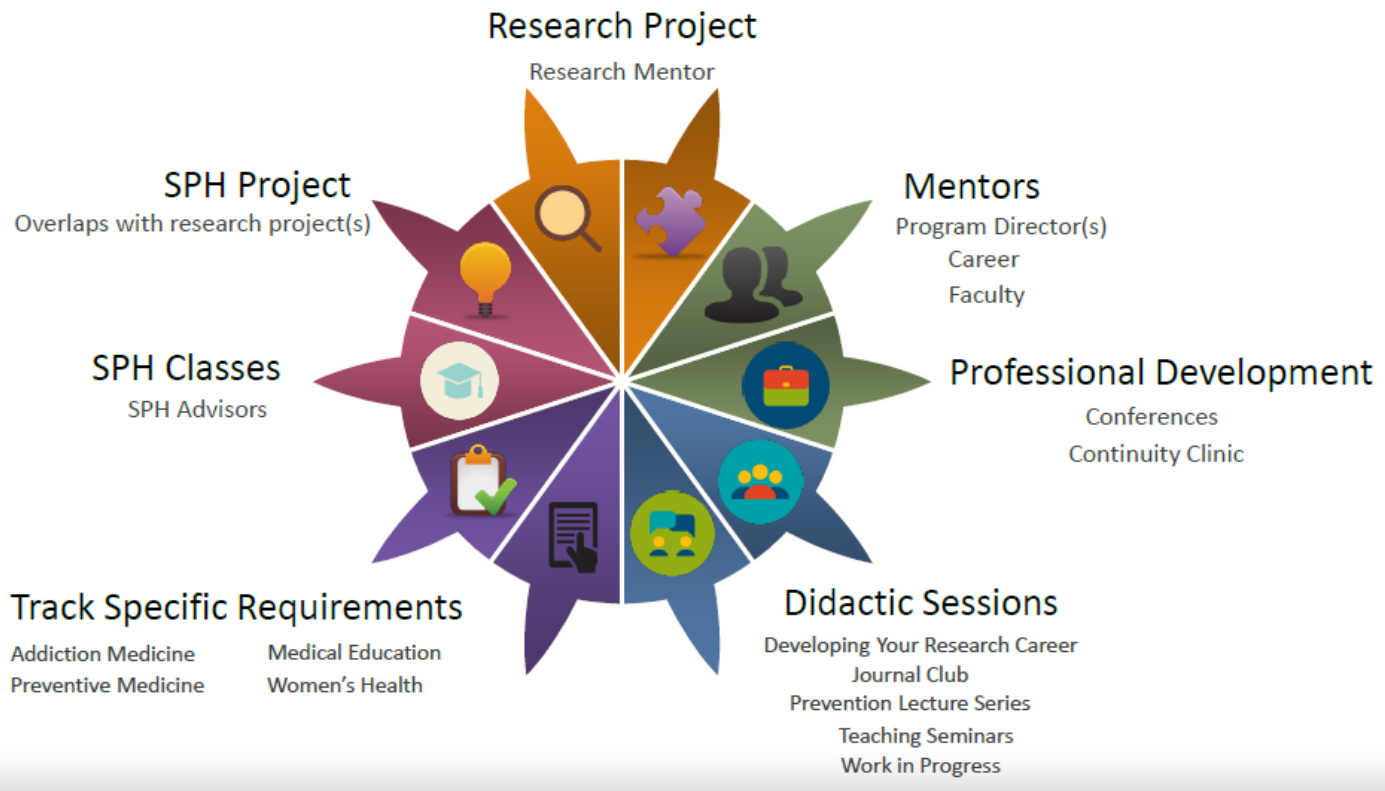
Academic Primary Care Fellows Handbook

2023-2024



Family Medicine
General Academic Pediatrics
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General Surgery
Preventive Medicine Residency

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Welcome to Our Program!

Our program's mission is to train highly motivated primary care physicians to serve medically under-served communities as educators and investigators. As you may know, BMC has over a 150-year history of caring for poor, urban, and immigrant patients, and we collaborate with the Boston VA medical centers, which also cares for underserved populations.

We have an exciting mix of educational opportunities in epidemiology and health services research, theoretical and practical training in medical education, and experiential learning opportunities in public health. Our program provides the tools for successful careers in academic medicine, medical education, and public health.

The program based at Boston University School of Medicine (BUSM), Boston Medical Center (BMC) and the VA Medical Center (Boston & Bedford), includes both common and unique training experiences by encompassing academic fellowships in pediatrics, internal medicine, family medicine, and surgery; the preventive medicine residency; and the addiction medicine fellowship. This collective training has many important advantages; it significantly enhances fellows' experiences by working with an interdisciplinary group of fellows and faculty.

A number of sources including external grant funding from federal and private grants and hospital based funding supports the fellowship. The federal research training grants from AHRQ and HRSA that support the fellowship require that academic generalist fellows devote the majority of effort to research and research training. We believe that research scholarship is most effective in shaping policy and practice when scientists are skilled not only as researchers, but also as educators, advocates, administrators, and leaders. Thus, our research curriculum includes the development of skills in these areas, as well as in research methods. Because fellows enter with different experiences, strengths, and interests, each fellow follows a unique curriculum of learning experiences and objectives. However, key common aspects of the curriculum include dedicated time for research, a Master degree at the BU School of Public Health, weekly seminars to provide training in research, teaching, and public health topics, and clinical care.

The purpose of this manual is to help each fellow become familiar with program resources and expectations so that they can create and pursue a professional development plan to meet institutional and personal goals.

2. Fellowship Executive Committee

The executive committee creates the fellowship curriculum and serves as a resource for fellows for their individual fellowship requirements and career advice. Additionally, each fellow meets regularly with a member of the executive committee he/she chooses as a primary mentor.

Pablo Buitron de la Vega, MD, MS: Director, Preventive Medicine Residency
Alison Galbraith, MD, MPH: Director, General Pediatric Fellowship
Marc LaRochelle, MD, MPH: Director, General Internal Medicine Fellowship
Alyssa Peterkin, MD: Director, Addiction Medicine Fellowship
Stephen Wilson, MD, MPH, FAAFP: Chair & Interim Director, Family Medicine Fellowship

Alexandra Bachorik, MD, EdM: Director, Teaching Seminars
Megan Bair-Merritt, MD, MSCE: Executive Director, Center for the Urban Child and Healthy Family
Tracy Battaglia, MD, MSc: Co-Director, Women's Health Fellowship, Director, Women's Health Unit
Jonathan Berz, MD, MSc: Associate Program Director, Preventive Medicine Residency
Ann Borzecki, MD, MPH: Bedford VA Liaison
Anna Goldman, MD, MPH: Associate Director, General Internal Medicine Fellowship
Kelly Kenzik, PhD, MS; Director, General Surgery Fellowship
Amy Linsky, MD, MSc: Boston VA Liaison
Karsten Lunze, MD, MPH, DrPH, FAA: PhD Research Liason
Natalia Morone, MD, MS: Director of Diversity and Inclusion
Zoe Weinstein, MD, MS: Associate Director, Addiction Medicine Fellowship

Fellowship Contacts

Family Medicine			
Stephen Wilson Family Medicine Fellowship Director			
General Internal Medicine			
Marc LaRochelle GIM Fellowship Director	**Anna Goldman** GIM Associate Director	**Linda Neville** Fellowship Administrator Linda.neville@bmc.org 617-638-8344	
Pediatrics			
Alison Galbraith Fellowship Director			
Addiction Medicine			
Alyssa Peterkin Director, Addiction Fellowship	**Sarah Bagley** Associate Director, Addiction Fellowship	**Jessie Gaeta** Associate Director, Addiction Fellowship	**Zoe Weinstein** Associate Director, Addiction Fellowship Zoe.weinstein@bmc.org
Preventive Medicine			
Pablo Buitron de la Vega Preventive Medicine Residency (PMR) Director	**Jonathan Berz** Associate Director, PMR	**Sarah Kimball** Associate Director, Immigrant & Refugee Health track	**Jennifer Pfau** Associate Director, Maternal Health Track
VA			
Bedford **Ann Borzecki** 200 Springs Road		**Boston** **Amy Linsky** 150 S. Huntington Ave	

Fellowship Advisory Committee

The members of the fellowship advisory committee serve as an impartial, confidential resource for fellows to assist with any and all questions or concerns about any aspects of the fellowship.

Jay Orlander, MD Professor, General Internal Medicine	**Angela Jackson, MD** Associate Professor, General Internal Medicine

3. Problems, Issues, and Concerns

The Executive Committee is dedicated to the success of the fellows enrolled in the program. Should any problems arise you can speak with your program director. If you would feel more comfortable speaking with someone else, you can reach out to members of the advisory board, another program director, or the program manager. You can also reach out to the BU Office of the Ombuds at www.bu.edu/ombuds.

These conversations are confidential. If you bring up a concern that involves conduct of a faculty member, or a program systems issue, it may be shared with the program director and/or other faculty. You are encouraged to clarify confidentiality expectations with the faculty. They will also be encouraged to clarify this with you.

The members of the fellowship advisory committee serve as an impartial, confidential resource for fellows to assist with any and all questions or concerns about any aspects of the fellowship.

BMCHS Raising and Addressing Concerns:
If you have concerns about making a report, we encourage you to discuss this with a trusted Manager/Program Director and review the following alternate resources available to you.

- **Report to Manager/ Program Director**/ direct or adjacent Manager or Program Directors will discuss your concerns with you, and may either work with you to address them or consult/escalate to HR
- **Human Resources Service Center** 617-638-8585 or HRConnect@bmc.org- Complaints received here may be redirected to your HR Business Partner and/or Employee Relations
- **HR Business Partner** 617-638-8585 - Contact your designated Human Resources Business Partner for any and all concerns
- **Compliance Hotline or RL Incident Reporting System** 800-586-2627 or RL under 'Quick Links' on the HUB – Concerns received may be submitted as anonymous, or not, to HR for support/follow up as needed
- **GME Violation Reporting*** Anonymous concerns submitted through the GME site may be redirected to HR for support/follow up as needed
- **D&I Fellows* (Resident/Fellow Support)** Trained and available to be the first point of contact, if desired by a fellow resident, to be a sounding board for concerns. A trusted colleague to support and assist in the moment and to navigate the process for raising concerns

*specific to fellows in GME

CONCERNS TO THESE OUTLETS MAY BE REPORTED ANONYMOUSLY AND IF SO, THAT ANONYMITY WILL BE MAINTAINED TO THE EXTENT PRACTICAL UNDER THECIRCUMSTANCES

Support and Guidance
Talk with a Counselor: While you may not feel ready to talk about what happened, clinicians can provide a confidential and safe space to explore any feelings or challenges that have arisen for you after your experience.

- **Employee Resiliency Clinician**: Beth Milaszewski, LICSW, 617-414-4357
- **Employee Assistance Program**: 833-306-0107

4. Fellow Expectations

Fellowship training includes clinical care, coursework at the Boston University School of Public Health, administrative tasks, and research. These different components may have requirements that must be completed before starting fellowship in July. Please contact Linda Neville (linda.neville@bmc.org) with any questions. There is a general checklists for all fellows and then a second checklist by department (IM, Ped, FM, Preventive Medicine, Addiciton Medicine).

- □ All providers must have a National Provider Identifier (NPI) number. If you are coming from out of state make sure to update the address on your NPI profile to Massachusetts. Also make sure that the "taxonomy code" is correct for your specialty. If you already have a login and forgot your password, then either ask the hospital administrative coordinator or reset your password. https://nppes.cms.hhs.gov/NPPES/StaticForward.do?forward=static.npistart
- □ Massachusetts License: There are MANY required documents to be sent along with the license application including (but are not limited to) examination scores, evaluations, and postgraduate verifications. **The process is also slow so start early.** (Note that *pediatric fellows are required to have a full license* before taking the Pediatrics Boards.)
- □ All clinicians with a full license must register with DEA. If already registered, please inform the DEA of your change of address through the Address Changes forms. www.deadiversion.usdoj.gov
- □ After obtaining a DEA, you must apply for a Massachusetts Controlled Substance Registration. For field 5, use your BMC office address if you're out of state. For Field 8, choose all schedules (II – VI). http://www.mass.gov/eohhs/gov/departments/dph/programs/hcq/drug-control/mcsr/
- □ Decide which Master's program to enroll in: Population Health track, or Health Sciences Education. Talk to your program director for guidance. You will need your transcripts as well as MCAT or GRE scores for the application.

  SPH: apply through SOPHAS express, you will receive an email in February with instructions.
  Health Sciences Education: apply through BUSM Graduate Medical Sciences at https://bu-gms.liaisoncas.com/applicant-ux/#/login
  Sign up for Fall introductory classes.
  HSSR: PH 717 "Quantitative methods for public health"
  Epi: BS 700 "Essentials of Biostatistics"

Refer to BUSPH book MS Epi/HSSR section AND the "when the classes are offered" booklet available from SPH. Remember to plan ahead because some classes are only offered once every 2 years. Talk to current/past fellows for "editorials" on helpful classes and good professors. Also, you can check for the SPH course evals here on this website that are done by students: http://dccweb.bumc.bu.edu/SPHCourseEvaluation/Reports/

- Class registration and financial information is on BU Student Link: www.bu.edu/studentlink
- Class syllabi, lecture notes, grades and assignments are often posted on Blackboard: https://learn.bu.edu

- □ Complete HIPPA Security and Privacy Training http://www.bu.edu/link/bin/uiscgi_doc_e_signature.pl
- □ Sign up for Responsible Conduct of Research courses. All research trainees at Boston University must take an online course and attend four 2-hour workshop sessions of the Responsible Conduct of Research (RCR) Seminar series http://www.bu.edu/orc/training/responsible-conduct-of-research/
- □ Complete Conflict of Interest Training at http://www.bu.edu/orc/training/conflicts-of-interest/
- □ Complete Protection of Human Subjects Training http://www.bumc.bu.edu/ocr/certification/
- □ Register for an ORCID at https://grants.nih.gov/grants/guide/notice-files/NOT-OD-19-109.html

The First Week

- □ Attend New Employee orientation
- □ Attend Epic training
- □ ID Badge: you will need to obtain an ID through the BMC ID office, 710 Albany Street room 102, Monday through Friday, 7:00 AM to 9:00 AM and 12:30 PM to 3:00 PM (closed 9:00 AM- 12:30 PM).
- □ Transportation:
  - Obtain a Parking Permit: 710 Albany Street, 7 am to 5 pm. Applications online at http://www.bumc.bu.edu/parking/forms/
  - Obtain a Monthly MBTA passes at the Transportation Office at 710 Albany St. (automatic deduction from paychecks is available)
  - Bike Cage Access- $20 annually for card access only bike parking in either the East Newton bike cage or the bike cage behind the 710 Albany Garage

The First Two Months

- □ Attend Fellowship orientation
- □ Setup INSPIR account (the BUMC Institutional Review Board) http://www.bumc.bu.edu/inspir/
- □ Meet with various faculty members regarding research interests, they do not have to be in the same department that you are.
- □ Attend bi-weekly lunch meeting to review the curriculum and discuss which mentors to meet with.
- □ Complete Responsible Conduct of research Training http://www.bu.edu/researchsupport/compliance/responsible-conduct-of-research/

Transition from residency to primary care fellowship is a big change, and you can feel simultaneously like you have tons of free time and no free time at all when you start. Summertime is also atypical for the fellowship because there are no regular Tuesday morning fellowship activities, grand rounds/case of the week, and many faculty/fellows are away on vacation. You are also studying for boards.

Here is a helpful guide of things that are good to work on during the first summer:

- o Take time to reflect on residency experiences, review the literature, and think about what research area/research questions you would like to explore
- o Meet with lots of people to hear about their research. **Networking is key**!
- o Install and become familiar with reference management software such as Zotero, EndNote or Mendeley (ask the Library if you need help)

Once You Have a Mentor

You will have both an overall fellowship mentor and a primary research mentor that you should identify by mid-September. Your overall mentor is a faculty member who serves as your overall guide to the fellowship (typically the program director or executive committee member). Sometimes your overall mentor is the same as your research mentor though they are often two different people. You should have a primary research mentor identified by mid-September, this person does not have to be in the same department as you are, and may change depending on the progress of your project(s).

□ Schedule weekly meetings with your primary research mentor

□ Schedule biannual scholarship oversight meetings to occur by December 15 and May 31st. Faculty and fellows use this time to discuss and document their perspectives on achievements, challenges, and strategies to address them; and to keep track of progress toward post-fellowship and career goals. The meeting should include the fellowship director, primary research mentor, other research mentors, and SPH mentors.

□ Complete the Individual Development Plan, this is a "living" document that you will use throughout your fellowship. A copy of the IDP must be submitted to Linda along with a copy of your updated CV.

Yearly Responsibilities

- Tuesday morning didactics (9-12). Fellows are expected to attend 80% of the sessions. We encourage you to be an active participant in these seminars. If you will not be at the didactics, email the program director and Linda. The "Tuesday" Fellows seminar is made up of multiple different components, including the following:
    1. ***Work in Progress:*** fellows will present at least 2x per year. The presentations can range from informal to gather information or feedback to a polished talk that the fellow wants to practice prior to a national meeting.
    2. ***Journal Club:*** Lead one journal club session each year
    3. ***Prevention Didactic Seminars:*** These are required for the PMRs, though all fellows are encouraged to attend.
    4. ***Academic Seminars***
    5. ***Teaching Seminars***
- One 4 hour continuity clinic per week (minimum)
- Departmental Research in Progress (RIP): present at least once a year
- Biannual Scholarship Oversight meetings with mentors to review your Individual Development Plan
- AHRQ trainees must submit at least one abstract the AHRQ NRSA conference
- HRSA trainees must attend the Academy of Health annual meeting http://www.academyhealth.org/
- Attend one national conference a year
- Attend Orientation each year
- Attend Graduation each year (first or second week of June)

General Internal Medicine Fellowship

Before You Arrive

□ BMC Onboarding (for training grant stipend)

- The external link to apply for the fellowship https://jobs.bmc.org / , we will send you the position number.
- You will receive an email to give you access to the BMC Workday website for the onboarding documentation and benefit selection
- You will also receive an email to give you access to the BMC credentialing process. Make sure to take a good look at the instructions section; this process can take many months so start early. https://credential.bmc.org/practitionerhomepage/navigate_main.aspx
- There is an internal website that details onboarding. Please pay attention to the following http://internal.bmc.org/hr/NewEmployees.htm. Please pay particular attention to the Employee Compliance Link.
- Get your employee physical (bring your immunization records; you will need IGRA TB blood test (T-Spot or Q-Gold): Received within the six months prior to your start date. Must have proof of receipt, date, and result (negative or positive). If positive, you must also submit a chest x-ray.

