



BMC Research Enterprise Town Hall Meeting

December 10th, 2024

Megan Bair-Merritt, Vice President & Chief Scientific Officer

Boston Medical Center
HEALTH SYSTEM



Agenda

- Welcome & Research Enterprise Announcements
- BUSPH & BMC Practicum Partnership
- Development of Writing and Editing Support Services
- Research Data and Methods Core
- Get to know what is happening in Research within the Department of
 - General Internal Medicine (Dr. Marc LaRochelle)
 - Obstetrics and Gynecology (Dr. Naima Joseph)
 - Pathology and Laboratory Medicine (Dr. Chris Andry)

Notes: we will record the session and make the slides available on the website

BMC's Development and Research teams are accelerating growth and maximizing efficiency for external funding by aligning portfolios with their expertise

- The Foundation Relations and Government Grants team and the portfolio of **government grants and institutional-funded research-related grants** transitioned to the Office of the Chief Scientific Officer, Megan Bair-Merritt, MD, MSCE, as **Strategic Research Growth**
- The **Office of Development**, under the direction of Chief Development Officer Susie Posner-Jones, MHA, will continue to manage relationships with **individual donors, family foundations, corporations, and private and non-profit foundations**
- Together, they created a new **external funding request form** for anyone seeking **external funding**, including **industry sponsored clinical trials**
 - To submit a funding request, please visit bmc.org/external-funding



External Funding Request

Please fill out this form if you would like to seek external funding. Your request will be routed to the appropriate BMC team: Clinical Trials Office (CTO), Office of Development, Strategic Research Growth (SRG). You will receive a confirmation email, a copy of the completed form, and information regarding next steps.

Officially Welcoming Strategic Research Growth to the Research Enterprise

- The Foundation Relations and Government Grants team and the portfolio of **government grants and institutional-funded research-related grants** moved to the Office of the Chief Scientific Officer, as **Strategic Research Growth (SRG)**

SRG will continue to collaborate with you to make your research and government-funded proposals more compelling, responsive, and competitive

- The **Office of Development**, led by Chief Development Officer Susie Posner-Jones, will continue to manage relationships with **individual donors, family foundations, and non-research engagements with corporations and foundations**
- There is now an **external funding intake form** for anyone seeking **external funding**, including for **industry-initiated clinical trials**
 - To submit a request, please visit bmc.org/external-funding

Boston Medical Center

Clinical Research Unit

December 2024





Clinical Research Unit

Yawkey 6 opening Nov/Dec 2024

3,000 sq ft. state-of-the-art in-hospital clinical research space aiming to provide the highest level of safety, compliance, service excellence, and patient experience.

Pillars of excellence

- Expand research portfolio
- Advance science inclusively
- Diversify workforce
- Enhance partnerships

Unit capabilities

- Hem/Onc staffed nurses for adult & pedi
- Available research clinical coordinators
- Overnight infusion/observation
- In-unit adult & pedi code carts
- Clinic exam rooms
- Medication & nutrition stations
- Phlebotomy and lab processing
- In partnership with CTSI and GCRU

Questions to Vivian.Onyechi@bmc.org





Driving inclusive research
BMC Clinical Research Unit is now open.



Clinical Research Unit Team

- As we continue to **elevate our research profile**, we are thrilled to be opening new clinical research space that will enable more studies at the forefront of innovation and health equity
- BMC's **Clinical Research Unit**, or CRU, features 3,000 square feet of state-of-the-art clinical research space and will help us extend our research mission to **advance science for all**



Archana Asundi, MD
Medical Director



Anh Tran, MS, BSN, RN
Clinical Director



Ryan Schroeder
Director of Business Operations



Maggie Faulds, MSN, RN, CNL
Director, HemOnc RN Pool



Dean Robinson
Financial Analyst



Elizabeth Duffy, MA
Director, Research Lab Services Core



Recruiting
Office Coordinator



Recruiting
Clinical Coordinator
8



Driving inclusive research
The value of partnerships.

Getting Started

Where are the research units located?

The CRU at BMC is located on the 6th floor of the Yawkey Building. The GCRU at BU is housed on the 8th floor of the Evans Building, in the CTSI.

What is the cost for CRU services?

For contracts negotiated before Jan. 1, 2025, studies will continue to be charged GCRU agreed upon rates for the remainder of the study. Starting Jan. 1, 2025, any studies using the CRU at BMC space or services being negotiated will be subject to the new rates for services associated with the CRU at BMC.

How will the CRU at BMC and GCRU at BU work together?

