.S. Patents

A list of all U.S. patents issued to UNMC and UNO personnel during the fiscal year ending in 2024. Information includes patent numbers, patent titles, the date the patent was issued, and the names of all co-inventors listed on the patent.

1. "Stent to Assist in Arteriovenous Fistula Formation"

U.S. Patent No. 11,701,216 - issued July 18, 2023

Marius Florescu

2. "Evaluation of Mantle Cell Lymphoma and Methods Related Thereto"

- U.S. Patent No. 11,725,248 issued August 15, 2023
- Wing (John) Chan
- Kai Fu

8

- Timothy Greiner
- Dennis Weisenburger

3. "Methods and Compositions for In Situ Germline Genome Engineering"

U.S. Patent No. 11,732,273 - issued August 22, 2023

- Channabasavaiah Gurumurthy
- Masato Ohtsuka
- Masahiro Sato

4. "Expanded Nanofiber Structures Comprising Electrospun Nanofibers and a Plurality of Holes and Methods of Making and Use Thereof"

- U.S. Patent No. 11,738,116 issued August 29, 2023
- Jingwei Xie
- Mark Carlson
- Shixuan Chen

5. "Biomarkers for Monitoring Immune Transformation"

U.S. Patent No. 11,806,385 — issued November 7, 2023

- Howard Gendelman
- R. Lee Mosley
- Gary Siuzdak
- Erica Forsberg

6. "Surgical Devices and Methods"

- U.S. Patent No. 11,806,040 issued November 7, 2023
- Jason MacTaggart
- Alexey Kamenskiy
- Paul Deegan

7. "Methods, Systems, and Devices Relating to Robotic Surgical Devices, End Effectors, and Controllers"

U.S. Patent No. 11,806,097 - issued November 7, 2023

- Shane Farritor
- Tom Frederick
- Joe Bartels
- Eric Markvicka
- Jack Mondry

8. "Microfiber Structures and Methods of Synthesis and Use Thereof"

U.S. Patent No. 11,813,377 - issued November 14, 2023

- Jingwei Xie
- Jiang Jiang

9. "Gross Positioning Device and Related Systems and Methods"

U.S. Patent No. 11,813,124 - issued November 14, 2023

- Shane Farritor
- Mark Reichenbach

10. "Single Site Robotic Device and Related Systems and Methods"

U.S. Patent No. 11,819,299 - issued November 21, 2023

- Tom Frederick
- Joe Bartels
- Eric Markvicka
- Shane Farritor
- Jack Mondry

11. "Nasal Specimen Collection Apparatus"

- U.S. Patent No. D1,006,248 issued November 28, 2023
- Thang Nguyen
- Michael Wadman
- Wesley Zeger

12. "Methods, Systems, and Devices Relating to Surgical End Effectors"

U.S. Patent No. 11,832,871 — issued December 5, 2023

- Shane Farritor
- Tom Frederick
- Joe Bartels

13. "Antiviral Prodrugs and Formulations Thereof"

- U.S. Patent No. 11,839,623 issued December 12, 2023
- Howard Gendelman
- Benson Edagwa

14. "Dimers of Covalent NFKB Inhibitors"

U.S. Patent No. 11,840,540 — issued December 12, 2023

- Amarnath Natarajan
- Sandeep Rana

15. "Automated Retrievable Hemorrhage Control System"

U.S. Patent No. 11,857,443 - issued January 2, 2024

- Jason MacTaggart
- Alexey Kamenskiy

16. "Method and Apparatus for Computer Aided Surgery"

U.S. Patent No. 11,857,265 - issued January 2, 2024

- Hani Haider
- O. Andres Barrera



17. "Methods, Systems, and Devices for Surgical Access and Insertion"

U.S. Patent No. 11,883,065 – issued January 30, 2024

- Shane Farritor
- Eric Markvicka
- Tom Frederick
- Dmitry Oleynikov
- Jack Mondry
- Jacob Greenburg

18. "Time-Varying Quantification of Capacitive and Resistive Arterial Blood Flow"

- U.S. Patent No. 11,896,423 issued February 13, 2024
- Irving Zucker
- Ioannis Chatzizisis
- Hanjun Wang
- Alicia Schiller
- Peter Pellegrino

19. "Robotic Surgical Devices, Systems, and Related Methods"

