Baystate Medical Center has been awarded $3,949,912 in grant funding from the Massachusetts Life Sciences Center (MLSC) in an extremely competitive program designed to sustain the Commonwealth's competitive edge in advancing human health.

“This support will expand our capacity to perform efficient and compliant clinical trials by building a Clinical Trials Unit (CTU) at Baystate Medical Center and make novel treatments available to our diverse patient population. We are grateful to MLSC, our legislators, the Governor, and the citizens of the Commonwealth for this investment in the future of biomedical research in western Massachusetts,” says Dr. Peter Friedmann, Chief Research Officer for Baystate Health and Associate Dean for Research at UMMS-Baystate. “For Baystate Health and UMMS-Baystate, it is an opportunity to increase access to innovative treatments for the patients and communities we serve, engage faculty and staff in impactful clinical research, expand collaborations with academic and industry partners, and improve the productivity and efficiency with which we conduct clinical trials.”

Baystate is among 11 hospitals, colleges and other institutions to receive a total of $30.95 million in capital grant funding to support the state’s global leadership in the life sciences sector. There were 45 applications. The funding, provided through the MLSC’s Competitive Capital Program, is designed to support advances in human health, accelerate innovation in the areas of clinical and translational research, and expand the capacity of life sciences development and job growth across the Commonwealth.

“The grant will expand local capacity to perform clinical trials of new innovations in digital health and medical devices right here in Springfield. We know that Massachusetts is a national leader in health sciences, and western Massachusetts is no exception, with new research happening at places like UMass Amherst, and advances in treatment happening regularly at Baystate Medical Center, which makes this new partnership so exciting. This will benefit the entire Massachusetts life sciences system and keep western Massachusetts on the map in this critical and growing field,” says State Senator Eric Lesser, who worked to pass the Mass Life Sciences Bill, which funded this grant program.

Baystate has long partnered with the Center for Clinical and Translational Science (CCTS) at UMMS-Worcester, Pioneer Valley Life Sciences Institute and the Institute for Applied Life Sciences at UMass Amherst in the Center for Clinical and Translational Investigation, and the Clinical and Translational Science Institute at Tufts to promote translational research in the western part of the state. Baystate’s Clinical Trials Office (CTO) was launched in 2018 to build upon these research partnerships, as well as relations with industry sponsors to conduct innovative translational research and...
TAVR research brings innovative, life-saving heart procedure to Baystate

Aortic valve stenosis is a condition where the heart’s aortic valve begins to shrink, limiting blood flow from the heart to the rest of the body. The most common cause is the wearing down of the valve due to age, like how your car brakes wear down over time. This process can lead to symptoms like shortness of breath and dizziness. You would think that heart surgery is the automatic solution, but for some patients, it is too risky. A patient may be too old or frail to be put under for surgery and recuperate later on.

“Unfortunately, untreated aortic valve disease is fatal. After the onset of symptoms, the survival rate is as low as 50% at 2 years,” says Grace Lavallely, DNP, AGACNP-BC, a cardiology nurse practitioner. “The definitive treatment for aortic valve stenosis has been valve replacement surgery.” With regular aortic valve replacement (AVR), the patient is sedated and the chest is cut open. The heart is stopped and an artificial unit is used to pump the blood. The faulty valve is surgically removed and replaced with a new one. A patient may be in the ICU for days after this surgery, and the chest could take up to two months to heal completely. This intensive surgery now has a simpler solution with TAVR (Transcatheter Aortic Valve Replacement), a minimally-invasive valve procedure. A patient has to be referred by their primary care provider or cardiologist to receive TAVR.

“If AVR surgery is not an option, TAVR is a fantastic alternative for those who may be considered intermediate to high risk for surgery,” adds Lavallely. TAVR was first implemented in in-operable or high-risk patients for surgery; indications have since expanded to intermediate risk. Baystate will see further expansion of indications to lower-risk patients based on current low-risk trials done in the United States. Interventional cardiologist Ashequl Islam, MD was a part of the cardiac team that brought TAVR to Baystate and has studied its effectiveness.

“We are excited to offer TAVR to the very large patient population which we serve,” he says. Results of nationwide clinical trials for TAVR have shown better or equivalent results compared to open heart surgery. With TAVR, patients do not undergo bypass, most have minimal sedation, and their length of stay is significantly reduced with no need for intensive care. Patients are more alert and awake and can be back on their feet within hours.

To perform TAVR in majority of patients, a small puncture is made in the groin area and a catheter with the new valve is inserted into the diseased valve, diminishing the need for external pumps to keep the heart and lungs working. The new valve is embedded and anchored in the existing valve, giving it new life. After the catheter is pulled out, the entry site is stitched up.