□ VA Onboarding: The credentialing process at the VA can takes 3-6 months, so get started as early as possible. If there is a delay with credentialing, fellows hired through the VA will not have health insurance and will not get paid until credentialing is complete.
Bedford: Work with Ionie Ponde (ionie.ponde@va.gov) (781-687-2418) about administrative details and training. You will also need to be research credentialed -this can also take a while and is a separate process. Contact in Boston: Mary Grace Carini 857-364-5544. Mary.carini@va.gov

The First Week

□ Sign up for health benefits:
BMC employees sign up via Workday
VA employees https://www.opm.gov/healthcare-insurance/

COBRA: There may be a gap between the end of residency and when your benefits kick in, you are allowed a two month gap before you are charged with the ACA tax penalty.
https://www.healthcare.gov/exemptions-tool/#/results/2016/details/short-gap

The First Two Months

□ Sign up for teaching: ICM and IP teaching in Fall or Winter sessions; email comes out in August to sign up. Optional: inpatient co-attending, precepting residents and medical students

Yearly Responsibilities

□ Present at 1 departmental Research in Progress meeting (job talk for 2nd/3rd year fellows), occurs every other Tuesday 12-1pm in Crosstown conference room (alternates with CTSI noon conference)

General Academic Pediatric Fellowship

Before You Arrive

□ BMC Onboarding

- Here is the external link to apply for the fellowship (we will send you the position number) https://jobs.bmc.org.
- You will receive an email to give you access to the BMC Workday website for the onboarding documentation and benefit selection
- You will also receive an email to give you access to the BMC credentialing process. Make sure to take a good look at the instructions section; this process can take many months so start early. https://credential.bmc.org/practitionerhomepage/navigate_main.aspx
- There is an internal website that details onboarding. Please pay attention to the following http://internal.bmc.org/hr/NewEmployees.htm. Please pay particular attention to the Employee Compliance Link.
- Rachael Charles is your contact person for all credentialing questions: Rachael.Charles@bmc.org. Please begin this early and respond to emails as the process takes many months.

- Get your employee physical (bring your immunization records; you will need IGRA TB blood test (T-Spot or Q-Gold): Received within the six months prior to your start date. Must have proof of receipt, date, and result (negative or positive). If positive, you must also submit a chest x-ray.
- Sign up for teaching, BMC Birth Place (newborn nursery): Fellows generally cover ~3 weekends of newborn nursery (with some exceptions when research fellows may serve as ward attending). During this time, they supervise residents and medical students.

The First Week

□ Sign up for health benefits via Workday
https://sts.bmc.org/adfs/ls/idpinitiatedSignon.aspx?loginToRp=http://www.workday.com/

COBRA: if you have a gap between fellowship and your next position, you are allowed a two month gap before you are charged with the ACA tax penalty.
https://www.healthcare.gov/exemptions-tool/#/results/2016/details/short-gap

Yearly Responsibilities

- Present at 2 departmental Research in Progress meeting; occur every Monday 12:30-1:30pm in Vose Hall 3rd floor conference room
- Pediatric trainees are expected to apply for at least 1 grant over the course of the fellowship

Family Medicine Fellowship

Before You Arrive

□ BU Onboarding: the administrator will contact you regarding the documents needed

The First Week

□ Sign up for health benefits: BU employees http://www.bu.edu/hr/health-wellness/

COBRA: if you have a gap between fellowship and your next position, you are allowed a two month gap before you are charged with the ACA tax penalty.
https://www.healthcare.gov/exemptions-tool/#/results/2016/details/short-gap

The First Two Months

□ Sign up for teaching
First year: half day teaching (~40 sessions/yr.), IP& ICM fall or spring; FM clerkship: small group teaching, simulation, Geriatrics advanced care planning workshop
Second year: Half day precepting continuity clinic South Boston Health Center
Inpatient: 2 weeks rounding/team teaching, sometimes on PA teams
Optional: additional moonlighting shifts

Yearly Responsibilities

- Present at 1 departmental Research in Progress meeting, occur every Tuesday 3:30-4:30pm

Suggested Timeline

Year 1	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Meet with Faculty												
Create IDP												
Choose a primary mentor												
Choose research projects												
Design and conduct projects												
Submit Abstract if ready												
Present at Departmental RIP												
Update IDP												
Meet with Oversight Committee												
Year 2	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Complete ongoing projects (including manuscripts)												
Submit Abstract												
Update IDP												
Meet with Oversight Committee												
Make job list												
Schedule interviews												
Interview												
Finalize job plans												
Present at Departmental RIP												

Required Activities

Academic Seminars	Academic seminars occur during the Tuesday didactic time throughout the academic year. All fellows are expected to attend.
Research Projects: • For primary care academic fellows, PMR, and addiction fellows doing a research year: 1) secondary data analysis or systematic review project AND 2) primary data collection project.	During the course of fellowship, most fellows do ~2 research projects. In general, it is good to have one primary data collection project (which is higher risk but valuable experience) and then either a systematic review or secondary data analysis project. All fellows conduct research and educational activities to develop their skills, a portfolio of evidence of their accomplishments, and preliminary work to serve as the foundation for future endeavors. Fellows are expected to work closely with their mentors to develop novel, feasible research questions and designs. A word of caution: research projects always take far longer than anticipated. Therefore, it is critically important to start thinking about deadlines and feasibility from the start of fellowship. It is often helpful to have very clear and specific small deadlines within the larger research project, and to be aware of deadlines to submit abstracts Expectations: In applying for post-fellowship faculty positions, publications are the 'coin of the realm' as evidence of a fellow's potential as a researcher. It therefore is advisable to aim for manuscript submission during fellowship. Please give mentors/co-authors plenty of time to read these manuscripts prior to submission. Research Projects Early in the Fellowship Program: • Residency Program Research: We encourage physicians who enter our program shortly after completing residency training to submit manuscripts from their residency research project within the first few months of fellowship training. • Involvement in Ongoing Research: Fellows can also join the investigative teams of ongoing research projects. In joining an ongoing project, it is essential to establish your role in the work, your role in authorship, and the expected timeline for publications. You need to focus on projects where your role can be clearly defined and where the plan is for you to be a co-author during the course of your fellowship. Consult with your program director in weighing the pros and cons of opportunities. The Massachusetts Veterans Epidemiology Research and Information Center (MAVERIC) is an interdisciplinary research and development organization with the goal of creating a learning healthcare system within VA through application of research resources and methodologies to important clinical problems. The Center for Healthcare Organization& Implementation Research (CHOIR) program is an interdisciplinary research group at the VA focused on improving Veterans' health outcomes by developing, studying, and applying evidence-based practices that will be widely implemented and sustained. • Early in fellowship, you will also develop your own questions and projects

	• Design and conduct at least 2 of these projects • Submit 1 manuscript by end of year 1 • Submit abstract in first year (fall/winter) of secondary data
Fellows Work in Progress	*All fellows are expected to attend these sessions and present at least twice a year*. You are not expected to present a finished work or a publication. Quite the opposite - it would be better to present a series of hypotheses and analysis plans than a published paper. Do not be worried that you will not have enough, because just about any idea is enough.
Grant Writers' Seminars and Workshops	These sessions are hosted by the CTSI

Suggested Activities

Grand Rounds/Case of the Week	• Generally, encouraged to attend to maintain clinical knowledge and can obtain CME credit. Grand rounds/case of the week follow the academic calendar (do not occur over the summer) • Pediatrics: Grand Rounds Thursdays 8-9 am; Case of the Week Friday 8-9 am. Email Melissa Brennan Melissa.brennan@bmc.org to receive notifications about Grand Rounds and Case of the Week. • GIM: Grand Rounds Wednesdays 8-9 am • Family Medicine: Grand Rounds Tuesdays at 12 pm in the FGH building; Inpatient Conference Thursdays at 12 pm.
Attend grant writing course	Courses are offered through the Professional Development Office, the departments as well as CTSI lectures. Grant writing is also be a requirement for some SPH courses.
Grant Applications Fellows are encouraged to submit one grant proposal during the course of your fellowship. Before submitting a grant, it must first be sent to the departmental grant coordinator for review, as the grant and budget will have to be submitted to grants administration at	Below is a list of good grant opportunities for fellows. **BU resources:** http://www.bu.edu/research/information-for/researchers/funding-opportunities/pivot http://catalyst.harvard.edu/services/sgws/ BMC grants development: Kirsten Hinsdale Kirsten.hinsdale@bmc.org **Medicine and Public Health** http://www.massmed.org/Medical-Students/Scholarships-and-Financial-Resources/Massachusetts-Medical-Society-Scholarships-and-Grants/#.VsYwHrQrKUk http://www.ama-assn.org/ama/pub/about-ama/ama-foundation/our-programs/medical-education/seed-grant-research.page? http://www.ama-assn.org/ama/pub/about-ama/ama-foundation/our-programs/public-health/healthy-living-grants.page? **Depending on fellow's scope** http://www.mwhealth.org/Apply/Grants http://fcd-us.org/our-work/young-scholars-program

least 7 days prior to its due date.	https://www.aacc.org/community/grants/research http://mass-oncologists.org https://www.damonrunyon.org/for-scientists/application-guidelines/clinical-investigator **Pediatrics** http://www2.aap.org/sections/ypn/r/funding_awards/catch.html http://www2.aap.org/catch/funding.htm https://www2.aap.org/sections/ypn/r/resident/pdfs/sore_resources/SummaryGrantOpps.pdf http://www2.aap.org/sections/ypn/r/funding_awards/research_grants.html http://www2.aap.org/commpeds/grantsdatabase/ https://www.thrasherresearch.org/SitePages/early-career-award.aspx https://www.damonrunyon.org/for-scientists/application-guidelines/clinical-investigator APA YIA awards: https://www.academicpeds.org/research/research_YIA_APA.cfm **Family Medicine** AAFP Foundation: http://www.aafpfoundation.org/foundation/our-work/grants-awards/all.tag-individuals.html
Professional Development Lectures	https://www.bumc.bu.edu/bumg/professional-development/

Personal and Professional Wellbeing

BMC has a number of initiatives which aim to address the learning and working environment in which our fellows train. There is a "hot button" on the intranet home page in which all resources available to trainees (emotional health, physical health, occupational health, financial health, etc) are centrally housed, two mental health providers who have particular expertise and significant experience in providing assistance to trainees, a CMO-resident led committee which has established a partnership to tackle inefficiencies in our operations and seeks to reduce the number of non-physician tasks performed by trainees across the campus, and a peer-peer support program in which individuals in many departments were trained to support their colleagues. On a smaller scale, there is a pharmacy delivery pilot in which medications are delivered directly to residents' workplace (or their home) in cases in which getting to a pharmacy during working hours may be difficult, and a 'resiliency training' program which has been rolled out to several residency programs. In addition, the institution participates in a consortium of several academic medical centers (administered via Stanford) in which our trainees and faculty are surveyed on topics related to wellness, burnout, and resiliency.

A. Tools of self-assessment

In addition to the BMC survey described above, fellows are encouraged to use the Mayo Well-Being Index. At the beginning of the year you will receive an email with a unique invitation code. Your responses are not being collected by the program. The Well-Being Index is a series of 9 questions and your responses will be compared to other fellows. The website also provides a general overview of factors influencing their health and suggestions as to how to promote resiliency and reduce distress, as well as information about national resources and key publications.

B. Identification of burnout, depression & SUD

1. Fatigue and sleep deprivation

Facts:

- Individuals may vary somewhat in their tolerance to the effects of sleep loss, but are not able to accurately judge this themselves.
- Human beings need 8 hours of sleep to perform at an optimal level.
- Getting less than 8 hours of sleep starts to create a "sleep debt" which must be paid off.
- Sleep needs are genetically determined and cannot be changed.
- Human beings do not "adapt" to getting less sleep than they need.
- Although performance of tasks may improve somewhat with effort, optimal performance and consistency of performance do not!
- A decline in performance starts after about 15-16 hours of continued wakefulness.
- The period of lowest alertness after being up all night is between 6am and 11am (eg, morning rounds).
- Studies show that sleepy people underestimate their level of sleepiness and overestimate their alertness.
- The sleepier you are, the less accurate your perception of degree of impairment.
- You can fall asleep briefly ("microsleeps") without knowing it!

Recognize the Warning Signs of Sleepiness

- Falling asleep in conferences or on rounds
- Feeling restless and irritable with staff, colleagues, family, and friends
- Having to check your work repeatedly
- Having difficulty focusing on the care of your patients
- Feeling like you really just don't care

Alertness Management Strategies

- Some sleep is always better than no sleep.
- At what time and for how long you sleep are key to getting the most out of napping
- Napping Pros: temporarily improve alertness.
- Types: preventative (pre-call)operational (on the job)
- Length: short naps: no longer than 30minutes to avoid the grogginess ("sleep inertia") that occurs when you're awakened from deep sleep; long naps: 2 hours (range 30 to 180minutes)
- Timing:--if possible, take advantage of circadian" windows of opportunity"(2-5 am and 2-5 pm);--but if not, nap whenever you can!
- Cons: sleep inertia; allow adequate recovery time (15-30 minutes)
- Bottom line: Naps take the edge off but do not replace adequate sleep.
- Recovery from on-call sleep loss generally takes 2 nights of extended sleep to restore baseline alertness.
- Recovery sleep generally has a higher percentage of deep sleep, which is needed to counteract the effects of sleep loss.
-

Recognize Signs of Driving While Drowsy

- Trouble focusing on the road
- Difficulty keeping your eyes open

- Nodding
- Yawning repeatedly
- Drifting from your lane, missing signs or exits
- Not remembering driving the last few miles
- Closing your eyes at stoplights

For more information go to www.aasmnet.org/MEDSleepprogram.htm

2. Stress

Stress at tolerable levels can serve as a great motivator
• Responses to stress are highly individual
• Stress that exceeds the adaptive capacity of the individual becomes destructive
• What one physician experiences as stimulating, another can experience as overwhelming and intimidating • Fellows may be unable to use typical successful coping strategies (e.g., they may have moved to your community, leaving behind a network of family and friends; work schedules may interfere with exercise or a spiritual connection such as a temple, mosque, or church)

SIGNS OF STRESS

Basic physical, emotional, and behavioral signs of stress signal that potentially severe problems may soon occur. Obviously, no one person will manifest all the possible symptoms that indicate stress, nor is the list comprehensive. But two or three together may be enough to signal the need for intervention. Worse, in an attempt to cope with the effects of stress, fellows may turn to maladaptive behaviors. Unfortunately, maladaptive behaviors neither reduce the misery associated with stress nor resolve the stressful situation. In fact, they eventually may result in physician impairment due to the abuse of alcohol or other legal or illegal substances, any one of which is sufficient to hinder patient care.

Physical, Emotional, and Behavioral Signs and Symptoms of Stress		
Physical	**Emotional**	**Behavioral**
• Muscle tension • Myalgia, neck pain • Cold/sweaty hands • Facial tics • Fatigue • Tension headaches • Indigestion • High blood pressure • Ulcers • Heart palpitations • Back or joint pain	• Anxiety • Fear • Irritability • Hopelessness • Helplessness • Impatience • Depression • Nervousness • Guilt	• Change in appetite • Sleep disturbance • Forgetfulness • Angry outbursts • Aggression • Decline in productivity • Social withdrawal • Change in sexual interest • Increased use of caffeine, tobacco, alcohol, or drugs • Indecisiveness • Loss of concentration

Stress management techniques include:

- Exercise
- Relaxation
- Other Enjoyable Activities
- Supportive Relationships
- Emotional Expression

3. Depression

Depression is as common in physicians as it is in the rest of society. It is also a major risk factor for suicide. Physicians commit suicide at higher rates than the general population. Women physicians are at particular risk. Identifying or diagnosing depression is not always simple and, as a consequence, it often goes unrecognized. Certain factors can mask the clinical presentation. Depression can also hide behind physical symptoms. And, finally, it can cause social and sexual problems, sleep disturbance, and substance abuse. Except in an emergency, no physician should treat a colleague or family member, for depression or anything else. The criteria below are provided only to help recognize the signs and symptoms of depression.

1. Depressed mood most of the day, nearly every day, as indicated by either subjective report (e.g., feels sad or empty) or observation made by others (e.g., appears tearful)
2. Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation made by others)
3. Significant weight loss when not dieting or weight gain (e.g., a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day
4. Insomnia or hypersomnia nearly every day
5. Psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down)
6. Fatigue or loss of energy nearly every day
7. Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick)
8. Diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others)
9. Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide

4. Substance use disorders

Studies estimate that the prevalence of chemical and alcohol abuse for physicians in the US is similar to that of the general public. Alcohol is the number one substance abused by physicians, as it is in society as a whole. Alcohol is, followed by marijuana, opiates—mostly prescription opiates, stimulants, and cocaine. Unfortunately, early detection is difficult. Physicians with a SUD can continue to function at high levels for a long time, and problems are usually only identified at a late stage, when performance becomes markedly impaired. Work is usually the last area to suffer. Alcohol addiction is especially hard to determine. Not only is alcohol a legal substance, but its use is, generally, socially acceptable and even encouraged through medical traditions such as “liver rounds.” The difficulty resides in separating use from misuse or abuse. Risk factors include: stress at home and/or at work; emotional problems, self-treatment of pain, abnormal sleep patterns, and chronic fatigue; psychic stimulation; family history of substance use disorders.

The signs and symptoms of SUD include:

- Isolation and withdrawal from family, friends, church, leisure activities
- Erratic or violent behavior in the home
- Sexual dysfunction and/or promiscuity
- Legal problems, especially driving convictions
- Separation or divorce from partner

- Compulsions (e.g., excessive spending, gambling)
- Inappropriate behavior at social functions
- Deterioration in personal hygiene, clothing, and dressing habits
- Accidents, falls, motor vehicle collisions
- Recurrent tardiness
- Rounds very early or very late (to avoid others and escape scrutiny)
- Behaves inappropriately during rounds
- Shows diminished performance (poor quality of presentations, charting, dictations)
- Absent, often without a viable excuse
- Alters behavior
- Becomes the subject of "hospital gossip"
- Has alcohol on breath
- Slurs speech and/or has pinpoint pupils

Adapted from www.lifecuriculum.info

5. Unprofessional behavior & confidential process for reporting and addressing concerns

The GME office had set up an anonymous reporting site https://www.bmc.org/medical-professionals/graduate-medical-education-gme/violation-reporting that allows anyone with concerns regarding the work or treatment of Boston Medical Center trainees. In addition to residents and fellows, any BMC employee or a resident's family member can make the report. When this form is used, BMC guarantees that no demographic information such as IP address, workstation ID, or any other identifying information is captured, and the reporter will remain anonymous. The secure information provided in this form will be immediately routed to the Designated Institutional Official (DIO) Jeffrey Schneider, MD, for investigation and implementation of corrective action as warranted.

Reporting of unprofessional behavior is also done via the RL incident reporting system on the BMC Hub.

