

# THE FRAMINGHAM HEARTBEAT



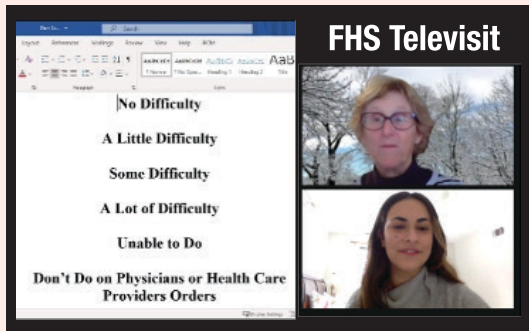
The Framingham Heart Study is a project of the National Heart, Lung, & Blood Institute & Boston University

Spring 2021

## EXAM 10/5 RESUMES AFTER PANDEMIC PAUSE!

The current exam for Offspring (Exam 10) and Omni 1 (Exam 5) participants started in October 2019 but was halted in March of 2020, due to the pandemic. FHS staff were forced to work from home, like everyone else, and did not have any trouble staying busy. Because there was no exam, Recruitment and Research Center staff focused on contacting participants to collect annual Medical History Updates. When it became clear that the pandemic would be with us for a while, we developed a plan and sought approval to complete portions of the exam remotely (televisit) using an electronic platform. The televisit reduces the time you spend with us when on site, making it easier and safer for us to resume in-person exams in September 2020. The televisit can actually be done before or after your in-person exam.

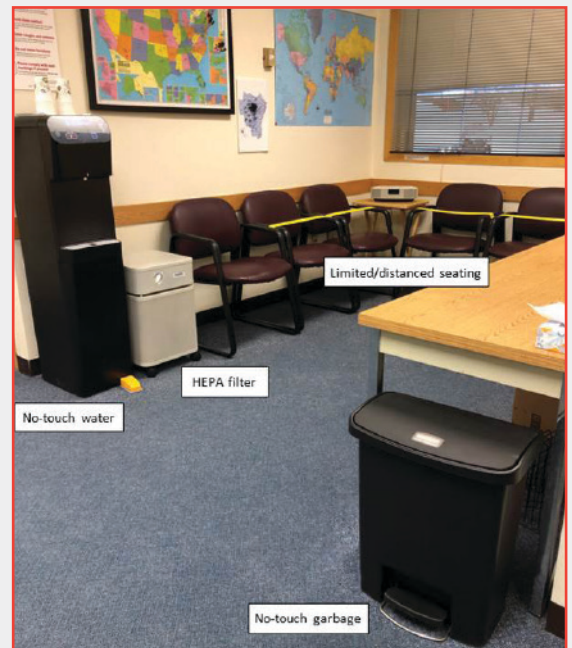
**To learn more about scheduling a televisit or exam, please contact your Participant Coordinator, Maureen Valentino at (508) 935-3417 or (800) 536-4143 | text: (508) 935-3417 | email: [maureenv@bu.edu](mailto:maureenv@bu.edu)**



*Televisits conducted via Zoom are fun and social*

## WE ARE COVID-SAFE AT FHS!

As of September 14, 2020, we resumed onsite exams at the FHS Research Center. Many changes were made to the Perini building and the FHS Research Center to provide a COVID-safe environment for the staff and participants. The HVAC system was upgraded with an enhanced Ultraviolet light air purification system and MERV13 filters. In addition, individual HEPA air filtration units were placed in every testing room. These enhancements are all considered hospital-grade and are used to reduce germs, bacteria and viruses in the air. Each staff member is required to complete a weekly COVID-19 test and a daily COVID-19 symptom screening before coming to work. Currently, only two participants are scheduled for an exam each day with appointments scheduled about three hours apart to minimize overlap. Staff greet participants in the Lobby wearing PPE, including a mask, face shield, gloves and lab coat. Participants' temperatures are taken, they complete a COVID-19 screening and are provided with a clean surgical mask. You are getting wonderful, individualized attention because we appreciate your continued participation! Please feel safe to come to your exam soon!



