The Comparative Health Outcomes, Policy, and Economics (CHOICE) Institute

PhD in Health Economics and Outcomes Research

Information Session

October 22, 2026
9-10 am Pacific Time

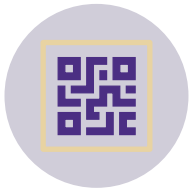
THE CHOICE INSTITUTE

School of Pharmacy

AGENDA



Introductions



About The
CHOICE Institute



PhD Program
Structure



Application
Process



Q & A

THE CHOICE INSTITUTE

School of Pharmacy

INTRODUCTIONS



Anirban Basu, PhD
Professor & Stergachis Family
Endowed Director of CHOICE



Josh Carlson, MPH, PhD
Professor & Graduate
Program Director



Douglas Barthold, PhD
Associate Professor &
Associate Graduate Program Director



Manpreet Dhankhar, MS
4th Year PhD Student



Marina Gano, M.Ed.
Graduate Program &
Operations Manager

CHOICE LEADERSHIP



Anirban Basu, PhD
Professor & Stergachis Family Endowed Director of CHOICE



Jing Li, PhD
Associate Professor & Associate Director of CHOICE



Josh Carlson, MPH, PhD
Professor & Graduate Program Director



Douglas Barthold, PhD
Associate Professor & Associate Graduate Program Director



Marina Gano
Graduate Program & Operations Manager



Leana de la Torre
Online Certificate Program Manager

We are a global leader in generating knowledge to improve individual and population health through transformative learning, research, and dissemination about the effectiveness, safety, and value of medical products, services, and policies.

WHO WE ARE

THE CHOICE INSTITUTE

School of Pharmacy

MISSION

Research: Develop innovative methods and generate actionable evidence about the effectiveness, safety, and value of medical products and services that improve decision making in health care and policy.

Training: Provide transformative training in health economics, outcomes research, and policy analysis to meet contemporary health care challenges regionally, nationally, and globally.

Service: Be a leading resource on the effectiveness, safety, and value of medical products and services by providing expertise and facilitating collaborations at the regional, national, and global level.

THE CHOICE INSTITUTE
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Our History

1989 — **Andy Stergachis** joins UW School of Pharmacy

1991 — **Sean Sullivan** joins UW School of Pharmacy to lead outcomes research and policy work

1995 — **The Pharmaceutical Outcomes Research and Policy Program (PORPP) is formed**. First PhD cohort enters in 1996

2014-2015 — **New Leadership Emerges** Sean Sullivan becomes Dean of UW School of Pharmacy & Anirban Basu joins PORPP as Director

2017 — **An Identity Redefined** PORPP transitions to The CHOICE Institute

2018-2024 — **New Faculty Hirings** Douglas Barthold, Jing Li, Kyu Lee, & Noémi Kreif join CHOICE

2025 — **30th Year Milestone**

CORE FACULTY

Assistant Professors

- Clayton English
- Laura Hart
- Noemi Kreif
- Kyu Eun Lee

Associate Professors

- Jennifer Bacci
- Douglas Barthold
- Jing Li

Professors

- Anirban Basu
- Josh Carlson
- Shelly Gray
- Ryan Hansen
- Andy Stergachis
- Sean Sullivan
- Dave Veenstra

Emeritus Professors

- Beth Devine
- Lou Garrison

ADJUNCT & AFFILIATE FACULTY

Adjunct Faculty	David Au, VA Puget Sound	Brian Bresnahan, Radiology	David Flum, Surgery	Lurdes Inoue, Biostatistics	Jerry Jarvik, Medicine	Larry Kessler, HSPOP
	Jeff Lane, Global Health	Gary Lyman, UW Medicine	Scott Ramsey, UW Medicine	Monisha Sharma, Global Health		

