A NOTE FROM SUSAN

Innovation runs throughout our history and it will shape our future. As a core value of MaineHealth, innovation is embedded in the daily work of our care team members. In 2020, MaineHealth demonstrated its commitment to innovation by establishing the MaineHealth Innovation division, which is strategically positioned alongside medical education and research, and serves as the connective tissue between research, education and care. I am thrilled to share our inaugural report which celebrates all that MaineHealth Innovation and our partners have built together in just two years.

MaineHealth Innovation achieves the MaineHealth vision of “working together so our communities are the healthiest in America” by leveraging the insights of our 22,000 care team members. Our people are the experts in care who see challenges worth solving every day. We have the insights and curiosity into how we deliver care today, and how we can deliver it in the future. Together, and with the support of our strategic partners across Northern New England, we are transforming care through innovation.

We define innovation as a novel idea that solves an unmet healthcare need. We are discovering that innovation is as simple as a headband to hold oxygen tubes. We are learning that innovation is applying emerging Artificial Intelligence (AI) technology in the primary care setting to transform the way our care team members prevent blindness in rural diabetic patients. Innovation relies on novel ideas and challenging the status quo, thinking differently, researching and testing ideas, and creating a safe space to brainstorm ideas. We serve our brave and passionate MaineHealth innovators by providing connections, education and funding to bring those ideas to life.

Our work will continue to explore new care team models, revenue streams and collaborations. We will foster our culture of innovation from Damariscotta, Maine, to Portland, Maine, to North Conway, New Hampshire. Come join us as, together, we will dream big, inspire and impact care – and have fun doing it.

With gratitude,

Susan Ahern
Vice President of Innovation
MaineHealth
MaineHealth INNOVATION is ...

“...what allows your project to have a life, so it’s not just an idea.”
— E. Vinny Seiverling, MD
Dermatologist, Maine Medical Partners

“...saying ‘we can make this better.’”
— Nir Harish, MD, MBA
Emergency Medicine, Pen Bay Medical Center

“...the creation or enhancement of a device, system or process that improves well-being.”
— Stuart Watson
MaineHealth Board of Trustees

“...the spark that allows us to creatively problem solve for our patients and communities.”
— Linda Durst, MD
Chief Medical Officer, Maine Behavioral Healthcare
Chair, Department of Psychiatry, Maine Medical Center

“...a consistent bright spot over the last year.”
— Mary Ottolini, MD, MPH, ME4
George W. Hallet, MD, Chair of Pediatrics
The Barbara Bush Children’s Hospital at Maine Medical Center

“...when a person or a team of people undergo a change of mindset to overcome barriers with the application of curiosity to envision solutions.”
— Irwin Brodsky, MD
Endocrinology, Diabetes & Metabolism, Maine Medical Partners
Adjunct Scientist, Maine Medical Center Research Institute
DEDICATED TO

DONNA DEBLOIS, RN, BSW, MSB, MBA, AHC

As an innovator from the beginning of her career as a nationally recognized nurse and home healthcare leader, Donna always knew the right questions to ask and the right people to ask to advance care. She spent the last eight years serving as President of MaineHealth Care at Home, working diligently to implement novel care team models and devices to improve the quality of life of homecare patients and their care team. She was a champion of telehealth nearly a decade before most major healthcare systems realized its value. Her innovative, pace-setting thinking deemed her a valued member of the MaineHealth Innovation Cabinet, on which Donna provided guiding wisdom and experience as MaineHealth charted its course for its emerging Innovation division.

While Donna earned multiple graduate degrees, she was first and always a nurse, bringing compassion and empathy to all she accomplished. She served as a passionate advocate for the home care and hospice industry. The National Association for Home Care and Hospice recently appointed her to the National Hospice Hall of Fame, joining such names as Mother Teresa.

Donna was a mentor for many across the healthcare and hospice industries. Susan Ahern, Vice President of Innovation at MaineHealth, was humbled to have Donna as a mentor over the last year, and describes her impact as “visionary and incredibly special.”

In October 2021, Donna passed away from cancer. MaineHealth Innovation will continue to innovate in her honor and help touch the lives of many just as Donna did for all who had the privilege to know her.
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MaineHealth
INNOVATION
ANNUAL REPORT
2020-2021
In late March 2020, as the novel COVID-19 virus began to take hold, Maine’s personal protective equipment (PPE) reserves were dwindling fast. MaineHealth, Maine’s largest healthcare system serving more than one million patients across Maine and Carroll County, NH, needed to build its pandemic supply of N95 respirators to ensure the safety of care team members and preserve its ability to care for patients amidst rapidly increasing COVID-19 cases.

**Calling On Innovation**

The MaineHealth COVID-19 response team and leaders turned to the MaineHealth Innovation division, which had only been operating for one week at the time, to address some of these needs. Looking to healthcare colleagues across the country, such as the University of Nebraska Medical Center and Florida’s Lee Health, MaineHealth Innovation proposed a UV-C light decontamination process to safely allow for the reuse of N95 respirators. Within six weeks, a MaineHealth UV-C facility was built in Portland, Maine, and thousands of N95s from MaineHealth locations were identified, tagged, collected, decontaminated and stored, ready to be deployed to care team members in the event of a declared PPE shortage. While MaineHealth has yet to deploy decontaminated N95s to its workforce, MaineHealth processed N95s for Maine emergency services teams as they continued to serve our communities on the front lines. More than 40 interdisciplinary

MaineHealth care team members from Maine Medical Center Safety and Emergency Management, Medical Affairs, MaineHealth Supply Chain, Legal Affairs, and Process Improvement, among many others, contributed to this project, which represented MaineHealth’s first system-wide innovation pathway.

**Shaping Innovation at MaineHealth**

As the N95 initiative progressed, MaineHealth quickly learned the mechanisms needed to embrace its value of innovation to the fullest: senior leadership support, collaboration across the system and with community partners, and the adoption of low-technology solutions that have a high impact on patients and communities.

With these themes in mind, the MaineHealth Innovation division was primed to continue the new wave of innovation momentum that the COVID-19 pandemic set in motion. While the pandemic continues into 2022, there is a sense of hope amidst the uncertainty. MaineHealth care team members have shown that they will continue working together to make MaineHealth communities the healthiest in the nation during this pandemic and long after it ends.

**Key Takeaways**

1. **Early Leadership Support**
2. **Collaboration Across MaineHealth and with Community Partners**
3. **Adoption of Low-Technology, High-Impact Solutions**
CONTAINING COVID-19:
COLLAPSIBLE AEROSOLIZED PARTICLE ENCLOSURE

Imagine a busy hospital emergency department (ED) filled with patients, many of whom have or may have COVID-19. The need to contain the spread of germs is more important than ever. Early in the pandemic, Liz Hamilton, MD, and Katie Main, MD, Maine Medical Center (MMC) Emergency Department Chief Residents, addressed this growing challenge overnight.