Offboarding

□ Cancel MBTA pass by May 31
□ Ensure all clinical notes are signed off
□ Turn in pager
□ Turn in keys
□ Turn in ID badge
□ BMC employees- email will be deactivated on the last day of work
□ Update address in Workday, BU Works and New Innovations

5. Curriculum

5a. Curriculum Requirements

Numerous federal training grants from the Agency for Healthcare Research and Quality (AHRQ) and from the Health Resources and Services Administration (HRSA), along with institutional funding, support the fellowship training program. The program is two to three years in length; a number of trainees stay in the program for three years. Eighty percent of our graduates go on to pursue careers in academia.

The AHRQ NRSA (T32HS022242) and HRSA NRSA (T32HP10028) training programs are similar but not identical (note: program requirements are particularly different for preventive medicine and addiction medicine because they are ACGME-accredited). Program directors in Peds, FM or GIM will occasionally reach out to you with program-specific requirements. Since the program is funded by grants, there may be changes in requirements that are not reflected in this handbook. The leadership will try to disseminate changes as soon as they are notified of any new awards. Any changes in the curriculum will support the competencies that are outlined here.

The fellowship program tracks (primary care academic fellowships, preventive medicine residency, and addiction medicine fellowships) have some differences in their requirements, based on accreditation status and funding sources for the fellowships. In general, we recommend becoming familiar with the key aspects of your specific training grant as these aspects can influence research projects, classwork and conference attendance.

The primary objective of the academic fellowship is to develop research competency, so that trainees can become successful independently supported physician-scientists; PMR fellows gain similar competency, but also gain skills in public health and population medicine; two-year Addiction Medicine fellows gain similar research competency, but also develop clinical competency in the first year that prepares them for Addiction Medicine Board certification. Clinical addiction medicine competency and leadership is the primary objective for one-year clinical Addiction fellows; a scholarly academic project, focused on research, quality improvement, or program or curricular innovation and implementation, is required during the first year as part of developing clinical and leadership competency. The development of research competency is accomplished through intensive mentoring and course work at either the Boston University School of Public Health in pursuit of a Master of Science in Population Health Research, or the Boston University Graduate Medical Sciences Master of Health Sciences Education. Research seminars, academic seminars, completion of both directed and independently developed research projects, teaching seminars, journal clubs and attendance at regional and national research/scientific meetings are also part of the core curriculum.

The competencies, goals and objectives listed below are what we believe all fellows *should be exposed to* and should be used as a roadmap to plan out your educational goals. Depending on your track and research projects, you may gain skills in one competency over another. Please review this list with your mentor and highlight the skills you would like to focus on during your fellowship. You will then review this document and your IDP during your scholarly oversight meeting to ensure you are meeting the goals you set at the start of fellowship.

The Health Equity Accelerator is committed to leveraging the power of research to ensure that we truly unlock the contributors to adverse outcomes in people of color. We will utilize the most advanced

research methodologies, including detailed clinical, demographic and claims data, qualitative and quantitative statistical analyses, and will actively engage with the community to identify barriers to health justice and solutions and create solutions to eliminate them. We will involve the community to ensure that our research is guided by and relevant to members of our community and that they participate in our scientific pursuit to understand and solve the challenges of health justice. You can find more information, information on seed grants and request a consultation at https://www.bmc.org/health-equity-accelerator/research

Academic Primary Care Fellowship Competencies, Goals and Objectives

1. Research Skills
    a. Research design
    b. Clinical epidemiology and evidence-based medicine
    c. Statistical analysis
    d. Health services research
    e. Responsible conduct of research

2. Teaching Skills
    a. Techniques for teaching learners of different levels
    b. Evaluation of learners

3. Communication Skills
    a. Scientific communications
    b. Business communication
    c. Networking

4. Professionalism
    a. Habit of life-long learning
    b. Career planning
    c. Self-evaluation

5. Leadership and Management Skills
    a. Academic leadership and administration
    b. Health care organization and delivery
    c. Advocacy

Modified from:
http://academicpeds.org/aboutUs/about_AGP.cfm
http://www.nationalpostdoc.org/?CoreCompetencies+
AHRQ LHS Competency Domains

Domain 1: Research Skills

A. Research Design-GOAL: Plan research projects that derive from testable research questions and/or hypotheses, and use sound methods for sampling, measurement, and analysis.

Objectives:

1. Formulate feasible research questions that are based in the literature and generate hypotheses appropriate to those questions.
2. Describe conceptual or theoretical framework that supports the research question.
3. Clearly define variables for each hypothesis, and identify those variables as independent variables, dependent variables, covariates, mediators, or effect modifiers.
4. Select a study design that is appropriate to answer the selected question.
5. Develop sampling and recruitment strategies for a specified study population.
6. Identify and use methods to maximize the reliability and validity of research measurements, including selection of appropriate types of variables, and use of methods to assess and enhance reliability and minimize bias.
7. Define the significance of study results, including statistical and clinical significance, and the likelihood that the study results represent the truth.
8. Demonstrate knowledge of the design and implementation of randomized controlled trials.
9. Demonstrate knowledge of the design and implementation of observational studies.
10. Describe problems with inferring causality from results of observational studies and methods to enhance causal inferences.
11. Identify common implementation issues in clinical studies, and describe the role of pilot testing and quality control in the implementation of research protocols.
12. Use research databases to collect study information, using appropriate designs, software applications, and methods to minimize error in data entry.

B. Clinical Epidemiology and Evidence-Based Medicine GOAL: Use the principles of clinical epidemiology and evidence-based medicine to critically appraise the medical literature and inform study design.

Objectives:

1. Describe and define the principles of clinical epidemiology, including incidence, prevalence, risk, prevention, diagnosis, harm, and prognosis.
2. Assess the validity and strength of results of studies:
    - Interventions for therapy and prevention
    - Diagnostic tests
    - Meta-analysis and systematic reviews
    - Surveys
    - Observational Studies
    - Secondary databases (see Appendix A)
3. Describe the precision of estimates of results of studies, using p values and 95% confidence intervals.

C. Statistical Analyses GOAL: Utilize statistical techniques to organize information and make valid inferences from the results of data collection.

Objectives:

1. Understand and apply fundamental biostatistical and epidemiological skills (see Appendix B).
2. Basic skills in statistical programing, ideally intermediate skills.

D. Health Services Research GOAL: Using principles of HSR and implementation science to design and interpret research studies in health care delivery.

Objectives:

1. Familiarity with the following key health services and outcomes research concepts:
   - Organization of health care in the US
   - Financing of health care in the US
   - Access to care
   - Quality of care
   - Cost of care
   - Outcomes
   - Insurance and benefits design
   - Health systems design
   - Vulnerable populations
   - Equity and disparities
   - Social and behavioral determinants of health
2. Evaluate the strengths and weakness of **all** of the following research designs and apply one or more of the following research designs:
   - Quasi experimental design
   - Qualitative research (see appendix B)
   - Implementation and dissemination science
   - Secondary databases (see appendix C)
3. Understand the structure and functions of complex healthcare systems:
   - Describe and give examples of key differences among health care service delivery models (e.g., HMO, Medicaid HMO, PPO, IPA).
   - Describe the concept of system integration, and define the roles of various components of the health care system (e.g., community health centers, academic health centers, private practices, home care agencies).

E. Responsible Conduct of Research. Conduct investigations and research-related activities that are professional; ethical; respect the rights, privacy and interests of human research subjects; and provide special protections for children and other vulnerable populations.

Objectives:

1. Acquire, manage, and share data collected for research purposes in a responsible and professional manner, maintaining high standards for protecting confidentiality, avoiding unjustified exclusions, sharing data, and adhering to copyright law.
2. Publish research findings in a responsible, collaborative, legal and ethical manner, assuring that published work is accurate, complete, clear, unbiased and free of misrepresentation; appropriately assigns authorship; fairly acknowledges the contributions of others; and clearly attribute words or ideas of others to the original authors.
3. Clearly communicate with collaborators about the shared research and terms of collaboration.
4. Conduct research involving human subjects in an ethical manner that includes respect for persons, beneficence and justice.
    - Treat individuals as autonomous agents and provide protection to those individuals with diminished autonomy.
    - Conduct research in such a way as to maximize possible benefits and minimize potential harm.
    - Select research subjects in an unbiased manner, neither exploiting populations that may be easily available or compromised, nor excluding patients who may benefit.
    - Obtain informed consent from research subjects that is given freely and is based on an understanding of risks and benefits.
    - Maintain confidentiality and privacy of data and patient records.
    - Describe the role of institutional review boards (IRBs), and properly prepare consent forms, applications, and protocol amendments to IRBs.
5. Provide special protections in research studies to vulnerable populations including children.
6. Define research misconduct and differentiate between error and misconduct; describe procedures that protect informants ("whistleblowers") and subjects of allegations; and describe the responsibilities of research institutions and federal agencies in the inquiry, investigation and adjudication of alleged research misconduct.
7. Define conflict of interest, financial or other obligations, and describe requirements for reporting conflicts to institutional authorities.

Domain 2: Teaching Skills

A. Teaching GOALS: Effectively teach students, colleagues and other professionals, and lay groups, assessing learner needs, providing timely and constructive feedback, developing plans for improvement, and using sound evaluation tools and processes.

Objectives:

1. Apply principles of adult learning theory to meet the specific needs of individual learners or groups of learners as a routine part of the educational process. These include:

    •Assess the level of the learner
    •Actively involve learners in the learning process
    •Encourage mutual feedback
    •Teach information in the context within which it will be applied, emphasizing the application as much as the acquisition of knowledge
    • Encourage learners to be self-directed and to identify and pursue their own learning objectives

2. Describe one's own preferred teaching/learning style and consider how this may affect learners with different learning styles; offer learners choices when possible, including active learning options.
3. Identify in each teaching encounter your educational objectives and the learner's educational needs; use this information to direct your selection of content and teaching methods.
4. Develop a repertoire of teaching and supervision methods that enhance a learner's knowledge base, clinical skills, and attitudes/behaviors, including:
    - Bedside teaching
    - Teaching during work rounds
    - Lectures or case-based discussions using multimedia presentation methods
    - Role modeling for learners, with articulation of thought processes
    - Written instruction
5. Provide learners with sensitive, timely, constructive and behaviorally specific feedback, and follow-up by helping them develop plans to improve in identified areas of weakness or concern.

6. Evaluate the performance of learners based on pre-defined criteria, using evaluation methods that match the performance task.

B. Evaluation of Learners GOAL: Develop and use sound methods and processes to evaluate learners, based on predefined learning goals and objectives.

Objectives:

1. Describe the typical effects of evaluation on the motivation and learning priorities of learners. Explain how learners benefit from knowing their learning goals at the start of an educational experience.
2. Define the primary qualities of sound learner evaluation methods, including validity, reliability, generalizability, feasibility, and usefulness to the learner.
3. Describe the key features of a sound evaluation form (e.g., specificity of content, explicit criteria for quality ratings, provision for written comments, and knowledgeable use by evaluators).
4. State the importance of feedback as an essential element of the evaluation process, explaining how frequent and timely formative evaluation and follow-up promote learners' success at the time of summative evaluation.

C. Curriculum Design GOALS: Develop a draft curriculum for either an educational program or to implement research findings.

Objectives:

1. Describe the six step process (Kern) of curriculum development.
2. Analyze the importance of the sequence when developing materials.
3. Write objectives to employ action verbs.

Domain 3: Communication Skills

A. Scientific Communication GOAL: Summarize, present, and publish the results of research, in order to communicate, teach, and disseminate knowledge, using standard oral and written formats.

Objectives:

1. Write and submit an abstract for presentation to a regional or national meeting.
2. Prepare and present research results for oral and poster presentations.
3. Prepare and submit a manuscript for publication in a medical journal or book.
    a. Identify the specific sections of a manuscript that is being prepared for publication in a medical journal, and describe the content of each section.
    b. Demonstrate the proper formatting of numerical results, including issues of numerical precision and methods of summarizing numerical data, reporting confidence intervals and p values, and reporting results of statistical analyses.
    c. Demonstrate the proper formatting of bibliographic information in a scientific manuscript.
    d. Choose the medical, psychological, or educational journal best suited for the publication of different types of research results.
4. Describe the uniform requirements for manuscripts submitted to medical journals and the specific requirements of common journals.
5. Describe how to address the concerns of journal reviewers and editors and to appropriately respond to their comments.
6. Identify funding priorities of private and government funding agencies and prepare and submit a grant proposal for funding.
7. Become skilled at using verbal and non-verbal communication skills to manage and motivate people and win their support for your agenda.

B. Business & Networking Communication GOALS: Use communication skills for advancement of career and organization.

Objectives:

1. Communicate your ideas effectively to a variety of audiences, including community-based organizations, legislators, the media, and other key stakeholders.
2. Explain how to translate the results of scientific studies for communications to lay audiences and the media.
3. Identify and develop a network of people who can help you to succeed, and whom you can help to succeed.

Domain 4: Professionalism

A. Habit of life-long learning GOAL: Demonstrate a commitment to self-assessment and improvement, and proficiency in the development and pursuit of life-long learning plans.

Objectives:

1. Efficiently use effective approaches to acquiring needed information, and continually strive to integrate best evidence into one's daily practice.
2. Demonstrate a habit of critical thinking, evidence-based decision-making and continuous quality improvement.
3. Develop networks and cultivate information sources among professional colleagues.

B. Career Planning GOAL: Formulate career plans to make the transition from training to independence in an academic or public health setting.

Objectives:

1. Identify one's personal and professional abilities and goals and assess how various career options will facilitate accomplishment of these goals.
2. Identify potential sources of mentorship, within and outside your institution, including membership in a professional society.
3. Identify and use one or more mentors for information and guidance in designing, implementing, and refining a career plan.
4. Solicit feedback as a mentee and a mentor.
5. Prepare an elevator speech and cover letters.
6. Identify realistic and aspirational goals for career next steps.

C. Self-evaluation GOAL: Demonstrate a commitment to self-improvement.

Objectives:

1. Assess one's own strengths and weaknesses with respect to professional knowledge and skills, and identify a process to remediate or make allowance for them in information gathering, decision-making, and professional development.
2. Cultivate the habit of continuous inquiry to expand one's knowledge.
3. Seek and incorporate feedback and self-assessment into a plan for professional growth and provide constructive feedback to others.
4. Describe one's own style of learning, gathering and storing information, and decision-making, and translate this understanding into an approach to professional development.
5. Identify the environments and support systems needed to reach one's potential.

Domain 5: Leadership and Management Skills

A. Academic Leadership and Administration. Practice the skills required to be a successful leader in the academic setting, including visioning, management, finance, interpersonal skills, and negotiation.

Objectives:

1. Proactively manage your time, based on a balanced prioritization of activities that are important in the long term vs. urgent in the short term.
2. Distinguish the goals, methods, and styles of a leader, in contrast to a manager.
3. Develop skills in the management of personnel, including individuals with a variety of work styles and personality types.
4. Develop a repertoire of strategies to lead and motivate people.
5. Run meetings efficiently and get the job done with a minimum of interpersonal conflict.
6. Identify and practice strategies that physicians can employ in a managed care system to advocate for services for their patients.

C. Advocacy GOAL: Understand and apply the principles and methods of patient advocacy.

Objectives:

1. Educate learners to develop and support advocacy programs as part of their future careers, effectively role model advocacy activities, and mentor trainees who conduct advocacy projects.
2. Describe the essential qualities of community partnerships, including shared vision, complementary strengths, willingness to collaborate, and agreed-upon boundaries; work effectively with community partners/agencies and as a member of multidisciplinary teams.
3. Articulate the principles and use the methods of population-based health to assess the needs and evaluate the health outcomes of your practice and community.

D. Quality Improvement GOAL: Understand and apply the principles of quality improvement.

Objectives:

1. Understand the relationship between clinical practice and population health.
2. Understand how to leverage data to drive practice change.

Map of Curriculum to Educational Goals

Legend for Learning Activities

AS- Academic Seminar
RIP- Research in Progress
TS- Teaching Seminar
MS- Master of Science
PL- Prevention Lecture
JC- Journal Club

Domain 1: Research Skills	
Principal Educational Goal	Learning Activity
A. Research design	MS
B. Clinical epidemiology and evidence-based medicine	MS, AS
C. Statistical analysis	MS
D. Health services research	MS
E. Responsible conduct of research	MS, AS
Domain 2: Teaching Skills	
Principal Educational Goal	Learning Activity
A. Techniques for teaching learners of different levels	TS
B. Evaluation of learners	TS
Domain 3: Communication Skills	
Principal Educational Goal	Learning Activity
A. Scientific communications	AS, JC, RIP
B. Business communication	AS, JC, RIP
C. Networking	AS
Domain 4: Professionalism	
Principal Educational Goal	Learning Activity
A. Habit of life-long learning	AS, JC, RIP
B. Career planning	AS
C. Self-evaluation	AS, TS
Domain 5: Leadership and Management Skills	
Principal Educational Goal	Learning Activity
A. Academic leadership and administration	AS, PL
B. Health care organization and delivery	PL
C. Advocacy	AS, PL

5b. Teaching Opportunities

In addition to the lecture series, fellows may have other teaching requirements based on their discipline. Fellows should track their teaching experiences in the Individual Development Plan. There is no requirement for direct observation of teaching, however fellows are strongly encouraged to reach out to faculty or peers for feedback as this is very valuable in enhancing teaching skills.

Introduction to Clinical Medicine

ICM 1: course for second year medical students that runs in both the Fall and Spring semesters every other week from 1PM-4PM (at BMC or the VA). Invitations for participation usually go out by August. Contact Lorraine Stanfield who is the course director for questions lstanfie@bu.edu.

- Teaching basic physical exam skills and each week focuses on a different organ system
- Fellows help by teaching and precepting sessions with groups of 2-6 students
- Breakout small group sessions where you teach the students and allow them practice on each other. These occur in the Simulation Center in the basement of the Evans building
- Practice on real patients in the hospital (time permitting)

ICM 2: course for second years that integrates history and physical exam, runs in January and February. Invitations for participation usually go out in August.

- Occurs over 4 sessions, approximately 2 hours each
- Your role is to give feedback on 2nd year med students' presentations AND write ups of history and physicals
- Teaching also includes bedside review of key findings on history and physical as a team
- Ratio is 1-2 preceptors in charge of 3 students

Integrated Problems

Integrated Problems 2A is a course in which students continue to systematically dissect clinical cases, building upon the skills developed during Integrated Problems IA and IB. In addition to the learning objectives in the first year, by the end of this semester students should be able to differentiate subjective and objective information, identify further clinical data needed to assess a clinical case, and develop assessments and plans for each case. Students are continually expected to act in a professional and respectful manner of their classmates and their facilitators.

Integrated Problems 2B continues to build on the skills and structure of Integrated Problems IA, IB, and 2A. During this semester, students will progress through cases more quickly and replace their independent research with research done during their group time.