If you are working on a new clinical study, please fill out the new **GCRU and CRU Central Intake Form**, which will be assessed by clinical staff from both the CRU at BMC and the GCRU at BU teams. Once a determination is made, you and your study team will be notified and provided with additional information. [Click here to submit the WebCAMP Intake Form.](#)

Who can I contact with further questions about the CRU at BMC or GCRU at BU?

For inquiries about the CRU at BMC, please contact **Anh Tran, Clinical Director**, at Anh.Tran@bmc.org

For questions related to the GCRU at BU, please reach out to **Ridiane Denis, Director of Clinical Research Operations**, at redianed@bu.edu

Host an SPH Student for Project Support

Real-World Work

BU School of Public Health (BUSPH) students are at the leading edge of public health training and education. They are driven to engage and eager to connect with BMC staff through research, data analysis, health systems management, and more.

BUSPH Master of Public Health (MPH), research-based Master of Science (MS), & Doctor of Public Health (DrPH) students complete a required practicum.

Define Your Timeline



Spring Start
Post Oct-Jan



Summer Start
Post March-May



Fall Start
Post Aug-Sept

Identify a Project

Previous collaborations with BMC staff and BUSPH students include:

- Data Analytics for Health Outcomes
- Community Health Needs Assessment
- Policy Analysis for Public Health Initiatives
- Quality Improvement in Clinical Practices
- Health Data Visualization and Reporting
- Surveillance of Infectious Diseases
- Behavioral Health Research (Psychiatry)
- Public Health Communications Strategy

BUSPH Career & Practicum Office

Reach out to sphpract@bu.edu to discuss your project!

Development of Writing and Editing Support Services

	Focus	Description
1:1 Editorial support pilot	<ul style="list-style-type: none"> ▪ Early-career investigators ▪ Increased publication of manuscripts 	<ul style="list-style-type: none"> ▪ Manuscript review and editing ▪ Manuscript development support
Writing Accountability Group pilot	<ul style="list-style-type: none"> ▪ Investigators aiming to increase writing efficiency 	<ul style="list-style-type: none"> ▪ Weekly group meetings ▪ Dedicated writing time ▪ Goal setting ▪ Social support
Educational Resources	<ul style="list-style-type: none"> ▪ Faculty and students seeking guidance on scientific writing 	<ul style="list-style-type: none"> ▪ Templates (e.g., clinical research manuscript template) ▪ Repository for other guidance documents and existing resources is in development

- Initial pilot programs involving editorial support and accountability groups are underway
- Effort to gather information about the writing/editing needs of faculty is ongoing
- Please reach out to Amy Ries (amy.ries@bmc.org) with suggestions

The Data and Methods Core

The Data and Methods Core is now available for BUMC researchers!

Its goal is to support clinical and translational research across BUMC through statistical expertise and services applied flexibly in planning, proposing, and executing analyses, with particular emphasis on early-to-mid career investigators.

The team, led by Michael Fischer and Tim Hesselton, includes one PhD level Biostatistician and two Master's level Senior Data Analysts.

For more information, email Tim Hesselton at

Timothy.Hesselton@bmc.org.

Consultation and Planning	Data Management	
Analysis Consultation	Wrangling	Data Mining
Power and Sample Size Calculations	Cleaning	Organization
Analysis plan development	Quality Control	Visualization
Statistical Analysis		
Descriptive Analysis	Longitudinal Analysis	
Basic Inference	Factor Analysis	
Linear Modeling	Structural Equation Modeling	
Survival Analysis	Machine Learning	
Mixed Effect Modeling	Results Interpretation	



BMC Research Town Hall: General Internal Medicine

December 10th, 2024

Presented by

**Marc LaRoche, MD, Associate Chief for Research
Heather Quinlan-Baron, Research Program Operations
Manager**

**Boston Medical Center
HEALTH SYSTEM**

Agenda

- GIM Research Program
 - ❖ Who We Are and the Research We Do
 - ❖ Proposal and Award Data
 - ❖ Publications
- GIM Training Programs and Fellowships
- Newest Faculty and Research Areas



Research Areas: What We're Known For



- **Substance Use Disorder/
Addiction Medicine**

- ❖ *HEALing Communities Study-
Jeffrey Samet*
- ❖ *Overdose Monitoring and Prevention
Hotline- Alex Walley*

- **Global Health**

- ❖ *Preventing Mental Disorders Among
Women Internally Displaced by War
in Ukraine- Karsten Lunze*

