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Winter 2022

### The Innovator - Winter 2022/2023

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# The Innovator

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## Quinn Pack, MD, MSc receives two grants totaling \$6.69 million for research

The National Institutes of Health recently awarded grants totaling \$6.69 million over five years to Quinn Pack, MD, MSc, Associate Professor of Medicine at UMass Chan Medical School-Baystate.

### Implementing Effective Smoking Cessation Pharmacotherapy for Hospitalized Smokers with Cardiopulmonary Disease

The first award, "Implementing Effective Smoking Cessation

Pharmacotherapy for Hospitalized Smokers with Cardiopulmonary Disease," is a five-year, \$3.68 million study supported by the National Heart, Lung, and Blood Institute. For the study, Dr. Pack and his team will employ a hospital-based tobacco treatment team to prescribe effective smoking cessation medications and educate patients on proper usage to maximize smoking cessation treatment and outcomes.

Tobacco use continues to be a major public health problem. Smoking increases the risk of heart disease, which remains the leading cause of death in the United States and contributes to more than 7 million hospitalizations annually. However, smoking cessation medications are rarely prescribed to most hospitalized smokers. This failure contributes to a 70-80% smoking relapse rate. Dr. Pack believes the hospital stay provides

a crucial opportunity to intervene and help smokers quit permanently.

The study will utilize U.S. Food and Drug Administration (FDA)-approved smoking cessation medicines: including nicotine replacement therapy (patch, gum, lozenge, inhaler), bupropion, and varenicline. These medications work to reduce the rewarding aspects of cigarette smoking by interrupting the reinforcing



Quinn Pack, MD, MSc

effects of nicotine that lead to dependence and prevent or reduce the development of

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## 2022 Research Pilot Award Program (RPAP) Awardees



2022 RPAP Awardees: Paul Pirraglia, MD, MPH (above left) and Lauren M. Westafer, DO, MPH, MS (above right)

The Research Pilot Award Program (RPAP) is a competitive internal grant mechanism designed to help UMass Chan-Baystate faculty collect preliminary



data to support a larger external grant application. This year, the Office of Research awarded RPAP grants to support two exciting projects:

### Geofencing and Mobile Health Unit to Improve Healthcare Access in Underserved People with Hypertension awarded to Paul Pirraglia, MD, MPH, Associate Professor of Medicine, UMass Chan Medical School

This project seeks to test a concept of mobile care paired with a technology called geofencing to help address travel barriers that serve as a social determinant of health and encourage engagement in a patient-centered manner. Geofencing uses

GPS to create a virtual geographic boundary that enables software to trigger a response when a mobile device enters or leaves a particular area.

Investigators will use the Wellness On Wheels (WOW) as a mobile hypertension clinic that will go to locations near where we know many patients with hypertension live or work. Our participating patients will all have a to-be-developed app on their smartphone (note: about 80% of Baystate's Community Health Center patients report owning

a smartphone). The app will be set up to alert them of the nearby proximity of the WOW and prompt them to come to the usual stop for a blood pressure check and protocol-based management if appropriate. This combination of bringing care to the patient and connecting with them will get the care to the patient, allow them to engage in the moment, and provide more opportunity for recording blood pressures and adjusting the regimen.

This project is a test

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withdrawal symptoms. “Nicotine has a well-characterized pharmacological response,” says Dr. Pack. “These medications work in the brain to break the cycle of addiction and help manage the symptoms of nicotine withdrawal.”

Along with the use of smoking cessation medicines, the team will support patients with behavioral counseling to enhance motivation and improve adherence. When paired together, these two interventions should increase the likelihood of successfully quitting smoking.

Study initiation is December 2022 with plans to enroll a total of 420 patients. At the conclusion of the study, Dr. Pack’s team will develop a detailed, evidence-informed implementation guide for a hospital-based tobacco treatment team. “We anticipate demonstrating the effectiveness, feasibility, acceptability, cost-effectiveness, and sustainability of this program,” adds Dr. Pack, “so that, in the future, more hospitals will be able to capture the “teachable moment” of hospitalization to help smokers quit permanently”.