Out of necessity, in response to the ongoing concern for COVID, MMC had already started transitioning hospital rooms to negative pressure rooms, but there was still a need to contain potentially infectious patients while they were waiting to be transferred. As experienced campers, Liz and Katie thought, “I wish we just had a tent to put patients in.” Liz and Katie then realized how they could contain infectious patients while in the ED. They brought their idea to Samir Haydar, DO, MPH, attending Emergency Physician, who encouraged them to develop it.

“I think I told them, ‘Well, go to Home Depot and make it,’” Samir says. “The next morning, I came in and they had.”

Liz and Katie had created the first prototype of the CAPE, or Collapsible Aerosolized Particle Enclosure, a tent-like structure for hospital beds that offers an additional layer of protection for healthcare providers to safely administer high-risk treatments to potentially infectious patients. The first version, made of PVC pipe and simple plastic, fit over a standard emergency department bed, allowing care team members to access the patient through openings in the plastic.

Taking the idea to the next level required assistance, so MaineHealth Innovation connected the team with two Maine companies, Baker, an industry pioneer in biocontainments, and Thermoformed Plastics of New England, an industry expert in high performance films. With the help of these partners, the team soon had a revised prototype that is designed to be an affordable mobile negative pressure device that attaches to a patient’s stretcher, turning most care settings into a safe negative pressure environment.

In early 2021 and with the assistance of MaineHealth Innovation, the CAPE team presented at a special “Innovation Showcase” for more than a dozen senior clinical and administrative leaders. Team members from Baker shared the extensive scientific testing they conducted, showing the device’s effectiveness in containing infectious airborne pathogens. Participants provided the team with additional customer discovery information to better understand the MaineHealth needs and uses for CAPE and offered feedback to further advance the design. Recently, the CAPE innovation was featured in the American College of Emergency Physician’s 2021 “Innovator of the Year” competition and was voted runner up out of four finalists from across the nation.

After securing $20,000 from the MaineHealth Innovation Ignite Fund, a funding mechanism to advance early innovations, the CAPE team received additional funds in fall 2021 from the next level of MaineHealth Innovation funding – the inaugural MaineHealth Innovation Bonfire Fund. The Bonfire Fund aims to advance the MaineHealth mission by providing an investment of up to $100,000 to commercialize and scale an advanced innovative solution.

With resounding validation and use testing, the CAPE has proven to be comfortable for patients, adapts to any bed position and allows providers to observe patients and perform necessary interventions and procedures. Its ability to reduce the likelihood of spreading infection in any healthcare setting from bustling emergency rooms to field hospitals, demonstrates the global commercial potential of this new solution.

NEXT STEPS
The CAPE team has formed a company, CAPE Partnership, and is working with local medical device entrepreneur Paul Fitzpatrick. The team plans to use the Bonfire Fund investment to obtain Emergency Use Authorization (EUA) from the Food and Drug Administration and plan a clinical trial.
FROM SALAD BAR TO GROCERY STORE

Like many other MaineHealth facilities, LincolnHealth in Damariscotta, ME, could only serve food to care team members during the COVID-19 pandemic. Tom Schwarz, Director of the LincolnHealth Miles Café, and his team scrambled to accommodate the change. Tom then learned that many care team members were unable to buy groceries, due to demanding schedules. When they could shop, they faced widespread supply shortages. Tom and his team quickly shifted gears again, determined to bring groceries to care team members. Tom’s innovative intervention transformed the beloved Miles Café self-service salad bar into a grab-and-go grocery store. Within 48 hours the salad bar was replaced with food coolers and Tom was ordering hard-to-find staples such as bread, orange juice, cold cuts, flour, cleaning supplies and toilet paper through his hospital supply chain connections.

“The response has been incredible,” says Tom. “Employees love it and they hope it doesn’t go away after the pandemic ends.”

Tom and his team have expanded operations beyond keeping fellow care team members well stocked; they’re now providing meals and groceries to community members in need. Upon hearing of an elderly LincolnHealth patient who was concerned about who would care for her husband while she was in the hospital, the Miles Café team promptly prepared a series of meals and bags of groceries, all delivered to the couple’s home by Tom himself. Tom let providers know that if they had patients in need of meals or groceries, the reimagined Miles Café would do everything they could to assist.

Tom, his team and LincolnHealth leadership continue to innovate and are seeking a long-term solution to keep the store open and thriving long after the pandemic wanes.
MaineHealth Innovation is formed.

The MaineHealth Innovation division was formed to foster a culture of innovation and develop infrastructure and programs to support system-wide innovation.

Innovation is defined as a MaineHealth value.

A 2-year survey of healthcare innovation across the nation is concluded to inform the direction of MaineHealth Innovation.

The MaineHealth Intellectual Property Policy is updated and approved by the MaineHealth Board of Trustees to include all MaineHealth health care team members.

MaineHealth Innovation and its strategic partner, The Roux Institute at Northeastern University, create the Innovation Blender series to brainstorm innovative solutions to healthcare opportunities.

MaineHealth Innovation Fund is launched. The inaugural program is offered as the Ignite Fund which provides up to $20,000 in funding for early innovations.

The MaineHealth Innovation Cohort, which started as a Maine Medical Center program in 2018, is offered system-wide.

The MaineHealth Innovation Elective is launched through the Tufts University School of Medicine for fourth year medical students.

The MaineHealth Intellectual Property & Business Development Committee is formed to provide MaineHealth innovators with business expertise and connections.

The first Innovation Center space is established at Maine Medical Center in Portland, ME.

The Brewing Ideas Coffee Corner is created for MaineHealth care team members to connect and network.

The community-facing MaineHealth Innovation location at The Roux Institute in Portland, ME, is opened to encourage collisions with the entrepreneurial ecosystem.

The MaineHealth Innovation Fund is expanded to offer the Bonfire Fund, which provides an investment of up to $100,000 in a MaineHealth care team member company to accelerate an advanced innovation.

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MAINEHEALTH INNOVATION

MaineHealth Innovation aims to foster a culture of innovation together. At MaineHealth, innovation is defined as a novel idea that solves an unmet care need through new care team models, products or services. Multi-disciplinary collaboration is key and pivoting is part of the process. Solving problems creatively provides an opportunity to have fun and work better together.

G O A L S  ●

1. Foster a culture of innovation
2. Strengthen innovation infrastructure
3. Curate a suite of tools to support innovation

S E R V I C E S  ●

CONNECT
EDUCATE
FUND

2020-2021 IMPACT

49 INNOVATORS ENGAGED
34 INNOVATION PROJECTS EXPLORED
11 PATENTS FILED
5 PROGRAMS LAUNCHED
2 LOCATIONS
$337K INVESTED IN INNOVATION PROJECTS
$93K EXTERNAL FUNDS RECEIVED BY INNOVATORS

T A L E N T  ●

10 INNOVATION CABINET MEMBERS & ADVISORS
10 INNOVATION CLINICAL COACHES
8 INTELLECTUAL PROPERTY & BUSINESS DEVELOPMENT COMMITTEE MEMBERS
5 INNOVATION TEAM MEMBERS

P H I L A N T H R O P Y

Thank you to MaineHealth Innovation's valued donors for their lasting contributions and for their belief that, together, anything is possible.

