UWSOP faculty and alumni represent past, present and future leaders of ISPOR. (From left to right) Past President (2003-2004) Sean D. Sullivan, President Lou Garrison, President-elect Shelby Reed, Immediate Past President Daniel Malone, Past President (2010-2011) Scott Ramsey.
The twentieth year of PORPP has been special. This annual report highlights some of those accomplishments and special moments. As in previous years, PORPP continues to grow in number and in the achievements of its talented and dedicated members working collaboratively across a wide range of disciplines. We remain ever grateful to PORPP’s founding members, alumni and our corporate advisors, whose continued support is instrumental to our success in the future. The success of our program is best highlighted by our cover picture that shows the contributions of our program to the past, present and future leadership of ISPOR.

This past year brought another exceptionally strong year of achievements for our program. Several of our students won university-wide, national and international accolades. Just to highlight a few, Blythe Adamson received a pre-doctoral fellowship from the American Foundation of Pharmaceutical Education, while William Canestaro’s paper was awarded the JMCP 2015 Award for Excellence. A list of all student awards can be found on Page 18. In the 2016 ISPOR Annual meeting, Research Assistant Professor Aasthaa Bansal won the best poster award by a new investigator, while alumni Joshua Roth won the best podium by a new investigator. Post-doc Kai Yeung won the best paper award at the Vancouver Health Economics Meeting in 2016. A list of faculty awards can also be found on page 18.

Starting from April 2016, Dave Veenstra transitioned into the role of Associate Director for the program. We are grateful for his long-running service as the Director of the Graduate Program in PORPP and helping to evolve it to one of the premier health economics and outcomes research graduate programs in the country. Beth Devine has taken up the role as the Director of the Graduate Program. Beth has long been intellectually engaged with the graduate program and its students. She has a strong history of using advanced quantitative (population health) and qualitative (mixed) methods in a variety of health services research works. Her unique skills in bridging these two important pillars of health services research will bring tremendous value in leading the graduate program. Josh Carlson, a newly tenured Associate Professor, will serve as the Associate Director of the Graduate Program. We also welcomed Prof. H. Steve White, a nationally renowned pharmacologist and a leader in translational research in anticonvulsant drug therapies, as the chair of the Department of Pharmacy.

Our training programs are going strong. For this coming year, we are admitting another strong new graduate program cohort. The admissions committee has recruited our top candidates, who are profiled here. Our Distance Learning Certificate in Health Economics and Outcomes Research will welcome another large batch of students this fall. We have now trained nearly 260 students through this mechanism.

Commemorating the twentieth year of PORPP, we held a one-and-half day, well-attended, retreat to brainstorm and develop a revised set of strategic goals for our program. We also reached out to all our affiliate and adjunct faculty members, alumni and corporate advisory board members for their views on the strategic goals of the program. We are in the process of assimilating all their feedback and developing a plan for the future.

I thank all of our past and present Corporate Advisory Board members for their continued support to the program. The Outcomes CAB also celebrated its fifteenth anniversary this year and we cherish their engagement to the program. Finally, I want to thank Penny Evans and Paul Kraegel, our superb program and research coordinators, who help to make all of this possible.

MESSAGE FROM ANIRBAN BASU, PhD

Stergachis Family Endowed Director & Professor

August 10, 2016

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UW School of Pharmacy faculty and alumni are again recognized as leaders in health care. The International Society for Pharmacoeconomics and Outcomes Research (ISPOR) announced the election of the Society’s 2016-2017 Board of Directors that assumed office on July 1, 2016. Many of the new leadership team are part of the UW School of Pharmacy family. This recent election marks an historic time when UW School of Pharmacy is represented in the past, current and future presidential leadership roster for ISPOR, showcasing our outstanding alumni and preeminent faculty.

Lou Garrison, PhD, assumes the role of President for 2016-17 after most recently serving as the Society’s President-Elect. Lou is a highly-respected Professor in the Pharmaceutical Outcomes Research and Policy Program in UWSOP. “I am honored and privileged to have the opportunity to serve as President of ISPOR this coming year as we enter our third decade. My priorities will be: supporting our global network to expand capacity in outcomes research, continuing to improve the science of outcomes research through our task forces and journals, and collaborating with allied organizations, such as ASHEcon, HTAi, AMCP, DIA, SMDM, and AcademyHealth.”