Course Director: Megan Young, M.D.
Course Coordinators: Ginny Potter and Patricia Ward

Other Opportunities

Other opportunities exist for other teaching experiences, if interested, reach out to your program director.

- Co-teaching Ward month (and ADTC at the VAMC)
- Precepting Resident Clinic (min 6 mos. commitment)
- Facilitator for BUSM I or II integrative problems (IP) course (case-based basic science education)

- Physical Diagnosis rounds for MS-3 clerks
- Teaching students/residents clinical breast exam using standardized patients
- Precepting Primary Care morning reports. Happens during the Ambulatory blocks for Primary Care residents which are twice per year, act as faculty preceptor for resident presenting a case
- Precepting preclinic conference
- Working with medical students or public health students on research projects

6. CTSI Consults, Services and Tools
A complete list can be found at https://www.bu.edu/ctsi/

BU Bioinformatics Hub: The mission of the Hub from its inception has been to increase the bioinformatics profile at BU in four ways: through collaboration, education and outreach, mentorship, and as a research conduit.
Biomedical Bridge Builders: The initiative is designed to accelerate the commercialization of clinician-inspired medical device innovations by partnering with graduate engineering biodesign and product development teams.
Center for Regenerative Medicine: Induced Pluripotent Stem Cells (iPSCs) generated by forced overexpression of defined transcription factors in somatic cells hold great promise for human disease research and personalized medicine. The Center for Regenerative Medicine (CReM) iPSC Core was created to expedite the use of iPSC technology by providing essential services and support to on-campus investigators and the broader scientific community.
CRITIC: Clinical Research Informatics & Technology Consults: The CRITIC consultations help BMC/BU researchers identify, develop, and implement the effective and efficient use of information technology and informatics in their clinical studies. For a free One-on-One consultation contact Christopher Shanahan, MD, MPH @ christopher.shanahan@bmc.org
General Clinic Research Unit: The GCRU provides resources for protocol implementation across BUMC, BMC, BU and CRC. We will assist studies that may need support with inpatient participants. We offer clinical and non-clinical support, that may accommodate your participants by providing services in the ambulatory care setting or during an interview visit in your work space. If you also need assistance with recruitment, regulatory documents including IRB submissions, data entry, or any additional administrative support.
Contact us: 617-358-7558 or 617-414-1960. Let us assist you with implementing a productive and successful study outcome.
Grant Writing & Editing Services for BUSM and Non-BUSM Investigators: Non-BUSM Investigators: Grant writing, editing and formatting services for NIH and other federal applications are provided as part of a CTSI collaboration with Boston Medical Center's Development Department.
i2B2: The BU i2b2 (Informatics for Integrating Biology and the Bedside) is an NIH-funded effort to provide a standardized data architecture and informatics capabilities to combine clinical patient data with demographic, biologic, and genomic data for use in clinical research projects. An easy-to-use aggregate data query tool, i2b is accessible via the internet using the i2b2 web client.
openSESAME: CTSI created openSESAME to identify relationships between datasets based on patterns of gene coexpression. The so-called "Search of Expression Signatures Across Many Experiments," allows the scientific community to apply this approach to what is currently about 75,000 Affymetrix human gene expression profiles obtained from the Gene Expression Omnibus (GEO) at the National Center for Biotechnology Information (NCBI).
Protocol Builder: is now available at Boston University. Protocol Builder is secure, cloud-based technology that provides step-by-step guidance for developing research protocols. This new protocol writing technology can help you write investigator-initiated protocols that adhere to IRB and regulatory standards in less time with less hassle. It provides organization, guidance, and collaboration tools for your observational or interventional research protocols. Protocol Builder is developed and hosted by BRANY (Biomedical Research Alliance of New York), and can be accessed via your computer or iPad app. Read more about Protocol Builder.

Research Job Connection: Connecting PI's with clinical or epidemiological research professionals. We have created a pool of BMC/BU staff who are already familiar with systems/polices and have CITI/GCP credentials.

Research Networking Blog: If you are new to Research Networking then you might be interested to learn that Research Networking commonly employs online applications to discover and use research and scholarly information about people and resources.

Research Recruitment and Retention Program (R3): Delays in recruiting participants are a major barrier to progress in clinical and translational research. BU CTSI's Research Recruitment and Retention Program (R3) exists to help researchers succeed in efficiently meeting participant recruitment goals for clinical and translational research studies, including randomized clinical trials. We assist both investigator-initiated and industry-sponsored research at BMC, BU, and our partner institutions. Services offered: Initial consultation, recruitment strategies, and monthly roundtable speakers.

Trial Innovation Network: (TIN) is a new collaborative initiative within the CTSA Program and is composed of three key organizational partners, the CTSA Program Hubs, the Trial Innovation Centers (TICs), and the Recruitment Innovation Center (RIC that seeks to address critical roadblocks in clinical trials and accelerate the translation of novel interventions into life-saving therapies).

Trialspark: Advanced clinical trial recruitment platform. Using machine learning and targeting approaches to engage the exact patients needed. Helping recruit faster and more efficiently for clinical trials. This is accomplished by directing qualified patient leads to you, but also by making sure that researchers and study coordinators can screen trial participants as effectively and efficiently as possible.

7. Master Degree Programs at BU SPH

Unless entering with a prior Masters degree, fellows will complete the Master of Science in Population Health Research, or Health Sciences Education. Additional courses outside of the degree are required for PMR residents for board certification. Fellows who enter fellowship with a prior Master degree may still audit courses to enhance their research skills and/or public health knowledge. For questions regarding the degree programs refer to SPH's website:

https://www.bu.edu/sph/education/degrees-and-programs/ma-ms-programs/

Each degree program gives students methodological skills to design and execute innovative research projects in a peer-review setting. The MS program is approximately two years and requires a major paper. Fellows are not permitted to take more than 11 credits per semester to maintain part-time status. Otherwise, scheduling classes is based on the requirements of the degree program, fellows' other commitments, and fellows' preferences. Oftentimes, the fellows' courses are taught in the afternoon and evening, permitting the fellows time during the day to be engaged in the other aspects of the fellowship, especially their research projects and seminars. All MS students will complete at least 32 credits and need to maintain a minimum grade point average of B (3.0) and grades of at least a B in all required courses. All fellows are expected to graduate within one year of leaving the fellowship.

Talk to your fellowship director, research mentors, SPH advisor, SPH curriculum coordinator, and past/upper-level fellows for advice about course selection. You can also email professors of potential courses to meet before the course starts if you have questions or to ask for the syllabus of the course. BU posts past evaluations of courses and professors on their website.

The fellowship program covers all costs associated with the SPH degree program, except for the $120 program fee each semester (except summer sessions). When you receive your SPH bill, simply pay the fee and forward the bill to Linda. (NOTE: You do NOT need to pay the entire bill and be reimbursed, the fellowship will directly pay the bill.) It is important to send the bill to Linda ASAP because it takes a while for the bill to be processed, and if not processed by a certain time, it can delay your ability to register for courses. Notify Linda if you receive any late notices.

All Masters candidates in the School of Public Health must submit a graduation application online. This form is available approximately three months before graduation each semester. Please make note of the date for graduation applications. Look out for notices from the Registrar's Office or your curriculum office for details.

If there are changes in your coursework, or in discussions with your advisors your coursework will end in the fall of your second year and you will need additional credits for continuing study, please let Linda know as soon as possible so that we can budget for these changes. Before enrolling in a course not on the lists below, check with your SPH mentor for approval. Meet with your SPH mentor at least once each semester to check in regarding the progress to your degree.

- Class registration, financial information and bills, official grades are on BU Student Link: www.bu.edu/studentlink

- Class syllabi, lecture notes, readings, grades and assignments are often posted on Blackboard: https://learn.bu.edu
- Contact your course coordinator at SPH to create account
- Printing in Library
- As a BU student you get $12 per semester loaded on your Library copy card
    - To obtain, go to the Library on the 12th floor of the med school
    - Show your BU student ID to get the card for the first time
    - For PMRs: at GME orientation the CIR union gives you a separate copy card with $5 pre-loaded

Important SPH contacts:

- Registrar, sphregr@bu.edu
- Dr Andrew Stokes runs MS in Population Health
- Dr Ann Aschengrau runs the MS in Epidemiology
- Your curriculum coordinator—valuable resource for everyday questions on your degree program
    - Health Services and Systems: Lunise Joseph, lunise@bu.edu
    - Epidemiology: Emily Katz, erkatz@bu.edu

EXAMPLE FOR THE SPH SCHEDULE

REQUIRED PRE-REQUISITE* Students who have not taken a graduate level biostatistics course must complete **one** of the following courses before starting PH 842, PH 843, PH 844:	**SEMESTER**
BS 700: Essentials of Biostatistics (2)	Fall (offered in an intensive format in August, credits count towards fall)
BS 704: Essentials of Biostatistics (3)	Fall, Spring
PH 717: Quantitative Methods for Public Health (4)	Fall, Spring
Essentials of Biostatistics** (0)	Offered in an intensive 4-week format and taught online.
REQUIRED COURSES	**SEMESTER**
PH 842: Research Theory and Design (2)	1st half of Fall
PH 843: Introduction to Quantitative Methods for Public Health and Health Services Research (2)	2nd half of Fall
PH 844: Introduction to Qualitative Analysis for Public Health and Health Services Research (2)	2nd half of Fall
PM 790: Pro-Seminar: Tools for Project Management, Communication and Budgeting (2)	Spring (last week of winter break; credits count towards spring)
PM 831: Implementation Science: Linking Research to Practice (2)	1st half of Spring
PM 860: Contemporary Structures of Health Services (2)	1st half of Fall

PM 862: Theory in the Analysis of Health Services (2)	2nd half of Fall
PM 950: Applied Studies in Health Services Research (4)***	Spring, Summer
METHODS COURSEWORK Students must complete at least **one** of the following:	**SEMESTER**
PM 821: Advanced Quantitative Methods for Health Services Research (4)	Spring
PM 828: Advanced Qualitative Methods for Health Services Research (4)	Spring
POLICY COURSEWORK Students must complete **one** of the following:	**SEMESTER**
PM 740: Comparative Health Systems and Policy in Industrialized and BRIC Countries (4)	Fall

Approved Elective Courses (Other elective/policy courses can be taken with prior approval).
BS 723: Intro to Statistical Computing (4)
BS 730: Introduction to R: Software for Statistical Computing (4)
BS 750: Essentials of Quantitative Data Management (2)
BS 775: Applications of Statistical Methods in Clinical Research (4)
BS 805: Intermediate Statistical Computing and Applied Regression Analysis (4)
BS 810: Meta-Analysis for Public Health and Medical Research (4)
PH 801: Community Engaged Research: Theory, Methods and Applications (4)
PM 807: Introduction to Cost-effectiveness Analysis (2)
PM 824: Theory and Research on Organizations (4)
PM 826: Health, Illness and the Use of Health Services (4)
PM 830: Developing Patient-Based Health Status and Outcomes Measures (4)
PM 833: Health Economics (4)
PM 837: Evaluating Health Care Quality (4)
PM 842: Health Economics for Health Services Research (4)
PM 855: Cost Effectiveness Analysis and Decision Analysis (4)
QST OB 844: Managing Organizational Change (4)

Approved Policy Courses
PM 740: Comparative Health Systems and Policy in Industrialized and BRIC Countries
PM 760: Health Policy-Making
PM 834: Health Regulation and Planning
PM 844: Health Policy and Policy-Making for Public Health Researchers

MS in Epidemiology

Year 1		
Fall (10 credits)	**Spring (8 credits)**	**Summer I/II**
8/14-8/18 BS 700 (2) Essentials of Biostatistics M-F ALL DAY **EP 714** (4) Introduction to Epidemiology **EP 749** (4) Applications of Introductory Epidemiology	**BS 723** (4) Introduction to Statistical Computing **EP 813** (4) Intermediate Epidemiology	Elective credits from approved list (or PMR electives)
Year 2		
Fall (10 credits)	**Spring (8 credits)**	**Summer I**
EP 722 (2): Data Collection Methods for Epidemiologic Research **EP 850** (4): Applications of Intermediate Epidemiology Electives (4)	**EP 817** (4) Guided Epidemiology Study OR **EP 912** (4) Directed Research in Epidemiology	Depending on your project, EP 817 Guided Epi Study or EP 912 Directed Research in Epi may extend into Summer 1.

Approved Elective Courses (Other elective courses can be taken with prior approval).

- EP 790 Epidemiology of Mental Health Disorders (2)
- EP 730 Epidemiology of Vaccine Preventable Diseases (2)
- EP 735 Cancer Epidemiology (2)
- EP 740 Introduction to the Epidemiology of Aging (2)
- EP 748 Drug Epidemiology (4)
- EP 751 Cardiovascular Epidemiology (4)
- EP 755 Infectious Disease Epidemiology (4)
- EP 758 Nutritional Epidemiology (4)
- EP 759 Reproductive Epidemiology (4)
- EP 762 Clinical Epidemiology (4)
- EP 763 Genetic Epidemiology (4)
- EP 764 Epidemiology of HIV/AIDS (2)
- EP 775 Social Epidemiology (4)
- EP 784 Epidemiology of Tuberculosis (2)
- EP 790 Mental Health Epidemiology (2)
- EP 820 Perspectives on Epidemiologic Studies (2)
- EP 857 Design and Conduct of Cohort Studies (2)
- EP 858 Design and Conduct of Case-Control Studies (2)
- BS 722 Design and Conduct of Clinical Trials (4)
- BS 852 Statistical Methods for Epidemiology (4)
- BS 805 Intermediate Statistical Computing (4)
- BS 857 Categorical Data Analysis (4)
- BS 750 Essentials of Quantitative Data Management (2)
- EH 757 Environmental Epidemiology (4)

(NOTE: For PMR fellows, additional required courses in Health Policy and Environmental Health do NOT count toward the MS Epi degree.)

Students will be required to give an oral presentation of their research project from EP 817 Guided Epidemiology Study or EP 912 Directed Research in Epidemiology to faculty members in the Department of Epidemiology and other interested parties. The presentation will be evaluated by faculty member(s) who supervised the research and the Director of the MS program.

MS in HSE

The new Health Sciences Education (HSE) program provides a wide range of practical training for health sciences educators in the principles of education and teaching applicable to their specific health sciences discipline. HSE is offered through the Division of Graduate Medical Sciences (GMS), in collaboration with the School of Education (SED). The HSE program aims to develop expertise in teaching and education, specifically in Health Sciences professions. The program prepares students to emerge as leaders in education in their health sciences field. Students develop advanced skills in curriculum development, classroom and clinical teaching, student and program evaluation and how to evaluate and apply the best available evidence to inform their educational practices**.**

Required Courses
GMS HS 701: Principles of Health Sciences Education 1
GMS HS 702: Principles of Health Sciences Education 2
SED CT 721: Analysis and Design of Curriculum
SED CT 750: Principles for Curriculum Design and Teaching
GMS HS 704: Fundamentals of Learning and Teaching Modalities in Health Sciences
GMS HS 706: Introduction to Research Methods in Health Sciences Education
GMS HS 707: Evaluation & Assessment for Health Sciences Educators
GMS HS 800: Practicum Seminar
GMS HS 801/802: Practicum

Elective Courses
Electives can be taken from School of Medicine, GMS, SED or SPH based on student's interest. MS HSE students must take a minimum of 8 elective credits.

Sample Electives:
•GMS MA 742: Med Anthro Design & Qualitative Data Analysis (3 cr)
•GMS MA 710: Med Anthro & Qualitative Res Method/ Design (3 cr)
•GMS MS 706: Intro Computer Appl in Healthcare/Biomedicine (4 cr)
•GMS MS 677: Stem Teaching (2 cr)
•SPH PM 811: Health Services Research and Methods (4 cr)
•SPH EP 721: Survey Methods for Public Health (4 cr)
•SED RS 751: Program Evaluation (4 cr)
•SED EM 680: Distance Ed Research & Development (4 cr)

8. Clinical Practice

Family Medicine

Continuity Clinic	Fellows will participate in one half-day session per week in the Ambulatory Care Center, a community health center or another approved option
Hospital Rounding	Each fellow will do two weeks per year (24 hour on-call during rounding), working with a seasoned family medicine hospitalist
OB (optional)	Fellows will be paid for each 12-hour shift they cover on labor & delivery

Internal Medicine

The sites in which GIM fellows participate in clinical work are dependent on funding and track. PMR residents complete 80 clinical sessions per year including urgent care sessions and Preventive Medicine clinical sessions. VA funded fellows see primary care patients at the Edith Nourse Rogers Bedford VA or the Boston VA Women's Health clinic (WH fellows). BMC fellows generally have 1 clinical session per week in Shapiro Adult Medicine. Other fellows have made additional arrangements to do clinical work outside of BMC (e.g. at community health centers, Healthcare for the Homeless).

Adult Medicine	Fellows participate in one half-day session per week in the primary care clinic on the 5th or 6th floor of Crosstown.
Shapiro Women's Health	Fellows may choose to participate in one half-day session per week at the Women's Health Group on Shapiro 5A. The multidisciplinary team approach emphasizes preventive care and emotional well-being. They serve women of all ethnic and socioeconomic backgrounds, focusing especially on the needs of women in Boston's underserved communities.
VA Women's Health	VA Women's Health fellows have two ½ day clinics weekly: one is a primary care continuity clinic and the second is a dedicated teaching clinic. A fellow manages a 0.1 FTE panel (approximately 110 patients) as the PCP. Typically, fellows have seen patients in the Comprehensive Women's Health Center (WHC) in Brockton, but some fellows have worked at the Brockton WHC in the past.
VA Bedford	Primary Care located in Building 78 provides preventive care services and disease management. Primary Care is provided through a Patient Aligned Care Team (PACT) partnership. The team includes Veterans, providers, nurses, and clerks to best meet the Veterans personal health care goals. Primary Care Behavioral Health (PCBH) and Primary Care at Bedford VAMC are co-located to support your same-day behavioral health needs.

Pediatrics

GAP fellows complete clinical requirements in the Yawkey urgent care clinic/medical student teaching clinic and newborn nursery OR inpatient wards. PMR residents complete 80 clinical sessions per year including urgent care sessions and Preventive Medicine clinical sessions. Examples of clinical sites for pediatric academic fellows are listed below.

