
# Degree Requirements 2025–2026

## Jefferson College of Population Health

Thomas Jefferson University

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# APPLIED HEALTH ECONOMICS & OUTCOMES RESEARCH

## Overview

The **Applied Health Economics & Outcomes Research (AHEOR)** program is an online program that meets the growing need for professionals to evaluate and measure health outcomes (both physical and humanistic), and to ascertain economic consequences of healthcare interventions by determining optimal clinical effectiveness, comparative effectiveness, and economic value. Graduates are in a position to become national leaders in applied health economics and to influence decision-making through the application of established scientific methods to the allocation of healthcare resources. A graduate certificate and a master's degree in AHEOR are available.

## Competencies

Graduates of the graduate certificate program are able to:

- Compare historical trends to current issues in U.S. healthcare organization, delivery, and financing.
- Explore the impact of government policies on health insurance products.
- Examine the strengths and weaknesses of research design and statistical methods in evaluating product or service efficacy.
- Discuss the key concepts and applications of simulations and quantitative modeling in economic evaluations in health care.

Graduates of the master's degree program are able to achieve the above competencies, plus:

- Apply analytic methods (e.g., burden of illness, evidence evaluation, statistics and research design, financial impact, cost-effectiveness, and decision analysis) to inform resource allocation, relative value assessments, and policy initiatives.
- Interpret and apply conceptual frameworks used in HEOR, such as economic metrics (e.g., cost-effectiveness), quality of life evaluations (e.g., utilities and patient-reported outcomes), and healthcare technology assessment evaluations from an international perspective (e.g., budget impact analysis, guidelines, formularies, and utilization incentives and disincentives).
- Conduct and manage HEOR projects in real-world healthcare settings.
- Communicate policy implications to various stakeholders and decisionmakers that reflect AHEOR concepts and techniques.

- Assume leadership roles in the decision process regarding the allocation of healthcare resources.

## Curriculum

A graduate certificate in AHEOR requires completion of 15 credits (five 3-credit courses). The master's degree requires completion of 33 credits, comprised of 10 courses and a Capstone experience that is presented to peers and faculty following completion of coursework. All courses taken for the graduate certificate can be applied toward the master's degree. Students can complete the graduate certificate in one to two years and the master's degree in two to four years, depending on their pace through the program and the time it takes to complete the Capstone experience.

There are two track options for the master's degree allowing students to focus their studies in AHEOR. The **Industry Track** will prepare students to manage HEOR research in the industry (e.g., Pharma, Insurance, Payers). It will provide students with information on up-to-date HEOR tools, competencies in HEOR analysis and interpretation, as well as applicability and meaningfulness of HEOR evidence. The **Research Track** will prepare students to conduct HEOR research. It will provide students with strong analytical and statistical competencies.

**Industry Track**

| COURSE # | COURSE NAME (CREDITS) | PREREQUISITES |
|---|---|---|
| **AHE 501** | **Economics of Health Insurance (3)** | |
| **AHE 502** | **Statistics I (3)** | |
| **AHE 504** | **Economic Modeling I (3)** | |
| **AHE 506** | **Subjective Outcomes in Health Evaluation (3)** | |
| **AHE 509** | **Epidemiology & Evidence for Outcomes Research (3)** | |
| AHE 505 | Statistics II (3) | AHE 502 |
| AHE 510 | Advanced Research Methods for Applied Observational Studies (3) | AHE 502 or PHS 605 |
| AHE 512 | Economic Modeling II (3) | AHE 504 |
| *AHE 507* | *Claims-Based AHEOR (3)* | |
| *AHE 508* | *International Health Technology Assessment: Evaluations & Evidence Generations/Synthesis (3)* | AHE 506, AHE 509, AHE 510, AHE 512 |
| *AHE 652* | *Strategic Capstone Portfolio & Presentation (3)* | Completion of all courses |
| **Bolded** courses are graduate certificate requirements.<br>*Italicized* courses are specific to the Industry Track. | | |

**Research Track**

| COURSE # | COURSE NAME (CREDITS) | PREREQUISITES |
|---|---|---|
| **AHE 501** | **Economics of Health Insurance (3)** | |
| **AHE 502** | **Statistics I (3)** | |
| **AHE 504** | **Economic Modeling I (3)** | |
| **AHE 506** | **Subjective Outcomes in Health Evaluation (3)** | |
| **AHE 509** | **Epidemiology & Evidence for Outcomes Research (3)** | |
| AHE 505 | Statistics II (3) | AHE 502 |
| AHE 510 | Advanced Research Methods for Applied Observational Studies (3) | AHE 502 |
| AHE 512 | Economic Modeling II (3) | AHE 504 |
| *HDS 500* | *Fundamentals of Data Wrangling (3)* | AHE 502 or PHS 605 |
| *HDS 502* | *Exploratory Data Analysis & Unsupervised Learning (3)* | HDS 500 |
| *AHE 652* | *Capstone Research Project (3)* | Completion of all courses |
| **Bolded** courses are graduate certificate requirements.<br>*Italicized* courses are specific to the Industry Track. | | |

# DOCTOR OF HEALTH SCIENCE IN POPULATION HEALTH (DHSC)

## Overview

The **Doctor of Health Science (DHSc) in Population Health** is a hybrid program developed to equip the next generation of population health practitioners with advanced training in implementation science, research methods, and the organization, financing, and delivery of health services. The program content and structure are organized to meet the needs of working professionals seeking to become accomplished leaders in this evolving discipline. The combination of knowledge, skill development, mentoring, and coaching prepares graduates for professional and personal success.

The curriculum is offered as hybrid via online courses, combined with in-person residencies, in a cohort model. The cohort model offers an interprofessional learning environment that is consistent with real-world practice and creates a community of practice among the students. This model is meant to support and facilitate the development of leadership skills, with a focus on implementation and evaluation, strategy, and change management. A master's degree or post-bachelor professional degree (e.g. PharmD, JD, MD, MBA) is required for entry into the program. Certificate program graduates are not eligible for admission.

## Competencies

Graduates of the DHSc program are able to:

- Assume leadership roles in professional, clinical, academic, or community organizations.
- Apply their knowledge of concepts to lead, inspire, and facilitate the work of interprofessional teams.
- Assess and evaluate issues of strategic importance and offer recommendations based on relevant data.
- Collaborate with key stakeholders to develop and test population health interventions that are informed by relevant models, valid and reliable data, and stakeholder needs.
- Assess the impact and effectiveness of strategic population health improvement plans.

## Curriculum

The DHSc in Population Health requires a minimum of 51 credits, which includes 12 online courses, six in-person residencies (two each year), the dissertation proposal, and dissertation.

| COURSE # | COURSE NAME (CREDITS) |
|---|---|
| DHS 750 | Beginning Residency I (1) |

| COURSE # | COURSE NAME (CREDITS) |
|---|---|
| DHS 711 | Payors and Value-Based Care (3) |
| DHS 700 | Descriptive Research Methods (3) |
| DHS 751 | Spring Residency II (1) |
| DHS 701 | Population Health Research Methods (3) |
| HPL 550 | Comparative Health Systems (3) |
| DHS 702 | Population Health Management Strategies (3) |
| DHS 703 | Systematic Reviews & Analysis (3) |
| DHS 752 | Fall Residency III (1) |
| DHS 704 | Population Health Implementation Science I (3) |
| DHS 707 | Concepts of Practice-Based Statistics I (3) |
| DHS 753 | Spring Residency IV (1) |
| DHS 705 | Population Health Implementation Science II (3) |
| DHS 708 | Concepts of Practice-Based Statistics II (3) |
| DHS 710 | Healthcare Leadership Strategies to Drive Change (3) |
| DHS 706 | Academic & Professional Writing (3) |
| DHS 754 | Fall Residency V (1) |
| DHS 800 | Dissertation I (3) |
| DHS 801 | Dissertation II (3) |
| DHS 755 | Summer Residency VI (1) |
| DHS 802 | Dissertation III (3) |

## Dissertation Proposal and Oral Defense

The Dissertation is the final degree requirement of the doctoral program. Students should adhere to the policies and procedures outlined in the DHSc Dissertation Handbook found under Handbooks & Forms on the **Student Resources** page.