Affiliate Faculty	Blythe Adamson, Doctronic	Deb Atherly, PATH	Aasthaa Bansal, University of Toronto	Lisa Bloudek, Curta	Elizabeth Brouwer, Curta	William Canestaro, Accipiter Bio
Ruth Etzioni, Fred Hutch	Yevgeniy Feyman, NPC	Jens Grueger, Boston Consulting Group	Jan Hansen, Sanofi	Brett Hauber, Pfizer	Nina Hill, PRO Consultant	Sara Khor, Spring Health
Zachary Marcum, Medicus Economics	Rajshree Pandey, Alexion	Joshua Roth, Eli Lilly	Carolyn Rutter, Fred Hutch	Parth Shah, Fred Hutch	Lotte Steuten, OHE	Sepideh Varon, Novartis
	John Watkins, Managed Care Perspectives, LLC	Jennifer Whiteley, Moderna	Davene Wright, Harvard Medical School	Kai Yeung, Amazon Health	Marita Zimmermann, IDM	

OUR COMMITMENT TO DIVERSITY, EQUITY AND INCLUSION

CHOICE is committed to **creating an inclusive academic community** where every individual is treated fairly and with dignity and respect. We strongly believe that **diversity enriches learning**, broadens the perspectives of all in our program, and improves our sense of community. **Diversity requires an atmosphere of inclusion, tolerance, respect, and equity.**

THE CHOICE INSTITUTE DIVERSITY ENDOWED GRADUATE FELLOWSHIP

Recipients will be underrepresented students in the field of health economics, outcomes research, and policy with deep personal experience with, and connection to, diverse cultures.

Our equality and diversity principles:

- We value the tremendous diversity of the human experience and believe that this diversity strengthens our communities and our program.
- We believe that discrimination or exclusion based on individual characteristics and circumstances, such as age; disability; caring or dependency responsibilities; gender or gender identity; marriage and civil partnership status; political opinion; pregnancy and maternity; race, color, caste, nationality, ethnic or national origin; religion or belief; sexual orientation; socio-economic status; or other distinctions, is unjust and represents a waste of talent and a denial of opportunity for self-fulfillment.
- We recognize that patterns of under-representation and differences in outcomes at CHOICE can be challenged through positive action.
- We respect the rights of individuals, including the right to hold their own opinions and beliefs, but will not allow these opinions to be manifested in a way that is hostile or degrading to others.
- We expect commitment and involvement from all our faculty, staff, and students in working towards the achievement of our vision.

https://sop.washington.edu/choice/who-we-are/diversity-statement/

AREAS OF RESEARCH

Research Emphasis (Engaged CHOICE Faculty)	Theory/Methods	Application
HEALTH ECONOMICS Barthold, Basu, Carlson, Devine, Garrison, Hansen, Kreif, Li, Sullivan, Veenstra	Cure Modeling, Machine Learning, Causal inference, CEA, Experimental Economics, Value of information analyses	Aging, Cancer, Diabetes, Provider Behavior, Mental Health, Pharmacogenomics
OUTCOMES RESEARCH Bacci, Basu, Carlson, Devine, English, Garrison, Gray, Hansen, Hart, Lee, Stergachis, Sullivan, Veenstra	Observational and claims data methods, pragmatic trial designs, preference elicitation, evidence synthesis and meta-analysis, benefit- risk assessments, pharmacoepidemiology, pharmacovigilance, implementation science, qualitative methods	Treatment sequencing, adverse events, organ allocation, access to cancer clinical trials, precision medicine, drug safety, diagnostic imaging, organ transplantation, cystic fibrosis, medication adherence care transition, global health pipeline of medicine and vaccines
POLICY EVALUATION Barthold, Bacci, Basu, Carlson, Hansen, Hazlet, Kreif, Lee, Li, Stergachis, Sullivan	Interrupted Time Series, difference-in-differences, instrumental variables, regression discontinuity, data visualization, decision modeling	Value-based insurance designs, cancer drug pricing, performance-based risk sharing, opioid prescribing, marijuana laws, liver transplantation, FDA regulatory structure evaluation, Affordable care Act, Physician payment reform and contracts.