ANONYMOUS
ANNUAL GIVING
NANCY P. AND ROBERT C. KING
BOBBIE LAMONT
SANDRA STONE
WEX, INC.
HELPING NEWBORNS IN DISTRESS

AUGMENTED REALITY NEONATAL RESUSCITATION SIMULATION

In rural Maine areas, outside of Portland, babies born in distress are six times more likely to have significant and adverse complications, which can be fatal. While help for these newborns is available, rural healthcare workers don’t see many cases of the condition and therefore do not always have the practical experience needed to treat it.

“If you don’t regularly employ these complex therapeutic methods, it’s going to be difficult to use the skills when the time comes,” says Mary Ottolini, MD, MPH, MEd, the George W. Hallett, MD, Chair of Pediatrics at the Barbara Bush Children’s Hospital at Maine Medical Center. Inspired by the work of Alexa Craig, MD, MSc, a researcher and neurologist with Maine Medical Partners, Mary and her colleague Michael Ferguson, MD, MTeach, decided they needed to do something to support rural healthcare workers and their newborn patients. Dr. Craig studies the detection of and treatment for neonatal encephalopathy in rural areas. She’s developing monitoring devices with smart technology to determine if newborns in distress need therapeutic hypothermia, or “brain cooling,” the only known treatment for the condition. When every second can mean the loss of brain tissue, providers need to act quickly and confidently. In rural communities where cases of neonatal distress occur only once or twice a year, staff are not always comfortable using these lifesaving tools. Mary and Michael knew they wanted to tackle this problem head on.

“MaineHealth Innovation provided a safety net for our idea to get this training where it is needed most,” says Mary.

The two set out to mobilize neonatal distress simulation training in rural Maine communities. Through a connection made by MaineHealth Innovation, they partnered with Case Western Reserve University (CWRU), leaders in augmented reality, to develop the specific software needed to simulate a real-time neonatal distress scenario. Shortly after, their “Augmented Technology for Medical Simulation” (ARTforMS) innovation was selected to receive $20,000 from the inaugural MaineHealth Innovation Ignite Fund.

The funds were used to purchase a suite of equipment to create what Michael refers to as “simulation in a suitcase.” ARTforMS uses the Microsoft Hololens mixed reality goggles, Empatica bio-sensing wrist watches and CWRU’s special augmented reality software to project the simulated scenario and allow the trainee and instructor to react to the same image, giving rural healthcare professionals the life-like training they need to recognize and react to these infrequent, but life-threatening, instances of infant distress.

NEXT STEPS

The ARTforMS innovation will continue to be used to train providers in rural MaineHealth locations and has even been demonstrated on a recent MMC service trip to Kenya. As CWRU’s augmented reality software is further refined, Michael and Mary hope ARTforMS can be expanded to accommodate larger pediatric simulation manikins and more distress scenarios.

“MaineHealth Innovation provided a safety net for our idea to get this training where it is needed most.”

— Mary Ottolini, MD, MPH, MEd
George W. Hallett, MD, Chair of Pediatrics
The Barbara Bush Children’s Hospital at Maine Medical Center
In fall of 2020, the team applied to the first offering of the MaineHealth Innovation Ignite Fund and received $20,000 to purchase the retinal camera and cover the cost of the first 100 AI image interpretations.

“The investment from MaineHealth Innovation has enabled us to apply emerging technology in a new setting, bring advanced screening techniques to address problems of access to care, and to potentially preserve eyesight for patients most at risk for sight loss,” said Brian.

Since the retinal camera has been implemented at the Western Maine Primary Care office, the care team reports that they are conducting up to 10 screenings each week. Patients receive the screening at the end of their standing primary care appointments or during routine retinopathy screening clinics. The care team has detected vision-threatening diabetic retinopathy in several patients who were sent for immediate follow up with a specialist, potentially saving their vision before more serious effects of diabetic retinopathy occurred.

NEXT STEPS
MaineHealth will continue using this new technology to increase annual screening rates among diabetic patients and decrease the time to diagnose and treat diabetic retinopathy.

“The investment from MaineHealth Innovation has enabled us to apply emerging technology in a new setting.”

— Brian Nolan, MD
Internal Medicine Physician
Western Maine Health

A VISION FOR RURAL MAINE

DIABETIC RETINOPATHY SCREENING USING ARTIFICIAL INTELLIGENCE

A shortage of local eye care specialists in the Norway, Maine, area has led to an increase in the threat of diabetic retinopathy, a preventable cause of blindness in diabetic patients. Many — about 40% — of the approximately 1,300 patients with diabetes who live in the area do not receive recommended retinopathy screenings.

Brian Nolan, MD, an Internal Medicine Physician at Western Maine Primary Care in Norway, with more than 20 years’ experience caring for patients, saw an opportunity to conduct retinopathy screenings during routine primary care appointments. Brian and Maine Medical Center Internal Medicine Resident Shane Kirkegaard, DO, who was working in the Rural Internal Medicine Residency program at Western Maine Health, partnered with Kerri Barton, MPH, a Maine Medical Center Research Navigator, to introduce an innovative novel solution — the EyeArt AI Screening System. EyeArt uses a retinal camera that connects with a cloud-based artificial intelligence (AI) algorithm to analyze retinal images within seconds after image acquisition. Brian and the team can now screen patients during primary care visits, making the process quicker and more efficient for patients who otherwise have difficulty getting to a specialist’s office. The image analysis offered by this tool will also be covered by insurance.

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— Brian Nolan, MD
Internal Medicine Physician
Western Maine Health
CREATING A NOVEL SHARED SURGICAL COVERAGE MODEL

As a small rural hospital that runs a full service Emergency Department, Western Maine Health (WMH) based in Norway, ME, needs 24/7 general surgical call coverage. As the Norway community’s population decreased over the last several years, so has the demand for WMH’s emergency services and 24/7 in-person on-call coverage. Leadership at WHM and Maine Medical Center (MMC) in Portland recognized this shift in demand as an opportunity to increase efficiency and best use care team members in new ways. Together, the institutions developed a novel care team model.

In this new remote care model, patients who present at the WMH Emergency Department with general surgery needs are typically triaged for transfer or admission to WMH by the local hospitalist staff, with the consultative support of a covering MMC surgeon. After a weekend of 24/7 call, a WMH general surgeon then passes off service to the covering MMC surgeon. The coverage care model and supporting protocols ensure that there is coverage and effective hand-offs throughout every weekend.

The shared coverage care model enables WMH and MMC care team members to view the patient record and document treatment in the electronic medical record in the same way. This care model is supported by a Community Call Plan based on Emergency Medical Treatment and Labor Act (EMTALA) guidance. This model also has the support of MaineHealth regulatory and legal partners.

“We’ve been doing this for a year and half with good success!” says one team member. “Patients that can remain local stay local, those that need transfer are transferred, and our local surgeons can maintain sustainable call expectations.”