## Electronic Framingham Heart Study

**THANK YOU to all our Generation 3, Omni 2 and New Offspring Spouse participants who participated in eFHS!**

The eFHS study ended on March 15, 2021. Your extended participation helped us learn important information about collecting data electronically. The study has been so successful that we are now starting a new eFHS with Offspring and Omni 1 cohorts! You can continue to use your Blood Pressure monitor and Apple Watch for your own personal use. Thank you again for your participation! Please contact Leila at (508) 935-3415 or [lhaghi@bu.edu](mailto:lhaghi@bu.edu) with any questions or concerns.

# CURRENT CORE EXAM STUDIES

## Offspring (Exam 10) & Omni 1 (Exam 5) Participants

**ARTERIAL TONOMETRY:** Work done at FHS and elsewhere has demonstrated that stiffening of your aorta, the largest artery in your body, is associated with higher risk for various adverse clinical outcomes, including heart attack, heart failure, stroke and dementia. As the aorta stiffens, it causes wide swings in blood pressure and separation of the blood pressure numbers (systolic and diastolic). The resulting excess amplitude or “pulsatility” of pressure and flow increases load on the heart and damages fragile capillaries in critical organs like the brain. Specialized equipment now at FHS enables measurement of the blood pressure and flow waveform in the aorta and carotid arteries. We can use these waveforms to assess the effects of aortic stiffening on pulsatility of flow to the brain. From this study, we can identify the associated risk factors and disease outcomes related to the heart, lungs, brain and kidneys.

**FIBROSCAN:** is a modified ultrasound that generates a painless pulse on your skin that travels to the liver and gives us information about liver fat and liver stiffness. In only five minutes during exam 10/5, we can take measurements of your liver fat. Increased liver stiffness may indicate scar tissue in your liver. We are also beginning to learn from this data how the presence of fat and liver stiffness may contribute to developing diabetes and cardiovascular disease.

**PAIN ASSESSMENT:** Many people experience pain at various times in their life. Pain is one of the leading causes of disability worldwide, yet the causes of chronic pain are poorly understood, and how it impacts the lives of older adults has not been well-studied. Now for the first time at the Framingham Heart Study, we are going to ask you about pain you may be experiencing in your daily lives to better understand why some people have more pain than others. We also will assess your body’s response to pressure on your skin.

**BRAIN HEALTH:** We are interested in finding a way to define brain health beyond the evaluation of cognitive testing. The Brain Health Station involves an innovative combination of sensory tests, including eye examinations, hearing examinations and a gait walk test. Each of these tests measures a participant’s sensory-motor function, which is known to change as a person ages and may be an early indicator of overall brain health. Our eye exams will take a series of pictures of the retina, optic nerve and vessels within the eye, along with measurements of the eye. Hearing exams will test your hearing acuity at different frequencies to assess overall hearing. Finally, our gait test will require you to walk on a mat with pressure sensors to measure how your gait changes while you are multitasking.



### THE BONE STUDY IS READY TO GO!

This study has been a part of the Framingham Heart Study for many years, making several important discoveries about risk factors for fractures and bone loss. This is the first time, however, that the Bone Study is investigating the role of vascular health on the skeleton. The team is studying how declines in vascular function that occur with aging may impact bone health. In other words, what is good for your heart may also be good for your bones! Researchers are using an HR-pQCT (high-resolution peripheral quantitative computed tomography) scanner to measure changes that occur in the bones of the lower legs and arms. Discovering that poor vascular function decreases bone strength may lead to new strategies to prevent both vascular diseases and osteoporosis.

