**Facilities and Other Resources**

**Department of Population Medicine**

**Harvard Pilgrim Health Care Institute/Harvard Medical School**

**Department Description and Affiliations**

The Department of Population Medicine (DPM) resides within the Harvard Pilgrim Health Institute (HPHCI) and is an appointing department of Harvard Medical School. The DPM performs the research that helps provide information to people at all levels of our health care system, from government health officials to private citizens faced with day-to-day choices about how to maintain their own health. We inform policy makers who make decisions about insurance coverage and reimbursement policies, and individual clinicians and patients who need reliable evidence about what treatments and medications work best for specific conditions. At DPM, we work to create a base of knowledge that will enrich both health care systems and the quality of medical education. Our affiliation with Point32Health, a large not-for-profit health insurance company with diverse enrollees across New England, and with Harvard Medical School gives us a prime opportunity to study specific patient populations and integrate our findings into the health care setting and educational curriculum. Point32Health is the corporate parent of Harvard Pilgrim Health Care and Tufts Health Plan. Point32Health has 2.2 million diverse members across New England, and DPM has access to health care claims, demographic, and administrative data for these members who are insured in HMO, PPO, POS, Medicare Advantage, Medicare Enhanced supplemental, Marketplace, and Medicare managed care products.

The DPM’s Harvard-appointed faculty study issues such as precision medicine & policy, cancer screening and prevention, health policy, medication safety and effectiveness, obesity prevention, nutrition, maternal and child health, vaccination policy, health care disparities, public health surveillance, and uses of electronic medical record technology. In addition, the DPM sponsors teaching programs for medical students and residents that provide training experiences in the types of settings where they will eventually practice. Our teaching programs instill both clinical skills and a sound knowledge of public and population health issues, including innovations in science and medicine, health care insurance systems, clinical epidemiology, and disease prevention. We also have a thriving set of national partnerships for collaborative research and an international program that seeks to create better access to health care and medicine in developing countries.

**Institutional Investment in the Success of Investigators**

The DPM provides an intellectually rich and supportive environment for fostering the success of investigators. The DPM includes ~65 doctoral-level scientists with medical and graduate degrees, with expertise in a variety of disciplines including precision medicine, health policy, clinical medicine, epidemiology, health services research, biostatistics, and behavioral and clinical research. The DPM has strong national connections that amplify the opportunities for and impact of its research. It participates in national collaborative research networks, including the Health Care Systems Research Network and the US Centers for Disease Control and Prevention’s (CDC) Prevention Epicenters and the Vaccine Safety DataLink Project. DPM serves as the coordinating center for the NIH Health Care Systems Research Collaboratory’s Distributed Research Network. It leads the FDA-funded Sentinel System, a national surveillance system for monitoring the safety of FDA-regulated medical products using a distributed data network to rapidly query data for >100 million people held by 18 data partners. HPHCI has productive collaborations with leaders in public health practice, including the CDC and the Massachusetts Department of Public Health. In addition to our affiliation with Point32Health, we have an active collaboration with one of the nation’s largest health care providers, HCA Healthcare.

All faculty serve as collaborators, teachers, and mentors for junior faculty, trainees, and medical students. They also collaborate with other investigators in the Harvard community and beyond. Several members of the department’s faculty have won highly competitive medical schoolwide or university-wide Excellence in Mentoring awards. The DPM has a dedicated senior faculty member in the role of Director of Faculty Development, who advises faculty on career development and promotion, and oversees education and career enrichment programs within the Department. Our strong tradition of mentorship is built on thoughtful processes to support faculty members’ professional development.

**Computing Resources**

The DPM is served by a LAN that has access to the clinical, research, and educational databases of Point32 Health. The Department’s information technology infrastructure is provided by Point32 Health and supported by NTT. All computing resource access is managed in compliance with HIPAA Security standards. All HP desktop and laptop computers use the Windows 10 operating system and have network and internet access. For file security, all desktops and laptops run encryption software from Zscaler (when on the network) and Windows Firewall (off Network) to prevent accidental loss or theft of data on computers or removable media from being usable. Network file storage is on a password protected Novell server. Remote access to the Point32 Health network is available on Point32 Health laptops using VPN software or Citrix secure access technology. The Department purchases licensed computer software commonly used for research, including Microsoft Office, SAS, Stata, and Endnote. A 32 core SAS server runs in the environment providing high-capacity computing and analytical support.

**Office and Other Physical Resources**

The DPM has 27,000 feet of research office and conference room space located within a 10-minute walk from Longwood Medical and Academic Area, which houses Harvard Medical School, Harvard School of Public Health, Harvard School of Dental Medicine, Harvard-affiliated hospitals, and other premier research and teaching institutions. Each DPM investigator has a dedicated research office with a computer, telephone and full access to shared computer networks, fax and copy machines, and a health sciences library. DPM investigators also benefit from the academic resources of Harvard Medical School, including access to the Francis A. Countway Library of Medicine, one of the largest medical libraries in the world with a world class web-based bibliographic retrieval and search system.

DPM offices at 401 Park Dr.