1. BMC Birth Place* (newborn nursery)	The fellowship covers three 3-day weekend shifts per year in the BMC Birth Place (Menino 4W) from Friday at 8am to Monday at 8am (morning rounds and on-call overnight). Bobbi Philipp is the Director of the Newborn Nursery. Generally, she creates the schedule in April and will reach out to you for specific weekends that will or will not work. Most nursery weekends begin on Friday at 8 am and conclude on Monday morning at 8 am. It is HIGHLY recommended that before your first weekend covering the NBN, you reach out to Bobbi and find a time that you can shadow to get a sense of how rounds work, etc. Prior to each weekend, Bobbi sends emails with reminders about protocols for the NBN. On the Thursday before your shift, you will receive sign out from the current attending, and you should send the Monday attending sign out on Sunday night/the day before your shift ends. Prior to each weekend, Bobbi will email you with all of the details about the nursery; please read these emails carefully. You generally will be scheduled to work with an experienced NP.
2. Urgent Care Clinic	GAP fellows participate in one afternoon session a week.
3. Outpatient pediatrics on Yawkey 5	Outpatient pediatrics on Yawkey 6 at the present time includes: acute care shifts. All vacation requests MUST be made at least 90 days in advance with Rebekah Kahal. Note: Most GAP fellows will do a half day of clinic/week on Yawkey 6; PMR fellows will do ~2 half day clinics in their first year, and then will do ½ day + choices of Preventive Medicine clinics to fill the other ½ day during their second year

Incident Reporting

Clinicians and other staff are highly encouraged to report any possible patient safety concerns through our online and confidential reporting platform, called RL it can be accessed from the QUICK LINKS tab at the top of the BMC Intranet homepage. A patient safety specialist is available by page 24/7 at 7233 (SAFE) for questions or assistance with serious patient safety issues.

9. Mentor List

Anne Aschengrau, DSc	Investigating the impact of air and water pollution on health. Outcomes include adverse pregnancy, birth, mental health and other neurological outcomes.
Sarah Bagley, MD, MS	Areas of interest include: engagement of adolescents and young adults in care for opioid use disorder integration of family into addiction care for adolescents and young adults prevention of HIV in adolescents and young adults with substance use disorders development of tailored addiction treatment for those affected by intimate partner violence or commercial sex work
Megan Bair-Merritt, MD, MSCE	1. Multicomponent, mixed methods evaluation of complete behavioral health integration into primary care pediatrics 2. Secondary data analysis focused on predictors and correlates of teen dating violence
Tracy Battaglia, MD, MPH	1. **Project SUPPORT** Socio-legal services for Underserved Populations thru Patient navigation to Optimize Resources during Treatment among newly diagnosed Breast & Lung cancer patients. To measure the impact of Medical Legal Partnership (MLP) enhanced patient navigation on: patient-reported outcomes: distress, needs and satisfaction and cancer treatment: timeliness & quality of care. Project ideas: 1. I-HELP validation using the Level of Legal Needs form as "gold standard" 2. Factor analysis of modified CaNDI (without the suicidality question) 3. Stakeholder engagement papers 3a. Designing a community based research project 3b. Governance piece 2. **Boston Breast Cancer Equity Coalition**: In the City of Boston, inequities in breast cancer mortality persist among Black, non-Hispanic women. To date, the group has collected and analyzed available city and state data to help inform the understanding of the root causes of the inequity, researched other related initiatives like those in Chicago and Memphis, and held a panel on patient navigation that included navigators, patients and researchers. The coalition members have determined that the immediate next steps are additional data collection and analyses (a "deep dive" of the data) to more fully understand causes of these inequities. This information will be used to develop and implement strategies and interventions to achieve equity in breast cancer outcomes for Black, non-Hispanic women in Boston. Project ideas: 1. Secondary analysis of Massachusetts Cancer registry of Black and White, non-Hispanic women in Boston 2010-2014. 2. Assist with primary data collection and analysis of patient navigation services provided breast cancer patients in the city of Boston.
Dan R. Berlowitz, MD, MPH	1. Assessing and improving the quality of health care in both ambulatory and long-term care settings. 2. The management of chronic medical conditions such as diabetes and hypertension.

Barbara Bokhour, PhD	An expert in the use of qualitative research methods for health services research, her research involves the practices of health professionals, patient-provider communication and the effect of culture on communication, racial and ethnic disparities in health, and the lives of individuals with chronic illness. In addition, she has expertise in the use of qualitative methods in implementation research, leading the qualitative core of the HIV/Hepatitis Quality Enhancement Research Initiative at the Bedford VA.
Ann Borzecki, MD, MPH	Her research has focused on measuring the quality of and improving chronic disease care, especially of cardiovascular diseases such as hypertension. Recent work has also focused on how to measure and improve patient safety.
Martin Charns, DBA, MBA	Research interests include organization design and change, implementation of evidence-based practices, coordination of care, quality improvement, systems redesign and patient safety.
Julien Dedier, MD, MPH	1. The influence of ethnic, cultural and environmental factors on risk-related behaviors for cardiovascular disease and cancer among underprivileged urban minority groups. 2. Application of computer-assisted communication technologies to create behavioral interventions tailored to the ethnic, cultural and contextual characteristics of urban minorities of low socioeconomic status.
Allen Gifford, MD	Research interests include quality of healthcare for HIV and for Hepatitis, with special emphases on implementation of quality improvement measures, patient-centered care, and patient self-management.
Brian Jack, MD	Current projects all of which have large data sets for analysis. 1. Project ACHIEVE (PCORI, Co-PI) Jan 2015 – December 2017. This is a subcontract to a 15 M dollar award to the University of Kentucky to investigate transitions of care from the patient perspective. We have qualitative data for over 200 patients and caregivers 2. RED-D 1 R01 HS019700-01A1 (AHRQ, PI) Feb 2012- Jan 2017 entitled Reducing Hospital Readmission Among Medical Patient's with Depressive Symptoms. This is a RCT where all subjects who screen positive for depressive symptoms receive the ReEngineered Discharge and those in the intervention group receive a post-discharge mental health intervention with all cause 30 day readmission rate as the outcome variable. 3. Gabby R01: MD 006213 - 01 A1 Using Innovative Communication Technology for the Health of Young AA Women January 2012- December 2017 National Institute on Minority Health and Health Disparities (NIMHD). This project builds on previous work to expand the web based health promotion program for young African American women using the embodied conversational agent called "Gabby" and to carry out a national multisite RCT. 4. Two supplemental awards to develop improvement in immunization rates and to do background work on male system 5. "Kellogg Gabby" P3024018 1/2014 – 12/2015 W. K. Kellogg Foundation - The Gabby Preconception Care System: The goal of this project is to review and revise current Gabby system content and add new content and features to prepare the system for national dissemination.

	6. "Kellogg Gabe" July 2015 – June 2018 W. K. Kellogg Foundation (WKKF) This grant provides funds to develop and test the "Gabe" health IT system to help improve the health of young African American men. 7. Kirby Foundation – to assist in developing a strong family planning component to the Gabby health IT system.
Theresa Kim, MD	1. In a HIV population with substance dependence -polypharmacy and risk of falls/ fractures -the effect of alcohol and opioids on bone biomarkers For primary care patients with substance use, I am investigating -access to specialty addiction treatment -integration of addiction and medical care including hepatitis C treatment in office-based opioid treatment in primary care -primary care quality for patients who are homeless
Nancy Kressin, PhD	1. External Determinants of Non-Elderly Veterans' Demand of VA Health Care. We aim to develop a national model to estimate the sensitivity of VA demand of non-elderly Veterans to a range of external area-level factors categorized into four domains: public policy, non-VA out of pocket costs, economic environment, and non-VA provider availability, in order to evaluate the early impact of the ACA mandate and insurance expansion on VA enrollment and utilization. 2. Center for Health Insurance Reform, Cardiovascular Outcomes, and Disparities. The specific aims of our Center are: 1) to conduct two research projects, by multidisciplinary teams, to evaluate the effects of health reform in MA, examining whether increased access to health care, through provision of insurance to a majority of state residents, leads to improved CV outcomes, and reduced disparities in them. We will focus on patients especially vulnerable to CV disease and poor access – low-income minority patients, 2) to complement and collaborate with other existing centers in CV outcomes research, and 3) to develop three Early Stage Investigators into seasoned CV outcomes researchers who are well versed in the issues, topics and methods in the field, and who, upon the completion of the center activities, will be poised to make substantial future contributions to the field of CV outcomes research. 2. National Estimates for Inpatient Care, Outcomes & Hospital Effect among Hispanics. Due to poor identification of Hispanics in national inpatient care data sources little is known about the patterns of inpatient care access, quality and discharge outcomes for the national Hispanic population. Using comprehensive and reliable inpatient discharge data from 15 selected states, which together account for 87 percent of national Hispanic population, we will estimate risk-adjusted rates of admissions and patient outcomes (inpatient mortality, 30-day mortality and 30-day readmission) for selected admissions indicative of access and quality of care for Hispanics, non-Hispanic Blacks and non-Hispanic Whites. 3. Insurance Instability and Disparities in Chronic Disease Outcomes. We aim to understand the effects of insurance instability in the era of health reform, by characterizing the associations of such instability with processes of chronic disease care and related clinical outcomes, for several common chronic conditions.

	4. Reducing Disparities in Undiagnosed Hypertension: A Digital Trial. Working closely with WebMD we propose a novel 21st century digital outreach approach to people at high risk of suspected hypertension (HT) which is complementary to other efforts. We propose to leverage the vast nationwide outreach of WebMD to: a) encourage WebMD users to self-screen for HT; and then b) depending on their HT risk level, employ a Direct to Consumer (DTC) approach to activate them to ask any primary care provider (PCP) to check their blood pressure (BP).
Marc LaRochelle, MD, MPH	Interests: opioid prescribing for chronic pain, opioid use disorders, health services research, secondary data analysis. Current projects: 1. Development of an automated EMR-based methodology to identify unexpected urine drug test results. 2. Analysis of Massachusetts opioid overdose deaths using a large set of individually linked state-based data sets. 5. 3. Identifying the association between receipt of opioids and patient experience scores in a large emergency department sample.
Karen Lasser, MD, MPH	Interests: reducing health disparities, improving quality of care in primary care for underserved patient populations, analyzing publicly available large datasets Current projects: 1) A pilot RCT of patient navigation and screening for social determinants of health to promote smoking cessation among recently hospitalized primary care smokers. 2) Research and evaluation of a safety-net hospital transformation to an accountable care organization. 3) Evaluation of the effectiveness and value of new medications for hereditary amyloidosis.
Amy Linsky, MD, MSc	Adverse outcomes from inappropriate medication use, whether measured as adverse clinical events, increased health care costs or decreased quality of life, are pervasive, even within the VA. Clinicians lack evidence and clinical guidelines to indicate best practices for evaluating patients' medication regimens to determine which drugs, if any, may safely be discontinued. While significant attention is given to medication reconciliation, there has been less focus on improving deprescribing of medications that may no longer be necessary or whose benefits no longer outweigh associated risks. Data available for projects: 1) Results from the survey of primary care providers (clinicians' perceptions of deprescribing, experiences with deprescribing) 2) Results from the survey of Veterans (patients' perceptions of deprescribing, experiences with deprescribing) 3) Database of ~5million Veterans with medications and utilization 4) Patient engagement as mechanism to promote deprescribing
Karsten Lunze, MD, MPH, DrPH, FAA	1. Stigma and health outcomes among people who use drugs – cohort analysis in Russia and Ukraine 2. Drug policy, human rights and health in Russia or Malaysia - health policy analysis 3. Compulsory treatment of people who use drugs – global health policy analysis

	4. Risk factors for non-communicable diseases in BRICS countries – analysis of existing, nationally representative data 5. Newborn care in rural Lufwanyama, Zambia – secondary qualitative and cohort analysis 6. Fever management in children under 5 in rural Southern Province, Zambia - qualitative analysis and clinical assessment 7. Delivery of integrated community case management (iCCM) in Eastern Province, Zambia- secondary data analysis Capacity to address neonatal hypothermia in the Zambia Chlorhexidine Application Trial - secondary health facility analysis
Joanne Murabito, MD, MSc	Research interests include examining the epidemiology and genetics of longevity and healthy aging and reproductive aging, and the epidemiology and genetics of peripheral artery disease.
Christine Pace, MD MSc	Research interests include identifying ways to improve care for patients with substance abuse and alcohol use disorders in primary care and other medical settings.
Jeffrey Samet, MD, MA, MPH	His research focus includes the impact of alcohol use and illicit drugs on HIV-infected patients, integrating addiction treatment into medical care, HIV infection prevention and treatment in Russia, and addressing the HIV Care Cascade. He is Principal Investigator on several NIH grants including the NIAAA Alcohol-HIV Consortium URBAN ARCH and two NIDA R25 grants to advance physician addiction education and research.
Christopher W. Shanahan, MD, MPH	• Clinical & Research Medical Informatics & Information Technology • Substance Use Disorders and Chronic Pain; SUD Stigma, Relapse prevention, Community-based OBAT. • Community Medicine (Community-based care and collaboration with community-based organizations, clinicians, and patients). As Director of the Clinical Research Informatics and Technology Consultation (CRITC) Service he assists BU/BMC researchers with planning and use of IT and informatics to facilitate clinical studies.
Kaku So-Armah, PhD	I am interested in understanding why HIV infected people have more heart disease than HIV uninfected people. My background is in epidemiology and my research investigates the roles of liver disease, substance use, immune dysfunction and intestinal microbial composition in increasing heart disease risk among HIV infected and uninfected people.
Zoe Weinstein, MD, MS	Areas of interest: - Integration of addiction treatment and primary care, including Office-based Addiction Treatment (OBAT) - Inpatient addiction consult services

EDUCATION

Daniel Alford, MD, MPH	Areas of interest include: Safe opioid prescribing for chronic pain clinical practice and education; Office-based opioid treatment for opioid use disorders Integration of screening, brief intervention and referral to treatment into general healthcare settings.

	Projects: Safe and competent opioid prescribing education programs; Office-Based Opioid Treatment program at BMC Adult Primary Care.
Jonathan Berz MD, MSc	1. Area of interest/curriculum: diet and health- example project includes a regular 4th year medical student seminar on the topic and an implementation science project on system development to increase referral rates to community based diabetes prevention programs for patients with pre-diabetes 2. Primary Care based topics and teaching of residents
Warren Hershman, MD, MPH	Areas of interest include: Teaching; Ambulatory teaching; Curriculum development; Clinical evaluation; Teaching EBM; Clinical reasoning; Communication skills.
Angela Jackson, MD	Areas of interest include: all aspects of medical education; professional development for medical students; career selection; mentoring skill development; helping to hone teaching skills for teachers – residents, chief residents and faculty; previous experience in curriculum development in Primary Care resident education, with special emphasis on creating curricula that will allow residents to develop the skills necessary to become leaders in the health care; leadership skills for physicians; patient advocacy; developing professional development plans as a resident or junior faculty.
Jeff Markuns, MD, MEd	Areas of interest include: medical education and primary care systems development; global health with special foci on primary health care measurement and Family Medicine development.
Jay D. Orlander, MD, MPH	My current scholarly work is focused on electronic consultation with in the VA regionally, and is not education related. We do have 1 current GIM fellow working with us. I am willing to work with GIM Fellows interested in their own educational related research projects but do not currently have such a project of my own
Catherine Rich, MD	
Benjamin Siegel, MD	Mental health integration in primary care, inter professional team work, education and medical ethics.

10. Library

The following items are available to borrow in the program office:

1. Laptop
2. Dictaphone
3. Video cameras
4. Essentials of Biostatistics in Public Health, Sullivan 2nd ed.
5. Jekel's epidemiology, Biostatistics, Preventive Medicine, and Public Health, Katz et al, 4th ed.
6. Essentials of Epidemiology in Public Health, Aschengrau et al, 3rd ed.
7. The ASAM Essentials of Addiction Medicine, Herron et al, 2nd ed.
8. ACPM Preventive Medicine Board Review Course 2016
9. Mayo Clinic Preventive Medicine and Public Health Board Review
10. Emergency Public Health Preparedness and Response

11. Other Information & FAQs

	o Fellows are expected to attend academic national conferences each year and as such, are provided an allowance of ~$1500 for travel. Please discuss with your program director when planning what conferences to attend. Fellows on the AHRQ grant are expected to attend the AHRQ meeting. Fellows on the HRSA grant are expected to attend Academy Health.
Travel	o Make sure to save boarding passes and **itemized receipts** or you will not be able to get reimbursed. You will also need to submit proof of payment (credit card receipt and/or transaction summary) with all expenses. You will need to make Linda a delegate in Chrome River to process reimbursements.
	o You can book your flights online and have the expense charged back to the grant. Set up a profile at https://www.concursolutions.com/registration/register_form.asp?regcode=bostonmed123 Check with Linda for the account number you should charge.
Vacation	o Fellows are expected to attend: division/department meetings, Academic conferences and Work in Progress (Tuesday 9-11:45), Grand Rounds, etc. If you have to miss a Division Meeting/Fellows Meeting—give your fellowship director notice in advance. Most people take off time in the summer, and time around Christmas/New Years is also fairly flexible. Note: any time off from clinic must be made 90 days in advance.
Holidays	o The Boston University holiday schedule http://www.bu.edu/reg/dates/official-academic-calendar/ o BUSPH calendar http://www.bu.edu/sph/students/resources/academic-calendar/ ○ The Boston Medical Center holiday schedule http://internal.bmc.org/resources.html The following holidays are recognized by BMC and the ambulatory clinics and administrative offices will be closed: New Year's Day, Martin Luther King Day, President's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, Christmas
Stipends	o Stipends are set based on NIH PGY levels, with some Division-based supplementation. Talk to your fellowship director for more information.

Getting to Work

- **Red Line**:
  - Andrew Station: Bus connections
    - CT3 (weekdays only; does not run on weekends or holidays)
    - 10
    - Drop off: Albany and East Concord Street in front 710 Albany garage or East Newton building
    - Pick up: Crosstown building or 95 East Concord Street (in front of the new Moakley building extension)
  - Broadway station: Bus connection 47
    - Pick up: Albany and East Concord Street
    - Drop off: 88 East Newton (Newton Pavilion)
- **Silver Line** (either SL4 or SL5)
    - Drop off/pick up: Worcester Square or Mass Ave at Washington Street
- **Orange Line**
    - Mass. Ave Station: About 20-25 minute walk down Mass Ave to BMC (*hint walk a block to the east and then walk down Concord Street for a more scenic walk*)
    - Alternate: catch the 1 or CT1 (express) to Mass Ave and Albany or Harrison
- **Green Line**
  - E branch to Symphony
    - About 30-35 minute walk down Mass Ave to BMC
    - Alternate: catch the 1 to Mass Ave and Albany or Harrison
  - B, C, D branches to Hynes Convention Center
    - Catch the 1 to Mass Ave and Albany or Harrison

Evening Shuttles

- Leaves from the front of the 710 Albany garage approximately once per hour and will bring you anywhere within a 1 mile radius
- Shuttle to Broadway Station (Red Line), Ruggles Station (Orange Line), Back Bay Station (Orange Line), Copley station (Green Line) and the South End neighborhood are within one mile of BMC.
- Call TranSComm at 617-638-7473 or email bumctranscomm@gmail.com
  Shuttle schedule here: http://www.bumc.bu.edu/transcomm/shuttle-buses/evening-transit-t-shuttle/

Computers on campus

- BMC network computers: All computers in Crosstown floors 2 and 1, the hospital, clinics
  - Need BMC login
  - Contact BMC IT with issues: 617-414-4500
- BU network computers
  - **Crosstown Floors 3 and 4**
  - Med school, Talbot Hall
  - Use BU login
  - Contact BU IT with issues 617-638-5914
    Office on 11th floor of med school
- File sharing
  - BMC users have access to Box with their BMC credentials
    - If you want to use a USB jump drive to save a file off of a BMC computer it must be encrypted but note once you do that you cannot use it on any other computer
    - If you plug it in for read only access and make sure to click NO when computer asks to encrypt
  - BU: You get access to a BU specific Google Drive with online storage space
  - All fellows will have access to the "FELLOWS" folder on the shared g drive, schedules, articles, and other documents are stored here.

