

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

**PhD in Health Economics and  
Outcomes Research**  
Information Session

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October 16, 2025  
9-10 am Pacific Time

THE CHOICE INSTITUTE

School of Pharmacy

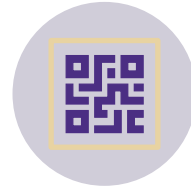


# AGENDA

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**Introductions**



**About The  
CHOICE Institute**



**PhD Program  
Structure**



**Application  
Process**



**Q & A**

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# CHOICE LEADERSHIP

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**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.**

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## **WHO WE ARE**

THE CHOICE INSTITUTE

School of Pharmacy

**W**

# MISSION

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**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.



# Celebrating 30 Years of HEOR Excellence

**Andy Stergachis**  
joins UW  
School of  
Pharmacy

**1989**

**1991**

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

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

**1995**

**2014-2015**

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

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

**2017**

**2018-2024**

**New Faculty  
Hirings**  
Douglas  
Barthold, Jing  
Li, Kyu Lee, &  
Noémi Kreif  
join CHOICE.

# 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

# OUR STAFF

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**Leana de la Torre**

Online Certificate  
Program Manager



**Marina Gano**

Graduate Program &  
Operations Manager



**Greg Guzauskas**

Senior Research  
Scientist



**Linda Luu**

Research Scientist

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# 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

Gary Lyman,  
Medicine

Scott Ramsey,  
Medicine

Monisha  
Sharma, Global  
Health

## Affiliate Faculty

Blythe Adamson,  
Flatiron Health

Maria Agapova,  
Gilead Sciences

Aasthaa Bansal,  
University of  
Toronto

Carrie Bennette,  
Paradigm

Lisa Bloudek,  
Curta

Denise  
Boudreau,  
Genentech

Elizabeth  
Brouwer, Curta

William  
Canestaro,  
Accipiter Bio

Ruth Etzioni,  
Fred Hutch

Jens Grueger,  
Boston  
Consulting  
Group

Jan  
Hansen, Sanofi

Brett Hauber,  
Pfizer

Zsolt Hepp,  
Bicycle  
Therapeutics

Nina Hill, HEOR  
Consultancy

Zachary  
Marcum,  
Medicus  
Economics

Rajshree  
Pandey, Alexion

Joshua Roth,  
Pfizer

Carolyn Rutter,  
Fred Hutch

Parth Shah, Fred  
Hutch

Lotte Steuten,  
OHE

Amy Tung, Curta

Sepideh Varon,  
Novartis

Elisabeth  
Vodicka, Pfizer

John Watkins,  
Premera Blue  
Cross

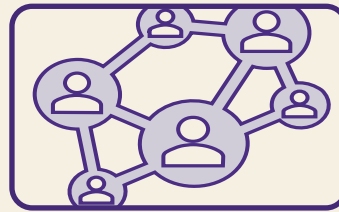
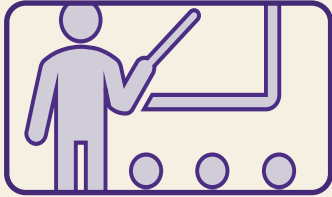
Jennifer  
Whiteley, Oracle

Davene Wright,  
Harvard Medical  
School

Kai Yeung,  
Amazon

Marita  
Zimmermann,  
IDM

# ALUMNI CAREER PATHS



## ACADEMIA

### **Amy Cizik, PhD ('16)**

Research Assistant Professor,  
University of Utah Health

### **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)**

Postdoctoral Scholar, University of  
Southern California

## INDUSTRY

### **Blythe Adamson, PhD ('18)**

Head of Outcomes Research &  
Evidence Generation, Flatiron

### **Devender Dhanda, PhD ('18)**

Worldwide HEOR Associate  
Director, Bristol-Myers Squibb

### **Wei-Jhih Wang ('20)**

Senior Manager for HEOR/RWE,  
Moderna

### **Sabra Zaraa, PhD ('23)**

Senior Scientist, Oncology  
Outcomes Research at  
AstraZeneca

### **Ashley Tabah, PhD ('24)**

Associate Director of HEOR,  
BioNTech

### **Zizi Elsis, 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)**

Associate Director, Health  
Economics & Decision Modeling,  
ICER

### **Yilin Chen, PhD ('23)**

Senior Research Associate, Curta

### **Rachel Wittenauer, PhD ('24)**

Postdoctoral Scientist, World Health  
Organization

# CURRENT PHD STUDENTS



Preetika Banerjee (Y2)



Shiven Bhardwaj (Y4)



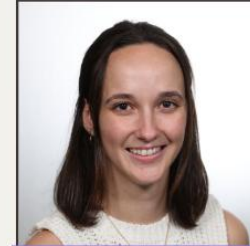
Emily Callen (Y4)



Hui-Hsuan Chan (Y3)



Zilin Cheng (Y3)



Emma Cousin (Y4)



Tori Dayer (Y5)