### Improving Outcomes from Cardiac Rehabilitation Among Older Adults Through Exercise Testing and Individualized Exercise Intensity Prescriptions

The second award, “Improving Outcomes from Cardiac Rehabilitation Among Older Adults Through Exercise Testing and Individualized Exercise Intensity Prescriptions,” is a five-year, \$3.01 million study supported by the National Institute of Aging. Dr. Pack and his team will evaluate the impact of a tailored exercise prescription that optimizes exercise intensity in Cardiac Rehabilitation (CR), compared to usual care, with the goal to maximize fitness gains and long-term physical activity.

CR is a supervised program that includes prescribed exercise training, education about healthy living, and counseling to find ways to relieve stress and improve mental health. It is an important program for people who have had any problem with their heart, such as a heart attack, heart failure, or heart surgery. Unfortunately, many CR programs fail to meet established benchmarks for improving fitness among their patients. Dr. Pack attributes this failure to marked differences in exercise intensity prescription practices across CR programs.

The most common usual care technique for prescribing exercise in CR is the use of ratings of perceived exertion (RPE), which measures how hard you feel your body is working based on physical sensations experienced during exercise to target heart rate of 20-30 beats per minute higher than your resting heart rate. While easy to implement, these usual care techniques can lead to lower fitness gains and failure to reach established benchmarks.

For the study, Dr. Pack and his team will prescribe a customized exercise routine that optimizes a patient’s exercise intensity based on their individual response to acute exercise. A graded exercise test will be performed on the patients to measure their heart rate response to physical activity. Results from the test will be used to formulate an effective and individualized exercise program. “I have seen across the literature two main ways to prescribe exercise; the first is to exercise until it “feels right”, and the second is to maintain a heart rate in a specific heart rate zone,” says Dr. Pack. “To my knowledge, there has never been an adequately powered, randomized control trial comparing those two methods.”

The study will also measure

improvements in fitness during CR; assess the impact of individualized exercise intensity prescription on psychological factors associated with exercise adherence (self-efficacy and fear), and evaluate how the use of individualized exercise intensity prescriptions impacts long-term physical activity, quality of life, fitness, and clinical outcomes.

The study is based on findings from a 2020 pilot trial at Baystate Health. “We were fortunate to receive a Research Pilot Award Program (RPAP) award,” adds Dr. Pack. “We are ecstatic that the pilot funding was available, and it allowed us to do some things we would not have been able to do otherwise. The pilot has strongly informed how we wrote the grant and how we plan to administer this randomized trial moving forward.”

Dr. Pack is optimistic that this study will change clinical practice and improve lives. “Ultimately, we anticipate our results will promote evidence-based exercise intensity practices in cardiac rehabilitation programs, leading to greater improvements in fitness, physical activity, and exercise self-efficacy, and more successful aging.”

## Healing Harmonies Singing Group

Healing Harmonies, a singing group for individuals with neurological disorders that affect communication, is preparing to resume their in-person rehearsals again. Amanda Bernhard, MA, CCC-SLP, a speech-language pathologist in the Rehabilitation Services department at Baystate Franklin Medical Center (BFMC), and Lisa Sommers, MA, CCC-SLP, Clinical Associate Professor and Clinic Director in the Communication Disorders Department at UMass

Amherst formed the group in 2018 in response to research on speech and voice interventions for Parkinson’s disease.

In 2016, Kelly Richardson and Lisa Sommers, from the Department of Communication Disorders at UMass Amherst, studied the effects of a choral singing intervention on speech and voice in individuals with Parkinson’s Disease (PD). Dr. Richardson hypothesized that due to the demands that singing imposes on the motor

speech subsystems, individuals with PD would show evidence of greater tongue excursion during vowel articulation; thus, participants’ speech intelligibility would significantly improve posttreatment. This study would lay the groundwork for further research in voice interventions for PD.

In a second study, Bernhard consulted on a NIH-funded research project comparing the effects of LSVT LOUD® (LSVT stands for “Lee Silverman Voice Treatment”) therapy vs.

SpeechVive, a worn device to combat the communication challenges presented by Parkinson’s disease.