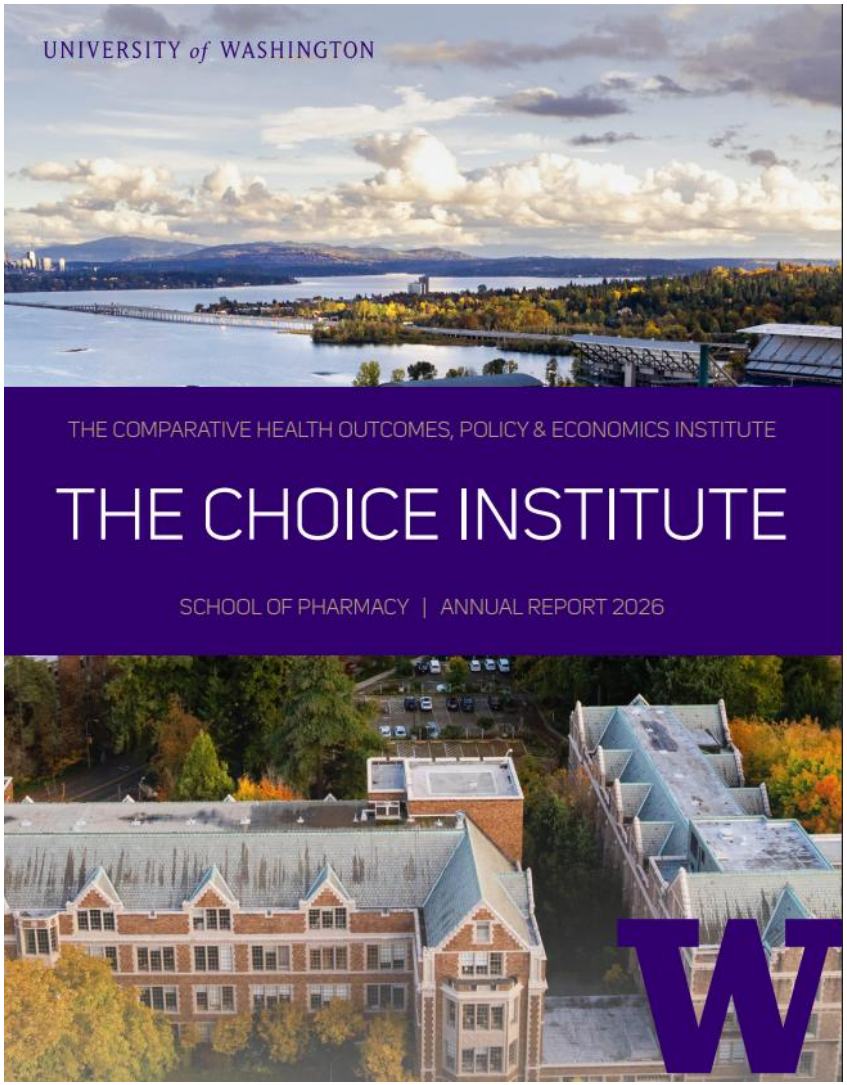
CHOICE RESEARCH PORTFOLIO



IN-HOUSE DATABASES

- Merative MarketScan Atlas Package Databases
- Truveta (EMR data from 31 healthcare systems)
- Komodo Health Map (2015 – Current)
- EPIC Cosmos Data via UW Medicine

2025–2026 Annual Report



Access online:

https://sop.washington.edu/choice/who-we-are/annual-reports-newsletters/

GRADUATE TRAINING OVERVIEW

- Our PhD program prepares students to become independent scientists and leaders in health economics, outcomes research and policy evaluation, with special emphasis on the pharmaceutical sector.
- Current Students
  - 17 PhD students
  - 10 MS fellows



CURRENT PHD STUDENTS


Preetika Banerjee (Y3)


Shiven Bhardwaj (Y5)


Emily Callen (Y5)


Hui-Hsuan Chan (Y4)


Zilin Cheng (Y4)


Emma Cousin (Y5)


Manpreet Dhankhar (Y4)


Julia Fox (Y5)


Varun Gandhay (Y1)


Sam Han (Y3)


Thomas Hopkins (Y3)


Satoshi Koiso (Y2)


Carlos Pineda (Y4)


Wei Tseng (Y1)


Ruihan Qin (Y3)


Molly White (Y1)


Lijia Zheng (Y2)

FIELDS OF STUDY

- Biostatistics
- Epidemiology
- Health economics
- Decision sciences
- Clinical trial design and analysis
- Health policy
- Data Science

PHD PROGRAM CURRICULUM OVERVIEW

> **The program of course work can be divided into four components:**

1. **Core courses**
2. **Electives**
3. **Seminars**
4. **Independent research and dissertation**