**Scientific Environment – Institutional Support**

The DPM offers a scientific environment conducive to the proposed research. Faculty members are affiliated with one or more of the DPM’s 5 Divisions: the Center for Health Care Research in Pediatrics (CHeRP), the Division of Chronic Disease Research Across the Lifecourse (CoRAL), the Division of Health Policy and Insurance Research (HPI), the Division of Biostatistics, and the Division of Therapeutics and Infectious Disease Epidemiology (TIDE). In addition, the Department has cross-disciplinary centers that promote collaboration and responsiveness to changes in policy and research opportunity. These include the Center for Cancer Policy and Program Evaluation (CaRPE) and the Precision Medicine Translational Research Center (PROMoTeR).

The DPM’s Office of Sponsored Programs assists investigators conducting research or teaching programs with the preparation, submission, and post-award administration of these programs. The Office also provides training in administrative, ethical, and logistical aspects of grants management and human subject research. Faculty members are entitled to departmental support for administrative assistance, and annual funds for reimbursement of travel, dues, membership fees, licensing, or other business-related expenses.

**Career and Faculty Development**

Each fellow and faculty member has a primary advisor and is encouraged to use additional faculty members for support and guidance as appropriate. The advisor is expected to hold at least two one-on-one review meetings each year dedicated to professional advancement and planning. In practice, a well-functioning mentoring pair in the Department discusses these issues much more often.

Each spring, the Department convenes an all-day faculty review meeting. All faculty convene at the start of this meeting. Each fellow or faculty member is reviewed by all faculty senior to them in rank. For each person, the primary advisory makes a 5- to 10-minute presentation on their recent progress and upcoming professional plans (without the advisee or individuals at the same or lower rank present). The faculty as a whole provides advice on the plans developed by the mentoring pair and helps to address challenging professional issues. This process promotes a shared understanding about how to best advise each faculty member so that other faculty can coordinate their supporting efforts. It is an important factor in the intellectual community-building and shared mentoring of faculty in the Department. The DPM’s annual review process has been summarized in a peer-reviewed [publication](https://pubmed.ncbi.nlm.nih.gov/30467525/) and received a Program [Award](https://dicp.hms.harvard.edu/awards-and-recognitions/program-award-culture-excellence-mentoring) for Culture of Excellence in Mentoring from HMS.

The department sponsors a number of initiatives to promote career development and improve quality of life including a 360-degree review process as part of the annual faculty review; a monthly meeting of all of the department’s fellows; a departmental mentoring [award](https://www.populationmedicine.org/teaching/mentoring/GordonMooreMentoringAward) to recognize faculty and staff mentors at all career stages; and a mid-career faculty development [fellowship](https://www.populationmedicine.org/news/EbertCareerDev2021) program.

The DPM has several departmental training programs that serve as venues for intellectual development and sources of potential trainees. These include fellowship programs in General Internal Medicine and Primary care, Pediatric Health Services Research, and Pharmaceutical Policy Research. Career enrichment resources for all faculty members, especially Early Stage Investigators, include departmental Strategies and Seminars, which provide junior faculty with guidance on topics such as grant writing, presentation skills, manuscript writing and reviewing, and media training. The Department holds weekly work-in-progress “brown bag” sessions where faculty and fellows share research ideas and receive feedback. The Institute’s Office of Sponsored Programs provides training in administrative and logistical aspects of grants management and human subjects research. Each year the DPM supports selected faculty to participate in special career development conferences including the Harvard Medical School Leadership Conferences and the American Association of Medical Colleges’ Women Faculty Professional Development Seminars.

# Laboratory: N/A

**Animal:** N/A

**The DPM’s Division of Chronic Disease Research Across the Lifecourse**

**The mission**of the Division of Chronic Disease Research Across the Lifecourse (CoRAL) is to lessen the burden of chronic diseases and obesity-related disorders across the lifecourse by conducting collaborative, high impact research within defined and diverse populations, and by educating the next generation of researchers. Dr. Emily Oken is the Director and Dr. Jason Block is the Associate Director.

CoRAL's **primary areas of research** expertise are:

* **Epidemiologic studies** of the development of chronic diseases and their risk factors, including obesity, metabolic syndrome, diabetes, cardiovascular disease, airways diseases, and neurodevelopmental problems. This area invokes the life course approach to chronic disease, and especially targets etiologic factors working at the earliest stages of human development. Project Viva, is the flagship study within this line of work.
* **Interventions** to prevent chronic diseases. This area's focus is on innovative behavior change interventions in primary care and community settings.
* **Health services research** on the effects of prevalence and consequences of chronic diseases in relation to:
	+ Health plan policies and programs
	+ Clinical therapeutic interventions such as surgery or pharmaceutical agents
	+ Decision support or new technology for clinicians
	+ Cost-effectiveness of clinical and policy interventions.

CoRAL is a multidisciplinary program that fosters collaboration among research investigators, both nationally and internationally, and across the Harvard campus. It serves as a springboard for training the next generation of researchers in chronic disease and obesity prevention. The majority of the Division’s approximately $35 M in grant funding is from the NIH, with additional funding from the Patient-Centered Outcomes Research Institute (PCORI), American Diabetes Association (ADA), and other sources.