# HEALTH DATA SCIENCE

## Overview

Health Data Science (HDS) is an ever-evolving multi-disciplinary field that involves using statistical inference, algorithmic development, and technology to make insights about data. The **Health Data Science program** prepares graduates to be successful in the ever-changing healthcare environment that is driven by data and analytics. The **Management** Track will prepare students to manage HDS projects and research in the industry. It will provide students with competencies in HDS data, statistics, predictive analytics, and the ability to interpret the results and gain insights on data. The **Research** Track will prepare students to conduct HDS research. It will provide students with the strong data wrangling, statistical, and predictive analytics competencies needed to work on HDS projects.

## Competencies

Graduates of the graduate certificate program are able to:

- Explore the vital roles of data, information, and information systems in the implementation and evaluation of healthcare and value-based care initiatives.
- Make relevant inferences from quantitative data and determine appropriate uses and limitations of such data, applying common multivariate statistical analysis techniques for inference and performing multivariate statistical analyses.
- Provides a comprehensive overview of data science, the practice of obtaining, modeling, and interpreting data.
- Adopt data visualization techniques that contribute to effective presentations and dashboards.
- Provides a foundation for population health beginning with a working definition, incorporating public health science and policy.

Graduates of the master's degree program will be able to achieve the above competencies, plus:

### All Tracks

- Evaluate and apply multivariate statistical methodologies for various study designs of efficiency and effectiveness in healthcare.

**Management Track**

- Apply management and leadership skills to data-driven decision-making and learn to communicate with technical and non-technical audiences.
- Manage HDS projects in real-world healthcare settings.
- Address implementation science and presents a multidisciplinary framework and methodology to promote the integration of scientific evidence into healthcare practice, policy, and research.

**Research Track**

- Learn key programming techniques for data wrangling, statistical modeling, and predictive analytics.
- Learn advanced data science methods including supervised and unsupervised learning algorithms.
- Conduct HDS research in real-world healthcare settings.

## Curriculum

The master's degree requires completion of 33 credits, comprised of 10 courses and a Capstone Research Project for the Research Track or a Strategic Capstone Portfolio & Presentation for the Management Track. The final capstone is presented to peers and faculty following completion of coursework. A graduate certificate in Health Data Science requires completion of 15 credits (five 3-credit courses). All courses taken for the graduate certificate can be applied toward the master's degree. Students can complete the graduate certificate in one to two years and the master's degree in two to four years depending on their pace through the program and the time required to complete the Capstone course.

**Management Track**

| COURSE # | COURSE NAME (CREDITS) | PREREQUISITES |
|---|---|---|
| **AHE 501 or POP 500** | **AHE 501 Economics of Health Insurance (3) OR POP 500 Essentials of Population Health (3)** | |
| **AHE 502** | **Statistics I (3)** | |
| **HDS 501** | **Health Informatics & Analytics (3)** | |
| **HDS 518** | **Supervised Learning & Unsupervised Learning: Prediction & Classification (3)** | |
| **HDS 532** | **Data Visualization (3)** | |
| AHE 505 | Statistics II (3) | AHE 502 |
| *AHE 509* | *Epidemiology & Evidence for Outcomes Research (3)* | |
| *HDS 538* | *Implementation Science (3)* | |
| *HDS 527* | *Analytics & AI Leadership (3)* | |

| COURSE # | COURSE NAME (CREDITS) | PREREQUISITES |
|---|---|---|
| Elective | HDS or AHE course (3) | With Approval |
| *HDS 652* | *Strategic Capstone Portfolio & Presentation (3)* | Completion of all courses |
| **Bolded** courses are graduate certificate requirements.<br>*Italicized* courses are specific to the Management Track. | | |

**Research Track**

| COURSE # | COURSE NAME (CREDITS) | PREREQUISITES |
|---|---|---|
| **AHE 501 or POP 500** | **AHE 501 Economics of Health Insurance (3) OR POP 500 Essentials of Population Health (3)** | |
| **AHE 502** | **Statistics I (3)** | |
| **HDS 501** | **Health Informatics & Analytics (3)** | |
| **HDS 518** | **Supervised Learning & Unsupervised Learning: Prediction & Classification (3)** | |
| **HDS 532** | **Data Visualization (3)** | |
| AHE 505 | Statistics II (3) | AHE 502 |
| *HDS 500* | *Fundamentals of Data Wrangling (3)* | AHE 502 or PHS 605 |
| *HDS 502* | *Exploratory Data Analysis & Unsupervised Learning (3)* | HDS 500 |
| *HDS 519* | *Deep Learning & AI Systems (3)* | HDS 502 and HDS 518 |
| Elective | HDS or AHE course (3) | With Approval |
| *HDS 651* | *Capstone Research Project* | Completion of all courses |
| **Bolded** courses are graduate certificate requirements.<br>*Italicized* courses are specific to the Research Track. | | |

**APC in Artificial Intelligence (AI) in Health Analytics Leadership**

The advanced practice certificate in Artificial Intelligence (AI) for Health Analytics Leadership provides students and healthcare professionals with cutting edge information on managing the influx of AI in Health Analytics. This 9-credit certificate includes courses on how AI affects informatics, analytics, and leadership as well as hands on, approachable training in machine-learning.

| COURSE # | COURSE NAME (CREDITS) | PREREQUISITES |
|---|---|---|
| HDS 501 | Health Informatics & Analytics (3) | |
| HDS 518 | Supervised Learning & Unsupervised Learning: Prediction & Classification (3) | |
| HDS 527 | Analytics & AI Leadership (3) | |

# HEALTH POLICY

## Overview

The Jefferson College of Population Health, in collaboration with Sidney Kimmel Medical College (SKMC) and Università Cattolica del Sacro Cuore, offers a triple degree option in Medicine and Health Policy. The **Health Policy** program, available only to students enrolled in the triple degree option, prepares graduates to assume policy analysis and advocacy roles in healthcare provider organizations, integrated healthcare delivery systems, government offices, academic institutions, health services research firms, pharmaceutical and medical device manufacturers, and community-based or advocacy organizations.

## Competencies

- Identify the key stakeholders involved in U.S. healthcare organization, delivery, and financing, with a focus on policy-making bodies.
- Examine the influence of social, economic, behavioral, and political factors on health outcomes.
- Explore the general theoretical principles of economics and their application in the healthcare sector.
- Assess the role of information systems and data analysis in the policy-making process.
- Examine the intersection of health law and the U.S. healthcare delivery system, particularly in regard to policy decisions and reimbursement.
- Apply analytical skills to identify problems, model solutions, and predict outcomes.
- Construct system-wide approaches that consider market forces and multiple stakeholder positions in the development of actionable policy solutions.
- Design, conduct, and evaluate health policy analyses and research.
- Select and integrate information systems and technology to support decision-making and workflow within and across healthcare settings.
- Apply advanced management and leadership skills to develop policies that manage costs of Healthcare and that improve access, quality, and safety.

## Curriculum

The triple degree option with the MD from SKMC & MD from Università Cattolica del Sacro Cuore requires the completion of 21 credits within JCPH. Students in this program who do not complete the SKMC MD, but successfully complete the Università Cattolica del Sacro Cuore MD, along with the required MS in Health Policy courses, will earn an MD/MS. Students in this

program who do not complete either MD, can opt for an APC (Advanced Practice Certificate) in International Health & Medicine by completing the required courses (21 credits).

**MD/MD/MS in Health Policy with Concentration in International Health & Medicine (Università Cattolica del Sacro Cuore /Sidney Kimmel Medical College (SKMC) program):***

| COURSE # | COURSE NAME (CREDITS) | PREREQUISITES |
|---|---|---|
| **HPL 550** | **Comparative Health Systems (3)** | |
| **HPL 513** | **Effective Communication & Dissemination of Data (3)** | |
| **HPL 520** | **Fundamentals of Practice-Based Statistics (3)** | |
| **HPL 516** | **Delivering Health Services in Resource-limited Countries (3)** | |
| Elective 1 | (3) | **With Approval** |
| Elective 2 | (3) | **With Approval** |
| HPL 650** | Capstone (3) | Completion of all courses |
| *Students in this program who do not complete the SKMC MD, but successfully complete the **Università Cattolica del Sacro Cuore** MD, along with the listed courses in JCPH, will earn an MD/MS. | | |
| **Bolded** courses – Students in this program who do not complete the **Università Cattolica del Sacro Cuore** MD or SKMC MD, can opt for an APC (Advanced Practice Certificate) in international Health & Medicine by completing these four courses. | | |
| ** **- Project completed at Università Cattolica del Sacro Cuore can count towards this requirement** | | |

# HEALTHCARE ADMINISTRATION (MHA)

## Overview

The Master of Healthcare Administration (MHA) program provides graduate training in modern healthcare administration. The program is designed to prepare graduates for leadership and management positions aimed at improving health service delivery across all sectors, including provider, payor and integrated organizations. The program is 50-credits and offers concentrations in Operational Excellence, Healthcare Quality & Safety, Population Health, Global Health, Health Equity, Post-acute Care, and Compliance & Regulation.