### REMEMBER:

**Framingham Heart Study evaluations are designed for research.  
They do not replace your regular check-ups with your own doctor(s)!**

# Current Core Exam Studies

## WHAT AN EASY WAY TO TRACK YOUR HEALTH WITH eFHS!



The Framingham Heart Study is releasing a new app for Offspring and Omni 1 participants! This app, MyDataHelps, helps you track your daily steps and will send you surveys every 2 or 4 weeks to monitor your health changes and physical activity. This provides us with a great way to stay connected with you and monitor your wellbeing in between exams. If you have already come in for your exam and were not asked to participate in eFHS, **please contact Leila at (508) 935-3415 or lhaghi@bu.edu**. We will be happy to get you set up and started with the eFHS app!



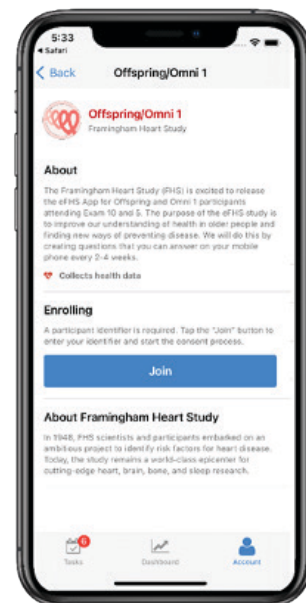
## NATIONWIDE STUDY OF COVID-19 RISK AND LONG-TERM EFFECTS

You are invited to participate in this nationwide study, referred to as C4R. It will include more than 50,000 participants from across the U.S., **including participants from the Framingham Heart Study**. If you choose to participate, we will ask you to complete an initial questionnaire and a second one six months later to learn about your COVID-19 experience. In addition, we will ask you to take a small blood sample using a home test kit that we will provide. We will let you know if you were ever exposed to virus that causes COVID-19. You can choose to complete one or both components of the study. Please be on the lookout for an email and a letter. Should you have any questions, **contact Laura Kurriss by email: C4RFHS@bu.edu | phone: (508) 935-3426 or (866) 466-2040**.

## COMING SOON

### FHS BRAIN AGING PROGRAM

A NIH grant has been awarded to establish the FHS Brain Aging Program (FHS-BAP) that has multiple components. For example, the Clinical Core continues surveillance, cognitive testing and brain MRI for all participants who wish to participate; many of you have done so in the past. Cognitive testing will include digital capture of writing and voice, and we've identified speech features associated with future dementia diagnosis which may be early indicators of risk.



## INTERESTING FACTS ABOUT FHS COHORTS

Which cohort are you in?	Abbreviated cohort name	Your study ID starts with	Number originally in cohort	Year cohort was recruited	Age range at first exam	Number of exams completed
Original	Original	0	5,209	1948	28-74	32
Offspring	Gen 2	1	5,124	1971	<10-70	9
Omni 1	Omni 1	7	507	1994	27-78	4
Third Generation	Gen 3	3	4,095	2002	19-72	3
New Offspring Spouses	NOS	2	103	2003	47-85	3
Second Generation Omni	Omni 2	72	410	2003	20-80	3

# STATE *of the* STUDY

## PROGRESS REPORT FROM DR. VASAN RAMACHANDRAN

I hope you and your families are staying healthy, well and safe. The previous year was filled with disruptions for the country, and the Heart Study was no exception. Partnering with all of you, FHS navigated the COVID-19 pandemic to keep our research mission active using a careful and adaptive approach. We suspended in-person participant exams in March 2020 to keep you all safe, and our staff began 'tele-working' effectively and securely. We escalated our Medical History Updates, and so many of you responded to the calls our staff made! We held our first 'virtual town hall' for our participants in July, which was a huge success due to your support and participation. Motivated by your positive response, we anticipate making this a regular annual feature even when normal times return.

