Washington University in St. Louis

Applied Health Behavior Research

Health behavior research is a multidisciplinary field that applies psychology, public health, behavioral medicine, communication science and statistics to promote health and prevent disease. Researchers in this area do the following: (1) study the broad range of factors that influence health behaviors and their impact on health outcomes and quality of life; (2) design and test innovative interventions to promote health and reduce disparities; and (3) disseminate evidence-based programs in diverse settings globally. Health behavior research is an important component of clinical research involving human participants, because benefits from medical care are dependent on health behaviors such as clear doctor-patient communication, patient adherence, self-management and risk avoidance.

Applied research seeks to solve practical, real-world problems; to develop innovative treatments, interventions and methods; and to immediately and practically apply its findings in clinical and community settings.

The skills-based graduate programs in Applied Health Behavior Research (AHBR) (https://generalmedicalsciences.wustl.edu/education/ahbr/) are offered through the Washington University School of Medicine. The AHBR program provides a strong foundation for graduates to contribute to the development and evaluation of programs and research trials to improve health behaviors, health care quality, health outcomes and quality of life.

Location

All courses are held on the School of Medicine campus after 4:00 p.m. to accommodate working professionals and full-time students participating in mentored research activities.

Additional Information

Request Information (https://gradadmit.wustl.edu/register/?id=eacd4c63-d849-4eab-99ca-4b08000982b5)

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Degrees & Offerings

- Master of Science in Applied Health Behavior Research (http://bulletin.wustl.edu/medicine/degrees-offerings/ahbr-ms/)
- Graduate Certificate in Applied Health Behavior Research (http://bulletin.wustl.edu/medicine/degrees-offerings/ahbr-grad-cert/)

Research

The graduate programs in Applied Health Behavior Research (AHBR) (https://generalmedicalsciences.wustl.edu/education/ahbr/) provide a deeper understanding of the growing fields of health behavior research and behavioral medicine, which conduct research and disseminate findings across a variety of academic and hospital settings, nonprofit organizations, government agencies and private industry.

For professionals currently working in health-related fields, the skills-based curriculum provides hands-on methods and resources to enhance the knowledge and practical skills needed for career advancement. Courses (https://generalmedicalsciences.wustl.edu/education/ahbr/courses/) prepare students for project management, leadership, research design and evaluation, data management, and analysis, and they increase students' content expertise in health behavior theory and methods.

For recent graduates planning for their future, the one-year research-intensive master's degree option (https://generalmedicalsciences.wustl.edu/education/ahbr/concentrations/) provides opportunities for students to fulfill specific medical and graduate school core competencies and to enhance the competitiveness of their applications, making the program an ideal gap-year option. Through the mentored research experience provided, students develop theoretical knowledge and gain practical experience to pursue careers in medicine, allied health, psychology, public health, and other research or health-related fields.

AHBR graduates (https://generalmedicalsciences.wustl.edu/education/ahbr/student-experiences/) are prepared to conduct all phases of research: intervention design and implementation, survey development and administration, participant recruitment and tracking, data collection, data management and data analysis. In academic settings, graduates work for MD or PhD researchers in labs or research centers. In industry, graduates work for health insurance companies, managed care organizations and corporate wellness programs. For nonprofit and community organizations, graduates may lead the design, implementation, evaluation and dissemination of health and wellness programs; contribute to grant applications; and develop partnerships across agencies.

Faculty

Sam Biver, MPH
Senior Public Health Research Coordinator
Department: General Medical Sciences

Patricia Cavazos-Rehg, PhD (https://psychiatry.wustl.edu/people/patricia-cavazos-rehg-phd/)
Professor of Psychiatry
Department: Psychiatry

Melissa Chapnick, RD, MS, MPH
Research Affiliate, AHBR Lecturer
PhD student at Emory University

Ling Chen, PhD, MSPH (https://biostatistics.wustl.edu/faculty-staff/ling-chen/)
Assistant Professor
Department: Biostatistics

Emily Dreher, MEd, LPC, NCC, DBT-LC
Licensed Professional Counselor and DBT Clinician