Stephens Memorial Hospital of Western Maine Health located in Norway, ME.
REIMAGINING HOSPITAL GOWNS

THE NEWGOWN™

Patients with an altered mental status are a common sight on the orthopedic, neurological and trauma units at Maine Medical Center (MMC) where Sara Cox, CNRN, Neuroscience Patient Navigator, has seen patients in consult for six years. These patients often pull at their medical lines and tubes due to discomfort, and many have to wear “mitts” to prevent interruptions to their treatment. Transitional care facilities cannot accept patients wearing mitts, so discharge may be delayed. After witnessing the frustration and sadness of so many patients over the years, Sara was inspired to find a way to help.

“In 2018, I thought about how our traditional hospital gown could be redesigned for our neuro-compromised patients,” says Sara. “I wanted to help them be comfortable, stay covered and not have easy access to necessary lines and tubes as they progress in their recovery.”

Combining her devotion to compassionate patient care with research from her own experiences and those of her fellow nursing team, Sara joined the MaineHealth Innovation Cohort in fall 2020 to develop an initial prototype of this reimagined gown. She calls it “The NewGown.”

The romper-style patient gown has easy-to-use snaps along its inseam and side, providing full coverage of the patient and quick access to medical tubes and lines by the care team. Additionally, two drawstrings along the torso provide patients with a safe “distraction” from tampering with medical lines.

MaineHealth Innovation connected Sara with Jim Mangini, RLLD, Director of Linen Services at MMC, in order to get the newly-designed sample gowns washed and sterilized before a trial with patients. Jim then introduced Sara to Standard Textile Company (STC), an international textile manufacturer and vendor for MaineHealth, who enthusiastically worked with Sara to make several more versions of the gown in various sizes and fabrics. STC hand-delivered gowns to Sara and the Innovation team in June 2021.

After a successful initial pilot with one very positively-affected patient, nurses from Sara’s unit and throughout MMC asked when they could get more NewGowns. The gowns not only made patients feel more comfortable and less exposed, they said, but also enabled the care team members to provide care more efficiently. The NewGown innovation illustrates how compassion and a simple idea can have a significant impact on MaineHealth patients and care teams.

NEXT STEPS

Sara received a new batch of modified gowns in December 2021 to use in an expanded pilot at MMC with patients from the neuro intensive care and other hospital units.

Sara Cox, CNRN
Supervisor, Neuroscience Patient Navigator
Maine Medical Center
MaineHealth Supply Chain
Maine Medical Center
Linen Services
Standard Textile Co.
A LOW-COST CANCER SCREENING SOLUTION

LEDISCAN

Well-versed in global health, Obieze “Obi” Nwanna-Nzewunwa, MD, MS, brought unique experience and a desire to continue helping underserved communities to MMC when he arrived as a first-year general surgery resident in 2018.

Obi is personally motivated to solve cervical cancer, which causes over 300,000 deaths annually. Ninety percent of cervical cancer deaths occur in developing countries that lack access to vaccines, screenings and treatment. In Obi’s native country of Nigeria, and in rural America, cervical cancer is highly prevalent. Obi recognized a need for a low-cost, accessible solution.

Obi is developing Lediscan, a point-of-care device that combines a visual inspection with machine learning, allowing a provider to “test and treat” cervical lesions in one gynecological exam. Lediscan is intended for use in primary care or clinic settings, eliminating days of waiting for screening test results and the need for costly, inaccessible follow-up specialist appointments.

While participating in the Innovation Cohort in 2019, Obi filed a patent for Lediscan’s unique design. MaineHealth Innovation connected Obi to the Massachusetts Institute of Technology (MIT) Innovation Corps to support Lediscan’s continued development. Obi presented Lediscan at the MaineHealth Innovation Blender, a brainstorming event with MaineHealth and The Roux Institute of Northeastern University, where he found a business mentor connection with the Maine Center for Entrepreneurs.

“The amount of support is positively overwhelming,” Obi says of his experience with MaineHealth Innovation. “I am used to being in one corner of my room trying to figure out all of these things by myself. Beyond having great ideas, one needs connections and people to support and point them in the right direction. This has been really helpful.”

NEXT STEPS

Obi is looking for team members with expertise in business development and marketing to help move Lediscan on a path to local implementation and global adoption.

“On my team, we see innovation with a capital “I” and a lower case “i.” Innovation doesn’t have to mean launching something that a private equity firm will jump all over – it could simply be something that helps a nurse at the bedside day to day.”

LUGENE INZANA, CPA
Chief Financial Officer,
Maine Medical Center &
Assoc. Chief Financial Officer, MaineHealth
MaineHealth Innovation Cabinet Member
Funding for tuition and fees comes from Memorial’s annual golf tournament, plus support from the Ann De Nikola Trust of Citizen’s Bank and the Mary Louise Billings Trust of Citizen’s Bank.

“This has been a great team effort between WMCC and Memorial Hospital in creating a flexible and convenient medical assistant training program for individuals interested in starting a career in healthcare and doing so in a way that will have them fully job-ready in less than one year’s time,” says WMCC Coordinator of Workforce Development and Community Education Tamara Roberge. “We look forward to working with the hospital and doing our part in ensuring that our community’s needs are being met by collaborating on ways to fill high-demand positions in healthcare.”

“WMCC students have been coming to Memorial for years to complete the clinical portion of their program. We know the quality of the program, and many graduates are working here making a difference in the lives of our patients,” says Memorial Hospital’s Chief Nursing Officer Kris Dascoulias, BSN, RN. “This is a great partnership helping students begin their healthcare journey while keeping amazing talent here in the community where we need them.”

MAAP participants are hired as full-time employees and concurrently enrolled in college. They take classes, shadow team members across the organization, and have group and individual study time. They have the unique opportunity to learn about quality, population health, practice administration and patient care firsthand. At the end of the nine-month program, participants are certified MAs and are already immersed in the Memorial culture, ready to hit the ground running and commit to working for the next two years at Memorial Hospital.

“This is a great partnership that helps students begin their healthcare journey and keeps amazing talent here in the community where we need them.”

— Kris Dascoulias, BSN, RN
Chief Nursing Officer, Memorial Hospital

Memorial Hospital’s Medical Assistant Apprenticeship Program students and members of the clinical team.

(Building a Specialized Local Workforce)

MEMORIAL MEDICAL ASSISTANT APPRENTICESHIP PROGRAM

Finding and retaining a trained workforce in rural hospitals is challenging. Like other New England and rural medical centers, Memorial Hospital in North Conway, NH, has had an increasing need for clinical practice team members. Local programs were not producing enough graduates to meet their needs, so team members from across the hospital, including clinical education, talent acquisition, primary care and human resources, joined forces to create a collaborative and innovative program for training MAs and keeping them at Memorial.

The result of this collaboration is Memorial’s Medical Assistant Apprenticeship Program (MAAP), a partnership with White Mountains Community College (WMCC), a credit-bearing certificate program aimed at providing an employee-based apprenticeship.