Over the last year, our staff worked hard to innovate a new hybrid exam protocol consisting of a 'tele-exam' and a shorter, limited in-person exam (with social distancing and all mandatory precautions). We installed recommended HVAC and UVC filters in our building to mitigate COVID-19 exposure. In September 2020, we restarted with caution the tenth examination of the Offspring (Gen 2), and the fifth examination of the Omni cohorts using the new hybrid protocol. You and the Research Center and recruitment staff deserve special credit for this accomplishment. THANK YOU!

Throughout the pandemic, FHS investigators toiled to sustain our research productivity unabated. You shared at the 'town hall' that you would like access to scientific publications resulting from your steadfast participation. We listened, and we are upgrading the FHS website this year to respond to your suggestion - please stay tuned for this web enhancement!

Of note, FHS scientists are collaborating with a national team of scientists on COVID-19 research. This NIH-funded program, which is referred to as C4R (Collaborative Cohort of Cohorts for COVID-19 Research, a consortium of 14 cohorts). Our staff will administer questionnaires to all consenting FHS participants (over the phone or via e-mail) to assess if you have had signs and symptoms or a diagnosis of COVID-19. We will also seek your consent to obtain 'dried blood spots on a special card' obtained with a small finger prick using a compact and safe kit mailed to your homes. The 'dried blood spots' will be used to measure antibodies against SARS-CoV-2, the virus causing COVID-19.

Over the course of this new year, we anticipate picking up the pace on the ongoing Gen 2/Omni 1 examination. In parallel, we continue to plan the next examination of the Third Generation (Gen 3), New Offspring Spouse (NOS), and Omni Group 2 cohorts, which will likely begin in 2022. We will continue to contact you for our annual Medical History Updates.

We look forward to serving all of you this year, just as we have done every year in the past. Your safety is of paramount importance to us. The FHS staff and investigators are grateful to you for your continued participation!

With my highest regards and heartfelt wishes,



Vasan S. Ramachandran, M.D., DM, FACC  
*The Framingham Heart Study, Boston University School of Medicine*  
*Principal Investigator and BU Director, The Framingham Heart Study*





# STUDIES OUTSIDE CURRENT CORE EXAM

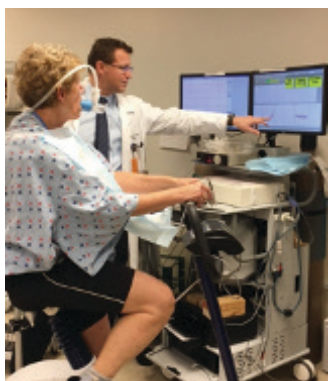
**STUDY TO SCREEN PULMONARY FIBROSIS:** Idiopathic pulmonary fibrosis, a disorder characterized by lung scarring that has a prognosis worse than that of most cancers, can be slowed with medications, but it is frequently identified in advanced stages. Our work in the Framingham Heart Study suggests that early stages of pulmonary fibrosis can be detected and may be more common than we previously realized. This study is designed to screen undiagnosed FHS participants to improve our understanding of the factors that help to predict pulmonary fibrosis development and to understand the concerns that people may have in receiving information about their lung health and in participating in a screening study and in receiving information about their lung health.

**COGNITIVE HEALTH MONITORING AND BIOMARKER IDENTIFICATION:** The FHS Neuropsychology Team will soon be recruiting for a study of 150 Offspring, age 65 and older, that will include cognitive testing using digital tools, and brain MRI and PET scans. You can choose to do cognitive testing either in your home or at FHS, and a research assistant will accompany you to the MRI/PET scanning center. Our goal is to identify digital cognitive biomarkers using serial cognitive testing that is less expensive and invasive than other methods currently used today. This is an exciting new direction of brain aging research.

**VIRTUAL NEUROLOGY VISITS & PET/MRI STUDY:** The FHS Neurology Team is conducting virtual visits with participants for both cognitive testing and neurological examinations, using video and telephone capabilities to visit with you from the safety of your home. We hope to resume in-person activities for these visits when safe, at which time we will offer participants the option to complete their visit in-person or virtually, based on your preference. If you wish to learn more about our studies mentioned here, or to check your eligibility, please call **Katherine O'Malley (Project Coordinator - Neurology examinations) at (508) 663-4059** or **Vicki Peterson (Project Coordinator – PET/MRI) at (508) 935-3468**.