## Competencies

There are 7 competency domains that are derived from the National Center for Healthcare Leadership:

- *Organizational collaboration:* leadership across the care continuum and with other community, healthcare, governmental, and corporate organizations
- *Execution:* Strategic implementation to achieve the best fiscal, interpersonal, and patient-centered outcomes
- *Relationships:* Create an environment that embraces diversity, inclusion and belonging, respects all viewpoints, and embraces lifelong learning
- *Optimization: Using innovation and transformation to improve quality, efficiency, and effectiveness through change and project management*
- *Ethical compass:* Using organizational and personal values to guide decision making
- *Business Literacy:* Understanding the health system's current business and operating construct and context
- *Sustainability and stewardship:* Leaving the organization in a better place than when we start working with it

## Curriculum

The Master of Healthcare Administration (MHA) is a 50-credit degree requiring the completion of 27 credits of core courses, 9 credits in concentration courses, 9 credits comprising practicums and 5 credits from live virtual cohorts and interactive experiences.

| COURSE # | COURSE NAME (CREDITS) | Length in Weeks |
|---|---|---|
| **Fall 1** | | |
| OPX 550 | Fundamentals of Six Sigma DMAIC (3) | 15 |
| OPX 530 | Applied Leadership Strategies for Effective Change (3) | 7 |
| POP 510 | Health Economics, Risk, & Finance (3) | 7 |
| MHA 621 | Virtual Cohort 1 (1) | (4 monthly 4-hour sessions within 15 weeks) |
| **Spring 1** | | |
| MHA 701 | Practicum I (3) | 15 |
| OPX 520 | Change Management (3) | 7 |
| MBX xxx | Managerial Economics (3) (Kanbar) | 7 |
| MHA 622 | Virtual Cohort II (1) | (4 monthly 4-hour sessions within 15 weeks) |
| **Summer 1** | | |
| MBX xxx | Fundamentals of Accounting and Finance (3) (Kanbar) | 7 |
| HPL 520 | Fundamentals of Practice-Based Statistics (3) | 7 |
| Concentration Elective | With Program Director Approval (3) | 7-15 |
| MHA 623 | Virtual Cohort III (1) | (4 monthly 4-hour sessions within 15 weeks) |
| **Fall 2** | | |
| MHA 702 | Practicum II (3) | 15 |
| Concentration Elective | With Program Director Approval (3) | 7-15 |
| MBA 602 | Managing Innovative People and Teams (3) (Kanbar) | 8 |
| MHA 624 | Virtual Cohort IV (1) | (4 monthly 4-hour sessions within 15 weeks) |
| **Spring 2** | | |
| MHA 703 | Practicum III (3) | 15 |
| MBX 604 | Business Model Innovation (3) (Kanbar) | 8 |
| Concentration Elective | With Program Director Approval (3) | 7-15 |
| MHA 625 | Virtual Cohort V (1) | (4 monthly 4-hour sessions within 15 weeks) |
| See **website** for most up-to-date course waiver information | | |

Concentration options available in Operational Excellence, Healthcare Quality & Safety, Population Health, Global Health, Health Equity, Post-acute Care, and Compliance & Regulation.

| COURSE # | COURSE NAME (CREDITS) | Length in Weeks |
|---|---|---|
| **Operational Excellence** | | |
| HQS 500 | Introduction to Healthcare Quality & Safety (3) | 7 |
| OPX 535 | Strategic Execution (3) | 7 |
| HQS 512 | Business Case for Quality (3) | 7 |
| **Healthcare Quality & Safety** | | |
| HQS 500 | Introduction to Healthcare Quality & Safety (3) | 7 |
| HQS 509 | Applied Principles of Healthcare Quality (3) | 7 |
| HQS 504 | High Reliability (3) | 7 |
| **Population Health** | | |
| POP 500 | Essentials of Population Health (3) | 7 |
| POP 560 | Population Health Strategy & Management I (3) (Pre-req POP 500) | 7 |
| HDS 501 | Health Informatics & Analytics (3) | 7 |
| **Global Health** | | |
| HPL 550 | Comparative Health Systems (3) | 7 |
| PBH 501 | Foundations of Public Health (3) | 12 |
| PBH 502 | Society, Behavior, & the Environment (3) | 12 |
| **Health Equity** | | |
| PBH 502 | Society, Behavior, & the Environment (3) | 12 |
| PBH 509 | Foundations of Policy & Advocacy (3) | 12 |
| PBH 515 | Cultural Humility & Competence (3) | 12 |
| **Post-Acute Care** | | |
| HQS 504 | High Reliability (3) | 7 |
| HQS 508 | Quality in Post-Acute Care Settings (3) | 7 |
| AHE 501 | Economics of Health Insurance (3) | 7 |
| **Compliance & Regulation** | | |
| HPL 504 | Health Law & Regulatory Issues (3) | 7 |
| PBH 509 | Foundations of Policy & Advocacy (3) | 12 |
| OPX 531 | Evaluating Healthcare Organizations (3) | 7 |
| See **website** for most up-to-date course waiver information | | |

# HEALTHCARE QUALITY & SAFETY

## Overview

The Jefferson College of Population Health's **Healthcare Quality and Safety (HQS) program** is accredited by the **Commission on Accreditation of Healthcare Management Education** (CAHME), the specialized accrediting body recognized by the **Council for Higher Education Accreditation** (CHEA) as the only accrediting body for healthcare management programs at the master's level. CAHME accreditation only applies to the HQS master's degree program; it does not apply to the Advanced Practice Certificates (APC) or graduate certificate.

The **Healthcare Quality & Safety (HQS) program** offers a variety of options. A graduate certificate in HQS requires completion of 15 credits (five 3-credit courses). The master's degree requires completion of 33 credits, comprising 10 courses and a Capstone that is presented to peers and faculty following completion of coursework. There are also options for an Advanced Practice Certificate (APC) which consist of three 3-credit courses.

## Competencies

Graduates of the graduate certificate program are able to:

- Integrate change management tools and principles for organizational transformation.
- Design and implement performance improvement strategies for healthcare quality and safety.
- Promote a culture of openness and trust by integrating professional accountability, transparency, and ethical decision-making in support of patient and family-centered care.

Graduates of the master's program are able to achieve the above competencies, plus:

- Apply management and leadership techniques for developing and implementing a strategic approach to healthcare quality & safety.
- Evaluate systematic approaches for driving clinical or performance outcomes for targeted populations.
- Interpret and account for internal and external factors that influence structure, process, and outcomes.
- Assessment of and response to applicable legal factors, regulatory mechanisms, and other governing bodies that influence healthcare quality and safety.

## Curriculum

### Healthcare Quality & Safety

The Master of Science in HQS requires completion of 33 credits (10 courses and a Capstone). A graduate certificate in HQS (15 credits) is available and all courses taken for the graduate certificate can be applied toward the master's degree. The Capstone is presented to peers and faculty following completion of coursework and the Capstone manuscript. Students can complete the graduate certificate in one to two years and the master's degree in two to four years depending on their pace through the program and the time required to complete the Capstone.

| COURSE # | COURSE NAME (CREDITS) | PREREQUISITES |
|---|---|---|
| **OPX 530** | **Applied Leadership Strategies for Effective Change (3)** | |
| **HQS 500** | **Introduction to Healthcare Quality & Safety (3)** | |
| **HQS 509** | **Applied Principles of Healthcare Quality (3)** | |
| **HQS 515** | **Applied Principles of Patient Safety (3)** | |
| **HQS 504** | **High Reliability (3)** | |
| OPX 520 | Change Management (3) | |
| HQS 512 | Business Case for Quality (3) | |
| HQS 505 | Advanced Tools & Methods for HQS (3) | |
| HQS 507 | Advanced Applications of HQS in Clinical Settings (3) | All other coursework |
| Elective | (3) | With Approval |
| HQS 650 | Capstone (3) | Completion of all coursework |
| **Bolded** courses are graduate certificate requirements | | |
| See **website** for most up-to-date course waiver information | | |

### Advanced Practice Certificate (APC) – Healthcare Quality & Safety

All courses apply toward the graduate certificate and master's degree.

