

# ADVANCED PROFESSIONAL M.P.H. PROGRAM

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The eleven-month Advanced Professional M.P.H. Program provides rigorous public health training to:

1. individuals with a doctoral-level (or international equivalent) degree in a field related to public health (e.g., physicians, dentists, veterinarians, attorneys, and those with a doctorate in the biological, behavioral, or social sciences);
2. individuals with a master's degree and at least two years of relevant work experience;
3. individuals with a bachelor's degree and at least five years of relevant work experience; and
4. students who have completed their third year in an accredited medical, dental, or podiatric school in the United States.

The program is designed for mature individuals with clear goals in public health.

Students can enter the program to gain skills in the public health sciences and to prepare for careers in a variety of settings, including academia; local, national, or international public health agencies; industry; and nonprofit foundations and research organizations. Physicians in preventive medicine, occupational and environmental medicine, and aerospace medicine residency programs can enter the program to complete their M.P.H. degree requirement.

Students concentrate in one of six tracks: Applied Biostatistics and Epidemiology, Social and Behavioral Sciences, Health Policy, Global Health, Preventive Medicine, or Occupational and Environmental Medicine. The program begins with an intensive seven-week summer session (July–August), followed by two full-time terms of study. After completing the seven-week summer session, students may choose to complete the remainder of the program on a part-time basis; however, all requirements must be completed within three years of the date of matriculation.

All tracks – with the exception of Occupational and Environmental Medicine for Yale OEM Fellows – require documentation of an integrated learning experience component with guidance from the program director. To complete this requirement, students take one of the following courses and complete the Integrated Learning Experience Form to document their experience, available on the myYSPH website at <https://ysph.yale.edu/myysph/students/mph/forms-and-systems>: HPM 597, SBS 574, CDE 617, EPH 608, or EPH 557.

## CURRICULUM

- Applied Biostatistics and Epidemiology Track
- Social and Behavioral Sciences Track
- Health Policy Track
- Global Health Track

- Preventive Medicine Track
- Occupational and Environmental Medicine Track (Yale OEM Fellows)
- Occupational and Environmental Medicine Track (Eleven-Month Students)
- Competencies

## Applied Biostatistics and Epidemiology Track

### CORE REQUIREMENTS

BIS 515	Accelerated Biostatistics	2
CDE 515	Accelerated Epidemiology	1
EPH 510	Health Policy and Health Care Systems	1
EPH 513	Major Health Threats: Ethics and Practice	1
SBS 505	Accelerated Social and Behavioral Foundations of Health	1

One of the following:

EMD/SBS 584	Advanced Global Health Justice Practicum: Fieldwork	1
EMD/SBS 588	Health Justice Practicum	1
EPH 500	Public Health Practicum	1
EPH 555	Clinic in Climate Justice and Public Health	1
HPM 555	Health Policy or Health Care Management Practicum	1
HPM 556	Advanced Health Policy Practicum	1

### TRACK REQUIREMENTS

CDE 534	Applied Analytic Methods in Epidemiology	1
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Two of the following:

AMTH 361	Data Analysis	1
BIS 540	Fundamentals of Clinical Trials	1
BIS 560	Introduction to Health Informatics	1
BIS 621	Regression Models for Public Health	1
or BIS 623	Advanced Regression Models	
BIS 628	Longitudinal and Multilevel Data Analysis	1
BIS 630	Applied Survival Analysis	1
BIS 633	Population and Public Health Informatics	1
EHS 568	Introduction to GIS for Public Health	1
EHS 569	Advanced GIS Workshop	1
EMD 553	Transmission Dynamic Models for Understanding Infectious Diseases	1
ENAS 523	Data and Clinical Decision-Making	1
PLSC 349	Visualization of Political and Social Data	0
S&DS 530/ ENV 757	Data Exploration and Analysis	1
S&DS 563	Multivariate Statistical Methods for the Social Sciences <sup>1</sup>	1

One of the following capstone courses:

CDE 617	Developing a Research Proposal	1
EPH 557	Evidence-Based Decision-Making in Global Health	1
HPM 597	Capstone Course in Health Policy	1
SBS 574	Developing a Health Promotion and Disease Prevention Intervention	1

Two additional biostatistics and/or epidemiology courses 2

Three elective courses 3

## Social and Behavioral Sciences Track

### CORE REQUIREMENTS

BIS 515	Accelerated Biostatistics	2
CDE 515	Accelerated Epidemiology	1
EPH 510	Health Policy and Health Care Systems	1
EPH 513	Major Health Threats: Ethics and Practice	1
SBS 505	Accelerated Social and Behavioral Foundations of Health	1

One of the following:

