IMPLEMENTATION SCIENCE TRACK

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Implementation science is an emerging interdisciplinary field that focuses on improving the adoption, delivery, and sustainability of proven health interventions in routine clinical and public health practice. Using various methods from the clinical and population sciences and from the engineering and social sciences, implementation science seeks to produce generalizable knowledge about how to introduce and sustain innovations to make public health programs more effective, efficient, and equitable. The curriculum outlined below will enable students pursuing the Implementation Science Track to build competency in the four methodological areas described in detail below.

Teaching implementation science aligns well with the School of Public Health's mission to link science and society. The curriculum builds on the Master's in Public Health core curriculum, which introduces foundational concepts for the Implementation Science Track during Biostatistics in Public Health (PUBH 505), Social Justice and Health Equity (PUBH 507), Foundations of Epidemiology for Public Health (PUBH 508), and Health Policy and Health Care Systems (PUBH 510). 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. Graduates will be well-prepared to pursue high-impact careers in implementation research or practice, areas with rapidly growing demand in the US and globally.

TRACK REQUIREMENTS

1. Fulfillment of all degree and departmental requirements
2. Successful completion of at least five and a half course units following the distribution requirements below. Courses taken for credit in the track may include classes required by the student's home academic department for the M.P.H. degree
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 5630	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-to-practice methods cluster

CDE 650	Introduction to Evidence-Based Medicine and Health Care	1
EHS 544	Climate Equity and Health Policy Methods	1
EMD 580	Reforming Health Systems: Using Data to Improve Health in Low- and Middle-Income Countries	1
HPM 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. Identify proven interventions for improving disease prevention, diagnosis, and treatment
3. Determine barriers to and facilitators of the adoption, implementation, and sustainability of evidence-based interventions
4. Explain the methodological approaches used to enhance the adoption, implementation, and sustainability of evidence-based health interventions in routine practice
5. Develop an implementation science proposal
6. Critique an implementation science proposal or published article

Quantitative Methods Competencies

1. Apply and critically evaluate the use of quantitative methods to design, adapt, and deliver health interventions, implementation strategies, and policies in routine practice
2. Determine the mechanisms and contextual factors that mediate and moderate the impact of health interventions, implementation strategies, and policies in routine practice

Qualitative and Mixed Methods Competencies

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

Evidence-to-Practice Methods Competencies

1. Apply policy translation methods for planning, evaluating, and disseminating health interventions, implementation strategies, and policies
2. Critically evaluate evidence synthesis, program evaluation, and economic evaluation for planning, assessing, and disseminating health interventions, implementation strategies, and policies