| COURSE # | COURSE NAME (CREDITS) | PREREQUISITES |
|---|---|---|
| HQS 500 | Introduction to Healthcare Quality & Safety (3) | |
| OPX 530 | Applied Leadership Strategies for Effective Change (3) | |
| HQS 504 | High Reliability (3) | |
| See **website** for most up-to-date course waiver information | | |

### Advanced Practice Certificate (APC) – Quality Improvement & Patient Safety Leadership Development (QIPS) Track

This track of the APC in HQS includes focused coursework, live virtual monthly sessions, and a mentored project designed to align improvement work with the students' practice goals and their organizations' business priorities. All courses apply toward the master's degree.

| COURSE # | COURSE NAME (CREDITS) | PREREQUISITES |
|---|---|---|
| OPX 520 | Change Management (3) | |
| HQS 509 | Applied Principles of Healthcare Quality (3) | |
| HQS 515 | Applied Principles of Patient Safety (3) | |
| See website for most up-to-date course waiver information | | |

**Additional Elective Options**

| COURSE # | COURSE NAME (CREDITS) | PREREQUISITES |
|---|---|---|
| HQS 508 | Quality in Post-Acute Care Settings (3) | |
| HQS 516 | Teaching Quality & Safety (3) | |
| OPX 532 | Project Management Essentials (3) | |
| OPX 540 | Baldrige (3) | |
| OPX 550 | Fundamentals of Six Sigma DMAIC (3) | |
| See website for most up-to-date course waiver information | | |

# OPERATIONAL EXCELLENCE

## Overview

Operational Excellence (OPX) is the academic and professional field focused on developing and implementing evidence-based performance improvement methodologies needed to promote value and efficiency in healthcare. OPX professionals lead healthcare transformation by focusing on eliminating waste and improving system performance.

## Competencies

Graduates of the graduate certificate program are able to:

- Apply the foundational concepts of quality and safety measurement, improvement, and analysis.
- Utilize project management tools and framework to design and implement improvement projects.
- Distinguish the various evaluation methods used to externally and internally assess a healthcare organization's performance.
- Identify and evaluate appropriate healthcare situations to utilize operational excellence tools.

Graduates of the master's programs are able achieve the above competencies, plus:

- Evaluate the effectiveness of various performance improvement evaluation approaches as well as improvement interventions.
- Integrate quality, safety, and transformation/change management tools to promote quality, safety, and process efficiency.
- Design and implement operational excellence tools and strategies at a system level.
- Develop systematic approaches to drive broad-impacting improvements across a healthcare organization.

## Curriculum

The master's degree requires the completion of 33 credits, comprising 10 courses and a Capstone that is presented to peers and faculty following completion of coursework. A graduate certificate in OPX requires completion of 15 credits (five 3-credit courses). All courses taken for the graduate certificate can be applied toward the master's degree. Students can complete the graduate certificate in one to two years and the master's degree in two to four years depending on their pace through the program and the time required to complete the Capstone. There are also options for an Advanced Practice Certificate (APC) which consist of three 3-credit courses, all of

which apply toward the graduate certificate and master's degree.

| COURSE # | COURSE NAME (CREDITS) | PREREQUISITES |
|---|---|---|
| **OPX 530** | **Applied Leadership Strategies for Effective Change (3)** | |
| **HQS 500** | **Introduction to Healthcare Quality & Safety (3)** | |
| **OPX 520** | **Change Management (3)** | |
| **OPX 532** | **Project Management Essentials (3)** | |
| **OPX 525** | **Executing Lean Improvements (3)** | |
| OPX 531 | Evaluating Healthcare Organizations (3) | |
| OPX 535 | Strategic Execution (3) | |
| Electives | (6) | With Approval |
| HQS 512 | Business Case for Quality (3) | |
| OPX 650 | Capstone (3) | Completion of all courses |
| **Bolded** courses are graduate certificate requirements | | |
| See website for most up-to-date course waiver information | | |

**Advanced Practice Certificate (APC) – Operational Excellence**
The Advanced Practice Certificate (APC) consists of three 3-credit courses, all of which apply toward the graduate certificate and master's degree.

| COURSE # | COURSE NAME (CREDITS) | PREREQUISITES |
|---|---|---|
| OPX 520 | Change Management (3) | |
| OPX 530 | Applied Leadership Strategies for Effective Change (3) | |
| OPX 532 | Project Management Essentials (3) | |
| See website for most up-to-date course waiver information | | |

**Additional Elective Options**

| COURSE # | COURSE NAME (CREDITS) | PREREQUISITES |
|---|---|---|
| HQS 504 | High Reliability (3) | |
| HQS 508 | Quality in Post-Acute Care Settings (3) | |
| OPX 516 | Teaching Operational Excellence (3) | |
| OPX 540 | Baldrige (3) | |
| OPX 550 | Fundamentals of Six Sigma DMAIC (3) | |
| OPX 551 | Advanced Fundamentals of Six Sigma DMAIC (3) | OPX 550 |
| See website for most up-to-date course waiver information | | |

# POPULATION HEALTH

## Overview

The **Population Health** (POP) program offers additional skills required for leadership positions in value-based care, improving the health of managed populations, and policy and advocacy. The Population Health program is designed for experienced health executives and practitioners, but welcomes individuals with an interest in Population Health who do not yet have experience. A graduate certificate and master's degree in Population Health are available with several track options, as well as Advanced Practice Certificate (APC) options.

## Competencies

Graduates of the graduate certificate program are able to:

- Define population health and describe how public health resources can align to address social determinants of health in order to improve health care outcomes.
- Articulate U.S. Healthcare organization and delivery, and how it impacts strategy and operations for achieving value-based care.
- Articulate new priorities in prevention, evidence-based practice, comparative effectiveness, public health, and health policy established by the population health framework.
- Incorporate principles of healthcare quality and safety to improve the care of patients and populations.
- Apply principals of economics, risk, and finance to the development and implementation of health care strategies.
- Articulate new approaches to managing costs, and to improving access, quality, and safety.
- Assess and interpret healthcare policies, legal precedents, statutes, and regulations. (Science Track)
- Articulate how health information systems support and inform data analytics, decision-making, and workflow within, and across, healthcare settings. (Management Track)

Graduates of the Master of Science in Population Health Program are able to achieve the above competencies, plus:

**All Tracks:**

- Apply quantitative and qualitative analytic skills to develop, implement, and evaluate programs that address population health issues at the institutional, community, regional, and national levels.

- Apply principles of change management to influence healthcare programs and outcomes effectively.

**Science Track:**

- Analyze the impact of socio-cultural factors on access to health care and adjust health promotions and interventions accordingly.

- Apply social, behavioral, and organizational science to the diagnosis, development, and implementation of organizational change.

- Participate in structured simulations that demonstrate the breadth of population health.

**Management Track:**

- Discuss and design clinical programs and initiatives that demonstrate understanding of social, clinical, and financial factors impacting population health.

- Organize and implement clinical programs while understanding the role of analytics and principles of implementation science.

- Apply leadership strategies for effective change to clinical operations.

## Curriculum

The master's degree requires completion of 33 credits, comprising 10 courses and a Capstone that is presented to peers and faculty following completion of coursework. A graduate certificate in Population Health requires completion of 15 credits (five 3-credit courses). All courses taken for the graduate certificates can be applied toward the corresponding track in the master's degrees. Students can complete the graduate certificate in one to two years and the master's degree in two to four years depending on their pace through the program and the time required to complete the Capstone. There are two tracks within the master's degree program: Science and Management. There are also options for an Advanced Practice Certificate (APC) which consist of three 3-credit courses, all of which apply to the master's degree.