“WMCC’s Medical Assistant Certificate program is accredited by the Commission on Accreditation of Allied Health Education Programs upon the recommendation of Medical Assisting Education Review Board (MAERB).
EASING ANXIETY IN YOUNG PATIENTS

PLAY PORTAL

As psychologist Jean Piaget teaches, play is a child’s work. Bethany Sweet, a Certified Child Life Specialist (CCLS) at the Barbara Bush Children’s Hospital at Maine Medical Center, helps young patients and their families cope with and understand various diagnoses and medical procedures. The patients are often anxious or scared about what is going to happen to them and need opportunities for play and mastery. Bethany uses real medical equipment to demonstrate procedures and encourage patients to play, explore and understand the equipment that is part of their care. However, some medical equipment is challenging to find and costly to purchase.

To better help these patients, Bethany created Play Portal, a fully functioning replicated port-a-catheter to use for medical preparation and medical play. With Play Portal, pediatric patients can practice and simulate port-a-catheter access and de-access on a doll or stuffed animal, so they know what to expect when receiving care with their own ports. By normalizing these procedures and empowering patients through play, patients take control of their treatment and recovery.

As a participant in the Spring 2021 MaineHealth Innovation Cohort, Bethany conducted six interviews with other child life specialists to better understand the need and any barriers to implementation. In June 2021, she filed a patent with help and financial assistance from MaineHealth Innovation. This summer, with the support of her supervisor and fellow child life specialist colleagues, Bethany was connected to the UMaine i-Corp program where she continued customer discovery to refine her prototype. She also partnered with the University of Southern Maine’s Maker Innovation Studio team to modify her latest prototype and produce it on a 3D printer.

Most recently, Bethany received funds from the MaineHealth Innovation Ignite Fund to conduct a pilot study at MaineHealth and other health systems across New England.

NEXT STEPS

Bethany eagerly shares her Play Portal successes at the MaineHealth Innovation Brewing Ideas Coffee Corner, a virtual drop-in session that meets on the first and third Tuesday of each month for anyone interested in innovation or bouncing ideas off of others. She is looking for input as she conducts her pilot study to gather more user data and feedback.

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Most recently, Bethany received funds from the MaineHealth Innovation Ignite Fund to conduct a pilot study at MaineHealth and other health systems across New England.

NEXT STEPS

Bethany eagerly shares her Play Portal successes at the MaineHealth Innovation Brewing Ideas Coffee Corner, a virtual drop-in session that meets on the first and third Tuesday of each month for anyone interested in innovation or bouncing ideas off of others. She is looking for input as she conducts her pilot study to gather more user data and feedback.

Bethany Sweet, MS, CCLS
Child Life Specialist
The Barbara Bush Children’s Hospital
at Maine Medical Center

“...I feel obliged to make it happen.”

JEREMY QUALLS, PhD
Dean of the College of Science, Technology and Health
University of Southern Maine

FOSTERING A CULTURE OF INNOVATION

“The drive of MaineHealth innovators to make a better world inspires me. When they bring us ideas and I see something that could save someone’s life, I feel obliged to make it happen.”

JEREMY QUALLS, PhD
Dean of the College of Science, Technology and Health
University of Southern Maine
THE “SMART” ROBOTIC CLOT RETRIEVER

“To be an innovator or entrepreneur was not exactly my intent,” says Rob Ecker, MD, MBA, Chief of Neuroscience at MaineHealth and Director of Endovascular Neurosurgery at Maine Medical Center. But that’s exactly what happened when Rob and his colleagues set out to develop a better way to clear blood clots from brains, better known as stroke intervention.

The current best practice neurosurgical tools for stroke intervention rely on direct radiographic imaging and the manipulation of catheter-based devices by the hand of the surgeon. The success rate of these procedures on a first attempt ranges from thirty to eighty percent, often requiring the surgeon to start the procedure several times. As neurosurgeons often say, “time equals brain,” meaning every second spent redeploying tools can result in further damaged brain tissue and life-altering side effects. Rob believes that this process has to be improved.

“It’s not that we can make a difference — we know we do,” says Rob, reflecting on the success of the MaineHealth neuroscience program over the years. Despite this, he still feels limited by the slow pace of neurosurgical innovation. “Now we are looking to design more complex and better tools for doing the work that we do.”

When Rob and fellow MaineHealth neurosurgeon Jeffrey Florman, MD, met Mohsen Shahinpoor, PhD, the University of Maine Mechanical Engineering Professor and creator of Ionic Polymer Metal Composites (IPMCs), they believed they had found a promising path forward. IPMCs are unique electric “smart” materials that can function like human muscle and could provide surgeons with the full range of motion needed to more accurately retrieve clots. Rob and the team set out to develop a robotic clot retriever using the IPMC technology and filed their first patent with the support of MaineHealth in 2016.

Soon after, Medtronic, a medical device company, provided the team with initial funding to develop a working prototype. In fall 2020, the team applied for the MaineHealth Innovation Ignite Fund and received additional funds that were soon matched by the Maine Technology Institute. This past fall, Rob and the team received funds from the inaugural MaineHealth Innovation Bonfire Fund, which aims to advance the mission of MaineHealth by providing an investment up to $100,000 for an innovative solution.

“The Bonfire Fund will allow us to further progress our prototyping towards a device that will be a first in human trial,” says Rob.

Recently, MaineHealth Innovation connected the team to Looma, LLC, a life sciences engineering and design company in Saco, Maine. The engineering experts from Looma, along with Distal Solutions, a Massachusetts company, are now focused on creating a medical-grade catheter prototype. MaineHealth Innovation has also connected Rob to a soft robotics engineer at Worcester Polytechnic Institute to help advise on the design of the initial prototype.

NEXT STEPS

Rob and the team will use the MaineHealth Innovation Bonfire Fund investment to develop a clinical-grade prototype over the next year for use in initial animal trials.
"If you are open to change and innovation, then great things can develop."

— Paul Chausse, Vice President, Revenue Cycle Management, MaineHealth

 OLIVE

OPTIMIZING THE WORK FORCE WITH ARTIFICIAL INTELLIGENCE

Since joining MaineHealth as the Vice President of Revenue Cycle Management (RCM) in 2014, Paul Chausse has implemented innovation methodologies to streamline his team’s operations and reduce significant processing backlogs. At the beginning of COVID-19, the MaineHealth RCM team had nearly 70 vacant positions and Paul was seeing a high turnover rate. RCM colleagues require several months of learning and on-the-job experience to understand the RCM culture and principles, meaning Paul and the team were facing backlogs as new team members were being trained. Paul realized he had to think differently to address this growing workforce challenge and to protect RCM staff.

In 2020, Paul introduced Olive, an artificial intelligence (AI) software that was tailored to manage and automate MaineHealth’s cash posting processes. Today, Olive has addressed some of the RCM workforce challenges by lifting the workload off of current staff and by automating the majority of the cash posting processes through the use of fourteen automated “Olive Bots.” The Bots can complete an impressive 93 percent of all cash posting work, which was previously done manually.

“If you are open to change and innovation, then great things can develop,” says Paul. “The COVID-19 pandemic was the catalyst that allowed us to deploy AI and innovation to advance our practices nearly 10 years into the future. I am grateful we had the structure in place that allowed MaineHealth to become early adopters of AI and be successful in recruiting the RCM workforce we needed.”

Paul’s innovative thinking and ability to embrace AI technology has created a new modern workforce model that allows machines to focus on automated work and free up RCM staff to do the work that matters most — better supporting our patients and care team.