- Wi-Fi
  - BU computers: login into the BU 802 network with your BU ID and password
  - BMC
    - Use Guest network
    - If you want consistent access you have to use the BMC MDM network. Call the BMC IT Help Desk to have them walk you through the set up process (note this requires allowing BMC access to your phone and requires a strong passcode)
- BMC Remote Access

  This will allow you access to Epic, the paging system/BMC directory as well as other hospital resources on the Intranet page. You can also access your H:/ drive but you will not be able to save files to your local hard drive. You will need to call the BMC Help Desk (4-4500) to set it up.
- BU Remote access

  You can access the Med School library resources through the library website at http://medlib.bu.edu. Login with your BU login and password.
- VA VPN

  Contact your administrative staff at the VA, you will need to get access from your Information Security Officer (ISO).

  If you have a VA outlook email account (different from internal VA mail in Boston CPRS GUI), remote access is possible through the VA intranet (using VA VPN) at https://webmail.va.gov

Email

Every fellow will get both a BU address (affiliated with your school registration) and a BMC address.

- You can choose how you want to handle having two accounts. You can either forward one account to another or check 2 addresses
- **All fellowship meetings will be scheduled via BMC Outlook**
- The email distribution group only works from BMC Outlook (unless you are replying/forwarding)
- BMC may be more secure email with its firewall. Preferred for patient emails: using the word Secure in the subject encrypts the email
- Patient correspondence should go through "My Chart" in EPIC or secure messaging through MyHealtheVet at the VA, not via email

BU's email has more space and you have to frequently clear out your Outlook on BMC. All Boston University alumni will have the option to retain theirlogin@bu.edu email address.

Alumni will automatically have on-going access to their account hosted on BU Google Apps after graduation. As needed, you can configure forwarding within BU Google Apps to an external email account. Alternatively, you can use the Email Forwarding System to set uplogin@bu.edu as an address that forwards to an external email account.

Where to grab lunch
(a short list, many other options available)

- Cafeterias in Yawkey and Shapiro Buildings
- Chequers: basement of the medical school
- Blunch: baked goods and sandwiches
- Flour Bakery: baked goods and sandwiches
- Toro: tapas
- Food trucks: change daily. Located at the corner of Harrison and East Concord Street

FAQ's

Q1 With whom do I have to meet during the summer and in what time frame?

In general, use your first two months to meet individually with members of the executive committee. A few ways to use these meetings:

1. Hear what other research is being done in the GIM, Family Medicine, and Pediatrics departments. Doing a brief literature search about the researcher is useful before the meeting.
2. Explore interesting projects you might like to join or start new. Don't feel any need to commit to a project early on though.
3. Get suggestions for other people with whom you should meet.

Look for good mentors, advisors, and role models. Ask around about what a good mentor is.

Q2 How many projects do I need to do?

A: 1 -3 is the norm, depending on scale and time commitment. At least one needs to be an epi or health services research project to satisfy the thesis requirement. Additional projects are encouraged, although it is better to have fewer projects that are complete rather than more that are incomplete at the end of the fellowship. Recommend at least 1 project being a secondary database analysis.

Q3 How many mentors should I have?

A: No fixed number- it depends on your needs. Ideally, you should have one supervisor for each Project, a SPH advisor and one overall mentor who will oversee your progress in all aspects of the fellowship (and help you get a job). Your overall mentor should be someone in the Fellowship leadership so they can oversee your progress. Sometimes the same person fulfills those different roles and sometimes you can have a number of different faculty members in those roles. It may be a good idea if your overall fellowship mentor and your project mentor are different people – this allows them some degree of objectivity. On the other hand, working together on a project also allows a much more intimate relationship. Some faculty members have strong preferences for only mentoring those that they do projects with and other faculty will go either way.

Q4 How do I "fund" a research project?

Fellows are encouraged to submit an application for a grant, to gain experience with this important and ubiquitous process. Mentors can assist with choosing a grant that is most appropriate. There are small amounts of funding ($500-1500) associated with fellowship grants that fellows may access for assistance with research projects. The funding is limited so fellows are encouraged to choose projects that don't need extra funding. These might include secondary analyses of already collected data. If a fellow needs funding for a project s/he will apply to the program director. Some motivated and entrepreneurial fellows have secured small grants or have hooked up with larger organizations that are already interested in conducting research in their field. For example, there are small intra-institutional grants (e.g. Risk Management) that 1st year fellows can apply for funding in their 2nd year. Your research supervisor may also have access to funds if it is part of a larger project.

Another good source for "funding" is taking advantage of a program funding first year medical students to do research in the summer between the 1st and 2nd year of medical school. The students are required to work for 8 weeks and to present a poster on their project at the beginning of January. In return they receive $2500 toward their medical school tuition. It is somewhat competitive to get these students because there are LOTS of faculty members who advertise for a student (through the student affairs office). However, students are often attracted to the kind of research that fellows/faculty in our departments conduct (real life issues and not lab work). To get a student, you have to advertise through the listing at the office of student affairs sometime between January and March. Post a position on the Med Student Summer Research Program (http://www.bumc.bu.edu/enrichment/research/). Ideally you should start interviewing candidates in January as the med student you select must apply to the program for funding in March.

Q5 Can I stay for a 3rd year and why would I want to?

A fellow may choose to stay for a 3rd year to help solidify research skills and projects. Sometimes a fellow has personal reasons that keep him/her in Boston for another year (e.g. spouse has another year of training and the family plans to relocate to another region after fellowship), and feels that doing another year of fellowship will help advance his/her research skills. The reason NOT to do a 3rd year is fear of not getting a job, and being unsure of what to do next. There are limited funds for 3rd year stipends, so a fellow who wants to do a third year should make this decision in the summer or fall of the 2nd year and petition the executive committee via their mentor or the program directors. For VA funded fellows, the VA faculty has to petition for these spots in November of the 2nd year in order to secure funding. Those interested in a 3rd year are expected to apply for a grant in July of the 2nd year.

Q6 What are some of the moonlighting activities available for fellows

A: The fellowship directors do not want fellows moonlighting during the day for a number of reasons, including restrictions by funding agencies on number of clinical hours during the week. . There are a variety of options at BMC and outside BMC. BMC is self-insured so may limit your outside moonlighting. Internal moonlighting discuss with your department. Facilities such community health centers have their own insurance – called the FTCA system and the VA is self-insured. You are responsible for ensuring that you have proper malpractice with the moonlighting site.

Q7 What are some of the "perks" of fellowship

1. As a fellow can get trainee rates to join Mass Med Society, ACP, SGIM, APHA, and other professional associations. etc.
2. As a VA employee you can purchase T-passes through the VA
3. As fellows, our malpractice allows moonlighting at BMC approved practices as long we are doing what we're trained to do. Contact your program coordinator for details
4. As SPH students we can get SAS loaded on your computer as a BU student only if you are registered for the SAS class. Go the BU IT office on the 11th floor of the library
5. As SPH students, we can get discounted T-passes (but only during the academic years)
6. As SPH students: SPH holds a free dinner "get-together" about once/month as part of part of meetings with your concentration. See emails from your course coordinator for details

7. As graduate students, may defer student loans. Check with your loan servicer. If you need verification forms signed contact Linda
8. Printing in Library: As a BU student you get $12 per semester loaded on your Library copy card. To obtain, go to the Library on the 12th floor of the med school. Show your BU student ID to get the card for the first time. For PMRs: at GME orientation the CIR union gives you a separate copy card with $5 pre-loaded
9. As a BU student your student ID gets you student rates (or free admission) to many Boston museums

Q8 Who can I turn to if I have a project/fellowship/personal problem?

A: Depends on the problem. Ask your fellowship mentor, other faculty that you feel comfortable with, program directors, a member of the Advisory Board, or your co-fellows. There are professional counselors available as well as an ombudsperson. To maintain some anonymity, ask someone in the medicine residency office (638-6500) whom to contact.

BMC Employee Assistance Program: http://internal.bmc.org/hr/WorkLife/EAP.htm
BU Faculty & Staff Assistance Office: http://www.bu.edu/fsao/

Q9Who and what do I need to know if I am going to be a fellow based at the Bedford VA (non-PMR)?

A: Ann Borzecki directs the VA fellowship at the Bedford VA and is very helpful in several areas. Until you are credentialed and have staff privileges at the VA, you have to schedule your clinic during the time that she is there. She will co-sign your notes. Once you are credentialed, your clinic schedule is up to you and the clinic staff.

The Ambulatory Care Clinic staff members are easy to work with. The clinic phone number is 781-687-3399. If you have not worked within the VA system before, make sure to ask staff about various support programs that are available for veterans.

At VA, you will have a "research fellow" position within CHOIR, however because you will be acting as a physician, you will have to remind human resources personnel that you will need physician privileges although your position within the VA is a researcher. Because you will not be at the VA all the time, it is advised to apply for remote access to patient data and telework. CHOIR is an underutilized resource at VA. Attending CHOIR fellow meetings will be helpful to expand your network and research skills as CHOIR fellows are all post docs and have higher level of expertise compared to clinical fellows.

Q11 What is Evans Day?

A. Evans' day is a multi-day research meeting for the Department of Medicine in the fall. It's a chance to give a poster presentation. There are awards for best posters. GIM fellows have won in the past. There is also a clinical professor expert who gives grand rounds.

Q12 What is the timing of abstract submissions (i.e. Evans Day, regional/national SGIM, etc.)?

A: The fellowship holds an abstract review Academic Seminar in the late fall.

For GIM fellows: Evans Day (Department of Medicine sponsored for GIM and subspecialties) is usually in November and the abstract is due in September. Regional and National SGIM abstracts are due in early January.

For FM fellows: The NAPCRG conference is in the fall and the submission deadline falls in April. STFM occurs in early May with submission deadline in early January.

For PEDS fellows: Pediatric abstracts for the Pediatric Academic Society (PAS) annual meeting are due in November (final projects, do not accept preliminary analyses) for the spring conference.

Q13 Should I join any professional societies?

A. At least join the Mass Med Society which is free for all fellows. It gives you the New England Journal AND free access to the Harvard (Countway) medical library. All fellows should check with Linda Neville as she may be able to register you. Call 781-893-4610 or http://www.massmed.org/. You may also wish to join the Society for General Internal Medicine (SGIM) (GIM fellows), Society for Teachers in Family Medicine (STFM) (FM fellows) or the Pediatric Academic Society (PAS) (Peds fellows), the fees for the annual meeting are cheaper, and you will likely be a life-long member if you remain in academic medicine.

For PM residents, you should join the American College of Preventive Medicine, which includes informative weekly emails and subscription to monthly Journal of Preventive Medicine along with discounted conference registration and discounted board review courses. You can use your BMC GME allowance for this registration fee. In addition, the Association for Prevention, Teaching and Research (APTR) has a number of practicum and other opportunities and may be worth joining.

Academy Health has two different divisions: a policy focus and a research focus. If interested in joining the policy group, Professor David Jones in the HPM department at SPH is starting the chapter and can be contacted if interested at dkjones@bu.edu. The Academy Health Policy Conference is typically in early February and the research conference is in held in June.

Q14 What do I do in the "slow periods" between classes when there seems to be nothing to do

A: Explore in ways that ultimately will contribute to your work in the Fellowship, even if the specific "tasks" are not yet defined. Some useful explorations have included

1. Setting up meetings with various faculty in the Fellowship to discuss your interests and to learn about theirs. One fellow writes, "even with faculty members whose interests were not closely linked to my own (and where I did not foresee us working together), I asked them if they would be willing to listen and offer a few reflections on the issues I wished to explore."

2. Doing literature searches and reading articles that can introduce you to areas of research or education that are entirely new

3. Later in fellowship, you may plan major writing projects for the times between courses (Winter Break, Summer Break)

4. Meeting w/ research librarians in med library to learn how to perform literature searches efficiently. BU also holds helpful (free) courses in computer software (e.g. PowerPoint, Excel, etc.)

Q 15 To Whom should we ask more questions?

A: Clearly, any other current fellows (including others in your class) – one of us has probably "been there, done that" at some point. Other good general resources:

General Fellowship things or a good first step: Linda Neville
Preventive Medicine Residency; questions that you might not want to share with peers, academic questions, problems with mentors or faculty: Jonathan Berz/Pablo Buitron de la Vega
MS Epidemiology program at SPH: Ann Aschengrau.
MS Population Health Research program at SPH: Andrew Stokes
Anything: Your mentor. Remember, the mentors not only advise us on our projects and our lives, but also serve as liaisons for us to the Fellowship Directors. They also report on us at the executive committee meetings.

Q16 To whom do I give the paperwork to defer my loans.

A: Linda Neville

Also, note that BU will send (at an unpredictable time) notification to your loan servicer that you are a student, which will automatically place your loans in deferment. You will then need to sign a waiver of deferment if you do not want to defer your loans

Q17 How am I getting paid and what kind of travel/expense allowance do I get?

A: Fellows are paid from different sources so the answer is different for everyone (and although that may not seem fair, that is the way it is). If you have questions about your pay, or benefits or travel, you can ask Linda Neville.

The Executive Committee has decided that all fellows get a travel stipend to attend at least 1 meeting per year (SGIM for GIM fellows, STFM for FM fellows, PAS for Ped fellows, AHRQ for fellows on the AHRQ grant). The specific amount of travel stipend per year depends on where the meetings will be held, but should cover registration at associate level, travel, shared hotel room and modest per diem for food. Fellows who are on special funding sources may have travel funds for other meetings.

All travel reimbursements require original itemized receipts along with the credit card transaction or statement as proof of payment. Submit all receipts to Linda for processing.

Q18 Where are the Boston VA hospitals?

A: The JP VA is in West Boston, near Longwood medical area and Brookline. For directions https://www.boston.va.gov/locations/Jamaica_Plain_.asp

The West Roxbury VA is farther west near Dedham, Needham, and Newton. For directions https://www.boston.va.gov/locations/directions.asp

The Bedford VA is farther north of Boston. For directions https://www.bedford.va.gov/locations/directions.asp

Q19 How do I dial in to the VA?

A: You can dial up the VA system using KEA! software which is available from the VA computer IT center. You can pick up a copy when they take their mandatory training classes.

Q20 How do I keep track of literature references in a project proposal?

A: Reference software

- Reference management software is crucial for all of the types of writing you will be required to do throughout the fellowship and course work
- Popular platforms include Zotero, EndNote, Refworks
- As a BU student you are able to download and set up accounts with Zotero and Refworks for free
- Note that some software will NOT work with BMC computers due to file sharing restrictions
- Refworks is web-based so may be the most compatible for work between BMC and non-BMC computers
- Contact the BU Med School Reference Librarians for advice on how to use the different platforms and vendors, David Flynn dflynn@bu.edu
- Contact BMC Help Desk (617-414-4500) to set up the plug-in for Microsoft Word to easily add references on BMC computers

Q21 With whom do I talk to renew ACLS-BLS-PALS?

A: All fellows have to maintain BLS certification. Information on certification can be found on the BMC HUB at

https://hub.bmc.org/departments/emergency-department/clinical-training-center

Appendix A: Secondary Databases

Analyze large datasets to answer clinical, epidemiologic, policy and health finance questions, using appropriate sampling and statistical methodologies.

Objectives:
1. Describe the types of information collected in major existing cross-sectional and longitudinal national survey datasets, and the advantages and disadvantages of using such data to answer research questions.
2. Provide examples of clinical, epidemiologic, and policy questions that individual national datasets may be used to answer.
3. Demonstrate expertise in obtaining datasets and associated documentation.
4. Describe how multistage probability sampling methods are used to analyze large datasets, including the importance of population parameter estimates and standard error estimates of sample parameters.
5. Use statistical software to account for sampling weights and design in the analysis of large datasets.
6. Describe the characteristics of health plan administrative datasets available for research, including sources of data, types of informational files, types of payers and issues of validity of data.
7. Explain how epidemiologic questions concerning disease rates and distribution, as well as questions concerning use of resources and resulting costs, may be answered using health plan administrative datasets.
8. Describe what types of quality of care studies may be performed using health plan administrative datasets.
9. List the strengths and limitations of electronic medical records and disease registries for answering research questions.

Appendix B: Population Health

Objectives
1. Define the terms population and sample and describe how they differ.
2. Describe the difference between nominal, ordinal, interval, and ratio scales of data measurement, as well as the difference between discrete and continuous data variables.
3. Interpret the results of frequency distributions and graphs of those distributions.
4. Define measures of central tendency (mean, median, mode), as well as measures of dispersion or variability (variance, standard deviation, range), and choose measures that are appropriate for different types of measured data.
5. Define probability and describe its relationship to the normal and binomial distributions. Calculate z-scores and use the central limit theorem to describe the distribution of sample means.
6. Define the significance of study results and the likelihood that the study results represent the truth.
    - Describe the convention of hypothesis testing, null and alternative.
    - Define Type I and Type II error, p value and effect size.
    - Use considerations of Type I and Type II error to determine how to set the level of statistical significance, or the alpha level.
    - Understand how to modify the p value to correct for multiple comparisons.
    - Compare directional (one-tailed) to non-directional (two-tailed) hypothesis testing and justify their use.
    - Define power and estimate power and sample size for a research study.
    - Calculate and interpret 95% confidence intervals for commonly used statistics.

7. Describe methods of testing hypotheses involving two samples: the use of the t statistic.
8. Describe methods of testing hypotheses involving two or more samples: the use of analysis of variance (ANOVA) techniques (including post-hoc multiple comparisons and the use for ANOVA for repeated measures).
9. Define correlation and regression techniques and their use in measuring and describing the relationship between variables.
10. Describe statistical methods for testing hypotheses using data that measures categorical frequencies or proportions and interpret results from such analyses: chi-square tests and related statistics.
11. Describe statistical techniques for testing hypotheses of ordinal data and interpret results of such analyses: Mann-Whitney, Wilcoxon, and Kruskal-Wallis tests.

