IMPLEMENTATION SCIENCE TRACK

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Implementation science has recently emerged as a novel interdisciplinary field for developing and applying methods and strategies to improve the delivery of proven health interventions in routine clinical and public health practice. Implementation science employs a diverse set of tools to produce generalizable knowledge about intervention delivery to make public health programs more effective, efficient, and equitable. The coursework of the Implementation Science Track complements the training offered in all departments and at all levels at the School of Public Health, allowing trainees to acquire core competencies in the four areas described in detail below. This track prepares graduates for high-impact careers in implementation research and practice, areas with rapidly growing demand in the U.S. and globally.

Teaching implementation science aligns well with the School of Public Health's mission to bridge research, learning, and practice. The proposed curriculum builds on the Master's in Public Health core curriculum, which introduces foundational concepts for the Implementation Science Track, including Biostatistics in Public Health (EPH 505), Social Justice and Health Equity (EPH 507), Foundations of Epidemiology for Public Health (EPH 508), Health Policy and Health Care Systems (EPH 510), and Major Health Threats (EPH 513). The track also capitalizes on the implementation science expertise at the Center for Methods in Implementation Science (CMIPS) and in other parts of the school by integrating existing courses as electives.

TRACK REQUIREMENTS

1) Fulfillment of all degree and departmental requirements
2) Successful completion of at least five and a half courses within the distribution requirements below. Courses taken for credit in the track may include classes required for the degree or by the student's home academic department
3) Completion of a thesis incorporating implementation science (optional but encouraged)

Core Courses

CDE 553	Implementation Science to Address Chronic Diseases: Global Health Case Studies	.5
EMD 533	Implementation Science	1

Elective Courses

At least one course in the quantitative methods cluster

BIS 628	Longitudinal and Multilevel Data Analysis	1
BIS 630	Applied Survival Analysis	1
CDE 516	Principles of Epidemiology II	1

CDE 566	Causal Inference Methods in Public Health Research	1
CDE 582	Health Outcomes Research: Matching the Right Research Question to the Right Data	1
EMD 582	Political Epidemiology	1
S&DS 563	Multivariate Statistical Methods for the Social Sciences	1

At least one course in the qualitative and mixed methods cluster

SBS 574	Developing a Health Promotion and Disease Prevention Intervention	1
SBS 580	Qualitative Research Methods in Public Health	1
SBS 593	Community-Based Participatory Research in Public Health	1

At least one course in the evidence synthesis, program evaluation, and economic evaluation cluster

CDE 650	Introduction to Evidence-Based Medicine and Health Care	1
EPH 557	Evidence-Based Decision-Making in Global Health	1
HPM 570	Cost-Effectiveness Analysis and Decision-Making	1
HPM 575	Evaluation of Global Health Policies and Programs	1
HPM 583	Methods in Health Services Research	1

COMPETENCIES

Implementation Science Methods Competencies

1. Define implementation science
2. Explain the principal methodological approaches used in the field to promote the uptake and sustained, high-quality delivery of proven health interventions in routine practice
3. Use implementation science to develop and critique an implementation science project proposal or manuscript
4. Discuss key evidence-based interventions for noncommunicable disease prevention, screening, and treatment and the barriers and facilitators to their uptake, implementation, and sustainability

Quantitative Methods Competencies

1. Apply and critically assess the use of quantitative methods to estimate the impact of health interventions, implementation strategies, and policies
2. Recognize mechanisms and contextual factors that mediate and moderate the impact of health interventions, implementation strategies, and policies

Qualitative and Mixed Methods Competencies

1. Use qualitative and mixed methods to plan or evaluate an implementation science problem or question
2. Critically assess the use of qualitative and mixed methods to elicit the experiences and perspectives of shareholders participating in planning, delivering, and receiving health interventions, implementation strategies, and policies

Evidence Synthesis, Program Evaluation, and Economic Evaluation Competencies

1. Apply methods from evidence synthesis, program evaluation, and economic evaluation for planning, evaluating, and disseminating health interventions, implementation strategies, and policies
2. Critically assess evidence synthesis, program evaluation, and economic evaluation for planning, evaluating, and disseminating health interventions, implementation strategies, and policies