

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 (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 is research that seeks to solve practical, real-world problems; that develops innovative treatments, interventions and methods; and that has immediate and practical application of the findings in clinical and community settings.

The skills-based graduate programs in Applied Health Behavior Research (AHBR) (<https://crtc.wustl.edu/programs/degrees/ahbr>) offered through the Washington University School of Medicine are sponsored by the Clinical Research Training Center (<https://crtc.wustl.edu>) and the Institute of Clinical and Translational Sciences (<http://icts.wustl.edu>). 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://wucrtc.az1.qualtrics.com/jfe/form/SV_bCNR92dbklr2wKh)

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Degrees & Requirements

Master of Science in Applied Health Behavior Research

The Master of Science (MS) in Applied Health Behavior Research (AHBR) (<https://crtc.wustl.edu/programs/degrees/ahbr>) is a 33-credit multidisciplinary program that focuses on the applied skills required for the development, management and evaluation of research studies and health behavior programs in academic, clinical and community settings. Students choose one of two concentrations:

1. Health Education, Program Planning and Evaluation (HEPPE) (<https://crtc.wustl.edu/programs/degrees/ahbr/part-time-master-science-applied-health-behavior-research>) : This concentration is designed for individuals who want to develop, manage and evaluate health programs in clinical or community settings. Course work focuses on health behavior theory, program planning, program evaluation, health education and program management.
2. Health Behavior Research (HBR) (<https://crtc.wustl.edu/programs/degrees/ahbr/part-time-master-science-applied-health-behavior-research>). This concentration is designed for individuals to develop theoretical knowledge and gain practical research experience in order to pursue careers in a variety of health-related fields and/or to manage research studies in clinical settings. Course work focuses on health behavior theory, research methodology, analytic methods and research project management.
 - Health Behavior Research, One-Year/Research Intensive Option (<https://crtc.wustl.edu/programs/degrees/ahbr/one-year-ahbr>): This program is for individuals who want to develop theoretical knowledge and gain practical research experience in order to pursue careers in a variety of health-related fields or pursue advanced graduate degrees. It is designed to be completed in three semesters, and it includes 9 credit hours of mentored research. In addition, it provides hands-on training for students interested in health, medical and psychology-related fields, and it provides students with an opportunity to fulfill specific graduate and medical school core competencies while enhancing their applications to MD and PhD programs.

Graduate Certificate in Health Behavior Planning and Evaluation

The Graduate Certificate in AHBR (<https://crtc.wustl.edu/programs/certificates/hbpe>) is a 15-credit program featuring a curriculum that is focused on key applied and theoretical concepts in health behavior as well as on the processes needed for managing program development and evaluation activities in clinical and community settings.

Program Requirements

The MS and Graduate Certificate programs in AHBR can be pursued on a full-time or part-time basis. Registration is open to anyone with a four-year undergraduate degree from an accredited university or college in an appropriate field of study. Applications are accepted on a rolling basis, and students may pursue course work at their own pace. The MS does not require a thesis upon completion of the program, and the GRE is not required for admission.

AHBR Required Core Courses

For the Master of Science

Code	Title	Units
AHBR 508	Project Management in Clinical and Community Settings	3
AHBR 514	Health Behavior Theory	3
AHBR 525	Introduction to Biostatistics	3
AHBR 560	Survey Methods: Design and Evaluation	3

For the Graduate Certificate

Code	Title	Units
AHBR 508	Project Management in Clinical and Community Settings	3
AHBR 514	Health Behavior Theory	3
AHBR 536	Health Education: Methods, Planning, and Evaluation	3
AHBR 582	Evaluation of Health Services Programs	3

Visit the AHBR Courses webpage (<https://crtc.wustl.edu/courses/class-list/ahbr-courses>) to view concentration-specific required courses and elective options.

Admissions

To be considered for admission, applicants must submit the following:

- AHBR application form (https://wucrtc.az1.qualtrics.com/jfe/form/SV_9TVsvUUTmsQKDGZ)
- Application fee
- Résumé/curriculum vitae

- Personal statement
- All college transcripts
- Three letters of recommendation

Please visit the Apply section of the AHBR home page (<https://crtc.wustl.edu/programs/degrees/ahbr>) or contact the program manager (ahbr@email.wustl.edu) for the application deadline and additional information.

Academic Policies

Academic policies (<https://crtc.wustl.edu/courses/class-list/academic-policies>) for the MS and Graduate Certificate programs can be found on the Clinical Research Training Center website.