“LSVT LOUD teaches, through various phonation and speech exercises, how to use a louder voice,” explains Bernhard. “A lot of the same principles that apply to singing would also apply to LSVT treatment exercises to create a good quality vocal production. It improves respiratory strength, vocal volume and quality, speech clarity, and swallowing function.”



Amanda Bernhard, MA, CCC-SLP

Several participants in Bernhard’s LSVT LOUD program later became members of the Healing Harmonies singing group. “I have seen that my

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of concept that, if it works as intended, will support a larger grant application to add more functionality to the app, such as queuing for services on the WOW and coaching messages, and possibly broaden the set of conditions that could be managed.

**STreaMLinE: Strategy To Increase Outpatient Management of Low Risk Pulmonary Embolism awarded to Lauren M. Westafer, DO, MPH, MS, Assistant Professor of Emergency Medicine, UMass Chan Medical School**

The objective of this project is to develop and pilot a strategy to increase the outpatient management of select patients with low-risk pulmonary embolism (PE). Although professional society guidelines recommend outpatient management for select patients with PE for years, Dr. Westafer's prior study of US hospitals found that only 4.1% are initially managed as outpatients, with wide hospital-level variation. Her prior qualitative study, interviewing emergency physicians from across the country at institutions that discharge many or few patients

with PE, informed the structure and design of this project.

This RPAP project will refine and implement a multidisciplinary, user-centered strategy to increase the outpatient management of patients with low-risk PE. The goals of this strategy are to reduce the complexity associated with the process while helping clinicians feel more comfortable discharging patients with low-risk PE. This process will involve user-centered clinical decision support for risk stratification and treatment, as well as interdisciplinary collaboration with Hospital Medicine.

This project is directly relevant to Baystate's mission of improving the health of people in our community by focusing on improving quality, safety, value, and experience in patients with acute PE. The Baystate Health system faces high demand for inpatient care coupled with inadequate capacity. This project has the potential to reduce that burden while reducing healthcare waste. Additionally, prior studies have found outpatient management associated with patient satisfaction and quality of life markers.

**Annual IRB Jeopardy Game**

During the December Clinical Research Staff Meeting, Susan Garrow-Sloan, RN, BSN, CCRP, hosted a lively game of IRB Jeopardy. Categories included: "Rockin' Around the IRB," "Do You Get a Sentimental Feeling When You Hear...", "Elf Health," "A CTMS Story," "Fest of Us," and "The sIRB Express: Believe." Contestants were asked to type their responses into the Zoom chat to answer the question.

Congratulations to Viorika Nelson, DNP, FNP-C, who was this year's winner.



Susan Garrow-Sloan, RN, BSN, CCRP, Education and Compliance Specialist pictured alongside the IRB Jeopardy game board.

**Search for Funding Opportunities with GrantForward**



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• GrantForward incorporates a dynamic search engine with a personalized funding recommendation service to simplify the grant search process. With a research profile, you can receive grant recommendations related to your field and research interests.

To get started, create a login at Grantforward.com.

Use your Baystate email address (name@baystatehealth.org, NOT name@bhs.org).

Connect via a Baystate Health computer or on the Baystate Health network. Be aware that this of connection does not allow for any saved search tools.

**New Faces of Research**



**Christopher Dwy, BS**  
Clinical Research Coordinator



**Joan Levine, MPH, CIP**  
Per Diem IRB Analyst



**Jose Lugo**  
Clinical Research Assistant II



**AnnaMarie Mal, MDiv**  
IRB Analyst



**Alexa Postell, BS**  
Clinical Research Assistant II

**Not Pictured:**

- Jay Gutta** Regulatory Specialist II
- Nakeisha Roberts** Veterinary Technician



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LSVT patients who go to use their vocal skills that they've been practicing in a singing environment really benefit from having that outlet to use their voice. It isn't a chore as much as a fun activity," says Bernhard.

Improvements in speech characteristics aren't the only benefits of the Healing Harmonies singing group. Social connection is also important to the members. "It is easy for individuals with Parkinson's, or other neurological disorders that affect communication, to feel cut off from other people and isolated. I think the magic behind this group is not only that we're using music to help voice, speech, and communication but also that people can realize that they're not alone in going through these difficulties. They can connect to a community of people who are going through something similar and recognize other challenges being experienced by other members of the group that they can learn from," says Bernhard. "I think that's a really important and healing perspective for the participants to get from this work."