- **HIV/AIDS**

- ❖ *Providence/Boston Center for AIDS
(CFAR)- Kaku So-Armah*

- **Immigrant & Refugee
Health**

- ❖ *Refugee Health Assessment
Services- Sarah Kimball*



*Together for Hope Boston Addiction
Conference 2024*



*Team Photo - Karsten Lunze, Care Model for
Displaced Persons in Ukraine*

- **Sexual Gender Minority/
LGBTQ+ Health**

- ❖ *Assessing the Burden of Dementia on Transgender Populations- **Carl Streed***

- **Social Determinants of Health/Health Equity**

- ❖ *THRIVE-DM: Improving Diabetes Care with Strategies for Addressing Health-Related Social Needs and Community Partnership- **Pablo Buitron de la Vega, Julien Dedier, Michael Fischer***
- ❖ *Comparative effectiveness of interventions to improve hypertension control in safety-net settings: The Boston Hypertension Equity Alliance in Treatment (BHEAT)- **Michael Fischer***



Natalia Morone OPTIMUM study and IMPACT study team photo after dinner outing

- **Alternative Pathways to Health and Well-being**

- ❖ *Remote Tai Chi for Knee Osteoarthritis- **Eric Roseen***

Publications

- ~**2,820** total existing publications across GIM research faculty
- Some published this month:
 - “Racial and Ethnic Disparities in Referral Rejection from Postacute Care Facilities among People with Opioid Use Disorder in Massachusetts.”
 - J Addict Med. Weinstein, So-Armah, Yan, Laroche, Walley, Kimmel
 - “Effectiveness of Virtual Yoga for Chronic Low Back Pain: A Randomized Clinical Trial”
 - JAMA Network Open. Roseen.
- Example of policy impact
 - “Cardiovascular disease among transgender adults receiving hormone therapy.”
 - Ann Intern Med. Streed. > 200 citations
 - Cited in The White House “Recommendations on the Best Practices for the Collection of Sexual Orientation and Gender Identity Data on Federal Statistical Surveys”

BMC Research Forum

Proposal and Award Data: FY 2024

- Proposals

- ◆ 69

- ◆ \$84,050,13

- ◆ 29 Clinician Investigators and Researchers

- Awards

- ◆ 31

- ◆ \$28,376,879

- ◆ 21 Clinician Investigators and Researchers

BMC Research Forum

GIM Training Programs and Fellowships

5 Total Training Grants

- Two T32s
 - ❖ *Spots shared amongst GIM/Pediatrics/Family Medicine/Surgery:*
 - ❖ *AHRQ: Training in Health Services Research for Vulnerable Populations; 3 Pre-docs and 3 Post-Docs supported*
 - ❖ *HRSA: National Research Service Award; 5 Post-Docs supported*
- HRSA Preventive Medicine Training Grants
 - ❖ *Primary Care Training and Enhancement*
 - ❖ *Preventive Medicine Residency*
- HRSA Fellowship
 - ❖ *Addiction Medicine*

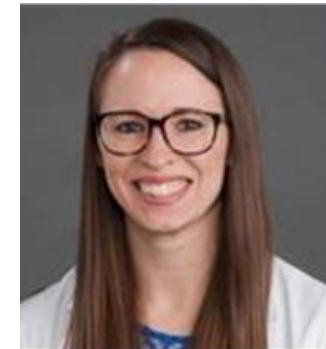
New Faculty and Developing Research Areas


- **Carceral Health**

- ❖ *Massachusetts HIV and Justice-Involved Populations Research Network- **Alysse Wurcel***
- ❖ *Health, Access to Care, and Social Determinants of Health for Sexual and Gender Minority People with Criminal Justice Involvement- **Emily Lupez***

- **Somatic Therapies for overlapping PTSD and Pain**

- ❖ *A Mind and Body Approach to PTSD with Chronic Pain: Acceptability and Feasibility of Somatic Therapy- **Karim Sariahmed***





We love collaborating,
please reach out!



Research Activities Department of Obstetrics & Gynecology

Naima T. Joseph, MD

Boston University
Medical Group



Department of OBGYN Research

Incoming Vice Chair for Research: Dr. Sheree Boulet

[Lab of Sheree Boulet, DrPH, MPH | Emory School of Medicine](#)

Population health researcher

NICHD, NIMHD, NHLBI, NCATS Funded research in health disparities,



Who we are:

Physician-scientists, Epidemiologists, Post doc

What we do

- Study racism and impact on reproductive health outcomes
- Health system interventions to improve health outcomes
- Health outcomes across identities and conditions (e.g. people living with HIV, substance use, justice-involved pregnant people, persons in the military)
- Basic science underpinning leading causes of preeclampsia, infertility, fibroids