**Population Health – Science Track**

| COURSE # | COURSE NAME (CREDITS) | PREREQUISITES |
|---|---|---|
| **HPL 550** | **Comparative Health Systems (3)** | |
| **HPL 504** | **Health Law & Regulatory Issues (3)** | |
| **HQS 500** | **Introduction to Healthcare Quality & Safety (3)** | |

| COURSE # | COURSE NAME (CREDITS) | PREREQUISITES |
|---|---|---|
| **POP 500** | **Essentials of Population Health (3)** | |
| **POP 510** | **Health Economics, Risk, & Finance (3)** | |
| AHE 509 | Epidemiology & Evidence for Outcomes Research (3) | |
| OPX 532 | Project Management Essentials (3) | |
| HDS 501 | Health Informatics & Analytics (3) | |
| OPX 520 | Change Management (3) | |
| Elective | (3) | With Approval |
| POP 650 | Capstone (3) | Completion of all courses |
| **Bolded** courses are graduate certificate requirements | | |
| See **website** for most up-to-date course waiver information. | | |

**Population Health – Management Track**

| COURSE # | COURSE NAME (CREDITS) | PREREQUISITES |
|---|---|---|
| **POP 500** | **Essentials of Population Health (3)** | |
| **POP 510** | **Health Economics, Risk, & Finance (3)** | |
| **HQS 509** | **Applied Principles of Healthcare Quality (3)** | |
| **HDS 501** | **Health Informatics & Analytics (3)** | |
| **HDS 538** | **Implementation Science (3)** | |
| OPX 520 | Change Management (3) | |
| OPX 530 | Applied Leadership Strategies for Effective Change (3) | |
| POP 560 | Population Health Strategy & Management Applications I (3) | POP 500 |
| POP 561 | Population Health Strategy & Management Applications II (3) | POP 560 |
| Elective | (3) | With Approval |
| POP 650 | Capstone (3) | Completion of all coursework |
| **Bolded** courses are graduate certificate requirements | | |
| See **website** for most up-to-date course waiver information | | |

**Advanced Practice Certificate (APC) – Population Health**

The three courses in the APC may be used to apply toward the graduate certificate or the master's degree in the Science track.

| COURSE # | COURSE NAME (CREDITS) | PREREQUISITES |
|---|---|---|
| HPL 550 | Comparative Health Systems (3) | |
| POP 500 | Essentials of Population Health (3) | |
| POP 510 | Health Economics, Risk, & Finance (3) | |
| See **website** for most up-to-date course waiver information | | |

# POPULATION HEALTH SCIENCE (PHD)

## Overview

The **Population Health Science** program is a hybrid doctoral (PhD) program. The doctoral program prepares leaders to analyze the determinants of health and to develop, implement, and evaluate health interventions, policies, and systems that improve the health and quality of life of populations. More specifically, the PhD program prepares leaders to be scholars, researchers, educators, and practitioners in core aspects of population health. A master's degree or post-bachelor professional degree (e.g. PharmD, JD, MD) is required for entry into the PhD program. Certificate program graduates are not eligible for admission. Students in the Population Health Science program specialize in one of five areas: Applied Health Economics & Outcomes Research, Health Behavior Science, Health Data Science, or Healthcare Quality & Safety.

## Competencies

Graduates of the PhD program are able to:

- Demonstrate advanced knowledge and application of population health frameworks and concepts.
- Apply knowledge of the structures, performance, quality, policy, and environmental context of healthcare to the formulation of solutions to, and prevention of, population health problems.
- Formulate population health research questions that are informed by relevant theoretical and conceptual models; systematic reviews of the literature; valid, reliable, and generalizable data; and stakeholder needs.
- Select appropriate study designs to address specific population health research questions.
- Collect, analyze, and/or interpret data obtained either prospectively (by survey, surveillance, qualitative, or mixed methods) or retrospectively through existing public and private sources to identify determinants of health.
- Conduct ethical and responsible research in the design, implementation, and dissemination of population health research through implementation of research protocols with standardized procedures.
- Apply appropriate design and analytic methods to clarify associations between variables and to identify causal inferences.
- Communicate findings and implications of population health science research through multiple modalities to academic, professional, and lay audiences.

## Curriculum

The PhD in Population Health Science requires a minimum of 62 credits, including the comprehensive examination, dissertation proposal, and dissertation. Courses are offered both in-person and online.

| COURSE # | COURSE NAME (CREDITS) | PREREQUISITES |
|---|---|---|
| **Core Coursework – Methods (12)** | | |
| PHS 605 | Advanced Statistical Methods for Data Analysis (3) | |
| PBH 606<br><br>AHE 509 | Advanced Epidemiology (3)<br>or<br><br>Epidemiology & Evidence for Outcomes Research (3)<br>*Required for AHEOR Specialization* | PBH 504 & PBH 506 OR PHS 605 |
| PHS 615 | Advanced Statistics for Population Health Science: Multi-Level Modeling (3) | PHS 605 |
| PHS 650<br><br>AHE 510 | Evaluative & Outcomes Research & Design (3)<br>or<br>Econometric & Observational Methods (3) *AHEOR Specialization only* | <br><br>AHE 502 or PHS 605 (for AHE 510) |
| **Core Coursework – Population Health Fundamentals (16)** | | |
| PBH 500 | Foundations of the U.S. Healthcare System (3) | |
| POP 500 | Essentials of Population Health (3) | |
| AHE 501 | Economics of Health Insurance (3) | |
| PBH 502 | Society, Behavior, & the Environment (3) | |
| PHS 602 | Bioethics (1) | |
| PHS 620 | Teaching & Learning Seminar (3) | |
| **Integrative Research (4)** | | |
| PHS 700 | Integrative Research Seminar (1) | |
| **Mentored Research (3)** | | |
| PHS 660 | Mentored Research Experience (1) | Approval by Program Director |
| **Specialization Coursework (15)** | | |
| *Applied Health Economics & Outcomes Research (AHEOR) Specialization Coursework* | | |
| AHE 502 | Statistics I (3) | |
| AHE 504 | Economic Modeling I (3) | |
| AHE 505 | Statistics II (3) | AHE 502 |
| AHE 506 | Subjective Outcomes in Health Evaluation (3) | |
| AHE 512 | Economic Modeling II (3) | AHE 504 |
| AHE 507 | Claims-Based AHEOR (3) | |
| AHE 508 | International Health Technology Assessment: Evaluations & Evidence Generations/Synthesis (3) | AHE 506, AHE 509, AHE 510, AHE 512 |
| PHS 650 | Evaluative & Outcomes Research & Design (3) | |
| HDS 500 | Fundamentals of Data Wrangling (3) | AHE 502 or PHS 605 |

| COURSE # | COURSE NAME (CREDITS) | PREREQUISITES |
|---|---|---|
| HDS 502 | Exploratory Data Analysis & Unsupervised Learning (3) | HDS 500 |
| *Health Behavior Science Specialization Coursework* | | |
| PBH 512 | Qualitative Research Methods (3) | |
| PBH 515 | Cultural Humility & Competence (3) | |
| PBH 602 | Advanced Social & Behavioral Theories & Interventions (3) | PBH 502 |
| PHS 680 | Advanced Analytic Topics for Health Behavior Science (3) | PBH 602 or PHS 605 |
| PHS 710 | Advanced Health Behavior Methods & Measurement (3) | PBH 602 |
| | | |
| *Health Data Science Specialization Coursework* | | |
| AHE 502 | Statistics I (3) | |
| AHE 505 | Statistics II (3) | AHE 502 |
| HDS 500 | Fundamentals of Data Wrangling (3) | AHE 502 or PHS 605 |
| HDS 502 | Exploratory Data Analysis & Unsupervised Learning (3) | HDS 500 |
| HDS 532 | Data Visualization (3) | |
| HDS 518 | Supervised Learning & Unsupervised Learning: Prediction & Classification (3) | |
| HDS 519 | Deep Learning & AI Systems (3) | HDS 502 and HDS 518 |
| *Healthcare Quality & Safety Specialization Coursework* | | |
| HQS 500 | Introduction to Healthcare Quality & Safety (3) | |
| HQS 505 | Advanced Tools & Methods for HQS (3) | |
| HQS 507 | Advanced Applications of HQS in Clinical Settings (3) | HQS 500, HQS 505, HQS 509, HQS 515 |
| HQS 509 | Applied Principles of Healthcare Quality (3) | |
| HQS 515 | Applied Principles of Patient Safety (3) | |
| HQS 512 | Business Case for Quality (3) | |
| OPX 520 | Change Management (3) | |
| **Examination & Dissertation (12)** | | |
| PHS 800 | Comprehensive Exam Prep (1) | All Core Coursework & 3 credits PHS 700 |
| PHS 801 | Comprehensive Exam (1) | PHS 800 |
| PHS 805 | Dissertation Proposal Seminar (3) | PHS 801 |
| PHS 807 | Dissertation Proposal Defense (1) | PHS 805 |
| PHS 810 | Dissertation Progress (3) | PHS 807 |
| PHS 811 | Final Dissertation Defense (3) | PHS 810 |

| **MPH to PhD in Population Health Science *(Health Behavior Science concentration only)* (27 credits)** |
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| See details in **Public Health section** |

## Comprehensive Examination

The Comprehensive Examination is composed of two parts:

- **Part I** is a written, open-book, non-monitored test consisting of several essays on key areas in population health
- **Part II** is a written, open-book, non-monitored research proposal

Students should adhere to the policies and procedures outlined in the PhD Comprehensive Examination and Dissertation Handbook located under Handbooks & Forms on the **Student Resources** page.