CORE PROGRAM

Course	Credits
EPI 512, 513 Epidemiologic Methods I & II	**8**
BIOST 511, 512, 513 (or 517-518) Medical Biometrics I, II & III	**8-12**
HEOR 545 Methods in Pharmaceutical Policy Analysis	**4**
HEOR 520 Pharmacoepidemiology	**3**
HEOR 530 Economic Evaluation in Health and Medicine	**3**
HEOR 533 Advanced Methods in Economic and Outcomes Evaluation in Health and Medicine	**3**
HEOR 540 Health Economics	**3**
HSERV 523 Advanced Health Services Research Methods I: Large Public Databases; Big Data	**4**
HEOR 551 Advanced Health Services Research Methods III: Casual Inference Using Observational Data	**4**
BIOSTAT 537 Survival Data Analysis in Epidemiology	**4**
HEOR 597 Graduate Seminar	**10**
HEOR 598 Program in Health Economics and Outcomes Research Methodologies Seminar	**2**
HEOR 800 Dissertation	**27**
Electives *List of Suggested Electives in Appendix E*	**14**
HEOR 600 Independent Study	**21**
TOTAL MINIMUM CREDITS	**118***

122 minimum credits if student takes the BIOST 511, 512, & 513 series.

DATA SCIENCE DEGREE OPTION

Same core required courses, but the following are taken to fulfill the 14-credit elective requirement.

Domain	Course #, Name, & Credits	Description
Programming Skills/ Software Engineering	***CSE 583**: Software Development for Data Scientists *(4)*	Provides a foundational understanding of computation and practical data analysis. I am learning to code in Python to solve real-world scientific problems.
Machine Learning	**BIOST 546:** Machine Learning for Biomedical and Public Health Big Data *(3)*	Fundamentals of machine learning (supervised and unsupervised); bias/variance trade-off; cross validation; classification techniques; Taught in R.
Data Visualization	**CSE 512:** Data Visualization *(4)*	Explores visual techniques for investigating patterns in data, summarizing, and efficiently presenting statistical results. Taught in R.
Capstone in HEOR	**HEOR 552:** Application of Machine Learning HEOR *(3)*	This course will integrate the above material and apply it to HEOR.

BIOST = Biostatistics; CSE = Computer Science & Engineering; HEOR = Health Economics and Outcomes Research

PROGRESSION TO DOCTORAL DEGREE

First & Second Year:

- Completion of core courses and preliminary examinations.
- Begin the process of determining their potential interests in dissertation research.

Summer Quarter after Second Year:

- Explore potential dissertation topics and data sources available

Third Year:

- Selection of dissertation topic (with CHOICE faculty approval of short proposal) and establishment of Supervisory Committee.
- Completion of specialization coursework and Dissertation Proposal Defense.

Fourth and Fifth Year:

- Completion of dissertation and Dissertation Defense.

RECENT PHD GRADUATES



Victoria Dayer

PharmD, University of Washington; BS Pharmacological Chemistry & BA International Business, University of California San Diego

DISSERTATION: *Biosimilars in the United States: Market Dynamics and Patient Out-of-Pocket Costs*

CHAIR: Sean D. Sullivan

UPCOMING PLANS: Senior Research Associate, Curta



Ifechukwu Benedict Nwogu

MPH, University of Nottingham, United Kingdom; B.Pharm, University of Lagos, Nigeria

DISSERTATION: *Therapeutic Innovations in Advanced Prostate Cancer: A Real-World Comparative Effectiveness and Cost-Effectiveness Evaluation*

CHAIR: Josh Carlson

UPCOMING PLANS: Associate Research Scientist, Flatiron Health



Yunjoo Karris Jeon

MSc Health Economics, University of York; BS Nursing, Korea University

DISSERTATION: *Impact of the Inflation Reduction Act on Medicare Part D: Changes in Spending on the First 10 Selected Drugs and Beneficiary Out-of-Pocket Costs*

CHAIR: Sean D. Sullivan

UPCOMING PLANS: Postdoctoral Scholar, University of Washington



Ronald C. Dickerson

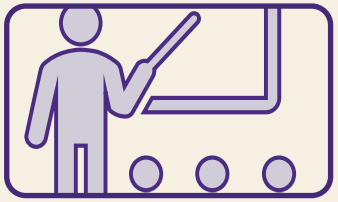
MPH New Mexico State University; MA Economics, Eastern Illinois University; BA Business Administration, Western Colorado University