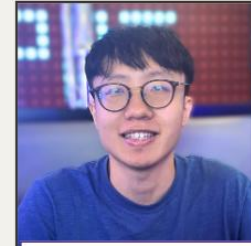
Manpreet Dhankhar (Y3)



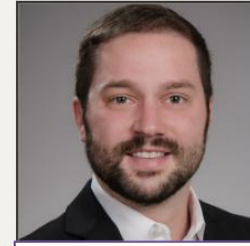
Ron Dickerson (Y5)



Julia Fox (Y3)



Sam Han (Y2)



Thomas Hopkins (Y2)



Karris Jeon (Y4)



Satoshi Koiso (Y1)



Ben Nwogu (Y5)



Carlos Pineda (Y3)



Ruihan Qin (Y2)



Lijia Zheng (Y1)



# RECENT PHD GRADUATES

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## Zizi Elsis

BPharm in Pharmacy, 2014 - Cairo University; M.S. in Pharmaceutical Sciences (Health Outcomes), 2020 - University of Cincinnati

DISSERTATION: *Evaluating the Medicaid subscription-based payment model in Hepatitis C*

CHAIR: Anirban Basu

UPCOMING PLANS: Data Scientist, Value Analytics Labs



## Ashley Tabah

B.Sc. in Physiology, 2013 - McGill University; M.Sc. in Health Economics and Policy, 2014 - Barcelona School of Economics; MPH in Epidemiology, 2016 - Columbia University

DISSERTATION: *Understanding the outpatient medication use and spending of cognitively impaired older adults under changing Medicare Part D policy*

CHAIR: Ryan Hansen

UPCOMING PLANS: Associate Director, Health Economics and Outcomes Research at BioNTech



## J. Felipe Montano-Campos

BA in Economics 2014, University of Buenos Aires; MS in Computer Science and Economics, 2020, Duke University

DISSERTATION: *Private Choices in Public Health: A Framework for Economic Epidemiological Modeling of Infectious Diseases*

CHAIR: Anirban Basu

UPCOMING PLANS: Postdoctoral Scholar at The Schaeffer Center for Health Policy & Economics, University of Southern California



# OUR COMMITMENT TO DIVERSITY, EQUITY AND INCLUSION

## 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.

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.**

### **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.

# AREAS OF RESEARCH

Research Emphasis (Engaged CHOICE Faculty)	Theory/Methods	Application
<b>HEALTH ECONOMICS</b> 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
<b>OUTCOMES RESEARCH</b> 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
<b>POLICY EVALUATION</b> 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

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Large  
Models for  
Chronic  
Diseases

Methods  
Development  
-VOI  
-Causal  
Inference

Data Science  
Applications

Policy  
Evaluations

Health  
Equity  
Research

Research  
on Aging

Global  
Medication  
Safety

CEA &  
Pricing

Infectious  
Disease  
Modeling

Community  
Practice &  
Implementation  
Science

Behavioral  
Health  
Research



# IN-HOUSE DATABASES

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Merative MarketScan Commercial Claims & Encounters  
Research Database (15 most recent years)



Truveta (EMR data from 31 healthcare systems)



Komodo Health Map (2015 – Current)