## Dissertation Proposal and Oral Defense

The Dissertation is the final degree requirement of the doctoral program. Students should adhere to the policies and procedures outlined in the PhD Comprehensive Examination and Dissertation Handbook located under Handbooks & Forms on the **Student Resources** page.

# PUBLIC HEALTH

## Overview

The **Public Health** program offers both an on-site and an online delivery option. The comprehensive public health curriculum trains students to be practitioners in community, government, research, non-profit, and clinical settings. The program is committed to multi-disciplinary experiential education, research, practice, and service.

The Jefferson College of Population Health (JCPH) offers a **Master of Public Health (MPH)** degree, which is nationally accredited through the **Council on Education for Public Health (CEPH)**. Students develop competencies in several key public health areas: health behavior and social sciences, biostatistics, environmental health, epidemiology, policy and advocacy, program planning, implementation and evaluation, and others. The interdisciplinary curriculum stresses leadership skills, systems thinking, health communication, global health, and cultural humility and competency.

Students can complete the MPH in several ways:

- Accelerated– Students on this pathway will earn the degree in one academic year. All accelerated students enter the program in the fall (end of August or early September) and take courses on a full-time basis. This pathway is ideal for future healthcare professionals who plan to take a gap year while applying to medical school.
- Full-time/Part-time – The Leaders in Public Health Transformation (LPHT) Pathway is ideal for students planning to practice public health and take the lead in promoting health across siloes. LPHT students can enter the program in any semester. Students on the LPHT pathway may be either full-time or part-time. Jefferson employees looking to enhance their skills and strengthen the human capital of the Jefferson Enterprise are designated as Jeff LPHT students.
- Dual Degree – Dual degree options allow students to apply coursework from other degree programs to the Jefferson MPH. Currently, the Public Health program offers several dual degrees, each with their own specific timeline.
- Advanced Standing – This pathway provides graduates with a terminal degree (for example, MD, DO, PhD, JD, DHSc, DSW, DDM) from an accredited graduate school with the opportunity to pursue an MPH. Students can earn a degree either on a full- or part-time basis.
- Bridge – Undergraduate students at our partner institutions may start the MPH during their junior or senior year. These courses are also applied to their undergraduate degree.

The Public Health program offers four engaging concentration options. Each concentration offers elective course options that address specific competencies. Students in each concentration take 4 required concentration courses as well as two “free choice” courses. Students will work with their academic advisors to declare a concentration.

1. **Public Health Analytics** focuses on bolstering students' epidemiological and statistical expertise through advanced coursework giving students the ability to collect, analyze, interpret, and visualize data.
2. **Public Health Policy & Advocacy** gives students the skillset to promote public health policy at the local, state, federal, and international levels.
3. **Healthcare Quality & Safety** focuses on integrating public health knowledge and skills in the clinical space. This concentration is particularly of interest to students currently in or intending to enter the medical field.
4. The **Public Health Practice (Generalist)** concentration gives students the most freedom to choose electives that appeal to them. Academic advisors will support students in determining which electives support their career goals.

## Competencies

The **Council on Education for Public Health** has identified the essential knowledge and skills needed in public health practice, education and research. The JCPH Public Health program uses these competencies to guide curriculum development and assess student learning. Every course in the program links these competencies to graded assignments allowing faculty and students to assess competency attainment. Students in the Public Health program will demonstrate attainment of the following competencies:

**Public Health Knowledge**

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|---|---|
| D1.1 | Explain public health history, philosophy, and values |
| D1.2 | Identify the core functions of public health and the 10 Essential Services |
| D1.3 | Explain the role of quantitative and qualitative methods and sciences in describing and assessing a population's health |
| D1.4 | List major causes and trends of morbidity and mortality in the U.S. or other community relevant to the College or public health program |
| D1.5 | Discuss the science of primary, secondary, and tertiary prevention in population health, including health promotion, screening, etc. |
| D1.6 | Explain the critical importance of evidence in advancing public health knowledge |
| D1.7 | Explain effects of environmental factors on a population's health |
| D1.8 | Explain biological and genetic factors that affect a population's health |
| D1.9 | Explain behavioral and psychological factors that affect a population's health |
| D1.10 | Explain the social, political, and economic determinants of health and how they contribute to population health and health inequities |
| D1.11 | Explain how globalization affects global burdens of disease |
| D1.12 | Explain an ecological perspective on the connections among human health, animal health, and ecosystem health (eg, One Health) |

**Foundational Competencies**

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|---|---|
| D2.1 | Apply epidemiological methods to settings and situations in public health practice |
| D2.2 | Select quantitative and qualitative data collection methods appropriate for a given public health context |

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|---|---|
| D2.3 | Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate |
| D2.4 | Interpret results of data analysis for public health research, policy, or practice |
| D2.5 | Compare the organization, structure, and function of health care, public health, and regulatory systems across national and international settings |
| D2.6 | Discuss the means by which structural bias, social inequities, and racism undermine health and create challenges to achieving health equity at organizational, community, and systemic levels |
| D2.7 | Assess population needs, assets, and capacities that affect communities' health |
| D2.8 | Apply awareness of cultural values and practices to the design, implementation, or critique of public health policies or programs |
| D2.9 | Design a population-based policy, program, project, or intervention |
| D2.10 | Explain basic principles and tools of budget and resource management |
| D2.11 | Select methods to evaluate public health programs |
| D2.12 | Discuss the policy-making process, including the roles of ethics and evidence |
| D2.13 | Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes |
| D2.14 | Advocate for political, social, or economic policies and programs that will improve health in diverse populations |
| D2.15 | Evaluate policies for their impact on public health and health equity |
| D2.16 | Apply leadership and/or management principles to address a relevant issue |
| D2.17 | Apply negotiation and mediation skills to address organizational or community challenges |
| D2.18 | Select communication strategies for different audiences and sectors |
| D2.19 | Communicate audience-appropriate (i.e., non-academic, non-peer audience) public health content, both in writing and through oral presentation |
| D2.20 | Describe the importance of cultural competence in communicating public health content |
| D2.21 | Integrate perspectives from other sectors and/or professions to promote and advance population health |
| D2.22 | Apply a systems thinking tool to visually represent a public health issue in a format other than standard narrative |

**Concentration-Specific Competencies**

Students will attain additional competencies dependent on their declared concentration.

**Healthcare Quality & Safety**

- Assess healthcare quality and safety issues in specific populations using the National Academy of Medicine's (formerly IOM) Quality Aims.
- Develop a quality improvement plan.
- Demonstrate the use of tools and methods to measure and improve processes, behavior, and outcomes.
- Develop a strategy for identifying, prioritizing, and mitigating causes of medical errors.

- Assess team effectiveness in managing patient safety.
- Develop a project management plan.
- Identify, critically review, assess, and synthesize the scientific evidence behind a specific public health challenge related to your concentration.

**Public Health Analytics**

- Apply ethical and legal principles to the collection, analysis, protection, maintenance, use, and dissemination of study results and related information.
- Construct, change, and display GIS maps in presentations and reports using provided software.
- Design effective, clear, and accessible graphics and related materials, to enhance the translation and communication of public health science.
- Design and conduct a quantitative research project, resulting in a paper of publishable quality, and an oral presentation.
- Plan and conduct a qualitative research project. Manage data, analyze findings, and generate an exhibit for public display and report for key stakeholders.
- Identify, critically review, assess, and synthesize the scientific evidence behind a specific public health challenge related to your concentration.

**Public Health Policy & Advocacy**

- Explain the link between law and policy as it relates to public health, research, practice ethics, or policy development.
- Assess current proposals for health reform using economic theories, models, and empirical results.
- Examine the constructs of an environmental justice community.
- Estimate the economic impact of health policy implementation.
- Describe various economic incentives that influence the actions of governmental and non-governmental stakeholders.
- Identify, critically review, assess, and synthesize the scientific evidence behind a specific public health challenge related to your concentration.

**Public Health Practice (Generalist)**

- Students, in consultation with their academic advisor, identify concentration competencies based on the electives they choose/plan to take.

- Identify, critically review, assess, and synthesize the scientific evidence behind a specific public health challenge related to your concentration.