Daniel C. Malone, RPh, PhD, who had completed his post doc work at UWSOP, becomes Immediate Past President. Dan serves as Professor of Pharmacy, College of Pharmacy and Associate Professor in Mel and Enid Zuckerman College, University of Arizona in Tucson, Arizona.

ISPOR’s global membership elected Shelby D. Reed, RPh, PhD, who had also completed her post doc work here at UWSOP, to serve as President-Elect for the Society for 2016-17.

Shelby is Professor, Duke University in Durham, North Carolina. With Shelby’s election as ISPOR President-elect, UW School of Pharmacy has five faculty and alumni who have gone on to serve as President of ISPOR.

The new ISPOR Board of Directors also now includes alumnus John Watkins, MPH, PharmD, ’79, ’11, Formulary Manager, Premera Blue Cross in Mountlake Terrace, Washington. John received the UWSOP’s Award for Excellence in Clinical Teaching in 2014 for being an exemplary practitioner, role model, coach, facilitator, and team player for over 20 years.

ISPOR is an organization with tremendous influence in global health economics. In the words of our own Lou Garrison: ISPOR has “over 20,000 members in some 120 countries. When you absorb that fact, you realize that ISPOR as an organization has tremendous potential to have a positive impact on health globally—and not just by sheer numbers but also by the quality of our science. The medical product and decision processes that ISPOR members study are based on information—about how a molecule affects the body or about how well an health technology assessment process works—and this knowledge is a global public good, potentially benefitting 7 billion people on the planet.”

ISPOR’s Board of Directors are elected by its global membership. The International Society for Pharmacoeconomics and Outcomes Research (ISPOR) is a non-profit, international, educational and scientific organization that promotes health economics and outcomes research excellence to improve decision making for health globally.
NEW ALUMNI
CLASS OF 2016

Master of Science in Pharmacy Degrees
Sarah Baradaran, BS 2010, Baylor University; PharmD 2015, University of Washington, MS 2016 University of Washington
Chair: Beth Devine, PharmD, MBA, PhD
Catherine M. Lockhart, BFA and BS 1998, University of Idaho; BS 2004, PharmD 2013, University of Washington, MS 2016 University of Washington
Thesis: “Value Assessment of Orphan Drugs and Treatments of Rare Diseases”
Chair: Ryan Hansen, PharmD, PhD
Jean Malacan, PharmD 2015, Université Paris-Sud (France); EM 2015, ESSEC Business School (France); MS 2016 University of Washington
Thesis: “Cost-Effectiveness Analysis of Addition of Bevacizumab to a Standard Chemotherapy Doublet in Patients with Malignant Pleural Mesothelioma”
Chair: Josh Carlson, PhD, MPH
Amy Tung, BA 2001, PharmD 2015, University of Washington; MS 2016 University of Washington
Chair: Beth Devine, PharmD, MBA, PhD

Doctor of Philosophy in Pharmacy Degrees
William J. Canestaro, AB 2006, Dartmouth College; MSc 2008, Oxford University (United Kingdom); PhD 2016, University of Washington
Dissertation: “Publication Bias: Development and Assessment of Methods for Adjustment and Quantification of Impact”
Chair: Josh Carlson, PhD, MPH
Amy Morgan Cizik, BA and BA 2001, University of Missouri, Kansas City; MPH 2004, University of Kansas; PhD 2016, University of Washington
Chair: Lou Garrison, Sr., PhD
Cara Lyn McDermott, BA 1999, Princeton University; PharmD 2011, MS 2012, University of Washington; PhD 2016, University of Washington
Dissertation: “The Impact of Pre-existing Depression on Patient Outcomes among Older Adults with Non-small Cell Lung Cancer”
Chair: Sean Sullivan, PhD
Marita Zimmermann, BS 2007, Carnegie Mellon University; MPH 2012, Brown University; PhD 2016, University of Washington
Chair: Andy Stergachis, PhD
Shuxian Chen, MA; PhD Student
Shuxian transferred to PORPP from the University of Washington’s Department of Economics, where she has been training in economic theory for a year. Before coming to UW, she earned her master’s degree in economics from Duke University in 2015, where she developed a strong interest in health economics. Her research interests include quantitative analysis of patients’ and manufacturers’ decision-making, and assessment of long-term healthcare services. She looks forward to joining PORPP and exploring the pharmaceutical industry from an economic perspective.