FOSTERING A CULTURE OF INNOVATION

“The nature of front line nurses is innovative, curious and eager to improve the status quo. They use innovation every day to improve health and well-being, design and create new approaches to the delivery of care, and communicate health information in a way that is easily accessible.

MICHELLE DUVAL, MSN, RN, NEA-BC
Chief Nursing Information Officer
MaineHealth

Paul Chausse, healthcare revenue innovator who brought olive.ai to MaineHealth in 2020
Will began refining his idea for Rescue Vac in the Fall 2020 MaineHealth Innovation Cohort, where he was introduced to engineers at the University of Southern Maine’s Maker Innovation Studio (MIST). Together they developed his latest working prototype. Will received $20,000 from the MaineHealth Innovation Ignite Fund to create a more advanced prototype for the next phase of customer discovery.

Describing Rescue Vac’s unique benefits, Will says, “Its strength is really in its simplicity — small enough for anyone to carry and cheap enough for everyone to own.”

Perhaps the most compelling aspect of Rescue Vac is its timeliness, as healthcare facilities today are operating at maximum capacity with staffing shortages. The present opioid epidemic is revealing increased overdoses in hospitals and public spaces across Maine, which can require the urgent need of clearing an airway. Rescue Vac aims to allow anyone to take heroic action in situations when every second counts.

NEXT STEPS

Will, in collaboration with the MIST lab, is actively seeking an additional production partner to create an advanced, medical-grade prototype.
Deb Flint, RRT, has been caring for patients for over 36 years, first as a paramedic and now as a respiratory therapist at Waldo County General Hospital in Belfast, ME. Many of Deb’s patients require 24/7 oxygen support and often develop uncomfortable rashes and infections behind their ears where the oxygen cannula tubes rub against the skin. Determined to improve the comfort and experience of her patients, Deb took to her sewing machine in search of a solution.

Deb created a simple cloth headband with Velcro tabs to lift the oxygen tubes off of patients’ ears. The cotton “Oxygen Therapy Bands” also include light elastic to provide a secure fit for patients. She tested it among her friends and colleagues and found it was the perfect solution to her patients’ problem.

Eager to bring her Oxygen Therapy Bands to a wider audience, Deb applied to the MaineHealth Innovation Ignite Fund in fall 2020 and received funds to scale production of the headbands. MaineHealth Innovation has supported Deb by connecting her to MaineHealth Care at Home to discuss piloting the headbands in a home care setting. Through its expertise and financial support, MaineHealth Innovation also assisted Deb in filing a patent for the headband and is now helping her pull together a team to help commercialize the idea.

The oxygen therapy band is a simple, low-cost solution to an unmet care need that prioritizes the comfort of patients while in the care of MaineHealth and when they continue care at home.

NEXT STEPS
Deb is currently working with MaineHealth Innovation to explore potential manufacturers who can help produce more of her headbands for patients in need.

Deb Flint, RRT
Respiratory Therapist
Waldo County General Hospital
“NavigatER has been a great way to keep loved ones informed of the patient’s progress, especially now during the pandemic...”

— Samir Haydar, DO, MPH
Healthcare solutions company cliexa, Inc., had an innovative idea. The hostess of the restaurant asked for his phone number upon arrival and said that he would be texted when his table was ready. While waiting, Samir thought, ‘Why don’t we have this in our emergency department? Samir, who has worked in the MMC emergency department (ED) for 14 years, knows firsthand that ED visits can be some of the scariest moments in patients’ lives. He realized that having an easy-to-use app similar to the restaurant’s reservation system could update patients in real time during their ED visit, helping them stay informed and reduce anxiety.

In 2021, Samir launched a patient pilot for navigatER at MMC with the support of the MaineHealth Information Services, Legal and Patient Experience teams. Initial patient feedback showed that eighty-four percent of patients found the app easy to use and seventy-four percent endorsed the educational material as helpful. In addition, in comparison to non-users of the app, patients who used navigatER were more likely to provide favorable responses on their post discharge patient experience surveys. Additionally, physicians noted that a patient’s use of navigatER did not add any extra steps to their clinical workflow.

In spring 2021, Samir received financial support from the MaineHealth Innovation Ignite Fund to market and brand the app for potential rollout at other hospitals, bringing the innovation one step closer to commercialization and adoption in EDs across the country.

**NEXT STEPS**
NavigatER is currently live and undergoing optimization during its second pilot at the MMC ED. Samir plans to expand navigatER to more locations with the MaineHealth system in the near future.
inside the stomach while creating a chemical reaction in the tract that promotes safe healing. All of this can be done in one outpatient office visit.

Following the Innovation Cohort, Jeff filed a patent with the expertise and financial support of MaineHealth Innovation and was introduced to The University of Southern Maine engineering department who helped him create additional prototypes. In spring 2021, Jeff received $20,000 from the MaineHealth Innovation Ignite Fund and was introduced to Looma Design, LLC, in Saco, ME, to create his next prototype.

With more than 500,000 g-tubes in use in the U.S., and millions worldwide, the Halter Clip has the potential to improve the quality of life for thousands of patients who suffer from g-tube complications. The Halter Clip is designed to be administered in an outpatient visit, decreasing the present demand on hospitals and delivering value for both patients and care team members.

NEXT STEPS
Jeff plans to test the clinical grade prototype before pursuing FDA approval to conduct a small clinical trial. He also plans to apply for matching funds from Maine Technology Institute to further his product development.

THE HALTER CLIP

CLOSING THE LOOP ON INFECTION

Dr. Jeff Halter, Pediatric Surgeon at Maine Medical Center, likes to see his patients go home happy and healthy after surgery. Unfortunately, for many of his patients who use a gastrostomy tube, or g-tube, a return trip to the operating room is inevitable.

Gastrostomy tubes, or g-tubes, are feeding tubes placed through the abdomen directly into the stomach that provide patients with life-sustaining medications and nutrition. When the patient’s health condition improves, the g-tube is removed and the remaining wound typically heals within six weeks. But for up to 40 percent of patients, the wound never heals and forms a persistent tract called a gastrocutaneous fistula. After weeks of wound leakage, patient suffering and parent frustration, these pediatric patients are faced with additional, costly surgery.

Jeff believes that there is a better, safer way to remove g-tubes and encourage quicker healing. In 2019, he joined the Maine Medical Center Innovation Cohort with his early idea for a gastrocutaneous fistula closure device — an implantable clip that can be inserted through the g-tube site at the time of removal without surgery or anesthesia. The “Halter Clip” aims to seal the tract from

Jeff Halter, MD
Pediatric Surgeon
Maine Medical Center
MaineHealth Innovation has developed strategic partnerships with key stakeholders around Northern New England and beyond. Through these partnerships, MaineHealth care team members have access to the wide range of services and expertise that will help advance innovations at any stage.
2021 MAINEHEALTH INNOVATION CABINET AND ADVISORS

The MaineHealth Innovation Cabinet and Advisors guide MaineHealth Innovation by sharing institutional and personal expertise and championing the unique voices and perspectives of innovating MaineHealth care team members.