Michael Elliott, PhD (https://www.slu.edu/public-health-social-justice/faculty/elliot-michael.php)
Associate Professor and Associate Dean of Public Health
Department: Biostatistics, School of Public Health, Saint Louis University

Matthew Ellis, MPE (https://psychiatry.wustl.edu/people/matthew-ellis/)
Instructor in Psychiatry
Department: Psychiatry

Mark Fiala, PhD, MSW (https://oncology.wustl.edu/people/faculty/Fiala/Fiala_Bio.html)
Assistant Professor
Department: Oncology

Robert Fitzgerald, PhD, MPH (https://psychiatry.wustl.edu/people/robert-fitzgerald-phd-mph/)
Assistant Professor
Department: Psychiatry (Child)

Emily Hawkins, MS, CCRP
Clinical Research Education Specialist
Department: Oncology

Julia López, PhD, MPH, LCSW (https://publichealth.wustl.edu/scholars/julia-d-lopez/)
Instructor in Medicine
Department: Obstetrics & Gynecology

Ragini Maddipati, MSW, MPH (https://brownschool.wustl.edu/Faculty-and-Research/Pages/Ragini-Maddipati.aspx)
AHBR Lecturer

Amy McQueen, PhD (https://generalmedicalsciences.wustl.edu/directory/amy-mcqueen-phd/)
Professor of Medicine
Department: Internal Medicine
Division: General Medical Sciences

Don Rickert, PhD
Lecturer, AHBR
Department: Pharmacy Administration, St. Louis College of Pharmacy

Stephen Scroggins, PhD, MSPH
Lecturer, AHBR
Department: Public Health & Social Justice, Saint Louis University

Amaris Tippey, PhD
Assistant Professor
Department: Alvin J. Siteman Cancer Center, Barnes-Jewish Hospital

Mary Uhrich, MS
Clinical Research Specialist
Department: Siteman Cancer Center

Courses

Visit online course listings to view offerings for M88 AHBR (https://courses.wustl.edu/CourseInfo.aspx?sch=M&dept=M88).

M88 AHBR 501 Fundamentals of Scientific Writing
In this course, students will learn the fundamental principles of scientific research and writing. Through lectures, group discussion, and written assignments, students will learn effective ways to search scientific publication databases, recognize how content in abstracts, background, method, results and discussion vary across different types of articles, understand how to appropriately cite and reference prior work, and ultimately practice writing and revising parts of a scientific manuscript.
Credit 1 unit.

M88 AHBR 502 Basics of Data Visualization and Presentation
This course presents best practices and principles for communicating data to diverse audiences and provides practical application through the creation and presentation of data visuals. The course work is primarily completed in Microsoft Excel and Microsoft Power Point. Students will learn how to create effective visuals for academic and non-academic presentation. Skills and techniques for developing visuals will be applied within course assignments. Students will have the opportunity to practice orally presenting the visuals they create as part of a final class presentation assignment. This is a short course and will take place on the following Saturdays from 9-12pm: 1/22, 1/29, 2/5, 2/19, and 3/5.
Credit 1 unit.

M88 AHBR 505 Mentored Research
Students are paired with faculty researchers to obtain hands-on experience and exposure to directed research. (*Not offered for Graduate Certificate*).
Credit 3 units.

M88 AHBR 508 Project Management in Clinical and Community Settings
This course trains students in the day-to-day management of research projects and/or health behavior programs in clinical and community settings, including a review of ethics, data collection and management. Students develop skills for managing and coordinating all aspects of health behavior projects, including recruitment and retention of participants, developing and maintaining various databases for study/program tracking and analysis, writing reports, managing a project team, and using basic statistical tools for project reporting. Successful completion of this course enables students to better manage health-related studies and programs.
Credit 3 units.