Shalak Gunjal, MS; PhD Student
Shalak joins PORPP from the Mayo Clinic’s Evidence-based Practice Center where he worked in generating evidence to develop clinical practice guidelines for federal agencies, professional societies, and patient organizations. After receiving his pharmacy degree in India, he worked in pharmaceutical marketing and then went on to earn his master’s degree in pharmaceutical outcomes from the University of Houston. He has worked in various academic, consulting and public health settings in the past, notably at the Center for the Evaluation of Value and Risk in Health at Tufts Medical Center, Precision Health Economics and the Bureau of Epidemiology at Houston Department of Health and Human Services. Shalak is interested in understanding the economic and policy implications of using personalized medicine in patient care along with studying access and utilization variations contributed by insurance coverage and reimbursement decisions in chronic diseases. Outside of research, he enjoys hiking in the National Parks and looks forward to getting his hands dirty in excavating geoducks and exploring the Pacific Northwest.

Erik Landaaas, MPH; PhD Student
Erik received his MPH degree from the University of Washington and has been a leader with Washington State’s public health care purchasers. He managed Washington’s Dossier Program - an evidence-based coverage decision process for evaluating new and emerging medical technologies. Erik has worked closely with Washington’s Health Technology Assessment (HTA) program and Washington’s Agency Medical Directors Group (AMDG). As Washington State’s Manager for Healthcare Policy and Payment Methods, he was in charge of several complex healthcare delivery systems and brings expertise in medical rate setting, policy, outcomes, analytics and evidence-based practice. Erik also has local public health experience in the prevention and surveillance of HIV, STD, Hepatitis and other communicable diseases; opioid dosing guidelines, overdose, treatment and detox; as well as behavioral health programs. He is interested in pharmacoeconomics, medical epidemiology and cost-utility analysis; and plans to extend his research skills and abilities to take on more sophisticated studies in value based healthcare purchasing, health technology assessment, and clinical outcomes.

Michael Serbin, PharmD, UW/Allergan Post-Doctoral Fellow 2016-2018
Michael received his PharmD degree from the University of Washington School of Pharmacy in 2016 and a BS in biomedical engineering from the University of Southern California in 2011. At UW, he worked as a research assistant for Dr. Veenstra. Michael has interests in P&T decision-making, formulary development, and the use of economic modeling to do so. He focused during his 4th year PharmD clerkships on formulary development and wrote P&T submissions at Premera Blue Cross, UW Medical Center, and Providence Health. Michael also competed in the AMCP P&T competition where his team won the local competition and placed as semifinalists nationally. This year Michael is excited to start working with PORPP faculty and the HEOR team at Allergan to improve his research and economic modeling abilities.

Harry Lee, PharmD; MS Student
Harry will be continuing his education and training at the University of Washington, where he will be working towards earning a Master of Pharmaceutical Sciences degree in health economics and outcomes research. Prior to his postdoctoral training, he earned his PharmD from the University of Washington in June 2016, where he completed a rigorous curriculum with a focus in managed care, decision modeling, health economics and outcomes research. As a pharmacy student, Harry competed in the AMCP P&T Competition and placed nationally as a semifinalist, which affirmed his passion in HEOR. In his fourth year, he worked on a cost-effectiveness analysis of intensive LDL cholesterol reduction with PCSK9 Inhibitors as an adjunct to high-intensity statins for the prevention of major vascular events in patients with familial hypercholesterolemia and other high risk groups. Both projects were finalist poster presentations at the ISPOR 21st Annual International Meeting and the AMCP 28th Annual Meeting, and are currently being prepared for publication. Harry is excited to continue his education and training in PORPP to further advance his skill set in health economics and outcomes research.