**Nursing & Public Health**

- Examine the feasibility and sustainability of a theory-based program.
- Plan and conduct a qualitative research project. Manage data, analyze findings, and generate an exhibit for public display and report for key stakeholders.
- Demonstrate cultural humility, respect, and meaningful representation of marginalized groups in data collection, data organization, and presentation of results.
- Critique proposals for population health programs.
- Apply statistical methods for the determination of the structure of a measurement instrument.
- Identify, critically review, assess, and synthesize the scientific evidence behind a specific public health challenge related to your concentration.

## Curriculum

The public health program requires the completion of 45 credits including a Clerkship-Applied Practice Experience (C-APE) and Capstone-Integrative Learning Experience (C-ILE).

"Free Choice" electives may be any elective offered across all concentrations. For example, a student in the Public Health Analytics concentration takes 2 "free choice" electives in addition to the required concentration courses. The student may choose to take a law and ethics course from the Policy & Advocacy concentration and a global health course from the Public Health Practice (Generalist) concentration as the "free choice" electives.

Students must officially declare their concentration by completing a **concentration declaration** and a *Student Status Change Request* form locates under Handbooks & Forms on the **Student Resources** site.

| COURSE # | COURSE NAME (CREDITS) | PREREQUISITES |
|---|---|---|
| **MPH including LPHT, Accelerated, Bridge** *(any concentration)* | | |
| PBH 500 | Foundations of the US Healthcare System (3) | |
| PBH 501 | Foundations of Public Health (3) | |
| PBH 502 | Society, Behavior & the Environment (3) | |
| PBH 504<br>Or<br>PBH 505 | Fundamentals of Statistics for Research (3)<br><br>Fundamentals of Statistics for Practice (3) | |
| PBH 506 | Fundamentals of Epidemiology (3) | |

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|---|---|---|
| PBH 509 | Foundations of Policy & Advocacy (3) | |
| PBH 510 | Health Research Methods (3) | |
| PBH 520 | Program Planning, Implementation & Evaluation (3) | |
| | Electives (18) | |
| PBH 611<br>PBH 612<br><br>PBH 613<br>PBH 614 | Accelerated Capstone-ILE Part 1 (2) and<br>Accelerated Capstone-ILE, Part 2 (1) *Accelerated only*<br>Or<br>LPHT Capstone-ILE, Part 1 (3) and<br>LPHT Capstone-ILE, Part 2 (0) *LPHT, Bridge only* | PBH 510*<br><br><br><br>PBH 510* |
| PBH 651 | Clerkship – Applied Practice Experience (C-APE) (0) | At least 15 credits |
| **MD/MPH, DO/MPH, and Advanced Standing** *(any concentration)* | | |
| PBH 500 | Foundations of the US Healthcare System (3) | |
| PBH 502 | Society, Behavior & the Environment (3) | |
| PBH 504 | Fundamentals of Statistics for Research (3) | |
| PBH 506 | Fundamentals of Epidemiology (3) | |
| PBH 509 | Foundations of Policy & Advocacy (3) | |
| PBH 510 | Health Research Methods (3) | |
| PBH 660 | Clinical Public Health (0) | |
| | Electives (12) | |
| PBH 613<br>PBH 614 | LPHT Capstone-ILE, Part 1 (3) and<br>LPHT Capstone-ILE, Part 2 (0) | PBH 510* |
| PBH 651 | Clerkship-Applied Practice Experience (0) | At least 15 credits |
| | Transferred credits (12) | |
| **MSS/MPH** *(Analytics concentration)* | | |
| PBH 500 | Foundations of the US Healthcare System (3) | |
| PBH 501 | Foundations of Public Health (3) | |
| PBH 502 | Society, Behavior & the Environment (3) | |
| PBH 504 | Fundamentals of Statistics for Research (3) | |
| PBH 506 | Fundamentals of Epidemiology (3) | |
| PBH 509 | Foundations of Policy & Advocacy (3) | |
| PBH 520 | Program Planning, Implementation & Evaluation (3) | |
| PBH 512 | Qualitative Research Methods (3) | |
| PBH 605 | Advanced Statistics (3) | PBH 504 |
| PBH 606 | Advanced Epidemiology (3) | PBH 504 &<br>PBH 506 OR PHS 605 |
| PBH 609 | GIS Mapping (3) | PBH 504* or 505* &<br>PBH 506* or 606* |
| PBH 613<br>PBH 614 | LPHT Capstone-ILE, Part 1 (3) and<br>LPHT Capstone-ILE, Part 2 (0) | (PBH 510 waived) |
| PBH 651 | Clerkship-Applied Practice Experience (0) | At least 15 credits |
| | Transferred credits (9) | |

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|---|---|---|
| **MSS/MPH** *(Public Health Practice (Generalist), Public Health Policy & Advocacy, Healthcare Quality & Safety concentrations)* | | |
| PBH 500 | Foundations of the US Healthcare System (3) | |
| PBH 501 | Foundations of Public Health (3) | |
| PBH 502 | Society, Behavior & the Environment (3) | |
| PBH 506 | Fundamentals of Epidemiology (3) | |
| PBH 509 | Foundations of Policy & Advocacy (3) | |
| PBH 520 | Program Planning, Implementation & Evaluation (3) | |
| PBH 512 | Qualitative Research Methods (3) | |
| | Electives (12) | |
| PBH 613<br>PBH 614 | LPHT Capstone-ILE, Part 1 (3) and<br>LPHT Capstone-ILE, Part 2 (0) | (PBH 510 waived) |
| PBH 651 | Clerkship-Applied Practice Experience (0) | At least 15 credits |
| | Transferred credits (9) | |
| **JD/MPH** *(Public Health Practice (Generalist), Public Health Policy & Advocacy, Healthcare Quality & Safety concentrations)* | | |
| PBH 500 | Foundations of the US Healthcare System (3) | |
| PBH 501 | Foundations of Public Health (3) | |
| PBH 502 | Society, Behavior & the Environment (3) | |
| PBH 504<br>Or<br>PBH 505 | Fundamentals of Statistics for Research (3)<br><br>Fundamentals of Statistics for Practice (3) | |
| PBH 506 | Fundamentals of Epidemiology (3) | |
| PBH 509 | Foundations of Policy & Advocacy (3) | |
| PBH 510 | Health Research Methods (3) | |
| PBH 520 | Program Planning, Implementation & Evaluation (3) | |
| | Electives (12) | |
| PBH 613<br>PBH 614 | LPHT Capstone-ILE, Part 1 (3) and<br>LPHT Capstone-ILE, Part 2 (0) | PBH 510* |
| PBH 651 | Clerkship-Applied Practice Experience (0) | At least 15 credits |
| | Transferred credits (9) | |
| **PharmD/MPH** *(Public Health Practice (Generalist) concentration)* | | |
| PBH 501<br>Or<br>POP 500 | Foundations of Public Health (3)<br><br>Essentials of Population Health (3) | |
| PBH 502 | Society, Behavior & the Environment (3) | |
| PBH 504<br>Or<br>PBH 505 | Fundamentals of Statistics for Research (3)<br><br>Fundamentals of Statistics for Practice (3) | |
| PBH 506 | Fundamentals of Epidemiology (3) | |
| PBH 509 | Foundations of Policy & Advocacy (3) | |
| PBH 510 | Health Research Methods (3) | |