M88 AHBR 510 Fundamentals of Exercise Science, Fitness and Healthy Aging Research
Students will learn about the role exercise plays in health, disease prevention and 'successful aging'. The 5 health-related components of fitness (cardiovascular fitness, muscular strength, muscular endurance, body composition and flexibility) will be the backbone of the course with skills required to conduct a research project incorporated into the content. Research studies (primarily those conducted at Washington University) involving 'special populations' will be discussed.
Credit 3 units.

M88 AHBR 514 Health Behavior Theory
This course features analysis and application of behavior theories to health promotion/education planning, implementation, and evaluation in a variety of settings. Primary emphasis is on research related to determinants of health behavior such as personal, family and sociocultural factors that influence health, and lifestyle issues related to behavior change and adherence. Strategies and techniques used by professionals to foster human health are also featured.
Credit 3 units.

M88 AHBR 515 Health Psychology
This course explores the complex interactions between biological, psychological and social factors as they influence health, health behaviors and coping with illness. In a seminar format, students read, present and discuss empirical literature related to health psychology. Specific class topics include the history and current roles of health psychology as a professional discipline, theoretical models of health and illness prevention with an emphasis on the biopsychosocial model, stress, pain, and the role of biopsychosocial factors in several specific medical illnesses including diabetes, asthma, heart disease and cancer. Developmental issues related to health knowledge and perception, disease management and coping with illness are also discussed.
Credit 3 units.

M88 AHBR 524 Foundations of Health Care Research
This course provides an introduction to the basic scientific concepts and methods of investigation used in health care, social science and behavioral science. Students develop an advanced understanding of all phases and components of the research process. Topics include generating research questions and hypotheses, designing a study, selecting a study sample, measuring variables and constructs, collecting data, and planning data analysis and presentation. Prerequisite: M88-525 Introduction to Biostatistics.
Credit 3 units.

M88 AHBR 525 Introduction to Biostatistics
This course introduces the basic principles and methods of biostatistics, providing a sound methodological foundation for applications in health care, medicine, public health and epidemiology. Basic statistics, including probability, descriptive statistics, inference for means and proportions, and regression methods are presented. Course work and assignments are designed to provide regular feedback, require repetition of core techniques necessary for mastery of statistical thinking and analysis, challenge students to tackle both straightforward and difficult applications of descriptive and analytic statistics to practical public health problems, and incorporate statistical tools and results into oral and written presentations, emphasizing proper use of language and effective communication.
Credit 3 units.

M88 AHBR 535 Health Disparities: Applications in Clinical Settings
This course explores how membership in a diverse/special group can impact health and health care, the identification of barriers to research participation, and effective strategies for improving recruitment efforts of minority and underserved populations. Exploration of health care services and policies governing these services is also included. Students are encouraged to give critical thought to the question of what it means to deliver culturally competent care. The goal of this course is to understand what it means to create environments (social and otherwise) that help to make individuals and communities healthy.
Credit 3 units.

M88 AHBR 536 Health Education: Methods, Planning, and Evaluation
This course introduces the student to the fundamentals of health education and health promotion program planning. Strategies for planning, monitoring and evaluating health education programs that support the improvement of health outcomes will be presented and utilized. A variety of settings in which health education programs are implemented will be explored. Emphasis will be placed on assessing the needs of target populations based on an ecological framework and the application of appropriate methods at each level of that framework. Students who take this class will have the knowledge and skills to plan, develop, implement, monitor and evaluate behavior change programs for improving health status. Students also will learn how to assess the health needs of communities and organizations. This course is offered fully online, with lectures and certain activities conducted asynchronously via Canvas. Required synchronous sessions may also be scheduled. Weekly one-on-one student/faculty meetings will also be required.
Credit 3 units.

M88 AHBR 540 Community Health Promotion
In this course students explore concepts in health promotion including community assessment, resource identification, intervention strategies and evaluation. State and national interventions for lifestyle change and model school and work site programs are featured Prerequisite: M88-514 Health Behavior Theory.
Credit 3 units.