Dr. Naima Joseph

Assistant Professor, Obstetrics and Gynecology,
Boston University Chobanian and Avedisian School
of Medicine

Research Interests: Health systems equity, quality
of care in low resource settings, maternal
mortality, infectious diseases



Evaluating the Effectiveness of Remote B/P Monitoring in Reducing Perinatal Morbidity in Black patients

AIM 1. To evaluate trends in perinatal morbidity since program implementation using historical controls using quasi-experimental (difference in difference) design

AIM 2. To isolate the effectiveness of remote blood pressure monitoring in the mitigation of preeclampsia related perinatal morbidity using target emulation approach in a contemporary cohort

AIM 3. To understand factors influencing patient engagement, acceptability, and unanticipated adverse events associated with this program using sequential mixed methods design and implementation science frameworks

Supported by Agency for Health Care Research and Quality and the Patient Centered Outcomes Research Institute on Learning Health Systems Training Grant P30 HS029752-01, The Department of Health and Human Services Hypertension Innovation Prize, and the BMCHS Health Equity Accelerator

Other research in health system strengthening in low and middle income countries, pregnancy-related and associated death, perinatal infectious diseases, pregnancy vaccination

Dr. Wendy Kuohung

Associate Professor of Obstetrics and Gynecology, Boston University Chobanian and Avedisian School of Medicine

Research interests: Infertility and in vitro fertilization, fertility preservation, menstrual disorders, fibroids, endometriosis, minimally invasive and robotic gynecologic Surgery



Placental Cell Model of APOL1 Risk Variants

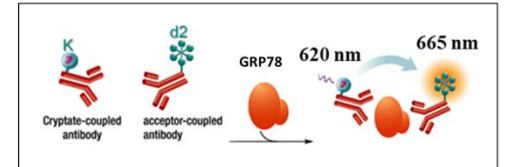
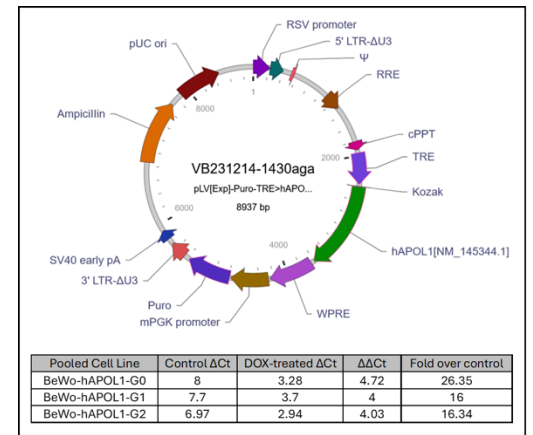
Apolipoprotein 1 Gene (*APOL1*)

- Coding variants (G1 and G2) are strong risk factors for kidney disease in people of African ancestry (OR ~7-29 for severe kidney disease)
- Transgenic mice with *APOL1* variants had preeclampsia and ↓litter sizes
- In humans, **fetal APOL1 genotype is associated with preeclampsia risk**
 - Gene dosage affects preeclampsia severity, “second hit” required

We generated **stably transfected BeWo lines that conditionally express G0 and variants G1 and G2** under control of Tet-On promoter

- BeWo cells – immortalized choriocarcinoma cell line, trophoblast cell model
- Untransfected BeWo cells express *APOL1* wild type G0 haplotype, low levels of APOL1 protein

Cell model will be used to study potential mechanisms of APOL1-associated trophoblast injury that may contribute to the genesis of preeclampsia



- Will adapt cell lines for use in a high-throughput assay to screen compound libraries for novel preeclampsia therapeutics
 - Homogenous time-resolved fluorescence sandwich assay (Revivity)
 - Potential readouts – GRP78 (highly expressed in first trimester placenta, ↑ in renal podocytes overexpressing G1 and/or G2), eIF1

Dr. Glenn Markenson

Professor of Obstetrics and Gynecology, Boston University Chobanian and Avedisian School of Medicine. Director, Center for Military Health Center, Boston University.

Research Interests: Preterm birth prevention, vaccines in pregnancy and optimizing the health of current members of the military and veterans

Impact of Pregnancy on Activity Related Injuries During Pregnancy and the Postpartum Period

Objectives

1. Determine the incidence of musculoskeletal injuries during the first year postpartum for active-duty military women.
2. Compare the incidence of musculoskeletal injuries during the first year postpartum in active-duty women to a cohort of matched non-postpartum women during a one-year period.