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|---|---|---|
| PBH 520 | Program Planning, Implementation & Evaluation (3) | |
| | Electives (9) | |
| PBH 613<br>PBH 614 | LPHT Capstone-ILE, Part 1 (3) and<br>LPHT Capstone-ILE, Part 2 (0) | PBH 510* |
| PBH 651 | Clerkship-Applied Practice Experience (0) | At least 15 credits |
| | Transferred credits + program requirements (12) | |
| **EDM/MPH** *(Public Health Practice (Generalist) and Public Health Analytics concentrations only)* | | |
| PBH 500 | Foundations of the US Healthcare System (3) | |
| PBH 501 | Foundations of Public Health (3) | |
| PBH 502 | Society, Behavior & the Environment (3) | |
| PBH 504<br>Or<br>PBH 505 | Fundamentals of Statistics for Research (3)<br><br>Fundamentals of Statistics for Practice (3) | |
| PBH 506 | Fundamentals of Epidemiology (3) | |
| PBH 509 | Foundations of Policy & Advocacy (3) | |
| PBH 510 | Health Research Methods (3) | |
| PBH 520 | Program Planning, Implementation & Evaluation (3) | |
| PBH 609 | GIS Mapping (3) | PBH 504* or 505*,<br>PBH 506* or 606* |
| | Electives (9) | |
| PBH 651 | Clerkship-Applied Practice Experience (0) | At least 15 credits |
| | Transferred credits (9) | |
| **PhD in Nursing/MPH** *(Nursing & Public Health concentration only)* | | |
| PBH 500 | Foundations of the US Healthcare System (3) | |
| PBH 501<br>Or<br>POP 500 | Foundations of Public Health (3)<br><br>Essentials of Population Health (3) | |
| PBH 502 | Society, Behavior & the Environment (3) | |
| PBH 506 | Fundamentals of Epidemiology (3) | |
| PBH 509 | Foundations of Policy & Advocacy (3) | |
| PBH 520 | Program Planning, Implementation & Evaluation (3) | |
| PBH 512 | Qualitative Research Methods (3) | |
| PBH 651 | Clerkship-Applied Practice Experience (0) | At least 15 credits |
| | Transferred credits (24) | |
| *Dual degree students should consult their advisor* | | |
| **MPH to PhD in Population Health Science** ***(Health Behavior Science concentration only)*** **(27 credits)** | | |
| PBH 500 | Foundations of the US Healthcare System (3) | |
| PBH 501 | Foundations of Public Health (3) | |
| PBH 502 | Society, Behavior & the Environment (3) | |
| PHS 605 | Advanced Statistics for Data Analysis | |

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|---|---|---|
| PBH 506 | Fundamentals of Epidemiology (3) | |
| PBH 509 | Foundations of Policy & Advocacy (3) | |
| PBH 510 | Health Research Methods (3) | |
| PBH 520 | Program Planning, Implementation & Evaluation (3) | |
| PBH 613<br>PBH 614 | LPHT Capstone-ILE, Part 1 (3) and<br>LPHT Capstone-ILE, Part 2 (0) | PBH 510* |
| PBH 651 | Clerkship – Applied Practice Experience (C-APE) (0) | At least 15 credits |
| **Concentration and Electives (18 credits)** | | |
| PBH 602 | Advanced Social & Behavioral Theories & Interventions (3) | PBH 502 |
| PBH 512 | Qualitative Research Methods (3) | |
| PBH 515 | Cultural Humility & Competence (3) | |
| PHS 615 | Advanced Statistics for Population Health Science: Multilevel Modeling (3) | PHS 605 |
| PHS 680 | Advanced Analytic Topics for Health Behavior Science (3) | PBH 602 & PHS 605 |
| PHS 710 | Advanced Health Behavior Methods & Measurement (3) | PBH 602* |
| PBH 510 | Health Research Methods (3) | |
| **PhD Population Health Fundamentals & Methods Core (16 credits)** | | |
| PBH 606 | Advanced Epidemiology (3) | PBH 504 &<br>PBH 506 OR PHS 605 |
| PHS 650 | Evaluative & Outcomes Research & Design (3) | |
| POP 500 | Essentials of Population Health (3) | |
| AHE 501 | Economics of Health Insurance (3) | |
| PHS 602 | Bioethics (1) | |
| PHS 620 | Teaching & Learning Seminar (3) | |
| **Mentored & Integrative Research (7 credits)** | | |
| PHS 660 | Mentored Research Experience (1 credit, taken 3 times) | |
| PHS 700 | Integrative Research Experience (1 credit, taken 4 times) | |
| **Comprehensive Examination & Dissertation (12 credits)** | | |
| PHS 800 | Comprehensive Exam Prep (1) | All Core Coursework |
| PHS 801 | Comprehensive Exam (1) | PHS 800 |
| PHS 805 | Dissertation Proposal Seminar (3) | PHS 801 |
| PHS 807 | Dissertation Proposal Defense (1) | PHS 805 |
| PHS 810 | Dissertation Progress (3) | PHS 807 |
| PHS 811 | Final Dissertation Defense (3) | PHS 810 |
| *Dual degree students should consult their advisor* | | |
| * Can be taken concurrently with permission | | |

To meet the requirements of the concentration, the four required concentration courses must be taken along with two “free choice” electives.

| COURSE # | COURSE NAME (CREDITS) | PREREQUISITES |
|---|---|---|
| **CONCENTRATIONS** | Additional courses may be taken as electives with permission | |
| Public Health Analytics | (4 required concentrations courses + 2 "free choice" electives) | |
| PBH 512 | Qualitative Research Methods (3) | |
| PBH 605 | Advanced Statistical Methods for Data Analysis (3) | PBH 504 |
| PBH 606 | Advanced Epidemiology (3) | PBH 504 & PBH 506 OR PHS 605 |
| PBH 609 | Geo-Based Information Systems (GIS) Mapping (3) | PBH 504*/505*, PBH 506*/606* |
| Public Health Policy & Advocacy | (4 required concentration courses + 2 "free choice" electives) | |
| PBH 507 | Fundamentals of Environmental Health (3) | |
| PBH 513 | Public Health Law & Ethics (3) | PBH 509 |
| PBH 518 | Applied Policy & Advocacy (3) | PBH 509 |
| AHE 501 | Economics of Health Insurance (3) | |
| Healthcare Quality & Safety | (4 required concentration courses + 2 "free choice" electives) | |
| HQS 500 | Introduction to Healthcare Quality & Safety (3) | |
| HQS 509 | Applied Principles of Healthcare Quality (3) | |
| HQS 515 | Applied Principles of Patient Safety (3) | |
| OPX 532 | Project Management Essentials (3) | |
| Public Health Practice (Generalist) | (6 "free choice" electives) | |
| PBH 511 | Health Communication (3) | |
| PBH 514 | Dimensions of Global Health (3) | |
| PBH 515 | Cultural Humility & Competence (3) | |
| PBH 516 | Health & Human Rights (3) | |
| PBH 602 | Advanced Social & Behavioral Theories & Interventions (3) | PBH 502 |
| PBH 603 | Substance Use as a Public Health Issue | |
| PBH 604 | Essentials of R for Public Health | |
| PBH 607 | Infectious Disease Epidemiology (3) | PBH 504* or 505* and PBH 506 or 606 |
| *Other options available; students should consult their advisor* | | |
| * Can be taken concurrently with permission | | |

## Completion Timelines

| COMPLETION TIMELINES | |
|---|---|
| **Accelerated** | Students complete all coursework, the C-APE and the C-ILE, within one academic year. |
| **Dual Degree** | Completion timelines vary by program. Dual degree students will receive program-specific timelines from their academic advisor.<br>• JD/MPH with the Delaware Law School at Widener University<br>• MD/MPH with Sidney Kimmel Medical College, Geisinger Commonwealth School of Medicine, Hackensack Meridian School of Medicine and other accredited medical schools<br>• DO/MPH with the Philadelphia College of Osteopathic Medicine (PCOM) and other accredited medical schools<br>• PharmD/MPH with the Jefferson College of Pharmacy and Philadelphia College of Osteopathic Medicine (PCOM)<br>• MSS/MPH with the Graduate School of Social Work and the Social Research at Bryn Mawr College<br>• EDM/MPH with the Jefferson College of Health Professions, Emergency & Disaster Management Program<br>• PhD in Nursing/MPH with the Jefferson College of Nursing<br>• MPH to PhD in Population Health Science with a Health Behavior Science concentration |
| **Full-Time LPHT** | Students complete all coursework, including the C-APE and C-ILE, within two years |
| **Part-Time LPHT** | Students complete all coursework, including the C-APE and C-ILE, within five years. |
| **Jeff LPHT** | Students complete all coursework, including the C-APE and C-ILE, within five years. |
| **Advanced Standing** | Completion timelines vary. Students will receive personalized timelines from their academic advisor. |
| **Bridge** | Students complete all coursework, including the C-APE and C-ILE, within five years. This timeframe starts when the student enrolls in MPH courses as an undergraduate. |

## Interprofessional Activity

All students are required to participate in an interprofessional activity and write a reflection paper on their experiences. Pre-approved activities have been identified, such as **Nexus Maximus** or any group activity provided by the **Jefferson Center for Interprofessional Education**. More information about this requirement is available in the Clerkship –Applied Practice Experience Handbook **located under Handbooks & Forms on the Student Resources site**.

## Clerkship - Applied Practice Experience (C-APE)

MPH students should refer to the ***Clerkship –Applied Practice Experience Handbook*** **located under Handbooks & Forms on the Student Resources site** for more information.