EMD/SBS 584	Advanced Global Health Justice Practicum: Fieldwork	1
EMD/SBS 588	Health Justice Practicum	1
EPH 500	Public Health Practicum	1
EPH 555	Clinic in Climate Justice and Public Health	1
HPM 555	Health Policy or Health Care Management Practicum	1
HPM 556	Advanced Health Policy Practicum	1

### TRACK REQUIREMENTS

CDE 534	Applied Analytic Methods in Epidemiology	1
SBS 529	Foundations of Behavior Change	1

One of the following:

SBS/BIS 640	User-Centered Design of Digital Health Tools	1
SBS 676	Questionnaire Development	1

Two of the following (or permission of academic adviser to substitute):

CDE 545	Health Disparities by Race and Social Class: Application to Chronic Disease Epidemiology	1
CDE 572	Obesity Prevention and Lifestyle Interventions	1
HPM 545	Health Disparities	1
SBS 531	Health and Aging	1
SBS 537	Social and Interpersonal Influences on Health	1
SBS 560	Sexual and Reproductive Health	1
SBS 562	Inclusive Design for the Built Environment: Participatory Design	1

SBS 570	LGBTQ Population Health	1
SBS 573	Social and Cultural Factors in Mental Health and Illness	1
SBS 577	Health Communication and the Media	1
SBS 581	Stigma and Health	1
SBS 585	Sexuality, Gender, Health, and Human Rights	1
SBS 594	Maternal-Child Public Health Nutrition	1
Three elective courses		3
One of the following capstone courses:		
CDE 617	Developing a Research Proposal	1
EPH 557	Evidence-Based Decision-Making in Global Health	1
HPM 597	Capstone Course in Health Policy	1
SBS 574	Developing a Health Promotion and Disease Prevention Intervention	1

## Health Policy Track

### CORE REQUIREMENTS

BIS 515	Accelerated Biostatistics	2
CDE 515	Accelerated Epidemiology	1
EPH 510	Health Policy and Health Care Systems	1
EPH 513	Major Health Threats: Ethics and Practice	1
SBS 505	Accelerated Social and Behavioral Foundations of Health	1

One of the following:

EMD/SBS 584	Advanced Global Health Justice Practicum: Fieldwork	1
EMD/SBS 588	Health Justice Practicum	1
EPH 500	Public Health Practicum	1
EPH 555	Clinic in Climate Justice and Public Health	1
HPM 555	Health Policy or Health Care Management Practicum	1
HPM 556	Advanced Health Policy Practicum	1

### TRACK REQUIREMENTS

HPM 514	Health Politics, Governance, and Policy	1
HPM 570	Cost-Effectiveness Analysis and Decision-Making	1
HPM 583	Methods in Health Services Research	1
HPM 586	Microeconomics for Health Policy and Health Management	1
One additional Health Policy and Management course		1
Three elective courses		3

One of the following capstone courses:

CDE 617	Developing a Research Proposal	1
EPH 557	Evidence-Based Decision-Making in Global Health	1
HPM 597	Capstone Course in Health Policy	1

SBS 574	Developing a Health Promotion and Disease Prevention Intervention	1
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## Global Health Track

### CORE REQUIREMENTS

BIS 515	Accelerated Biostatistics	2
CDE 515	Accelerated Epidemiology	1
EPH 510	Health Policy and Health Care Systems	1
EPH 513	Major Health Threats: Ethics and Practice	1
SBS 505	Accelerated Social and Behavioral Foundations of Health	1

One of the following:

EMD/SBS 584	Advanced Global Health Justice Practicum: Fieldwork	1
EMD/SBS 588	Health Justice Practicum	1
EPH 500	Public Health Practicum	1
EPH 555	Clinic in Climate Justice and Public Health	1
HPM 555	Health Policy or Health Care Management Practicum	1
HPM 556	Advanced Health Policy Practicum	1

### TRACK REQUIREMENTS

EPH 557	Evidence-Based Decision-Making in Global Health	1
EPH 591	Global Health Seminar	0
EPH 595	Global Health Foundations: Principles and Applications	1

One of the following:

CDE 534	Applied Analytic Methods in Epidemiology	1
HPM 583	Methods in Health Services Research	1

Three Global Health courses from at least two of the perspectives on public health (list of courses published each fall) 3

Three elective courses 3

## Preventive Medicine Track

### CORE REQUIREMENTS

BIS 515	Accelerated Biostatistics	2
CDE 515	Accelerated Epidemiology	1
EPH 510	Health Policy and Health Care Systems	1
EPH 513	Major Health Threats: Ethics and Practice	1
SBS 505	Accelerated Social and Behavioral Foundations of Health	1

One of the following:

EMD/SBS 584	Advanced Global Health Justice Practicum: Fieldwork	1
EMD/SBS 588	Health Justice Practicum	1
EPH 500	Public Health Practicum	1