Research

The graduate programs in Applied Health Behavior Research (AHBR) (<https://crtc.wustl.edu/programs/degrees/ahbr>) provide a deeper understanding of the growing fields of health behavior research and behavioral medicine, which conduct and disseminate research 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 knowledge and practical skills needed for career advancement. Courses (<https://crtc.wustl.edu/courses/class-list/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://crtc.wustl.edu/programs/degrees/ahbr/one-year-ahbr>) 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://crtc.wustl.edu/programs/degrees/ahbr/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

Patricia Cavazos-Rehg, PhD

Associate Professor of Psychiatry
Department: Psychiatry

Melissa Chapnick, RD, MS, MPH

Clinical Research Study Assistant II
Department: Obstetrics & Gynecology – Research & Operations,
Washington University

Robert Culverhouse, PhD

Assistant Professor of Medicine
Department: General Medical Sciences, Washington University

Michael Elliott, PhD

Lecturer, AHBR
Department: Biostatistics, School of Public Health, Saint Louis
University

Matthew Ellis, MPE

Clinical Lab Manager; Lecturer, AHBR
Department: Psychiatry

Robert Fitzgerald, PhD, MPH

Research Instructor
Department: Psychiatry (Child)

Shannon Lenz, PhD

Assistant Professor of Medicine
Department: Psychiatry

Julia López, PhD, MPH, LCSW

Research Instructor
Department: Obstetrics & Gynecology

Ragini Maddipati, MSW, MPH

Senior Clinical Research Coordinator
Department: Obstetrics & Gynecology

Amy McQueen, PhD

Assistant Professor of Medicine
Department: Internal Medicine
Division: General Medical Sciences

Don Rickert, PhD

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

Enbal Shacham, PhD

Lecturer, AHBR
Department: Public Health & Social Justice, Saint Louis
University

Amaris Tippey, PhD

Lecturer, AHBR
Department: Alvin J. Siteman Cancer Center, Barnes-Jewish
Hospital

Courses

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

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 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 520 Introduction to Qualitative Research

Methods

In this course, you will become familiar with types of qualitative research methods (e.g., focus groups, one-on-one interviews, and participant-observation ethnography), appropriate use of these research methods, and approaches to analyzing qualitative data.

Credit 1 unit.

M88 AHBR 523 Introduction to Statistics for the Health Sciences

This is an introductory course in statistics with a focus on the use of statistical analysis in clinical research. It is taught using SPSS, statistical analysis software commonly used in clinical research. The course teaches basic statistical methods with which clinical researchers will have the facility to execute their own analyses.

Same as M17 CLNV 522

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 530 Organizational Development and Health Care Services

Organizational theory as it applies to the management of health care services particularly in a changing environment. Includes planning, implementation and evaluation along with theories of human resources management. Prerequisite: Consult course listings.

Credit 3 units.

M88 AHBR 532 Principles of Management in Health Care

This course enables students to explore the theoretical framework and practical application of classic management principles so that they can function effectively in a variety of organizational settings in the provision of health care services. Topics include the management process; managerial decision

making and planning; negotiation skills; organization design; and leadership.

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 provides the basic concepts of learning theory as they relate to health behavior. Students become familiar with teaching/learning processes, teaching methods, community resources, and selection of appropriate evaluation strategies.

Focus is on the role played by individual and community behavior as well as environmental and policy factors in preventing chronic and communicable diseases. Students attain the knowledge and skills to plan, develop, implement, monitor and evaluate behavior change programs for improving health status, as well as how to assess the health needs of communities and organizations. Prerequisite: M88-514 Health Behavior Theory.

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 544 Organizations and Their Role in Health Care

Examines the role of various organizations in health care delivery. The involvement of organizations such as schools and worksites in health care will be reviewed. Opportunities for use of organizational settings for future health programs will be evaluated from the perspectives of consumers, providers and health care planners.

Credit 3 units.

M88 AHBR 545 Applied Structural Equation Modeling

The focus of the course is a brief introduction to structural equation modeling (SEM) to familiarize students with the language, logic, and uses of SEM. The curriculum is designed to familiarize students with the language, logic, and uses of SEM. Students gain a strong foundation for understanding, designing, and testing sound measurement models, which can then be combined into more complex structural equation models. The majority of the course covers conceptual aspects and classical SEM applications like confirmatory factor analysis,

path analysis, and causal modeling (including tests for mediators and moderators). Time permitting, the course also provides a brief discussion of more complex SEM analyses such as growth curve modeling and latent class analysis. Prerequisite: M88-525 Introduction to Biostatistics.
Credit 1 unit.

M88 AHBR 546 Health and Aging

Explores various aspects of health and illness in later life. Uses current literature in the areas of social gerontology, psychology of aging, health promotion, and health behavior to provide a multidisciplinary perspective.
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 will also 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.
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. Prerequisite: M88-536 Health Education: Methods, Planning and Evaluation.
Credit 3 units.

M88 AHBR 584 Internship

Provides an opportunity to participate in health promotion through various health promotion agencies. Students work with agency site supervisor for 42 contact hours developing, implementing and evaluating a health promotion project. Also, students meet monthly for 2.5-hour seminars with HCS internship adviser. Students must submit an application (to be obtained in Health Care Services office) and résumé. Approved applicants will be interviewed by agency site supervisor. Deadline for application: one month before registration deadline of intended 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.

M88 AHBR 590 Designing Clinical Research

Intended for beginning investigators who need to learn how to design and execute clinical research. Students will learn how to pose a research question, choose study subjects, make measurements, use questionnaires, use secondary data, understand various research designs including cohort studies, cross sectional studies, case controlled studies, and the evaluation of diagnostic tests, as well as experiments. Course will include basic research statistics, the ethics of research, planning for data management and analysis, and writing and funding a proposal. Each student will prepare a full research protocol suitable for submission to a funding agency or institutional review board on a research question of their choice.

Credit 3 units.