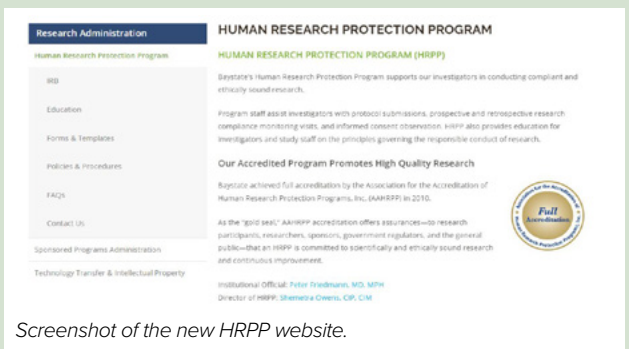
During the COVID-19 pandemic, Healing Harmonies switched their rehearsals to virtual, but that wasn't without its

challenges. "On Zoom, there's a delay, so you can't have two voices singing simultaneously. We couldn't really assess how well people were singing, how much volume they were using, or how big a breath they would take. We used it as a way to stay connected and a socialization opportunity more than anything," says Bernhard.

With the next session about to begin and in-person rehearsals resuming in Spring 2023, the singing group is making some additional modifications. "We have a new space at the Sunderland Public Library and a new director, Eileen Ruby. She's a vocal coach and voice instructor but has a background in methods developed by speech pathologists. She's bringing her experience as a vocal coach, and we'll bring our expertise as speech-language pathologists for working with this population. It's going to be an exciting collaboration," Bernhard adds. "Good things are on the horizon."

If you are interested in learning more about Healing Harmonies or know of someone who would like to join, please get in touch with Lisa Sommers at (413) 545-4010.

## New Human Research Protection Program (HRPP) webpages on BH.org



Screenshot of the new HRPP website.

The Office of Research is thrilled to announce the HRPP website on baystatehealth.org has expanded. The site features seven new pages and is designed to be a reliable source to access current information, enhance the user experience, and look great on all devices and browsers.

Users can easily access protocol and consent templates, the investigator manual, and standard operating procedures

from the site. Additional information will include links to recorded clinical research meetings and frequently asked questions.

The new HRPP pages are one of the first step in a larger project to update and enhance the information on the entire Research section of BaystateHealth.org.

[Visit the new pages here.](#)

## OnCore Clinical Trials Management System Enterprise Rollout

On December 15th, 2022, the Office of Research held a kick-off meeting for the OnCore Clinical Trials Management System (CTMS) enterprise rollout. This phase of the CTMS implementation project features the activation of the remaining departments engaged in research that were not included in the initial three-department pilot launch. Training for these departments will start the week of January 16th.

In conjunction with the enterprise rollout, migration of the active studies into OnCore continues to move forward on a rolling basis, with an expected completion date by the end of May. Furthermore, additional

enhancements will be added to OnCore. These enhancements will also be released on a rolling basis and include optimization of the different features around reporting, effort tracking, and pre-screening reporting.

As a reminder, the OnCore CTMS Implementation project advances Baystate's commitment to re-search billing compliance, protocol standardization, and monitoring, streamlined operational reporting, and patient safety.

For more information, the latest updates, and training guides, please visit the CTMS Page on The Hub or contact Research\_Office@baystatehealth.org.



**Save the Date!**  
June 12th-16th, 2023  
**Celebration of Research & Education**  
a new virtual experience



## The Innovator Baystate Health

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We are interested in ensuring that Baystate employees and patients (and their families) are aware of the important research that goes on at Baystate and how it contributes to better patient care. *The Innovator* welcomes feedback and story ideas. Contact Matthew Hamel at [matthew.hamel@baystatehealth.org](mailto:matthew.hamel@baystatehealth.org) to submit yours.



Carolanne Lovewell, RLATG, CPIA, Director of the Baystate Research Facility, enjoys some free time swimming with dolphins and gets a quick veterinary lesson.