Prevalence and Correlates of Sexual Dysfunctions in Females with Traumatic Brain Injury: A mixed-methods study

Objective:

A pilot study is to assess the feasibility and acceptability of performing a larger study to assess the risk of female sexual dysfunction after suffering traumatic brain injury



Medical Group

CENTER
ON
MEDICAL

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UNIVERSITY

Dr. Julie Mottl-Santiago

Assistant Professor, Boston University School of Medicine,
Midwife, Boston Medical Center,
Department of Obstetrics & Gynecology

Research interests: Doula, labor person support, birth centers



Patient perspectives on implementation of a low-risk Birth Center at BMC to promote maternal health equity (seed grant)

Objective: To describe the preferences and self-reported needs of Black pregnant people related to the implementation and adoption of a low-risk Birth Center model of care

Significance: Low-risk Birth Centers are evidence-based interventions that improve childbirth outcomes and reduce health disparities but are inequitably accessible by income and race.

Methods:

Design: Qualitative study

Participants: Convenience sample of 15 people with medically low-risk pregnancy, 24-40 weeks GA, self-identified as Black

Data collection: In-depth interviews using a semi-structured interview guide

Analysis: Rapid qualitative analytic methods; coding guided by the Health Equity Implementation Science Framework (Woodward, 2019) to understand equity-related, patient-level factors influencing implementation

Dr. Nyia Noel

Assistant Professor, Obstetrics and Gynecology, Boston University Chobanian and Avedisian School of Medicine

Fibroids, endometriosis, disparities in maternal morbidity and mortality, health care access and systems delivery



Centering Patients with Fibroids (CPWF)

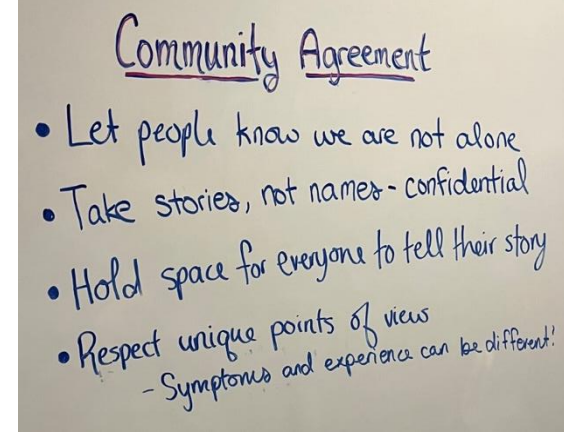
Led by Dr. Nyia Noel, CPWF is a prospective, mixed-methods cohort study investigating the efficacy of an 8-week education and empowerment program for patients with uterine fibroids.

Study aims:

- Conduct a pilot quasi-experimental trial of **Centering Patients with Fibroids (CPWF)** at BMC and Emory University/Grady Hospital in Atlanta
- Identify modifiable intervention targets and **organizational, provider, and patient-level** factors associated with successful implementation of CPWF
- Amplify and scale the impact of CPWF through “QRmmunity Health Education,” a **social media campaign**

Other research

Site PI: NIH P50 PEACE Center
Emergency Department Utilization for Fibroids
Isolating Fibroid Stem Cells from Human Explants





Dr. Liberty Reforma
Assistant Professor,
Obstetrics & Gynecology



Dr. Samantha Parker Kelleher
Associate Professor,
Epidemiology

PLACES: Postpartum, Lifestyle, & Cardiovascular Evaluation Study

Longitudinal study to gather comprehensive postpartum data including information on breastfeeding, sleep, nutrition, and exercise

Participants will complete a survey between 4-8 weeks postpartum and a follow up survey around 3 months postpartum

Eligibility Criteria

- Read English, Spanish, or Haitian Creole
- Be 18 years or older
- Delivered at BMC
- Be between 4 and 8 weeks postpartum at the time of the first survey