“TAVR is one of those revolutionary procedures that has really changed the world of cardiac care,” adds Dr. Islam. “A lot of patients couldn’t get treatment before this. Baystate is the only advanced heart and vascular hospital in western Massachusetts and this allows us to deliver state-of-the art, high quality care. Cardiac patients would have to go out of the Baystate network if not for this type of procedure.” The cardiology team has expanded from TAVR to other valve procedures and treatments, including catheter-based mitral valve repair. They are also involved in clinical trials to investigate non-surgical treatment methods for other heart valve conditions.

“We are always looking at new and innovative ways to deliver the best heart care to our patients,” concludes Dr. Islam.

For more information on Baystate’s Heart and Vascular program, visit baystatehealth.org/services/heart-vascular.
Baystate’s new ovarian tissue registry: a team effort

The ovarian tissue registry at Baystate Health began at the end of 2018 as a collaboration among Drs. Sallie Schneider (Director of the Biospecimen Resource and Molecular Analysis Facility, Pioneer Valley Life Sciences Institute), Tashanna Myers (Gynecologic Oncology), and Christopher Otis (Anatomic Pathology). Their goal is to collect samples of ovarian tissue from consenting patients as part of a research registry. The ovarian tissue registry is modeled after the successful Rays of Hope Breast Tissue Registry at Baystate.

“In breast cancer, it is often difficult to get tumor tissue because the tumors are usually very small when first detected and the margins are important for diagnosis,” explains Dr. Schneider. “Ovarian cancer is usually found too late, and at this point the tumors are very large.”

Patients who are already undergoing surgery to remove part of or the entire ovary are approached by surgeons in the hospital to see if they’d like to contribute to the ovarian tissue registry. To participate, the patient must be an adult, must be able to give their own consent, and must have a scheduled surgery where an ovary is being removed. Surgeons will send tumor tissue (such as an ovarian mass) to the pathologist who examines the specimen and chooses tumor tissue to submit to the tissue bank. Lynn Eaton, MT (ASCP), CCRP, Senior Clinical Research Coordinator, is the individual who ensures the entire procedure runs smoothly from start to finish.

“Although we come from different departments, we all work together as a team,” Eaton says. “It’s a very collaborative process involving the surgeon’s staff assistant, the pre-admission chart room, the surgeon and surgery personnel, PVLSI staff, pathology administrative staff, and the pathologists.” Dr. Christopher Otis, who oversees the procurement of the collected tissue, makes sure it is handled appropriately as it is put into the registry. Dr. Esma Ersoy, a pathology resident, is also involved in this process since she has a particular interest in a specific protein (HER2) found within ovarian tumors.

“Once the tumor cells are collected, the next step is to understand their characteristics,” says Dr. Ersoy. “We ask things like ‘What stage is this tumor in? Are the cells resistant to chemotherapy? What kind of targetable proteins (e.g. HER2) are involved in the tumorigenesis? Are the cells resistant to chemotherapy?’” Since there are so many different types of cancers and variations of cancer cells, extensive research is necessary to work toward finding effective treatments.

“In the era of precision medicine, we know that cancer cells can be diverse,” explains Dr. Myers. “Standard chemotherapy will not be sufficient to finding a cure for this disease. Studying individual tissue samples will be key to answering questions about ovarian cancer.” As of May 2019, over 20 ovarian tissue samples have been collected.

“As the registry grows, we will see more peaks of abnormalities and averages,” adds Dr. Otis. “We will learn more about the disease and offer/develo new treatments to be delivered to the bedside. This is important translational research.” Many patients who are approached by Dr. Myers and her team are eager and excited to participate in the ovarian tissue bank.

“Patients have been selfless and want to help others who might be experiencing the same issues,” explains Dr. Myers. “The tissue we collect is impactful beyond that one single patient. We want to change the course of ovarian cancer treatment and figure out the causes.” The hope is that this research will answer questions about ovarian cancer in the future and why ovarian cells can become cancerous.

“Through this research, we are creating something meaningful for years to come,” concludes Dr. Ersoy. “It’s being part of a bigger picture. With Baystate becoming more of an academic institution, research like this is important for us to grow and strengthen our knowledge.”