## What we've learned because of YOU!

**SLEEP & BRAIN HEALTH STUDY:** In the mid-1990s, many of you who are participants in the Offspring cohort generously agreed to have your sleep studied overnight in your home as part of the Sleep Heart Health Study. One of the special things about FHS is that all this information continues to deepen our understanding of disease over many decades. With your data, we recently evaluated how sleep characteristics in midlife are associated with risk of developing dementia and brain aging. We observed that inflammation acted together with nighttime wakefulness and with obstructive sleep apnea to increase risk of dementia. Less slow-wave sleep, the deepest sleep stage, was associated with accelerated brain aging on brain MRIs.



**CARDIOPULMONARY FITNESS EVALUATION (CPFE):** Thanks to FHS participants who rode the bicycle and had blood drawn (twice!) for this station, investigators were able to learn more about how exercise reduces the risk for heart disease. Metabolites, byproducts of metabolism, were measured during the 12-minute cycling session. The good news is that even during the short, 12-minute exercise session, metabolites associated with a lower risk for cardiovascular disease were elevated, while those associated with diabetes and poor cardiovascular health were reduced. Scientists continue to learn how exercise, even in small bursts, is beneficial for our physical, mental and emotional wellbeing. Please visit our website, [www.framinghamheartstudy.org](http://www.framinghamheartstudy.org), or scan the QR code on page 8, to learn more about this study and other FHS studies.

## ONGOING RESEARCH EFFORTS FOR ALL PARTICIPANTS

**HAVE YOU HAD A RECENT STROKE? PLEASE LET US KNOW!** Stroke is a medical emergency, and symptoms can include facial weakness, sudden difficulty speaking, weakness on one side of the body or sudden vision loss. Anyone with symptoms of stroke should call 911 and get immediate help. *If you had a stroke or received medical care for stroke symptoms, FHS would like to know as soon as you or a family member can contact us.* Reach us at the **FHS Stroke Hotline at (617) 630-3627**. If you live out of state or are unable to be seen in person, we may also schedule an evaluation over the internet by video teleconference. This is a research evaluation only and is not meant to provide any medical care or advice. We greatly appreciate your efforts to help us monitor and research this disabling disease; your participation has helped us reduce the risk of stroke and TIA and we are studying how to also reduce the risk of memory and thinking problems after a stroke.

**TRAUMATIC BRAIN INJURY (TBI):** We request that ALL FHS participants from all cohorts, regardless of whether you've experienced a TBI, complete a questionnaire about TBIs, contact sports and military service. We recently showed that for each additional year of football played, the risk of chronic traumatic encephalopathy (CTE), a progressive disease affecting behavior, thinking, and mood, increases by 30 percent.

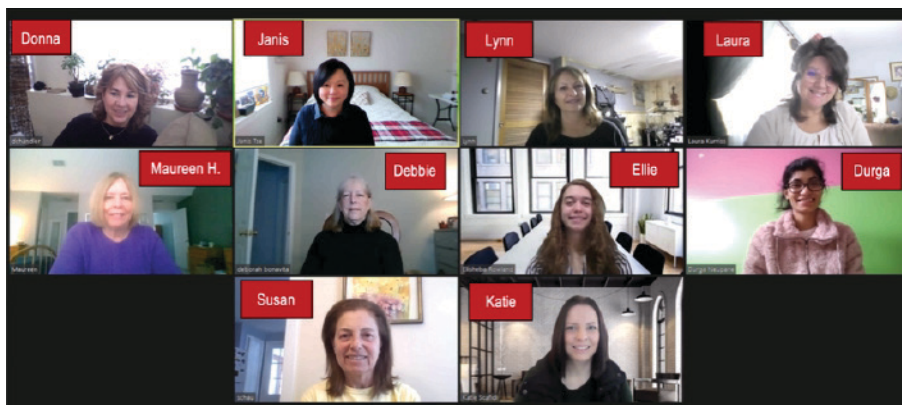
**FHS BRAIN DONATION PROGRAM:** Although we have learned much about diseases affecting the brain, many questions remain. The best way to learn about these diseases is to study the brain itself. The FHS Brain Donation Program enables research aimed at earlier and more accurate diagnosis of neurological illnesses, providing hope to future generations. Brain donations can also help provide families with a definitive diagnosis if their loved one was known to have suffered from a neurological illness. To register or to learn more about the FHS Brain Donation Program, please contact **Tim Kowalczyk at [tk1@bu.edu](mailto:tk1@bu.edu) or (508) 935-3410**.