M88 AHBR 547 Power and Sample Size
Students learn the theoretical and practical aspects of how to calculate sample size for common study designs under various restraints (time, resources, etc.). An overview of statistical power computations for a variety of experimental and epidemiological study designs is provided. These include single sample designs, two-sample designs, cohort designs, case-control designs and various other experimental designs based on the Analysis of Variance model. The concepts of statistical power, statistical precision, sample size and effect size are also reviewed. Prerequisite: M88-525 Introduction to Biostatistics.
Credit 1 unit.

M88 AHBR 548 Applied Data Management
This class is designed as an advanced seminar intended for students in the health and social sciences who plan to engage in applied research and includes a survey of important data management topics and techniques including: data programming and manipulation, data storage and security, data cleaning, relational database theory, and legal and ethical issues of data management. Students develop skills in data programming and manipulation, data storage and security, data cleaning, and relational database theory using software such as SPSS, SAS, Excel and Microsoft Access. Prerequisite: M88-525 Introduction to Biostatistics.
Credit 3 units.

M88 AHBR 550 Introduction to Using REDCap for Research
Students will learn the purpose and benefits of using sophisticated software platforms such as REDCap for conducting research. Through in-class demonstrations and exercises, students will gain critical hands-on experience using various features of REDCap software, including creating new projects and assigning user rights; development vs. production mode; participant tracking; project calendars and scheduling features; data collection and management; customizable survey design and administration mode; database design; data import and export functions; default and custom reporting tools; audit trails; file sharing; interoperability with other data systems (EMR) and software, including common reporting tools (Excel) and statistical packages (SPSS, SAS, R); and more. Students will learn about the HIPAA compliance standards of REDCap and how the same databases can be used across sites in a multisite study. Students will apply their skills to a proposal for using REDCap to address a specific research objective of their choosing.
Credit 1 unit.

M88 AHBR 551 Introduction to SPSS
Students will learn the purpose and benefits of using statistical software programs such as SPSS for managing and analyzing data. Students will learn the superior functional capability of using SPSS vs. Excel for collecting and analyzing data. Through in-class demonstrations and exercises, students will gain critical hands-on experience using various features of SPSS software including: database design, options for quantitative and qualitative variable formats, data entry, data importing and exporting features, output and graphing functions, and common statistical procedures (e.g., descriptive statistics, chi-square, t-test, ANOVA) and basic inferential analyses (e.g., bivariate linear and logistic regression) using both drop-down menu functions and syntax options. Students also will learn how to annotate and manipulate output including tables and figures and how to export or paste output into Word or PDF documents.
Credit 1 unit.

M88 AHBR 560 Survey Methods: Design and Evaluation
This applied course focuses on methodological issues regarding the design, implementation, analysis, and interpretation of surveys and questionnaires in public health research. Essential theoretical concepts are addressed, and practical applications are emphasized. Survey design and planning, sampling, and data collection procedures are three of the major topic areas covered.
Credit 3 units.

M88 AHBR 562 Leadership and Change in Health Care Services
Students engage in the advanced study of leadership, integrating theory, research and application in a diagnostic approach. Leadership skills for managing planned organizational change are developed through group discussions, class exercises, case studies, and the application of organizational approaches to change and innovation. Topics include personal effectiveness, team building, and creating learning environments in organizations.
Same as U80 CRM 562
Credit 3 units.

M88 AHBR 582 Evaluation of Health Services Programs
This course introduces students to the fundamentals of program evaluation methodology, methods of data collection and related measurement reliability and validity. The curriculum features practical applications and illustrations. Topics include the link between program planning and program evaluation; evaluation research designs and their limitations; integrating process and outcome approaches; methods of data collection and utilization of evaluation results. This course is offered fully online, with lectures and certain activities conducted asynchronously via Canvas. Three to five required synchronous sessions will be held throughout the semester.
Credit 3 units.

M88 AHBR 588 Epidemiology for Clinical Research
The purpose of this course is to provide an understanding of the use of epidemiological concepts and methods in clinical research. Two primary foci are included: 1) common applications of epidemiologic principles and analytic tools in evaluating clinical research questions; and 2) student development of skills to review and interpret the medical literature and utilize publicly available datasets to address clinical research questions.
Credit 3 units.