Appendix C: Qualitative Methods

Objectives
1. Describe the types of questions that qualitative methods are best suited to answer as compared to quantitative research, and how qualitative and quantitative methods may be combined to study a research question.
2. Define three ethnographic methods commonly used in qualitative research-participant observation, ethnographic interviewing, and focus groups and list the advantages and disadvantages of each.
3. Describe how audiotaping, videotaping, field notes, and unstructured or semi-structured interviews are used in ethnographic methods.
4. Describe the role of the facilitator, the note-taker, the transcriber, and the coder in focus group research.
5. Describe qualitative methods used to analyze documents such as essays, diaries, open-ended surveys, and medical records.
6. Explain how qualitative methods are useful in educational research and evaluation of educational programs.
7. Describe sampling methods in qualitative research and contrast them to sampling methods in quantitative research.
8. Describe the reduction of qualitative data to themes and abstract topics through a coding process, and explain how this fits into the iterative process of qualitative research; define and explain the importance of data saturation.
9. Explain how computer software programs facilitate the coding and organization of qualitative data.
10. Describe how the trustworthiness of qualitative research is verified through data, investigator, theory and method triangulation; respondent validation; and audit trails.
11. Describe the methods for effectively presenting qualitative research results, in contrast to methods typically used for quantitative data.

Individual Development Plan:

Each fellow will fill in the form at the beginning of fellowship. The form will be updated in the fall and spring prior to the bi-annual meetings with the fellow, mentor and director. The fellow should schedule these meetings as soon as possible to ensure mentor availability.

Name: Date: Date Plan Created: Mentor:

1. **Elevator Speech:**

A brief, persuasive speech that you use to spark interest in yourself. A good elevator pitch should last no longer than a short elevator ride of 20 to 30 seconds. It should be interesting, memorable, and succinct. It also needs to explain what makes you unique.

2. **Career Goals:**

Please describe the type of position (and geographical location) that you would like following fellowship. What steps have you taken to identify this type of position? What resources do you need from the fellowship program to be most successful?

Projects				
Title and Mentor(s)	**Status** (What state is the project? Design, data collection, implementation, analysis, abstract, paper)	**Resources needed** (Manager coaching, other people, tools, funding)	**Presentations** (regional, national)	**Publication Status**
1. Title: Mentor(s):	**Current:** **Next Steps:** **Target Date:**		□ Yes □ No □ Target Date	□ Study in process □ Preparation □ Submitted □ Published (cite below)
2. Title: Mentor(s):	**Current:** **Next Steps:** **Target Date:**		□ Yes □ No □ Target Date	□ Study in process □ Preparation □ Submitted □ Published (cite below)
3. Title: Mentor(s):	**Current:** **Next Steps:** **Target Date:**		□ Yes □ No □ Target Date	□ Study in process □ Preparation □ Submitted □ Published (cite below)
4. Title: Mentor(s):	**Current:** **Next Steps:** **Target Date:**		□ Yes □ No □ Target Date	□ Study in process □ Preparation □ Submitted □ Published (cite below)

BU Classes			CONFERENCES ATTENDED		
Course Title/number	**Date enrolled**	**Grade**	**Date**	**Conference**	**Presentation**
					□ Poster □ Oral Presentation □ Workshop
					□ Poster □ Oral Presentation □ Workshop
					□ Poster □ Oral Presentation □ Workshop
					□ Poster □ Oral Presentation □ Workshop
					□ Poster □ Oral Presentation □ Workshop

3. **Master's Degree (**update where you are on your project and what needs to be done prior to graduation):

4. **Publications** (in progress, accepted, submitted, abstracts presented at national meetings):.

5. List all **submitted, funded and in-progress** grant support (do not include your AHRQ/NRSA research):

Mentor Meeting Dates			Scholarship Oversight Meeting Dates	Responsible Conduct in Research	
				Course	Date completed
				1. Introduction to RCR through Blackboard	
				2. Intermediate RCR through CITI	
				3. Workshop 1: **DATA INTEGRITY: On Being a Scientist**	
				4. Workshop 2: **COLLABORATIVE RESEARCH: On Team Membership, Mentoring and Shared Authorship**	

				5. Workshop 3**: SCIENTIFIC PUBLICATION: On Accountability and Peer Review**	
				6. Workshop 4: **OBJECTIVITY IN SCIENCE: Regulations on Conflicts of Interest and Research Misconduct**	

What are the three most important activities in the next six months to advance your career and help you to fulfill your career goals?
What barriers, if any, do you perceive in achieving these goals? How might they be overcome?

12. CLINICAL

List of clinical activities (including moonlighting) over the last 6 months:

Changes expected for next six months:

13. TEACHING

Please list current teaching activities for the prior 6 months, both clinical (if applicable) and non-clinical:

Expected Changes for Next Six Months:

14. MENTORING ACTIVITIES

Mentee/year	Position	Topic (presentations and publications

15. MENTORSHIP

In what ways have your mentors been effective?

What could make them more effective? (i.e. areas for improvement)

How is your mentor group working for you?

What else do you want/need from your mentors?

Date plan reviewed with mentor:	Notes from the conversation:
Next meeting with mentor:	

Instructions

The Individual development plan (IDP) is a tool for fellows to use to ensure their training goals are being met. This is a "living" document to be updated regularly. Schedule your oversight meeting early, they should occur in November and April. Invite your mentoring team and anyone else who you would like feedback from regarding your projects. Faculty and fellows use this time to discuss and document their perspectives on achievements, challenges, and strategies to address them; and to keep track of progress toward post-fellowship and career goals. The meeting should include the fellowship director, primary research mentor, other research mentors, and SPH mentors. A copy of the IDP must be submitted to Linda along with an updated CV.

1. **Elevator Speech:** a brief, persuasive speech that you use to spark interest in yourself. A good elevator pitch should last no longer than a short elevator ride of 20 to 30 seconds. It should be interesting, memorable, and succinct. It also needs to explain what makes you unique. The faculty will give you feedback on this (see attached guide)
2. **Career goals**:
   a) Describe the type of position and geographical location that you would like following fellowship.
   b) Identify any resources you need from the fellowship program to help you succeed.
3. **Projects**: list all projects you are involved in, the status of the project, resources needed and the target date for presentation & publication.
4. **Master's Degree -** update where you are on your project and what needs to be done prior to graduation.
5. **Publications:** list in progress, submitted, accepted abstracts and papers.
6. **Grants**: list any research grants you have submitted
7. List BU classes taken.
8. List conferences attended and whether you presented your research.
9. List the dates you have met with your mentor as well as the scholarly oversight meetings.
10. Track your progress for the Responsible Conduct in Research courses **REQUIRED FOR ALL TRAINEES**
11. **Goals**: list the activities you will need to do in the next 6 months in order to achieve your goals. Include any barriers you identify.
12. **Clinical:** update the committee with your clinical activity (including moonlighting).
13. **Teaching:** list your teaching activities for the past six months and the plan for the next six months.
14. **Mentoring**: list any mentees you have worked with during fellowship.

15. **Mentorship:** describe how your mentors have been effective, and any areas for improvement.
16. **ACGME Requirements**
17. **Preventive Medicine Residents:** update the PMR requirements.
18. **Addiction Medicine Fellows:** update the rotations you have completed.

Developing and Delivering Your Elevator Pitch

1. **What is the purpose of an elevator pitch?**
   - Imagine you get on an elevator with an important person and you have just the elevator ride to pitch your work/project to him/her.
   - What is your objective?
   - What do you say?
2. **An elevator pitch must be clear, concise, and engaging so that the other person**
   - Understands the major concept behind your work
   - Becomes interested
   - Wants to hear more
3. **Why is perfecting your elevator pitch important?**
   - Sometimes the pitch is your only chance
   - The average investor listens for only 90 seconds
   - Going through the process forces you to clarify your concept, which helps you to understand it more clearly yourself
4. **How to develop an elevator pitch**
   - Describe the concept/project you want to pitch
   - Ask yourself what you want the other person to remember
   - Answer the key questions
     - What is the problem?
     - How will you solve it?
     - Can you do it?
     - How will they benefit by helping you?
   - Practice!!
5. **Key ingredients**
   - It is not just the words – don't forget
     - Eye contact
     - Pace and voice
     - Body language
   - You want to convey confidence and passion

Academic Primary Care Fellowship Program Grants

Grant # & Title	Program Start	Program End	Budget Start	Budget End	Fellow Appointments
T32 HS022242: Training in Health Services Research for Vulnerable Populations	7/1/2023	6/30/2028	7/1/2023	6/30/2024	Sariahmed Alonso Rich
T32 HP10028: HRSA NRSA	7/1/2021	6/30/2026	7/1/2023	6/30/2024	Chung Romatoski Lee Alonso
T25 HP375936: Addiction Medicine Fellowship	7/1/2020	6/30/2025	7/1/2023	6/30/2024	Alim Regier Shah
HRSA PCTE Preventive Medicine Maternal Health	7/1/2021	6/30/2026	7/1/2023	6/30/2024	Sabharwal Johnson
HRSA Preventive Medicine: Immigrant & Refugee Health	5/1/2023	4/30/2027	5/1/2023	4/30/2024	Kennedy

T32 HS022242: Training in Health Services Research for Vulnerable Populations- 7/1/23-6/30/28

MEASURABLE OBJECTIVE 1

Over the five-year grant period, we will recruit a high-quality, diverse group of predoctoral and postdoctoral trainees from clinical departments (Pediatrics, Family Medicine, Surgery and GIM) and BUSPH to complete our fellowship program.

***Activities*:**

Application materials posted online and actively distributed to potential applicants across the country; active recruitment at national meetings; maintenance of an alumni network; qualified and diverse fellows matriculate into our program and complete the full training.

Anticipated Outputs and Outcomes:

- Larger number of highly qualified applicants than open slots each year.
- 100% of training slots filled each year.
- ≥25% slots filled by applicants from under-represented or disadvantaged groups.
- ≥95% of fellows complete the training program.

MEASURABLE OBJECTIVES 2 AND 3

Over the five-year grant period, we will deliver the core components of our research training program to integrated groups of predoctoral and postdoctoral trainees.
Fellows will obtain positions after graduation as researchers focused on health care quality, access, and delivery specific to low-income populations.

Activities

We will provide high-quality, individualized mentoring with research mentors; ensure mentors complete the Mentoring the Mentor course; use Individualized Development Plans (IDPs) for all trainees; deliver our public health courses, didactic curriculum and associated learning activities annually; and ensure our graduates are prepared for and secure health services research positions.

Anticipated Outputs and Outcomes

Comprehensive Research Training

- Fellows will maintain at least a B+ average as per transcripts;
- Each fellow will present at Research-in-Progress ≥ 2x/yr.;
- Fellows will perform ≥2 academic research projects;
- All fellows will have ≥2 abstracts accepted for presentation at national professional meetings; and
- All fellows will have ≥2 paper accepted in a refereed journal based on fellowship projects.

Program Graduates

- ≥85% of graduates enter research careers focused on improving the quality, access and delivery of health care systems;
- ≥70% of program graduates remain in health services research after 3 years of graduation;
- ≥50% of graduates lead efforts to implement new care models in settings that care for underserved populations by 5 years of graduation; and
- ≥50% of program graduates have ≥1 funded research project by 5 years of graduation.

MEASURABLE OBJECTIVE 4

Over the grant period and beyond, we will evaluate our program in an iterative manner that allows for continuous improvement of the curriculum.

***Activities*:**

We will collect data including the ratio of highly qualified applicants to available slots, filling the program each year (benchmark of 100%), number of trainees from underrepresented or disadvantaged groups (benchmark of 25%), and number of fellows who complete the program (benchmark of 95%), IDPs and records of mentoring meetings, BUSPH transcripts, academic seminar attendance rosters and evaluations, self-assessment surveys, research products, feedback sessions, online surveys, CVs, and interviews.

Anticipated Outputs and Outcomes:
• Data will be analyzed, aggregated and presented to the Project Co-Directors • Program improvements will be made iteratively to improve quality and effectiveness

T32 HP10028: HRSA NRSA 7/1/2021-6/30/2026

Attachment 1: Work Plan with Program Objectives, Performance Indicators and Data Sources

RECRUITMENT	
Objective 1: Recruit and retain high quality candidates by maintaining an updated website, and tapping into fellow, graduate, faculty networks	
Performance Indicators	**Data Sources**
A. Larger number of qualified applicants than open slots each year B. 100% of training slots filled C. 95% of fellows retained for full training period	-Applicant database - HRSA progress reports -Website function + metrics
Objective 2: Recruit and retain a diverse group of fellows by mentoring BMC under-represented groups (URG) for careers in academic primary care, collaborating with Boston University School of Medicine (BUSM) designated recruiter for URG trainees, and reaching out to the National Medical Association, the National Hispanic Medical Association, and other groups focused on advancement of URG in primary care research	
Performance Indicators	**Data Sources**
A. >25% slots filled by qualified applicants from under-represented or disadvantaged groups B. 95% of fellows retained for full training period	-Applicant and fellow database
Objective 3: Recruit fellows who address Primary Care issues related to disadvantaged populations such as: disparities, equity, access to care, substance use, women's health, health literacy, decision-making, mental health, homelessness, health-related social needs, and social determinants of health	
Performance Indicators	**Data Sources**
A. >90% of fellows entering the program declare interest in careers in medically underserved communities (MUC)	-Personal statements
FELLOWSHIP RESEARCH TRAINING	
Objective 4: Provide longitudinal mentoring guided by Individual Development Plans (IDP)	
Performance Indicators	**Data Sources**
A. Fellows meet with mentors weekly throughout fellowship B. Each fellow develops IDP which is used to guide mentoring C. Twice yearly group meeting with mentors/supervisors to review and revise IDP at Scholarship Oversight Meetings D. Faculty mentors enroll in Provost's Faculty Mentoring Program, which emphasizes diversity, equity, and inclusion	-Copy of IDP; IDP meeting dates and feedback -Mentor meetings -Faculty participation
Objective 5: Fellows will exhibit evidence of mastery of primary care research skills, with expertise in health equity research	
Performance Indicators - All fellows in the research track will:	**Data Sources**
A. Obtain Master's of Science (MS) in Epidemiology or Health Services Research (if not already equivalent or higher) B. Complete ≥2 independent research projects (≥1 involving primary data) with regional/national meetings presentations	-SPH diplomas -CVs -Fellow Portfolios -Conference program

C. Submit at least one article per project for publication in a refereed journal within one year of graduating D. Perform at least one project related to health equity E. Participation in implementation research project by attending meetings of existing projects or conducting own analysis	-Graduate survey
Objective 6: Provide comprehensive multidisciplinary primary care research training for pragmatic research in safety-net health institutions and MUC	
Performance Indicators	**Data Sources**
A. Interdisciplinary academic seminars on 2-year cycle including seminars on the mentor/mentee relationship, presentation skills, grant writing, health disparities, and research dissemination, 10 sessions/year B. Quality Improvement curriculum delivered in a 2-year cycle, including didactic lectures and hands-on QI projects C. Training in pragmatic research via hands-on workshops on Implementation Science methods, 4 seminars/year D. Research literature appraisal seminar, 10 sessions/year E. Training in Community Engaged research in a 2-year cycle F. Research-in-progress, 18 sessions/year G. Training in the Responsible Conduct of Research, set of 4 seminars/fellow plus IRB internship and online modules H. Exposure to implementation research by faculty via conferences in the individual departments, at least 6x per year	-Conference schedule and attendance records -Course enrollment -Topics/dates of research in progress sessions -Titles of projects and meetings that fellows attend
Objective 7: Deliver seminars in the pedagogy of teaching and leadership, with an emphasis on dissemination to key stakeholders	
Performance Indicators	**Data Sources**
A. Pedagogy of Teaching seminars, 6 sessions/year B. Seminars on leadership and project and time management, email feedback, conflict management, ≥4 sessions/year C. Successfully manage research project - complete data collection, analysis and abstract submission	-Conference schedules -Attendance and evaluations
FELLOWSHIP GRADUATES	
Objective 8: Program graduates will conduct research on healthcare quality, outcomes or policy specific to vulnerable populations	
Performance Indicators	**Data Sources**
A. Enter a post-fellowship position with protected time and mentoring for primary care research (>75% of graduates) B. Conduct clinical research on topics related to MUCs (>75%) C. Obtain extramural funding for research by 5 years post fellowship (>75% of those in research positions) D. Demonstrate evidence of impact in improving primary care access and/or quality by 5 years post fellowship (100%) E. Achieve the rank of associate professor or comparable leadership position by 10 years post fellowship (>75%)	-CV at graduation -Graduate survey with CV updates -Internet, PubMed, NIH Reporter
Objective 9: Graduates will obtain positions with academic appointments in medical schools, free-standing training programs or public health agencies	
Performance Indicators	**Data Sources**

A. Enter post-fellowship job with academic appointment, role in free-standing residency, or public health agency (>90%) B. Remain in such a position at 5 years after fellowship (>80%); Working in MUCs (>60%) C. Achieve a leadership role in his/her area of interest by 5 years post fellowship (100%)	-Graduate survey with CV updates -Internet search
PROGRAM EVALUATION	
Objective 10: Conduct comprehensive annual evaluation for iterative improvement of fellowship	
Performance Indicators	**Data Sources**
A. Bi-annual fellow survey of program; Annual faculty survey of program B. Annual survey of graduates, at 1, 5 and 10 years after program completion for evidence of achievements C. Annual anonymous survey of graduates to obtain feedback on fellowship from cohorts of prior 3 years of graduates D. Action plan to respond to critiques, annually	-Fellow and faculty surveys -Graduate survey results (identified and anonymous) -Copy of Action Plan
Objective 11: Obtain accreditation from the Academic Pediatric Association	
Performance Indicators	**Data Sources**
A. Self-study application in year 1; Successful site visit by the end of year 2; Designation by end of year 3	-Application/visit/certificate
Objective 12: Conduct external evaluation	
Performance Indicators	**Data Sources**
A. Annual Advisory Committee Assessment: Dr. Galea, Dean BU SPH; Dr. Henderson, BMC Chair of Psychiatry; Dr. Benjamin, Department of Medicine Vice-Chair for Faculty Development; Dr. Bair-Merritt, Co-PI BU CTSI B. External Program Director Assessment: Dr. Schapira (University of Pennsylvania) in Y2; Drs. Chander/Segal (Johns Hopkins) in Y3; Dr. Sarkar (San Francisco General) in Y4 C. Community Engagement Assessment: Annual meeting with the BU CTSI Community Advisory Board (CAB). Co-development of CAB Studio as a mechanism for feedback on research proposals in development (starting in Y2)	-Dates of visits -Reports from external assessors -CAB Feedback -CAB Studio reports