**NEW RESEARCH INCLUDES REPORTS OF GENETIC RESULTS:** An NHLBI grant to search for harmful genetic variants within the Framingham Heart Study participants is underway. The new approach looks at genetic **sequences derived from general populations** (rather than from patients) to learn how often specific genetic variants cause certain diseases. If such a genetic variant is discovered in the sequence of an FHS participant who has consented to be informed, the person will be notified by a genetic counselor. As variants in only 59 genes are being studied currently and harmful genetic variants are rare, fewer than 80 FHS participants are estimated to be notified over the next three years. Any FHS participant who is notified will be offered information on follow-up options and invited to participate in surveys. If you were notified by FHS in past years of a harmful variant found in your genetic sequence, you will not be notified again, but you may be invited to take a follow-up survey. Thank you for participating in the FHS genetics projects.

## ANNUAL MEDICAL HISTORY UPDATE AND YOU

One of our goals is to keep your medical and contact information up-to-date and the annual Medical History Update (MHU) survey is one way we do this. If you are a participant whose last exam or MHU was completed more than a year ago, we would like you to complete a new MHU. Please let us know how you prefer to complete your MHU survey. Would you like us to mail you a paper copy, send you an email with a link to an electronic version or call you on the phone? You can call or text to let us know your preference.

The new cycle of MHUs kicked off in January 2021, so you may be hearing from a member of the Health Information Team, pictured below meeting remotely. Please feel free to call or text us at (508) 935-3437 or write to us. Our team is looking forward to hearing from you.



## HIGH SCHOOL SENIORS: ENTER THE 2021 \$1500 DAWBER ESSAY CONTEST

John Galvani, president, and the board members of the Friends of FHS, announced two scholarships for 2021 based on an essay contest: a \$1,500 Award and a \$750 Award.

**Eligibility:** Open to children, stepchildren and grandchildren of FHS participants. Applicants must be graduating from high school this year and planning to attend college in the fall of 2021.

**To apply:** Only two items are needed 1) an email with the applicant's name, address, telephone number and college and career plans (roughly a two-sentence description), and 2) a 1,000-word essay titled *What it means to be a participant in medical research in the Framingham Heart Study*. Applicants tell a story, conduct an interview or pursue any angle of interest. Please fact-check and proofread before submitting. Email the essay as an attachment to Emily Manders (emanders@bu.edu) by Thursday, April 15, 2021. We will confirm receipt of all essays within one business day. If you don't receive a confirmation, please call (508) 935-3443. The Friends will review the essays and notify recipients by May 14, 2021. Recipients will be invited to accept their awards at the FHS Research Center.