“The development of the MaineHealth Innovation Fund and intellectual property infrastructure allows MaineHealth to accelerate the development of inventions by our care team members that hold promise for measurably improving the care of patients.”

“Everyone has a unique experience with innovation, and it has been a privilege to understand what innovation means to our team and our system.”

“I am thrilled that MaineHealth Innovation is investing in the talents and insights of our people to transform care and advance our vision of working together so our communities are the healthiest in America.”

“I am incredibly humbled and inspired to learn about the ways our care team members are living our value of innovation every day. Innovation makes us a better, patient-centered team, and all better leaders.”

“Innovation is a core value to MaineHealth, because it is key to how we achieve our vision.”

SUSAN KEILER, FACHE
Vice President, Business Development & Strategy
Southern Maine Health Care

DONNA DEBLOIS, RN, BSW
President
MaineHealth Care at Home

ROBERT FRANK, ESQ.
Counsel, Special Projects
MaineHealth

DANIEL NIGRIN, MD
Chief Information Officer
MaineHealth

LUCENE INZANA, CPA
Chief Financial Officer, Maine Medical Center & Asso. Chief Financial Officer, MaineHealth

MARK FOURRE, MD
President
Coastal Healthcare Alliance

ANDREW MUELLER, MD
Chief Executive Officer
MaineHealth

DOUGLAS SAWYER, MD, PhD
Chief Academic Officer & Interim Chief Medical Officer, MaineHealth

RICHARD PETERSEN, FACHE
President, MaineHealth & Chief Executive Officer, Maine Medical Center

JEFFREY SANDERS
President
Maine Medical Center
2021 MAINEHEALTH INNOVATION

CLINICAL COACHES

The Innovation Clinical Coaches help drive the success of MaineHealth Innovation by providing clinical leadership and clinical expertise as innovators work to solve unmet care needs. Interested providers of all disciplines who have experience in entrepreneurship and healthcare innovation are encouraged to get involved.

“MaineHealth Innovation is about creating a platform for grassroots ideas that come from all across the health system. The end result is often something that goes right back to the bedside and makes a real difference for the care team and patients.”

Devin Carr, DNP, RN, RRT, ACNS-BC, NEA-BC, CPPS
Chief Nursing Officer
Maine Medical Center

Nir Harish, MD, MBA
Emergency Physician
Pen Bay Medical Center

“Simulation and Innovation offer natural symbiosis. Our Simulation Center serves as a laboratory for Innovation projects; innovators can test their ideas in realistic clinical settings, with real medical equipment and state-of-the-art-human simulators.”

Leah Mallory, MD
Medical Director, Simulation Center & Pediatric Hospitalist,
The Barbara Bush Children’s Hospital at Maine Medical Center

“MaineHealth Innovation is about creating a platform for grassroots ideas that come from all across the health system. The end result is often something that goes right back to the bedside and makes a real difference for the care team and patients.”

Sunil Malhotra, MD
Cardiothoracic Surgeon & Medical Director
Maine Medical Partners

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Michelle Duval, MSN, RN, NEA-BC
Chief Nursing Information Officer
MaineHealth

Mary Ottolini, MD, MPH, MEJ
George W. Hallett, MD, Chair of Pediatrics
The Barbara Bush Children’s Hospital at Maine Medical Center

“I am constantly motivated to find ways in my career at MaineHealth to innovate to improve the care for patients with congenital heart disease. MaineHealth Innovation is an invaluable partner and resource to help me achieve my goals.”

Damien Carter, MD
Critical Care Surgeon
Maine Medical Partners

“MaineHealth Innovation is about creating a platform for grassroots ideas that come from all across the health system. The end result is often something that goes right back to the bedside and makes a real difference for the care team and patients.”

Andrew Mancall, MD
Chief of Radiology
Maine Medical Center

Brandy Brown, LCSW
Program Manager, Gender Clinic
The Barbara Bush Children’s Hospital at Maine Medical Center

“The investment MaineHealth has made in the innovation space will be highly impactful and further contribute to the outstanding health care we provide to our community.”

Anne Breggia, PhD
Director, BioBank
Maine Medical Center

Leah Mallory, MD
Medical Director, Simulation Center & Pediatric Hospitalist,
The Barbara Bush Children’s Hospital at Maine Medical Center

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Sunil Malhotra, MD
Cardiothoracic Surgeon & Medical Director
Maine Medical Partners
In 2020, MaineHealth Innovation launched a fourth year medical student innovation science elective* with Tufts University School of Medicine. The 4-week course curriculum is designed to encourage students to think differently, a mindset that they can later apply on the front lines of care delivery and administration. Elective students identify a course-long healthcare problem to solve and, through this lens, engage in user discovery, search for existing or novel models, develop a pathway, process or prototype, define stakeholders, run short experiments, and map a process for future deployment of their innovative solution.

*This course is currently only available to medical students.

“It has helped me think about the innovation process in a systematic way ... that I can bring into my future practice.”

— James Kwan, Fall 2021 Innovation Elective student from Tufts University School of Medicine

“I came to the MaineHealth Innovation Brewing Ideas Coffee Corner to brainstorm an idea to self-schedule patient visits for the walk-in clinic. The feedback I got from that conversation helped guide me to exactly the right people to help me move my idea forward.”

— Nir Harish, MD, MBA
Emergency Medicine, Pen Bay Medical Center
The MaineHealth Innovation Cohort empowers MaineHealth care team members to advance the "back of the envelope" ideas that address the unmet care needs they see every day. This eight-week program convenes a small group of interdisciplinary healthcare professionals as they embed themselves and their identified project in innovation science, user discovery, prototyping, and intellectual property considerations.

"My proposed project to bring an employee-run food truck to MaineHealth is now under consideration with our leadership team. I could not have made it this far without the opportunity to explore and vet this idea through the Innovation Cohort."

ALEX GINGRICH
Director, Nutrition Services
Maine Behavioral Healthcare
Spring Harbor Hospital / Sanford Behavioral Health
Navigating the ER
Samir Haydar, DO, MPH
Emergency Physician
Maine Medical Center

Shifting the Healthcare Productivity Paradigm
Heidi Morin, RN, MSN, MBA
Former Nursing Director
Maine Medical Center

Transforming the Bio Bank
Anne Breggia, PhD
Director, Bio Bank
Maine Medical Center

Introducing The Roux Institute TechStars Accelerator Start-Ups
Ashi Batchu
Founder, MCSquared Health
Ngoc Le & Kevin Yee
Founders, Phase Zero
Hannes Band
Founder, breathing.ai
PerZeptions, Inc

Keeping It Cool: Therapeutic Hypothermia to Prevent Brain Injury in Newborns
Alexa Craig, MD, MSc
Neonatal and Pediatric Neurologist
Maine Medical Partners

Averting Trouble Ahead: An Algorithm for Predicting Aggression
Matthew Siegel, MD
Vice President of Medical Affairs for Developmental Disorders
Maine Behavioral Health
Matthew Goodwin, PhD
Associate Professor of Computer Science, Northeastern University