T25 HP375936: Addiction Medicine Fellowship 7/1/20-6/30/2025

Objective 1: Recruit highly qualified physicians to fill previously unfunded accredited fellowship training positions in *both* Addiction Medicine *and* Addiction Psychiatry.	
Activity 1: *Fill previously unfunded fellowship training positions in Addiction Medicine and Addiction Psychiatry.*	
Performance Indicators	**Time Frame**
Number of Addiction Medicine fellowship trainees enrolled in the program.	Years 1-5
Number of Addiction Psychiatry fellowship trainees enrolled in the program.	Years 1-5
Activity 2: *Increase the number of Addiction Medicine and Psychiatry accredited fellowship slots.*	
Performance Indicators	**Time Frame**
ACGME approval of Addiction Medicine complement increase from 4 to 6 fellowship trainees per year.	Year 1
ACGME approval of Infectious Disease-Addiction Medicine complement to 2 fellowship trainees per year.	Year 1
ACGME approval of Addiction Psychiatry complement increase from 4 to 6 fellowship trainees per year.	Year 1
Activity 3: *Recruit a diverse group of fellowship candidates annually, all of whom are committed to the delivery of high-quality, culturally-responsive, stigma-free addiction care in general community settings that serve underserved and disadvantaged populations.*	
Performance Indicators	**Time Frame**
> 90% of Fellows entering the program (both Addiction Medicine and Addiction Psychiatry trainees) declare interest in careers in medically underserved communities (MUC).	Years 1-5
> 75% of program completers pursue careers in medically underserved communities (MUC).	Years 2-5
Activity 4: *Support a block elective rotation for resident trainees outside of BMC to receive addiction training in MUCs.*	
Performance Indicators	**Time Frame**
Enhance existing Addiction Medicine and Addiction Psychiatry rotations by creating a new block rotation dedicated to a) recruiting under-represented minority resident trainees from outside BMC to spend 4-weeks at BMC and b) recruiting residents to pursue Addiction Medicine or Addiction Psychiatry fellowships	Years 1-5 Summer
Number of block rotation program completers who are Under-Represented Minorities	Years 1-5
Number of block rotation program completers who pursue Addiction Medicine or Addiction Psychiatry Fellowships	Years 1-5
Annual anonymous survey of program completes providing feedback on the rotation, the impact of working in a MUC, and their commitment to continue to pursue addiction training.	Years 1-5
Objective 2: Establish formal relationships with HRSA-supported federally qualified health centers (FQHC) serving MUCs.	
Activity 1: *Create bi-directional relationships with HRSA-supported FQHCs serving MUCs with high rates of opioid deaths.*	
Performance Indicators	**Time Frame**
Leadership approval to pilot curriculum elements in three FQHCs.	Year 1
Leadership support at participating FQHCs and approval to continue the curriculum beyond pilot.	Years 2-5
Program expansion to additional FQHCs, integrated behavioral health community health centers, opioid treatment programs, and affiliated detoxification units.	Years 3-5
Objective 3: Develop and sustain integrated interprofessional community health-focused addiction care curriculum.	
Activity 1: *Create interprofessional team-based care curriculum to be implemented at community health centers in MUCs.*	
Performance Indicators	**Time Frame**
Create comprehensive written curriculum tailored to MUCs for longitudinal experiences.	Year 1 Summer/Fall
Pilot testing of curriculum elements at participating FQHCs.	Year 1 Fall/Spring

Qualitative and survey evaluations of curriculum completed by trainees and participating faculty, and site visits.	Years 1-5
Iterated version of curriculum incorporating qualitative and survey feedback.	Years 2-5
Activity 2: *Create integrated, interprofessional team-based care block rotations at FQHCs.*	
Performance Indicators	**Time Frame**
Develop specific learning objectives for didactic and experiential curriculum exposing both Addiction Medicine and Addiction Psychiatry Fellows to a variety of essential topics related to the treatment of SUDs in MUCs.	Year 1
Pilot curriculum elements.	Year 1
Qualitative and survey evaluations of curriculum completed by trainees and participating faculty, and site visits.	Years 1-5
Iterated version of curriculum incorporating qualitative and survey feedback.	Years 2-5
Activity 3: *Develop and deliver a longitudinal curriculum focused on recognizing and addressing adverse Social Determinants of Health (SDOH) in populations with SUDs.*	
Performance Indicators	**Time Frame**
Create learning objectives for curriculum to help fellows recognize and address adverse SDOH through direct clinical care, systems-based practice, and advocacy.	Year 1: Summer/Fall
Develop and deliver seminars about: (1) the importance of capturing SDOH measures as basis for addressing community health problems and inequities; (2) how to implement these measures as part of daily clinical practice; and (3) developing outreach and education efforts that are culturally- and linguistically-responsive.	Years 1-5
Qualitative and survey evaluations of curriculum completed by trainees and participating faculty.	Years 1-5
Iterated version of curriculum incorporating qualitative and survey feedback.	Years 2-5
Objective 4: Increase the capacity of faculty and staff at participating FQHCs to provide high quality addiction care in MUCs.	
Activity 1: *Develop a didactic curriculum focused on the prevention, treatment, and recovery services for patients with OUD and other SUDs.*	
Performance Indicators	**Time Frame**
Recruit national leaders in addiction to deliver seminars to faculty and staff (log title, speaker, and description of seminars).	Years 1-5
Number of fellows, faculty and staff who attend each seminar.	Years 1-5
Evaluations of seminars by attendees.	Years 1-5
>85% of faculty and staff attend at least one seminar.	Years 1-5
>85% of eligible faculty and staff complete buprenorphine waiver training.	Years 1-5
Objective 5: Increase the number of addiction-trained physicians working in underserved, community-based settings.	
Performance Indicators	**Time Frame**
>75% of fellowship graduates commit to a post-fellowship position in a MUC.	Years 1-5
>50% of fellowship graduates commit to a post-fellowship position in a community setting.	Years 1-5
>75% of fellowship graduates remain in a MUC for 2 or more years.	Years 3-5
>50% of fellowship graduates remain in a community setting for 2 or more years.	Years 3-5
Objective 6: Conduct comprehensive annual evaluations that are used to iteratively improve the program.	
Performance Indicators	**Time Frame**
Bi-annual survey of the program completed by fellows.	Years 1-5
Annual faculty survey of program.	Years 1-5
Action plan to respond to critiques, updated every six months.	Years 1-5

Annual survey of graduates, at 1, 5, and 10 years after program completion for evidence of achievements (identifiable information) to assure program meeting its achievement goals,	Years 1-5
Annual anonymous survey of graduates to obtain feedback on fellowship from cohorts of prior three year graduates	Years 1-5

PCTE- Preventive Medicine Maternal Health 7/1/2021-6/30/2026			
Goal 1: Expand current preventive medicine training program to include maternal health curriculum, foster relationships with Community Health Centers and the Boston Public Health Commission to provide clinical and public health training focused on maternal health within their systems, and to train in telemedicine			
Organizational Priority: Value-Based Care; Telehealth/Telemedicine; Rural Health			
Objective 1.1. By 06/30/2022 we will develop a longitudinal clinical training experience at community health centers			
Key Tasks	**Deliverables**	**Start Date**	**End Date**
1.1.1Work with the Director of the Boston HealthNet to identify community health centers	1-2 FQHC partners are identified	7/1/2021	8/30/2021
1.1.2 Work with key stakeholders at the FQHC to identify and outline health care needs of the community	Work plan	9/1/2021	12/31/2021
1.1.3 Develop the longitudinal clinical training experience goals, objectives and associated competencies	Goals, Objectives & Competencies	9/1/2021	6/30/2022
1.1.4 Develop an evaluation plan for the clinical training experience	Evaluation Rubric	1/1/2022	6/30/2022
Objective 1.2 By 6/30/2022 we will develop a public health practicum at the Boston Public Health Commission (BPHC) focused on maternal health outcomes			
1.2.1 Work with key stakeholders at the BPHC to outline programs and/or initiatives related to maternal health outcomes were the practicum experience can take place	Work plan	7/1/2021	12/31/2021
1.2.2 Develop goals, objectives and associated competencies for a public health practicum with a focus in maternal health outcomes that includes participation in a community action network	Goals, Objectives & Competencies;	7/1/2021	6/30/2022
1.2.3 Develop an evaluation plan for the public health practicum	Evaluation rubric	7/1/2021	6/30/2022
Objective 1.3 By 6/30/2022 we will develop a clinical training experience working with BPHC's Boston Healthy Start Initiative (BHSI) at Codman Square Health Center			
1.3.1 Work with key stakeholders within BHSI and Codman Square Health Center to outline interdisciplinary clinical experiences where trainees can collaboratively learn from an interdisciplinary outreach workforce and provide clinical support	Work Plan	7/1/2021	6/30/2022
1.3.2 Develop BHSI clinical experience goals, objectives and associated competencies	Goals, Objectives & Competencies	7/1/2021	6/30/2022
1.3.3 Develop an evaluation plan for the Healthy Start Initiative clinical experience	Evaluation rubric	7/1/2021	6/30/2022
1.3.4 Implement yearly evaluation of the Healthy Start Initiative clinical experience	Evaluation Results	7/1/2021	6/30/2022

Objective 1.4 By 6/30/2022 we will develop a seminar series on how to provide maternal health care using telehealth technology			
1.4.1 In a joint collaboration with the designated FQHC, the Boston Public Health Commission and Boston Medical Center, create a seminar series on how to provide maternal health care using telehealth	Conference Syllabus	7/1/2021	6/30/2022
1.4.2 Post recordings of the lecture series on how to provide maternal health care using telemedicine on the website	Track access to recordings	7/1/2021	6/30/2022
Objective 1.5 By 6/30/2022 we will develop clinical experiences for trainees in the use of telehealth technology			
1.5.1 In a joint collaboration with our clinical experience sites (FQHC, Boston Healthy Start Initiative and Boston Medical Center), include telehealth sessions as part of the longitudinal clinical training experiences. These programs currently use telehealth technology to improve access to health services.	Number of in person and telehealth sessions scheduled each year	7/1/2021	6/30/2022
Objective 1.6 By 6/30/2022 we will adapt our current two year Public Health and General Preventive Medicine residency curriculum to add a focus on maternal health outcomes in underserved areas.			
1.6.1 Review the current BUSPH Masters of Science in Population Health Research curriculum and identify courses that include topics related to maternal health outcomes	List of courses that include maternal health related topics	7/1/2021	6/30/2022
1.6.2 In collaboration with BUSPH faculty with expertise in maternal health outcomes, identify courses to be added as required electives for our trainees	List of courses	7/1/2021	6/30/2022
1.6.3 Integrate the following didactics: quality improvement training via the maternal health Quality and Equity Group; National Health Service Corps (NHSC) Loan Repayment Program and the Indian Health Service (IHS) Loan Repayment Program	Conference Syllabus	7/1/2021	6/30/2022
1.6.4 Develop and integrate seminars in social determinants of health and advocacy training	List of didactics Attendance	7/1/2021	6/30/2022
Goal 2: Develop and implement a recruitment and evaluation plan			
Organizational Priority: Value Based Care			
Objective 2.1 By 6/30/2023 we will create recruitment material focusing on underrepresented groups in medicine			

Key Tasks	**Deliverables**	**Start Date**	**End Date**
2.1.1 Develop a strategy to recruit underrepresented group in medicine and define deliverables for recruitment	Strategy goals, objectives and list of deliverables	7/1/2021	12/31/2021
2.1.2 Develop a recruitment flyer in collaboration with our institution's department of communication and General Medical Education (GME) diversity and inclusion council	Flyer	1/1/2022	6/30/2022
2.1.3 Advertise at Society of Teachers of Family Medicine and Society of General Internal Medicine	Attendance at meetings	1/1/2022	6/30/2023
2.1.4 Advertise using social media platforms algorithms to identify and reach underrepresented groups	Social medial targeted post	7/1/2022	6/30/2023
2.1.5 Disseminate program information at historically Black Medical Schools, the National Medical Association, and the National Hispanic	Copy of ads	7/1/2022	6/30/2023

Medical Association.	Participation at Meetings		
Objective 2.2 By 6/30/2023 we will develop a fellow/graduate database			
2.2.1 Using RedCap create a database to collect and store fellow information including NPI numbers		7/1/2022	12/31/2022
Objective 2.3 By 6/30/2023 we will develop a graduate survey to track outcomes			
2.3.1 Using RedCap develop a survey to collect post graduate data from graduates, including employment demographics		1/1/2023	6/30/2023
Objective 2.5 By 6/30/2023 we implement program evaluations			
2.5.1 Implement and distribute evaluations of didactic sessions	Evaluation Results	7/1/2022	6/30/2023
2.5.2 Implement and distribute evaluations of the public health practicum experience	Evaluation Results	7/1/2022	6/30/2023
2.5.3 Implement and distribute evaluations of the maternal health rotations	Evaluation Results	7/1/2022	6/30/2023
2.5.4 Implement and distribute yearly program evaluations	Evaluation Results Yearly Action Plans	7/1/2022	6/30/2023
2.5.5 Implement and distribute yearly post-graduate surveys	Survey Results	7/1/2022	6/30/2023
***Goal 3:* Develop training and clinical experiences in addiction medicine with a focus on maternal health care**			
Organizational Priority: Opioids / Substance Use Disorder			
Key Tasks	**Deliverables**	**Start Date**	**End Date**
Objective 3.1 By 6/30/2024 we will develop didactic sessions around substance use disorders and maternal health			
3.1.1 Develop seminars in addiction medicine with a focus on maternal health	List of didactics Attendance	7/1/2022	6/30/2023
3.1.2 Trainees to participate in buprenorphine waiver training	Attendance	7/1/2023	6/30/2024
Objective 3.2 By 6/30/2024 trainees will have a clinical rotation in substance use disorder focused on for pregnant women			
3.2.1 Create a clinical rotation at Project Respect (high risk obstetrical and addiction recovery medical home at Boston Medical Center)	Schedule	7/1/2022	6/30/2024
3.2.2 Develop an evaluation for Project Respect rotation	Rotation Evaluation	7/1/2023	6/30/2024
Goal 4: Disseminate a virtual reality based learning curriculum focused on maternal health emergencies in rural and underserved settings			
Organizational Priority: Rural Health			
Objective 4.1 By 06/30/2022 we will have designed a Virtual Reality (VR) based curriculum focused on maternal health emergencies in rural and underserved settings			
Key Tasks	**Deliverables**	**Start Date**	**End Date**
4.1.1 Form an interdisciplinary team composed of a nurse, midwife and physician with expertise in maternal health in rural and underserved settings to inform the development of the virtual reality	List of VR development team members	7/1/2021	6/30/2022

simulated learning experience.			
4.1.2 Develop goals, objectives and associated competencies for the VR based curriculum focused on maternal health emergencies in rural and underserved areas	Goals and objectives	7/1/2021	6/30/2022
4.1.3 Develop an evaluation plan for the virtual reality curriculum	Evaluation Rubric	7/1/2021	6/30/2022
4.1.4 In collaboration with the VR software team, develop five clinical cases that simulate maternal health emergencies in the rural and underserved setting	Five VR learning cases	10/01/2021	6/30/2022
Objective 4.2 By 6/30/2023 we will have piloted a VR curriculum focused on maternal health emergencies in rural and underserved areas			
4.2.1 Pilot the VR based curriculum with the first cohort of two preventive medicine maternal health trainees	Five VR learning cases piloted	10/01/2022	6/30/2023
4.2.2 Refine the VR based curriculum based on feedback from the first cohort and key stakeholders	Five VR learning cases	7/01/2023	12/30/2023
Objective 4.3 By 6/30/2025 we will have disseminated a VR curriculum focused on maternal health emergencies in rural and underserved areas			
4.3.1 Implement the VR maternal health curriculum to all trainees in our preventive medicine maternal health training program	Attendance at training sessions	7/01/2024	6/30//2025
Goal 5: Place graduates in rural and underserved communities			
Organizational Priority: Rural Health			
Objective 5.1 By 6/30/2026 we will have placed 75% of graduates in medically underserved/rural communities			
5.1.1 Develop relationships with MUC/rural communities	List of partners	7/1/2022	6/30/2026
5.1.2 Invite key stakeholders at partner sites to join maternal health didactics via zoom	Schedule Attendance Sheets	7/1/2022	6/30/2026
5.1.3 Foster relationships with rural partners and post job openings to our website and social media		7/1/2022	6/30/2026

Preventive Medicine SDOH Immigrant & Refugee Health 5/1/2023-4/30/2027
Goal 1. Increase the supply and diversity of the preventive medicine physicians.
Goal 1, Objective 1: Increase recruitment of diverse preventive medicine residents and faculty by developing a strategy to recruit physicians underrepresented in medicine (URiM).
Goal 1, Objective 1, Sub-objective 1: To develop and implement a strategy to recruit URiM physicians from our institution's internal medicine, pediatric, and family medicine programs. BMC residency programs have historically been successful at recruiting URiM residents, with 21% of residents identifying as URiM in AY 23.
Goal 1, Objective 1, Sub-objective 2: To develop and implement a strategy to recruit URiM physicians from outside our institution.
Goal 1, Objective 2: Increase retention of diverse preventive medicine residents and faculty.
Goal 1, Objective 2, Sub-objective 1: To develop and implement a mentorship plan designed to provide robust psychosocial and career support for trainees.
Goal 1, Objective 2, Sub-Objective 2: To increase retention of diverse preventive medicine physicians at our institution.

Goal 2: Enhance the quality of the preventive medicine residencies through residents having one of their rotations be a longitudinal rotation in a Federally Qualified Health Center in rural and/or medically underserved communities.
Goal 2, Objective 1: To equip preventive medicine residents with the knowledge and skills to incorporate public health competencies into primary care, we will enhance the current curriculum and develop new coursework in public health, quality improvement, health management and policy, population and community health and leadership.
Goal 2, Objective 1, Sub-objective 1: To implement coursework in Research and Quality Improvement in Public Health.
Goal 2, Objective 1, Sub-objective 2: To develop and implement curricula focused on Leadership and Health Management Skills for Public Health Practice.
Goal 2, Objective 2: To develop and implement a 2-month longitudinal rotation at an FQHC where residents will practice and solidify their public health skills by conducting a mentored scholarly research project on factors affecting the health of the population served by the FQHC.
Goal 2, Objective 3: To increase the knowledge and ability of preventive medicine residents to identify and address SDOH, low health literacy, and health disparities faced by the populations served by FQHCs, we will develop curricular activities to train on how to apply a health equity lens when addressing health literacy and SDOH across the spectrum: from individual to societal.
Goal 2, Objective 3, Sub-objective 1: To equip preventive medicine residents with knowledge and ability to apply a health equity lens when addressing health literacy and SDOH across the spectrum: from individual to societal.
Goal 2, Objective 4: To enhance trainees' skills in emerging public health crises, health equity, health literacy, and strategies to address SDOH.
Goal 2, Objective 4, Sub-objective 2: To equip preventive medicine trainees with skills needed to become effective community organizers and activists, with a focus on how to develop campaigns to address low health literacy, SDOH and health disparities to achieve health equity and justice.