Participants will be compensated for each survey

Website: <https://sites.bu.edu/places/>

Funded by a BUSPH pilot award

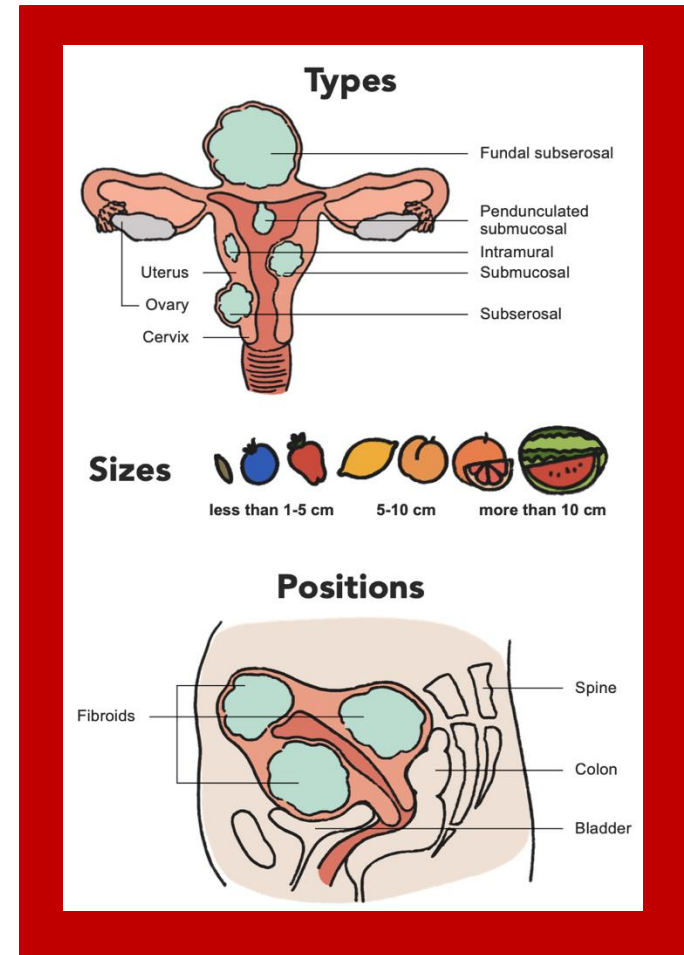
Dr. Kelly Treder

Assistant Professor, Obstetrics and Gynecology, Boston University Chobanian and Avedisian School of Medicine
Research interests: Family planning, health equity



Development of a Shared Decision-Making Tool for the Management of Uterine Fibroids

- **Clinical tool that allows BMC providers and patients to discuss fibroid management options and co-create a treatment plan**
- We will interview **a total of 10-15 providers and 25-30 patients** on their experiences using the tool, and collect survey data from 100 patients
- So far: 8 provider interviews & 10 patient interviews completed; 53 surveys completed
- **Supports patients:**
 - Increases autonomy & centers patient values in medical decisions
 - Enhances understanding of various management options
 - Combats racial disparities in management recommendations
- **Supports providers:**
 - Provides resources for patient education in one place
 - Detailed images help with visualization
 - Increases visit efficiency



WHAT IS IMPORTANT TO ME?

It's important to work alongside your provider to find the right treatment for you. We want to take your values and preferences into consideration. Use this sheet as a starting point to assess what's important to you and what next steps can be considered.

Dr. Katharine White

Professor and Chair,
Obstetrics and Gynecology,
Boston University Chobanian
and Avedisian School of
Medicine

Research interests:
Contraceptive development,
shared decision-making




NIH/NICHD Contraceptive Clinical Trials Network

- PI: Katharine White, MD, MPH
- **What is the CCTN?**
 - Conducts clinical trials of new contraceptive drugs and devices to develop novel female and male contraceptive methods
 - Contract-based funding for sites with access to clinical facilities capable of conducting first-in-human and Phase I, II, and III clinical trials
- **New injectable contraceptive (levonorgestrel butanoate) - alternative to Depo-Provera**
 - Alternative to Depo-Provera, hoping for improved side effect profile
 - Phase 2a study, have enrolled 12 participants to date
- **New barrier method (Ovaprene)**
 - Monthly intravaginal non-hormonal drug/device
 - Physical barrier + iron impedes sperm motility
 - Single arm, open-label pivotal contraceptive efficacy study
 - Phase 3 study, have enrolled 10 participants to date



Collaboration with Venova Technologies

- PI: Katharine White, MD, MPH
- ***What is Venova?***
 - Boston-based, women-led start-up
 - Development of a novel, non-hormonal, long-acting barrier device
- **NIH funding**
 - STTR, X011 service contracts x 2
 - New application for SBIR Phase II (score = 20)
 - Primate studies, sperm flow studies, biocompatibility study
- **Mass Life Science Center Women's Health Innovation Grants x 2**
 - Hysterectomy study – placing device after uterus has been surgically removed
 - Cervical measurement study beginning
 - Assessing changes in cervical dilation over the course of a menstrual cycle
 - Could improve counseling about GYN procedures at various stages of the cycle
 - Aiming to recruit 20 people



Thank you,
please reach out!

**Department of Pathology & Laboratory
Medicine**

Research Portfolio

Christopher D. Andry M.Phil., Ph.D.