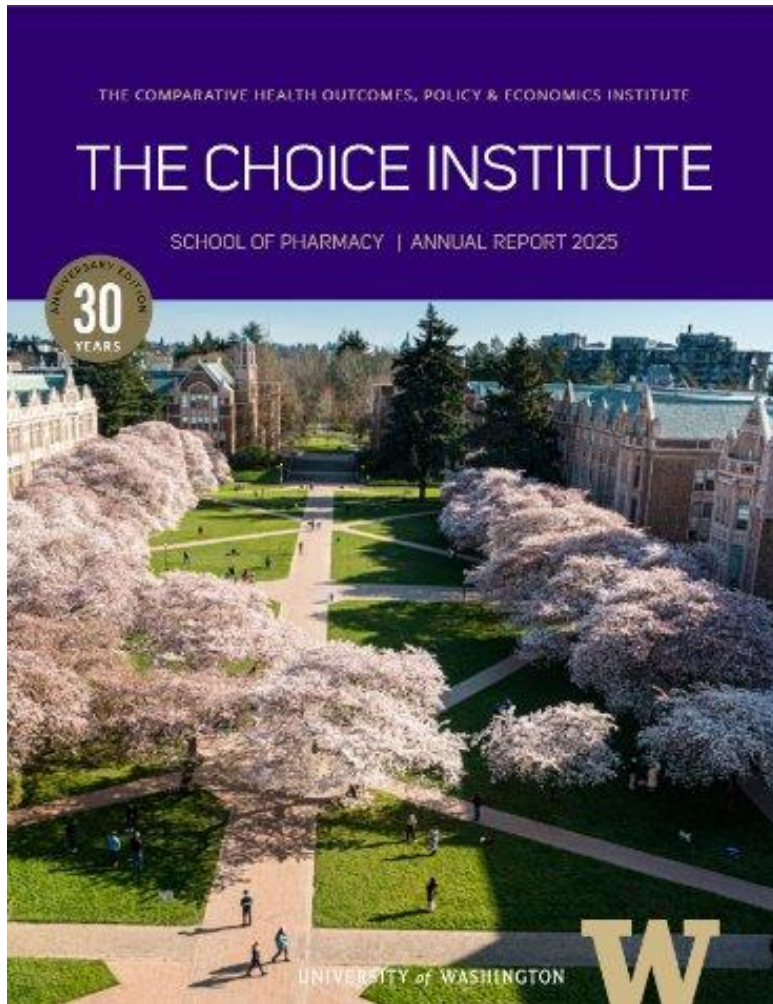


EPIC Cosmos Data via UW Medicine



# 2024-2025 Annual Report

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**Access online:**

[https://sop.washington.edu/  
choice/who-we-are/annual-  
reports-newsletters/](https://sop.washington.edu/choice/who-we-are/annual-reports-newsletters/)



# GRADUATE TRAINING OVERVIEW

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- > **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**
  - **18 PhD students**
  - **12 MS fellows**



# **FIELDS OF STUDY**

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**Biostatistics**

**Epidemiology**

**Health economics**

**Decision sciences**

**Clinical trial design and analysis**

**Health policy**

**Data Science**



# PHD PROGRAM CURRICULUM OVERVIEW

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

\*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	<b>*CSE 583:</b> 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	<b>BIOST 546:</b> 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	<b>CSE 512:</b> Data Visualization (4) OR <b>CSE 412:</b> Introduction to Data Visualization (4)	Explores visual techniques for investigating patterns in data, summarizing, and efficiently presenting statistical results. Taught in R.
Capstone in HEOR	<b>HEOR 552:</b> 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

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## 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 Year+:

- Completion of dissertation and Dissertation Defense.



# APPLICATION PROCESS



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# APPLICATION TIMELINE



December 15, 2025

Application Deadline



Early January 2026

Interview Notification



Mid & Late January

Interviews (2 Rounds)



Mid February

Offer Notification



April 15, 2026

Acceptance Deadline



Late September 2026

Program Start

# PREREQUISITES

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- > **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 PROFICIENCY 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 and where English is the medium of instruction.
- A bachelor's, master's or doctoral degree from an institution in Australia, the Bahamas, Canada, Ireland, Jamaica, Kenya, New Zealand, Singapore, South Africa, Trinidad and Tobago, or the United Kingdom and where English is the medium of instruction.
- Official documentation from the applicant's undergraduate, graduate, or professional degree-granting institution (if the institution is in a country other than those listed above) verifying that all instruction is in English.
- Official English Language Test Score.

Test Type	Test Format Allowed	Minimum Score
TOEFLiBT or TOEFL MyBest	Test Center or Home	100
Academic IELTS	Test Center or Home	7.0
DuoLingo	Home	130

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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

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*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**
- > **Demonstrated interest in HEOR**
- > **Ability to communicate effectively, both verbally and in writing**
- > **Ability to contribute to the CHOICE program's learning environment, including diversity (broadly defined)**

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# COMPONENTS EVALUATED

*Listed alphabetically*

Academic degrees

Conference attendance

Courses completed

Curriculum Vitae (CV)

English Language Proficiency (if applicable)

Grade point average (GPA)

Graduate Record Examination (GRE) scores

Interviews

Letters of Recommendation

Personal History Statement (optional)

Publications

Research experience

Statement of Purpose

Work or other training experience

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# OUR RUBRIC

CATEGORY	SCORE Between 1 (highest) - 5 (lowest)	COMMENTS	POTENTIAL SOURCES (PRE-INTERVIEWS)
Academic achievement			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 the CHOICE program's learning environment including diversity (broadly defined)			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

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- > **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)**

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# HOW TO APPLY

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- > **Apply directly to the UW Graduate School**
- > **Go to:** [https://apply.grad.uw.edu/portal/gr\\_app](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 2026
- **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, 2025!

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# APPLICATION FEE & WAIVERS

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- > 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/>

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# FREQUENTLY ASKED QUESTIONS

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## > 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 ~\$3,449 / 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, and scores must be valid (no more than 5 years old)

# Q&A

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Please submit questions in the chat.

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# W

# CONTACT US

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**Marina Gano, M.Ed.**

Graduate Program & Operations Manager  
[uwsopchoice@uw.edu](mailto:uwsopchoice@uw.edu)



**Josh Carlson, MPH, PhD**

Professor and Graduate Program Director  
Admissions Committee Co-Chair  
[carlojj@uw.edu](mailto:carlojj@uw.edu)



**Ronald Dickerson, MA, MPH**

HEOR PhD Student  
Student Member of Admissions Committee  
[ronald2@uw.edu](mailto:ronald2@uw.edu)