Neonatal Augmented Reality Simulation: Improving Outcomes at Rural Birthing Centers
Michael Ferguson, MD, MPhD
Pediatric Intensivist, The Barbara Bush Children’s Hospital at Maine Medical Center
Mary Ottolini, MD, MEd, MPH
George W. Hallett, MD Chair of Pediatrics
The Barbara Bush Children’s Hospital at Maine Medical Center

Fishing for Clots 2.0: Developing Smarter Tools to Save Brain Tissue
Rob Eckard, MD, MBA
Chief of Neuroscience, MaineHealth & Neurosurgeon, Maine Medical Partners

Introduction to TeleHealth
Teresa DeLellis
TeleHealth Director, MaineHealth

Keeping it Cool: Therapeutic Hypothermia to Prevent Brain Injury in Newborns
Alexa Craig, MD, MSc
Neonatal and Pediatric Neurologist
Maine Medical Partners

Averting Trouble Ahead: An Algorithm for Predicting Aggression
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George W. Hallett, MD Chair of Pediatrics
The Barbara Bush Children’s Hospital at Maine Medical Center

Fishing for Clots 2.0: Developing Smarter Tools to Save Brain Tissue
Rob Eckard, MD, MBA
Chief of Neuroscience, MaineHealth & Neurosurgeon, Maine Medical Partners

THE INNOVATION BLENDER

The Innovation Blender is a program designed in partnership with The Roux Institute to bring together practitioners, researchers, entrepreneurs and innovators from a variety of backgrounds to ideate on healthcare challenges. Each monthly event consists of presenters sharing their latest novel ideas and attendees brainstorming solutions to their project needs. Collaborations between MaineHealth pioneers, The Roux Institute community and local entrepreneurial talent are formed to pave a healthier future forward — one healthcare opportunity at a time.

“I had no idea what to expect and I loved every minute.”
— Jasmine Bishop
TeleHealth Director, MaineHealth

“I liked that there were lots of diverse backgrounds represented and seeing the collaborative nature of putting ideas together.”
— Innovation Blender Attendee
MaineHealth Innovation has established the MaineHealth Innovation Fund as an internal funding mechanism to foster and accelerate innovation within MaineHealth. Two funding levels are available: The Ignite Fund provides seed capital to help advance innovations. This investment of up to $20,000 can help innovators understand user pain points, build a prototype or test an assumption. The Bonfire Fund provides an investment of up to $100,000 to a MaineHealth care team member company and its advanced novel solution that aims to improve the lives of our care team and community members to a point where additional external or institutional funding opportunities can be explored.
The MaineHealth Intellectual Property & Business Development Committee is formed to provide MaineHealth innovators with business expertise and connections.

Susan Ahern
Vice President of Innovation
MaineHealth

Joe Bohan
CEO, Scidose

Brady Bohrmann
General Partner
Avalon Ventures

Tom Gridley, PhD
Faculty Scientist
Maine Medical Center Research Institute

Dan Nigrin, MD
Chief Information Officer
MaineHealth

Al Swallow III
Chief Financial Officer
MaineHealth

Robert Rubinowitz, CHDA
Sr. Director of Revenue Cycle
Business Intelligence
MaineHealth

Stuart Watson
Entrepreneur &
Board Member, MaineHealth

David Yarin
Dave Yarin Consulting

“"I am continually impressed by the passion and commitment of the MaineHealth innovators. They should be congratulated on taking the all-important first step on the journey to commercialization by disclosing their ideas. With the intellectual property resources MaineHealth has in place, innovators have the protection and support they need to bring life-saving solutions where they are most needed.”
— Brady Bohrmann
General Partner, Avalon Ventures

PATENTS FILED BY YEAR

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MEMBERS

The MaineHealth Intellectual Property Policy is expanded to include all MaineHealth care team members.
PATIENT EXPERIENCE

**NewGown™: Secured Inpatient Garment**
Sara Cox, CNRN | Maine Medical Center

**Oxygen Therapy Band: Banding to Prevent Skin Irritation**
Deb Flint, RRT | Waldo County General Hospital

**Play Portal: Port Stimulation Device**
Bethany Sweet, CCLS | The Barbara Bush Children’s Hospital at Maine Medical Center

**Pocket Nodules: Fabrication of Cancer Awareness Teaching Aid**
Theresa Roelke, APRN-AGPCNP | MaineHealth

**Psych Safe Underwear**
Nancijean Goudey, RN, MPH | Maine Medical Center

RADIOLOGY

**AutoFill Block: Hydraulic Manifold for the Distribution of Contrast, Saline and Other Medias**
Jeremy Lott, MD | Maine Medical Center

**Scorpion Bag Mask Device**
Suzanne Wendelken, MD | Maine Medical Center

ONCOLOGY

**Beige Adipocytes and Treating Metabolic Disorders**
Aaron Brown, PhD | Maine Medical Center Research Institute

**Lediscan: Diagnostic Cervical Scanning & Treatment Device**
Obieze Nwanna-Nzewunwa, MD, MS | Maine MedicalCenter

SURGERY

**Catheter for Arrhythmia Treatment: Catheter Systems for Delivering Medications to Neural Structures**
Jennifer Monti, MD | Maine Medical Center

**Halter Clip: Gastrocutaneous Fistula Closure Device**
Jeffrey Halter, MD | Maine Medical Center

**Scorpion Bag Mask Device**
Suzanne Wendelken, MD | Maine Medical Center

**Self-Expanding Covered Vena Caval Stent**
Obieze Nwanna-Nzewunwa, MD, MS | Maine Medical Center

**“POCKET NODULES”**
The emotional distress and lack of understanding around the lung nodule diagnosis can cause patients to delay treatment. The 3D Pocket Nodule rendering is a novel educational tool to support providers in educating patients during the lung screening shared-decision making conversation.

**“AUTOFILL BLOCK”**
Using a syringe with the wrong contents or filling a syringe improperly increases a patient’s risk of procedural complications. The autofill block receives input from low-pressure fluid reservoirs to improve efficiency and safety at minimal cost.

**“SCORPION BAG MASK”**
The need for easy and immediate ventilation is crucial in many settings including the induction of anesthesia, during a code, in trauma, in critical care, combat and wilderness medicine. The Scorpion is an airway device that provides a fool-proof method for bag mask ventilation using an intra-oral seal.

**“RADIOLOGY”**

**“SURGERY”**

**“ONCOLOGY”**

**“METABOLISM”**

**“EMERGENCY”**

**“APPLICATION NUMBER”**

For more information on available technologies at MaineHealth, please email innovation_center@mainehealth.org.
We look forward to innovating with you.

Susan Ahern
Vice President of Innovation

Elena Brondole, MBA, MPH
Manager of Innovation

Kim Harvey, MSOL
Program Manager

Todd Keiller, MBA
Director of Technology Transfer

Savannah Young
Executive Assistant
MAINEHEALTH INNOVATION

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Portland, ME 04101

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innovation_center@mainehealth.org

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Illustrations: Jason Welborn, MaineHealth Educational Services
Select Photography: Zack Bowen Photography and Black Fly Media