**Chief and Chair, Department of Pathology &
Laboratory Medicine**

**Professor of Pathology & Laboratory Medicine
and Family Medicine**

12/10/24

**Boston University
Medical Group**



The department has a number of areas of focused interest:

Cancer biology (lung, epigenetic studies, CRC, breast, prostate, thyroid)

Anatomic Pathology group

- Eric Burks MD
- Sandra Cerda, MD
- Sara Higgins, MD
- Robert Pistey, MD
- Carmen Sarita-Reyes, MD
- Zhichun Lu, MD
- Grace Zhao, MD, PhD
- Tao Zuo, MD, PhD

Basic science group

- Jim Crott, PhD
- Dennis Jones, PhD
- Thomas Clarke, PhD

**Boston University
Medical Group**

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The department has a number of areas of focused interest *cont.*

- Renal pathology (Joel Henderson, MD, PhD)
- Neuroscience
 - Alzheimer's Disease & other neurodegenerative diseases (Ivana Delalle, MD, PhD)
 - Traumatic Brain Injury (Thor Stein, MD, Jon Cherry, PhD)
 - Dietary models for cognitive pathologies (Krzysztof Blusztajn, PhD, Tiffany Mellott, PhD)
- Collaborative Translational Clinical Research: **Laboratory Medicine** (Reggie Thomasson, MD, Yachana Kataria, PhD, Nancy Miller, MD, Marisa Nielsen, PhD,)
- Commitment to education and experiential learning (Andry, Duffy, Kataria, Jones)
- Biospecimen Science (Duffy & Andry, LABS Core Team)



Dennis Jones, PhD
Assistant Professor,
Pathology & Laboratory
Medicine

Breast Cancer Immunology

Overview: Our strategy aims to reduce compressive forces in advanced breast cancer to improve blood vessel function, facilitate T cell infiltration, and synergize with therapies that enhance anti-cancer T cell activation.

Funding: **1R01CA284133-01A1**; National Cancer Institute; Improving anti-tumor immunity in advanced breast cancer by targeting solid stress; 06/2024-05/2029

Recent Publication: Jana S, Li W, Lei, P-J, Wang Z, Huang P, Jones D. Isolation and characterization of a novel mammary adenocarcinoma, MCa-P1362, with Hormone Receptor Expression, HER-2 Positivity, and Enrichment in Cancer and Mesenchymal Stem Cells. *American Journal of Pathology*, 2024 Jun;194(6):1137-1153.

Lymphatic Vessel Biology

Overview: Our ongoing studies aim to uncover fundamental aspects of lymphatic muscle cell biology and identify novel targets to improve their function, enhance lymphatic vessel contractility, and strengthen immune responses in the context of disease.

Funding: **1R01AR084505-01**; National Institute of Arthritis and Musculoskeletal and Skin Diseases; Enhancing immunity by protecting lymphatic muscle cells from MRSA-Induced dysfunction; 07/2024-06/2029; **HT9425-24-1-0008**; Department of Defense Peer Reviewed Medical Research Program; Enhancing Lymphatic Function with Transplanted Muscle Cells after Bacterial Infection; 03/2024-02/2026

Recent Publication: Arroyo-Ataz G, Yagüe AC, Breda JC, Mazzilli SA, Jones D. Transcriptional, developmental, and functional parallels of lymphatic and venous smooth muscle. *bioRxiv*, 2024 Jul 22:2024.07.18.604042.



Jim Crott PhD. Associate Professor, Pathology and Laboratory Medicine.
Associate Editor, Nutrition Research.

Lab focus:

To study the interaction between aging, gut microbiome and colorectal cancer.
To identify beneficial bacteria and understand their mechanism of action.

Current funding

“Gut microbiota modulate the effect of diet on inflammation and tumorigenesis”

USDA AFRI # 2020-67017-30845

Dates: 2020 – 2025. Role: PI

“Strengthening gut barrier integrity with beneficial microbes to increase lifespan and healthspan”

NIH/NIA R01# 1R01AG069917-01A1

Dates: 2021 – 2026. Role: PI

Recent Publications

Crossland NA, Beck S, Tan WY, Lo M, Mason JB, Zhang C, **Crott JW**. Fecal microbiota transplanted from old mice promotes more colonic inflammation, proliferation, and tumor formation in azoxymethane-treated A/J mice than microbiota originating from young mice. *Gut Microbes*. 2023 Dec;15(2):2288187. doi: 10.1080/19490976.2023.2288187. Epub 2023 Nov 29. PMID: PMC10730208.