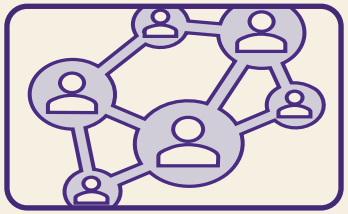
DISSERTATION: *Firearm Injuries and Illicit Drug Markets: An Econometric Analysis of Costs, Violence, and Spatial Dependence*

CHAIR: Anirban Basu

UPCOMING PLANS: Postdoctoral Research Scholar, Harvard Medical School

ALUMNI CAREER PATHS







ACADEMIA

Meng Li, PhD (‘18)

Assistant Professor, Center for the Evaluation of Value and Risk in Health (CEVR)

Mark Bounthavong, PhD ('18)

Professor of Clinical Pharmacy, UC San Diego

Kangho Suh, PharmD, PhD (‘19)

Assistant Professor, University of Pittsburgh School of Pharmacy

Boshen Jiao, PhD ('22)

Assistant Professor, University of Southern California

Felipe Montano, PhD (’25)

Research Scientist, University of Southern California

Ronald Dickerson, PhD (’26)

Postdoctoral Scholar, Harvard Medical School

INDUSTRY

Kai Yeung, PhD (‘15)

Senior Healthcare Research Scientist

Blythe Adamson, PhD (‘18)

SVP of Research, Doctronic

Tricia Rodriguez, PhD (’21)

Director, Real World Data Scientist, Eli Lilly & Co

Sabra Zaraa, PhD ('23)

Associate Director of Oncology Outcomes Research, AstraZeneca

Ashley Tabah, PhD (’24)

Associate Director of HEOR, BioNTech

Zizi Elsisi, PhD (’25)

Data Scientist, Value Analytics Labs

RESEARCH

Marita Zimmermann, PhD (’16)

Senior Research Economist, Institute for Disease Modeling (IDM)

Nathaniel Hendrix, PhD ('20)
Data Scientist, American Board of Family Medicine

Enrique Saldarriaga, PhD ('22)

Director of Public Health and Policy, American Dental Education Association

Woojung Lee, PhD (’22)

Director, Health Economics and Decision Modeling at ICER

Samantha Clark, PhD (’22)

Principal, Medicus Economics

Rachel Wittenauer, PhD (’24)

Postdoctoral Scientist, World Health Organization

APPLICATION PROCESS

THE CHOICE INSTITUTE

School of Pharmacy

APPLICATION TIMELINE

December 15, 2026	Application Deadline
Early January 2027	Interview Notification
Mid & Late January	Interviews (2 Rounds)
Mid February	Offer Notification
April 15, 2027	Acceptance Deadline
Late September 2027	Program Start

PREREQUISITES

- **Typical academic backgrounds:**
  - Students with Master's degrees in fields *such as* epidemiology, economics, statistics or public health
  - Students with professional degrees in pharmacy, medicine or other health-related fields who have strong quantitative skills
- **Other prerequisites:**
  - Must meet all minimum Graduate School requirements, including a minimum grade point average of 3.0.
  - Competitive applicants have a GPA of 3.5 and above.
- **GRE scores are required for all applicants**
- **Non-native English speakers are required to demonstrate English proficiency as per Graduate School Policy 3.2**

ENGLISH LANGUAGE PROFICENCY REQUIREMENTS

- English language proficiency (ELP) is required for graduate study at the University of Washington. Every applicant whose **native language is not English** must demonstrate English language proficiency via **one** of the following methods:
  - A bachelor's, master's or doctoral degree from a regionally accredited institution located in the United States or from an institution outside of the U.S. where English is the medium of instruction.
    - *Note: there are specific residency & documentation requirements, which can be found in Memo 3.2*
  - Previous UW graduate degree completion or previous admittance and current enrollment in a UW graduate program.
  - Official English Language Test Scores:

Test Type	Test Format Allowed	Minimum Score
TOEFLiBT	Test Center or Home	5 *(for tests taken **after** Jan 21, 2026)* 100 *(for tests taken **before** Jan 21, 2026)*
Academic IELTS	Test Center or Home	7.0
DuoLingo	Home	130

Important: TOEFL MyBest and IELTS One Skill Retake test scores are **no longer admissible**.