EPH 555	Clinic in Climate Justice and Public Health	1
HPM 555	Health Policy or Health Care Management Practicum	1
HPM 556	Advanced Health Policy Practicum	1

**TRACK REQUIREMENTS**

CDE 534	Applied Analytic Methods in Epidemiology	1
EHS 575	Introduction to Occupational and Environmental Medicine	1
HPM 570	Cost-Effectiveness Analysis and Decision-Making	1

One of the following:

CDE 551	Global Noncommunicable Disease	1
CDE 562	Nutrition and Chronic Disease	1
CDE 572	Obesity Prevention and Lifestyle Interventions	1
SBS 594	Maternal-Child Public Health Nutrition	1

One of the following:

BIS 540	Fundamentals of Clinical Trials	1
CDE 650	Introduction to Evidence-Based Medicine and Health Care	1
EMD 533	Implementation Science	1
SBS 580	Qualitative Research Methods in Public Health	1
SBS 676	Questionnaire Development	1

One of the following:

EHS 503	Public Health Toxicology	1
EHS 508	Environmental and Occupational Exposure Science	1
EHS 511	Principles of Risk Assessment	1
EHS 573	Epidemiological Issues in Occupational and Environmental Medicine	1

Two elective courses 2

One of the following capstone courses:

CDE 617	Developing a Research Proposal	1
EPH 557	Evidence-Based Decision-Making in Global Health	1
HPM 597	Capstone Course in Health Policy	1
SBS 574	Developing a Health Promotion and Disease Prevention Intervention	1

## Occupational and Environmental Medicine Track (Yale OEM Fellows)

**CORE REQUIREMENTS**

EPH 505	Biostatistics in Public Health	1
EPH 507	Social Justice and Health Equity	1
EPH 508	Foundations of Epidemiology and Public Health	1

EPH 510	Health Policy and Health Care Systems	1
EPH 513	Major Health Threats: Ethics and Practice	1

One of the following:

EMD/SBS 584	Advanced Global Health Justice Practicum: Fieldwork	1
EMD/SBS 588	Health Justice Practicum	1
EPH 500	Public Health Practicum	1
EPH 555	Clinic in Climate Justice and Public Health	1
HPM 555	Health Policy or Health Care Management Practicum	1
HPM 556	Advanced Health Policy Practicum	1

#### TRACK REQUIREMENTS

CDE 534	Applied Analytic Methods in Epidemiology	1
EHS 508	Environmental and Occupational Exposure Science	1
EHS 573	Epidemiological Issues in Occupational and Environmental Medicine	1
EHS 575	Introduction to Occupational and Environmental Medicine	1
EPH 525	Thesis	2

Four elective courses 4

### Occupational and Environmental Medicine Track (Eleven-Month Students)

#### CORE REQUIREMENTS

BIS 515	Accelerated Biostatistics	2
CDE 515	Accelerated Epidemiology	1
EPH 510	Health Policy and Health Care Systems	1
EPH 513	Major Health Threats: Ethics and Practice	1
SBS 505	Accelerated Social and Behavioral Foundations of Health	1

One of the following:

EMD/SBS 584	Advanced Global Health Justice Practicum: Fieldwork	1
EMD/SBS 588	Health Justice Practicum	1
EPH 500	Public Health Practicum	1
EPH 555	Clinic in Climate Justice and Public Health	1
HPM 555	Health Policy or Health Care Management Practicum	1
HPM 556	Advanced Health Policy Practicum	1

#### TRACK REQUIREMENTS

CDE 534	Applied Analytic Methods in Epidemiology	1
EHS 508	Environmental and Occupational Exposure Science	1

EHS 573	Epidemiological Issues in Occupational and Environmental Medicine	1
EHS 575	Introduction to Occupational and Environmental Medicine	1
Four elective courses		4
One of the following capstone courses:		
CDE 617	Developing a Research Proposal	1
EPH 557	Evidence-Based Decision-Making in Global Health	1
HPM 597	Capstone Course in Health Policy	1
SBS 574	Developing a Health Promotion and Disease Prevention Intervention	1

## Competencies

### CORE CURRICULUM

The core curriculum of the M.P.H. program focuses on competencies in evidence-based approaches to public health (1–4), public health and health care systems (5–6), planning and management to promote health (7–11), policy in public health (12–15), leadership (16–17), communication (18–20), interprofessional practice (21), and systems thinking (22). Upon completing the core curriculum, the student will be able to:

1. Apply epidemiological methods to the breadth of settings and situations in public health practice
2. Select quantitative and qualitative data collection methods appropriate for a given public health context
3. Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate
4. Interpret results of data analysis for public health research, policy, or practice
5. Compare the organization, structure, and function of health care, public health, and regulatory systems across national and international settings
6. Discuss the means by which structural bias, social inequities, and racism undermine health and create challenges to achieving health equity at organizational, community, and societal levels
7. Assess population needs, assets, and capacities that affect communities' health
8. Apply awareness of cultural values and practices to the design or implementation of public health policies or programs
9. Design a population-based policy, program, project, or intervention
10. Explain basic principles and tools of budget and resource management
11. Select methods to evaluate public health programs
12. Discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence
13. Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes



14. Advocate for political, social, or economic policies and programs that will improve health in diverse populations
15. Evaluate policies for their impact on public health and health equity
16. Apply principles of leadership, governance, and management, which include creating a vision, empowering others, fostering collaboration, and guiding decision-making
17. Apply negotiation and mediation skills to address organizational or community challenges
18. Select communication strategies for different audiences and sectors
19. Communicate audience-appropriate public health content, both in writing and through oral presentation
20. Describe the importance of cultural competence in communicating public health content
21. Perform effectively on interprofessional teams
22. Apply systems-thinking tools to a public health issue

#### APPLIED BIOSTATISTICS AND EPIDEMIOLOGY TRACK

Upon receiving an M.P.H. degree in the Advanced Professional M.P.H. Program, with a concentration in Applied Biostatistics and Epidemiology, the student will be able to:

- Create and manipulate data sets and variables to evaluate epidemiologic associations
- Conduct and interpret a multivariable linear regression analysis to evaluate epidemiologic associations
- Conduct and interpret a multivariable logistic regression analysis to evaluate epidemiologic associations
- Conduct and interpret a multivariable survival analysis to evaluate epidemiologic associations
- Conduct and interpret a multivariable ordinal logistic regression analysis to evaluate epidemiologic associations

#### SOCIAL AND BEHAVIORAL SCIENCES TRACK

Upon receiving an M.P.H. degree in the Advanced Professional M.P.H. Program, with a concentration in Social and Behavioral Sciences, the student will be able to:

- Create and manipulate data sets and variables to evaluate epidemiologic associations
- Conduct and interpret a multivariable linear regression analysis to evaluate epidemiologic associations
- Conduct and interpret a multivariable logistic regression analysis to evaluate epidemiologic associations
- Evaluate health promotion interventions
- Apply ethical principles to the collection of social and behavioral health data

### HEALTH POLICY TRACK

Upon receiving an M.P.H. degree in the Advanced Professional M.P.H. Program, with a concentration in Health Policy, the student will be able to:

- Identify the presence and drivers of key market failures affecting health and health care and propose concrete policy changes or market mechanisms to counteract resulting inefficiencies
- Critique empirical research intended to evaluate the causal impact of health policies and health system reforms
- Develop reform proposals for enhancing the delivery of health services that are politically sustainable and that recognize the relative strengths and weaknesses of market-based vs. regulatory or legal interventions
- Identify questions in public health policy and practice that may be amenable to model-based approaches
- Apply stochastic and deterministic modeling approaches, including computational methods for simulation and data analysis

### GLOBAL HEALTH TRACK

Upon receiving an M.P.H. degree in the Advanced Professional M.P.H. Program, with a concentration in Global Health, the student will be able to:

- Describe global burden of disease patterns across world regions and population characteristics
- Analyze the roles, relationships and resources influencing the United States role in global health governance and infrastructure
- Propose sustainable, evidence-based solutions to address key global health challenges
- Apply ethical approaches in global health research and practice
- Apply monitoring and evaluation techniques to global health programs, policies or outcomes
- Display skills in applying research to global health policy and practice

### PREVENTIVE MEDICINE TRACK

Upon receiving an M.P.H. degree in the Advanced Professional M.P.H. Program, with a concentration in Preventive Medicine, the student will be able to:

- Create and manipulate data sets and variables to evaluate epidemiologic associations
- Conduct and interpret a multivariable linear regression analysis to evaluate epidemiologic associations
- Conduct and interpret a multivariable logistic regression analysis to evaluate epidemiologic associations

- Identify questions in public health policy and practice that may be amenable to model-based approaches
- Apply stochastic and deterministic modeling approaches, including computational methods for simulation and data analysis

#### OCCUPATIONAL AND ENVIRONMENTAL MEDICINE TRACK

Upon receiving an M.P.H. degree in the Advanced Professional M.P.H. Program, with a concentration in Occupational and Environmental Medicine, the student will be able to:

- Describe the occupational and environmental contributions to disease and injury, and apply safety and prevention methodology to identified hazards
- Identify the principal study designs in OEM epidemiology and critically interpret and apply the literature to clinical scenarios
- Evaluate the appropriate method of testing an exposure and interpret both environmental exposure and biomonitoring data to assess environmental exposures
- Create and manipulate data sets and variables to evaluate epidemiologic associations
- Conduct and interpret a multivariable linear regression analysis to evaluate epidemiologic associations