**Research Visit Rooms**

Just within the main entrance to the department, the CoRAL maintains a research visit room suite dedicated for research participant assessment. These private rooms can be used for administration of informed consent, questionnaires, and interviews, to obtain measurements, and phlebotomy. A bathroom is conveniently located next door for participant comfort and collection of urine samples. A separate adjoining lead-shielded room contains a dual x-ray absorptiometry (DXA) scanner.

**The Center for Healthcare Research in Pediatrics (CHeRP) at the Department of Population Medicine**

The Center for Healthcare Research in Pediatrics (CHeRP) is a multidisciplinary research group dedicated to improving the health of children through studies that enhance health care decision-making by families, clinicians, and policymakers. CHeRP's association with Point32Health offers special opportunities to conduct population-based studies of health care practices and health outcomes in large groups of patients and clinicians. Areas of ongoing investigation include precision medicine; health care quality and safety, particularly around vaccines and maternal and pediatric health; decision making and cost-effectiveness analysis; asthma; and health policy evaluations.

CHeRP has close ties to Boston Children's Hospital, one of the nation's premier institutions in pediatric research and teaching. CHeRP members also collaborate with Atrius Health, a large multi-specialty provider group, in research on how to improve primary care for children. Center faculty lead an innovative fellowship training program in pediatric health services research, which contributes to a vibrant research environment.

**The Precision Medicine Translational Research Center (PROMoTeR) at the Department of Population Medicine**

Within the DPM, Dr. Wu directs the Precision Medicine Translational Research Center (PROMoTeR), which includes faculty members from all 5 divisions of the DPM: Biostatistics, Chronic Disease Research Across the Life course (CoRAL), Division of Health Policy and Insurance Research (HPI), Therapeutics Research and Infectious Disease Epidemiology (TIDE), and finally Center for Healthcare Research in Pediatrics (CHeRP). PROMoTeR’s mission is to identify and evaluate genomics practices to improve individual and population health. The faculty within PROMoTeR is a multidisciplinary team with expertise in conducting studies of effectiveness and cost-effectiveness, health policy analysis, and pharmacoepidemiology.

# Computing and Analytic Resources

# The Harvard Medical School High Performance Computing

Harvard Medical School (HMS) Research Computing provides the Orchestra cluster, a shared high- performance computing environment to HMS-affiliated researchers. Research computing staff help researchers get access to software and hardware resources and provide advice on how to use those resources, including access the Orchestra cluster to analyze data, install or use a particular bioinformatics program, filter and reformat data so that a particular program can read it and run MPI parallel jobs.

**The Harvard Clinical and Translational Science Center (“Catalyst”) Bioinformatics Core**

The Harvard CTSC’s Bioinformatics Core provides both general and highly specialized computer and bioengineering support to investigators and staff. The Core is built on an initial Core founded in 1980, when the CLINFO (Clinical Information) system came online. For approximately 12 years, CLINFO served as both a data storage and analysis system for the investigator. In the early 1990’s, CDMAS (the successor to CLINFO) changed the way such services were provided to CTSC investigators. Today the Bioinformatics Core of the CTSC is a model of shared computer resources. Some examples of the extra support provided by the CTSC Bioinformatics Core are:

* Automated Neurobehavioral Testing
* Automated Data Collection
* Protocol-specific Customized Software
* 8 Windows 2003 and 2000 Advanced Servers dedicated to data collection and storage
* Programmable light delivery system

**Research Support Data Center (RSDC)**

All DPM faculty members have access to technical support from within and outside of the department for conducting research. The Research Support Data Center (RSDC), with a staff of 5 senior SAS programmer/analysts, is a freestanding data and programming support unit housed in DPM. The RSDC exists to support research projects undertaken by investigators affiliated with HPHCI. The Center is fiscally independent, non-profit, and is supported by providing discrete data processing and analysis services to funded research projects. Services the RSDC provides include: data development strategies; selection of study populations; extraction and organization of HPHC data, such as inpatient, outpatient, and pharmacy claims; preparation of custom research datasets; SAS programming; and statistical analysis. RSDC staff develop programs and manipulate and analyze data in UNIX and PC environments, while maintaining systems to ensure patient privacy and confidentiality. RSDC staff have expertise in a variety of areas allowing investigators access to experienced staff on a per project basis. Areas of expertise include: statistical methods (e.g. multi-level models, repeated measures analyses, missing data, etc.); accessing data in clinical information systems and electronic medical records; medical claims and benefits data; management and manipulation of large datasets; and distributed model programming. In addition, faculty members benefit from a broad array of resources supported by Harvard schools and affiliates.

**RSDC (Short version)**

All DPM faculty members have access to technical support from within and outside of the department for conducting research. The Research Support Data Center (RSDC), with a staff of 5 senior analysts, is a freestanding data and programming support unit housed in the DPM. Services the RSDC provides include: data development strategies; selection of study populations; preparation of custom research datasets; SAS programming; and statistical analysis. In addition, faculty members benefit from a broad array of resources supported by Harvard schools and affiliates.