- U.S. Patent No. 11,909,576 issued February 20, 2024
- Shane Farritor
- Tyler Wortman
- Ryan McCormick
- Dmitry Oleynikov
- Kyle StrabalaAmy Lehman
- Eric Markvicka

20. "Anti-Parasitic Immunological Compositions"

- U.S. Patent No. 11,911,464 issued February 27, 2024
- Paul Davis
- Sam Al-Murrani

21. "On-Board Tool Tracking System and Methods of Computer Assisted Surgery"

- U.S. Patent No. 11,911,117 issued February 27, 2024
- Ibrahim Al-Shawi
- Hani Haider
- O. Andres Barrera

22. "Surgical Loupes Head Strap"

- U.S. Patent No. 11,934,039 issued March 19, 2024
- Donny Suh
- James Hermsen

23. "Nanofiber Structures and Methods of use Thereof" U.S. Patent No. 11,946,164 — issued April 2, 2024 ■ Jingwei Xie

24. "Nanofiber Structures and Methods of Use Thereof"

U.S. Patent No. 11,951,227 - issued April 9, 2024

- Jingwei Xie
- Shixuan Chen
- Mark Carlson

25. "Single-Arm Robotic Device with Compact Joint Design and Related Systems and Methods"

U.S. Patent No. 11,950,867 — issued April 9, 2024

- Shane Farritor
- Joseph Palmowski

26. "Ozonides for Treating or Preventing Virus Infections" U.S. Patent No. 11,963,945 — issued April 23, 2024

- Jonathan Vennerstrom
- Jonathan vennerstron
- Ravit Boger

27. "Polyethylene Glycol-Conjugated Glucocorticoid Prodrugs and Compositions and Methods Thereof"

U.S. Patent No. 12,011,450 - issued June 18, 2024

- Dong Wang
- Fang Yuan
- Zhenshan Jia
- Xiaobei Wang

Board of Directors

Last year, UNeMed added three members to its Board of Directors: Alexi Wellman, Michael Bishop, PhD, and Kimberly Lamb, PhD.

A Papillion native, Wellman is the CEO of Altaba, Inc., a closedend investment fund. She also serves on several boards—including Werner Enterprises and ESS, Inc.—and is a venture partner and investment committee member at SpringTide Ventures, an investment firm focused on supporting healthcare related startups.

She is also an investment committee member of Move Venture Capital, an early stage capital source for Nebraska founders.

Prior to joining Altaba, Wellman was a vice president and global controller at Yahoo!, served as Chief Financial Officer of the Nebraska Book Company, Inc., and was partner with KPMG.

More recently, Wellman received the University of Nebraska-Kearney College of Business and Technology Distinguished Alumna Award. A licensed certified public accountant, she graduated from UNK with a bachelor's degree in business administration in 1992.

Dr. Bishop, who earned his doctorate in organic chemistry from Rice University in 1993, joins UNeMed's Board with an impressive track record, which includes 26 years as a medicinal chemist with GlaxoSmithKline, LLC.

He is currently the CEO and principal consultant at Bishop Drug Discovery Consulting, a company he founded in 2019. While working as a consultant, he has served in a variety of scientific and research-related roles for new biotech companies, where he helps build drug discovery plans, find new drug candidates, secure intellectual property and cultivate potential investors.

Prior to his consulting work, Dr. Bishop spent most of his career at GSK where his teams and programs delivered a dozen clinical development candidates. As the Director of GSK's Discovery Partnerships in Academia program, Dr. Bishop also built successful partnerships with academic researchers and their projects, which often led to new startup companies.

Before joining GSK, Dr. Bishop was a technical support chemist at the Amoco Chemical Company in Texas. After receiving his PhD, he signed on as a Medical Chemist at Burroughs Wellcome, which merged into GlaxoWellcome in 1995 and eventually became GSK in 2000.

For Dr. Lamb, a Boston-area native, this will be her second stint with UNeMed. After earning her doctorate in cell and molecular biology from UNMC in 1998, Dr. Lamb worked as a research scientist at Transgenomic, Inc., a life sciences-startup based in Omaha. She then joined UNeMed as a marketing specialist in 2000, and was promoted to UNeMed's vice president of marketing and licensing before returning to Boston in 2005.