Yachana Kataria, PhD DABCC, FADLM
Medical Director, Clinical Chemistry
Assistant Professor,
Pathology & Laboratory Medicine

Recent and Future work

Boston Medical Center (BMC) Laboratory and Biorepository Services (LABS) Core Center of Excellence for Serology Development and Emergency Preparedness (CESDEP)

SIG-COVID Longitudinal Study of SARS-CoV 2 exposure in healthcare workers at BMC

The Role of Neutrophil Gelatinase-Associated Lipocalin (NGAL) in the Boston Kidney Biopsy Cohort (BKBC). Kataria & Waikar

Boston Medical Center (BMC) Laboratory and Biorepository Services (LABS) Core Center of Excellence for Clinical Translational Research, Experiential Learning and Career Development

CKD of unknown etiology in a longitudinal study –Dr. Waikar and colleagues at Stanford.

Noninvasive testing for Steatotic Liver Disease - The role of Laboratory Medicine

Socio-environmental context in monoclonal gammopathy of undetermined significance (MGUS) disparities

Determinants of the racial/ethnic disparity in MGUS risk: An epidemiologic study in 4 cohorts



Ivana Delalle, MD, PhD, Professor of Pathology & Laboratory Medicine, Neuropathologist, conducts research bridging basic and clinical science to advance the understanding of the pathogenesis of neurodegenerative diseases. Her present focus, supported by the by National Institutes of Health (NIH) / National Institute of Aging (NIA) (~ \$ 7 millions), is on novel, early, and reliable biomarkers of Alzheimer's Disease.

Recent NIH/NIA supported studies, directed by Dr. Delalle and her co-senior authors at the University of Goettingen, Germany, and Indiana University, demonstrated that evaluating microRNAs in blood can be used not only to diagnose mild cognitive impairment (MCI) but also, critically, to predict the conversion from MCI to Alzheimer's Disease (AD). Moreover, the team uncovered microRNA candidate molecular biomarkers that associate with current Amyloid, Tau, and Neurodegeneration (A/T/N) AD biomarkers.

These novel findings are important because, unlike the current AD biomarkers, microRNAs may serve as blood molecular biomarkers years before AD-associated clinical symptoms begins, enabling successful AD prevention and/or early intervention to stop AD.

Funding (NIH/NIA):

RF1AG078299 (09/2022 - 08/2027): MicroRNAs as Diagnostic and Prognostic Biomarker of Alzheimer's Disease.

R01AG084624 (09/2024 - 08/2029): Long Non-coding RNAs as Therapeutic Targets and Biomarkers of Alzheimer's Disease and Related Dementias

2024 publications:

[The plasma miRNAome in ADNI: Signatures to aid the detection of at-risk individuals.](#) *Alzheimers Dement.* 2024 PMID: 39291752

[Plasma miRNAs across the Alzheimer's disease continuum: Relationship to central biomarkers.](#) *Alzheimers Dement.* 2024 PMID: 39291737

[PRDM16-DT is a novel lncRNA that regulates astrocyte function in Alzheimer's disease.](#) *Acta Neuropathol.* 2024 PMID: 39207536

[Regulation of Zbp1 by miR-99b-5p in microglia controls the development of schizophrenia-like symptoms in mice.](#) *EMBO J.* 2024 PMID: 38528182

[Cortical-sparing chronic traumatic encephalopathy \(CSCTE\): a distinct subtype of CTE.](#) *Acta Neuropathol.* 2024 PMID: 38407651



Boston University Chobanian & Avedisian School of Medicine
Pathology & Laboratory Medicine

Research Interests:

- DNA damage repair and genomic integrity maintenance
- Cancer and therapeutic response
- Human developmental/genome instability syndromes

Representative Publications:

- Clarke, et al (2017) *Molecular Cell*
- Clarke, et al (2020) *Cancer Discovery*
- Clarke and Mostoslavsky (2022) *Molecular Oncology*
- Kamaliyan and Clarke* (2024) *Frontiers in Cell and Dev Bio*
- Clarke*, et al – *Nature Cell Biology* (In revision)

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Recent collaboration:

Higgins, S, MD, Zhao QG, MD, Clarke T, PhD

"Understanding the roles of ZNF280A in DNA damage repair and therapy response in colorectal cancer"

BMC Cancer Center Early Career Faculty Funding



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- **Ming Lo, DVM, PhD, DACVP**

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Creating and sustaining a biospecimen procurement, storage, management and distribution program. LABSCore, in the setting of a Safety Net Hospital and Academic Medical Center in Boston, MA

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