See Graduate School Memo 3.2
https://grad.uw.edu/policies/3-2-graduate-school-english-language-proficiency-requirements/

CONSIDERATIONS FOR EVALUATING PROSPECTIVE DOCTORAL STUDENTS

All are equally weighted utilizing a holistic admissions rubric.

- **A strong record of academic achievement**
  - **emphasis on quantitative skills and critical thinking**
- **Prior experience working in fields related and/or applicable to HEOR**
- **Leadership experience**
- **Demonstrated interest in HEOR**
- **Ability to communicate effectively, both verbally and in writing**
- **Ability to contribute to and enrich the CHOICE program's learning environment**

OUR RUBRIC

CATEGORY	SCORE Between 1 (highest) - 5 (lowest)	COMMENTS	POTENTIAL SOURCES (PRE-INTERVIEWS)
Academic achievement (Emphasis on quantitative skills and critical thinking)			GPA, Academic record, CV, GRE Scores
Prior work and/or research experience in fields related to and/or applicable to HEOR			CV, LOR, statement of purpose
Demonstrated interest in HEOR			CV, LOR, statement of purpose
Ability to contribute to and enrich the CHOICE program's learning environment			CV, LOR, statement of purpose, personal history statement
Leadership experience			CV, LOR, personal statement, personal history statement
Ability to communicate effectively, both verbally and in writing			CV (published manuscripts or posters), LOR, statement of purpose, GRE Scores
Overall			

APPLICATION TIPS

- **Contact your recommenders early** (now!)
- **Submit a strong, focused, and well-edited CV**
  - Research skills
  - Data analysis & quantitative skills
  - Relevant internships/training experiences, electives, courses, and presentations
  - Leadership experience
- **Highlight all projects relevant to HEOR**
- **Include any publications you have contributed to, even if not yet in press (helpful to link to papers when able)**

HOW TO APPLY

- **Apply directly to the UW Graduate School**
- **Go to:** https://apply.grad.uw.edu/portal/gr_app
  - Select “Start Graduate Application”
  - Under Program Selection, choose the following:
    - Application type: Graduate
      - Program: Pharmacy – Health Economics & Outcomes Research (PhD)
  - Quarter and Year: Fall 2027
- **Mailed application materials are not accepted**
- **Official transcripts are only required if offered admission**
  - unofficial transcripts are scanned and uploaded into the online application
- **Late applications will not be accepted.**
  - Apply by 11:59 PM Pacific Time on December 15, 2026!

APPLICATION FEE & WAIVERS

- The application fee is $90
- Financial Need Fee Waivers are available through the Graduate School. Fee waiver requests must be submitted at least 7 days before the deadline!
- Washington State Need Grant Program eligibility criteria is used to determine financial need.
- International students requiring an F-1 or J-1 visa are not eligible for application fee waivers
- For more information: https://grad.uw.edu/prospective-students/how-to-apply/application-fee-waivers/

FREQUENTLY ASKED QUESTIONS

- **Funding**
  - First 2 years guaranteed funding by program
  - 2+: Responsibility shifts but students remain funded
  - Appointments are 50% FTE as part of a fellowship, research assistantship, teaching, or graduate staff assistantship
    - Stipend is currently $3,794 / month at Pre-Candidacy rate
    - Possible to supplement with other UW or external work, but must be balanced with workload and academic progress
    - Includes health insurance
- **Waiving required courses**
- **After graduation:**
  - 1/3 academia, 1/3 industry,1/3 governmental or non-profit organizations
- **Our program is STEM-Designated and eligible for the STEM-OPT Extension**
- **The GRE cannot be waived under any circumstances. Scores must be valid (no more than 5 years old). Official scores should also be received by the deadline (not just self-reported).**

Q&A

Please submit questions in the chat.

THE CHOICE INSTITUTE

School of Pharmacy

CONTACT US



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HEOR PhD Student
Student Member of Admissions Committee
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