Back in Boston, she amassed an impressive record developing experience creating and implementing strategy and processes to propel discovery and clinical stage programs for drug discovery over the last 18 years—at places like Beth Israel Deaconess Medical Center, Merck Sharp & Dohme, LLC, Epizyme, Inc. and Applied Genetic Technologies, Inc. In her most recent role at Amathus Therapeutics Inc., she led a discovery collaboration for Parkinson's disease with Merck, and assumed a corporate leadership role to oversee operations and the budget on behalf of the company for the board.



Alexi Wellman Member, UNeMed Board of Directors CEO, Altaba, Inc.



Michael Bishop, PhD Member, UNeMed Board of Directors Medicinal Chemistry Consultant, Bishop Drug Discovery Consulting, LLC



Kimberly Lamb, PhD Member, UNeMed Board of Directors Senior Alliance Management and Corporate Operations Leader



Anne Barnes Chair, UNeMed Board of Directors Vice Chancellor for Business, Finance and Business Development, UNMC



Michael Dixon, PhD President & CEO, UNeMed Board of Directors



Don Leuenberger Member, UNeMed Board of Directors Vice Chancellor for Business and Finance Emeritus, UNMC



Rodney Markin, MD, PhD Member, UNeMed Board of Directors Assoc. Vice Chancellor for Business Development, UNMC Director, UNeTech Institute



Tyler Martin, PhD Member, UNeMed Board of Directors Chairman & CEO, Aeolian Biotech



Luke Barnard Treasurer, UNeMed Board of Directors Assistant Controller, University of Nebraska



Laura Gonnerman, JD Secretary, UNeMed Board of Directors Associate General Counsel, University of Nebraska

UNeMed startups move forward

Two early-stage UNMC startups cleared key funding hurdles that could clear the way to clinical testing and eventual prpeparations for FDA clearance.

Exavir Therapeutics, a biomedical startup built on innovations developed at the University of Nebraska Medical Center, was awarded a \$3 million grant from the National Institute of Allergy and Infectious Diseases, a division of the National Institutes of Health.

University Medical Devices successfully closed a \$1.6 million seed round of funding, which will fuel the company's push to place its cornerstone device, MicroWash, into the hands of clinicians where it can potentially help patients everywhere.

EXAVIR

12

Exavir's new grant will help support the development of XVIR-110, an ultra-long acting HIV treatment co-invented by UNMC scientists Howard Gendleman, MD, and Benson Edagwa, PhD. Both are also co-founders of the California-based startup, which UNeMed named it's Startup of the Year during the 2022 Innovation Awards.

Exavir's ultra-long acting nanomedicines represent a critical step forward in HIV treatments, allowing the effective slow release of antiretroviral therapies in doses once every six months or longer. Success of current antiretroviral therapies usually requires strict adherence to daily dosing regimens.

UNIVERSITY MEDICAL DEVICES

Developed by a team of prolific inventors in UNMC 's emergency medicine department — assistant professor Thang Nguyen, PhD, MSN, and department chair Michael Wadman, MD — MicroWash is nasal sample collection device that is far less invasive than the traditional swabs that gained notoriety.

UNeMed worked with the inventors to secure additional development support for their technology, which ultimately led to the creation of the Omaha-based startup.

Although it was developed in response to the challenges posed during the pandemic, MicroWash could work in collecting samples for a number of viral infections, including flu, RSV and COVID. The device is a self-contained attachment that resembles a syringe without a needle. It contains a solution that is flushed into the nasal cavity with the plunger, then drains back into the device. The device is then capped, and sent to the lab for testing.

A recent video using an outdated prototype demonstrates how the device works, and can be viewed on UNeMed's You-Tube channel. (https://youtu.be/tbbkiFjnXUo)

The funding round, which began in March 2023 and closed in December, was led by Bright Minds Capital Partners, Invest Nebraska and leaders from AV Legacy Holdings LLC and UMD.



402-559-2468 unemed@unmc.edu unemed.com @UNeMed

4460 Farnam St., Ste. 3000 Omaha, Nebraska, 68198-6099

The University of Nebraska does not discriminate based on race, color, ethnicity, national origin, sex, pregnancy, sexual orientation, gender identity, religion, disability, age, genetic information, veteran status, marital status, and/or political affiliation in its programs, activities, or employment.