**2020 SCHOLARSHIP WINNER**  
*Sean Hanley*



**2020 RUNNER-UP**  
*Madison Atwell*



## A Message From the Friends of the Framingham Heart Study

Greetings, fellow participants. We are participant volunteers from the Offspring (Second Generation), Third Generation, and Omni cohorts who meet periodically throughout the year as members of the Board of Trustees for the Friends of the Framingham Heart Study. With funds donated to the Friends, we provide support for items and activities at FHS, such as occasional travel grants to FHS investigators attending scientific conferences, audio-visual equipment for long-distance conferencing with collaborators, annual scholarships to high-school graduates going to college and the ECG cards sent to participants after clinic visits. With your help, we'll be able to do more to support FHS in its ground-breaking research for improving public health related to heart disease, diabetes, cancer, sleep disorders, aging and Alzheimer's disease.

**The Friends of the FHS is a 501(c) (3) nonprofit organization supported solely by donations.** We invite you to contribute a personal donation or one in the memory of, or in honor of, a family member or friend. No donation is too small or too large and all are tax deductible.

### To make a donation:

please mail a check made out to:  
"Friends of the FHS." Address it to:

Rebecca Bennett  
ATTN: Friends of the FHS  
73 Mt. Wayte Ave., Suite 2  
Framingham, MA 01702

Trustees of Boston University  
National Heart, Lung, and Blood Institute  
Framingham Heart Study

73 Mt. Wayte Avenue  
Framingham, MA 01702

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[www.framinghamheartstudy.org](http://www.framinghamheartstudy.org)

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## CONTACT US

### FHS Main Number

(508) 872-6562 or (800) 854-7582

### 2nd Generation (Offspring), 3rd Generation and Omni Participants

#### Maureen Valentino

(508) 935-3417, (800) 536-4143

or [maureenv@bu.edu](mailto:maureenv@bu.edu) or text to (508) 935-3417

### Spanish Speaking Participants, please call Maria Barry

(508) 935-3425 or [barrym@bu.edu](mailto:barrym@bu.edu)

### C4R

#### Laura Kurriss

(508) 935-3426, (866) 466-2040 or [C4RFHS@bu.edu](mailto:C4RFHS@bu.edu)

### Brain Donation, Brain MRI

#### Tim Kowalczyk

(508) 935-3410, (800) 248-0409 or [tlk1@bu.edu](mailto:tlk1@bu.edu)

### Cognitive Testing, Stroke Coordinator

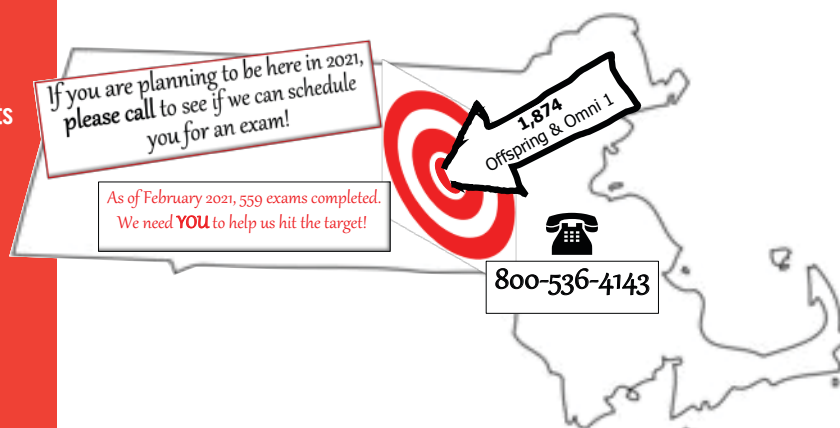
#### Katherine O'Malley

(508) 663-4059 or [keomall@bu.edu](mailto:keomall@bu.edu)

### MRI/PET Study Coordinator

#### Vicki Peterson

(508) 935-3468 or [vpeters@bu.edu](mailto:vpeters@bu.edu)



SCAN ME

Scan this QR code to go directly to the Participant section of the FHS website! Once there, you can find more FHS news and study results, view and print the Current Core Exam 10/5 consent forms, learn more about the C4R COVID-19 study and so much more!

*If you do not have a QR code scanning app on your phone/mobile device, you can download one for free or a minimal fee.*