Baystate Health was ranked the 14th (of 74) best Massachusetts employer through a study conducted by Forbes partnering with market research company Statista. The goal was to identify organizations liked best by employees in Forbes’ first-ever ranking of America’s best employers by state. The list was compiled through an anonymous survey of 80,000 Americans nationally working for businesses with at least 500 employees. On a scale of zero to 10, participants rated how likely they’d be to recommend their employer to others. The final list ranks 1,430 employers which received the most recommendations in each of the 50 states and the District of Columbia.
Meet the Researcher

**Name:** Elizabeth Schoenfeld, MD, MS  
**Title/Academic Rank:** Assistant Professor  
**Department:** Emergency Medicine, Institute for Healthcare Delivery and Population Science (IHDPS)

**Number of years at Baystate:** 8.5  
**What research training do you have?** Masters in Clinical and Translational Research from Tufts, Mentorship from the IHDPS  
**What got you interested in research overall?** I wanted to teach the residents evidence-based medicine, but many of the things that I thought were “right” in terms of care of patients, had little evidence (and conversely, many of the things we do regularly, also have little evidence). Research is a way of getting at the “truth” and what is right — and demonstrating “right” with science, rather than with persuasion.

**What is your area of research?** I study the use of Shared Decision-Making in the Emergency Department – specifically whether we can use Shared Decision-Making to decrease advanced imaging and improve patients’ experiences.

**How do you see your research improving care for patients?** In my newest study, we have the potential to decrease young patients’ exposure to ionizing radiation, which will decrease future cancer incidence. This is obviously important for peoples’ health in the long term. But using Shared Decision-Making has the potential to improve short-term health too. By creating an environment where patients see themselves as part of the team and full players, we have the potential to improve adherence and trust within the system, which can improve health and well-being in the short term, too.

**What have been some of your favorite research projects to date that you have organized/participated in?** In my qualitative projects, I get to interview doctors and patients – this is always a lot of fun.

**Do you have any awards?** Baystate gave me the New Investigator Award in 2017. And this past winter I won for my age division in a slalom race in Vermont – there were only two of us, and we both fell, but I think I hiked back through the gates faster...

**What do you like most about your job?** I am very lucky to get to spend so much of my time on research. I love working clinically, but I get to spend my other days trying to find ways to improve the care we provide – and then designing studies to test whether my ideas work. It takes a lot of time, but I get to work with great people. Plus, sometimes the evidence suggests I’m right, so that’s nice. (Nothing is ever “proven,” though – so I never really “prove” that I’m right.)

**What do you do to unwind outside of work?** When I’m not playing/coaching soccer with my kids, I’m downhill mountain biking (summer/fall) or skiing. If you’d like to try downhill mountain biking with me, just let me know! We can meet at Berkshire East and talk study design on the lifts.

Research Training for Fellows and Junior Faculty

Baystate offers several training and career development opportunities for residents, fellows, and junior investigators.

Training the next generation of healthcare researchers is a priority for UMMS-Baystate, and a major focus for our Institute for Healthcare Delivery and Population Science (IHDPS). Thanks to our affiliations with the Clinical and Translational Science Awards at UMass and Tufts, our trainees and faculty can develop skills to expand the critical mass of expert scientists in clinical and translational research through innovative education, training, and mentoring programs.

For junior faculty, career development awards go by a “K” designation; both Tufts and UMass sponsor institutional KL-2s, while UMass sponsors the K-12. These highly competitive awards will fund up to 75% effort to train in research and perform a mentored research project over 2-3 years. In addition to these mentored career development grants, fellowships and forums for junior faculty are available as well.

A K-12 from the University of Massachusetts Medical School and its Massachusetts Consortium for Cardiopulmonary Implementation Science currently supports IHDPS fellow Lauren Westafer, DO, MPH, MS, Assistant Professor in the Department of Emergency Medicine, to gain expertise in implementation science, as well as to develop and test strategies for moving evidence into routine practice.

“**My KL-2 is focused on adapting and integrating an evidence-based parenting intervention for mothers in recovery from opioid use disorders into Early Intervention child development services. We have conducted nearly 30 mothers and community stakeholders to inform the adaptation of our intervention. In addition we formed an advisory panel to guide our work. We are in the process of deploying our newly adapted training and intervention the summer of 2019. I have personally advanced my training in qualitative and community-engaged research and received excellent support in both grant and manuscript writing.”**

Training grants for post-docs (residents and fellows) have a “T” designation. These are 2-year training programs that provide salary support with expectation that the trainee spends 75% of their time engaged in research. There are no Baystate post-docs in the T program at this time. Through both the T and K grants, trainees have the opportunity to pursue research under a team of mentors and to pursue and complete a Master’s degree in clinical/translational research. These training grants provide outstanding opportunities for residents and fellows who wish to take time to develop research skills.

Both UUMS CCTS and Tufts CTSI offer a wide array of courses, workshops, and seminars in topics such as clinical and translational research, career development, grant writing, quality improvement, and regulatory affairs. They also have mentoring support grants, fellowships, and a forum for junior faculty. To learn more, visit umassmed.edu/ccts/education or tuftsctsi.org.