Sheila Shapouri, PharmD, UW/Allergan Post-Doctoral Fellow 2016-2018
Sheila joins the UW/Allergan fellowship after receiving her PharmD from the University of Washington in 2016. Prior to pharmacy school, she worked as a research associate at the Allen Institute for Brain Science generating publicly available neuroscience and genetics resources now used by researchers worldwide. Although she has left the lab, her interest in improving health outcomes at a patient population level through targeted research continues. During pharmacy school, Sheila completed clinical clerkships at the Food and Drug Administration (FDA), PATH, and the Centers for Disease Control and Prevention (CDC). There she engaged in the application of surveillance and outcomes data to guide healthcare decisions and policy at a national and global level. Sheila also participated in the AMCP P&T Competition where her team placed first locally and as semi-finalists nationally. Sheila is looking forward to the opportunity to work with the PORPP faculty and Allergan team.
Lauren Strand, MS; PhD Student

Lauren comes to PORPP from the University of Washington’s Department of Epidemiology. Recently, she has served as an analyst on a data harmonization effort in HIV with a main focus on mental health, medication adherence, and substance use domains. Relocating to Seattle from Boston in 2014, Lauren previously worked in Evidera’s Meta-Research group. Since then, her interest in pharmacoepidemiology has grown. One of her recent projects investigated long-term statin use and longitudinal change in cardiac structure. She hopes to continue to look at unanticipated and/or rare drug effects, but she is also eager to learn more about pharmaceutical policy and health economics. Importantly, she is excited to join the PORPP family.

Lucille Sun, PharmD, UW/Bayer Post-Doctoral Fellow 2016-2018

Lucille is a graduate from the University of California San Francisco (UCSF) School of Pharmacy. As a health economics intern at Genentech, she conducted retrospective database analyses in orphan diseases such as acromegaly and hemophilia A. She further took on a role in Genentech’s Global Pricing & Market Access group where she updated and finalized the payer value messages and objection handler to support affiliate negotiations for Cotellic in metastatic melanoma. Lucille hopes to gain a deeper understanding of value frameworks and their influence on pricing and reimbursement strategies. Joining PORPP, she also looks forward to working with excellent faculty and building skills in health technology assessment, economic modeling, and real world evidence generation.

Certificate in Health Economics and Outcomes Research

The Certificate in Health Economics and Outcomes Research program is entering its 5th year. Launched at the start of the 2012-2013 academic year in conjunction with the UW Professional and Continuing Education program, this distance learning program is designed for professionals working in health care settings including payer organizations, health insurance industry, government, the life sciences, pharmaceutical and biomedical industries, and for professionals working within Health Technology Assessment or reimbursement organizations. The program offers one course per academic quarter; Fall quarter: Principles of Health Economics, taught by Lou Garrison and Anirban Basu; Winter quarter: Economic Evaluation, taught by Dave Veenstra and Josh Carlson; Spring quarter: Practice of HTA in a Global Environment, taught by Sean Sullivan and Beth Devine. During the program, students learn the key economic concepts and analytical tools of human economic behavior, explore the current state-of-the-art in the economic evaluation of health care technologies, and are introduced to the principles and methods of HTA practice. Students work in groups throughout the program on a capstone project, which applies their learning to an assigned country. Student evaluations have remained positive over the years. Many of the students are international, a testament to the program’s global reach. Applications have routinely been 60+ since the first of the program. The 2016-2017 program is on target to reach similar numbers. The program now has an active LinkedIn alumni group. Courses are continually being updated and revised to keep pace with changing technologies and economies. Revenues from the Certificate in Health Economics and Outcomes Research program support 1-2 PORPP teaching assistant positions each year.

Visit: http://www.pce.uw.edu/certificates/health-economics.html for additional information.

Graduate Certificate in Comparative Effectiveness Research

Now in its 5th year, the UW Graduate Certificate in CER is the cornerstone of the UW Center of Excellence for CER Education, and is open to currently enrolled MS and PhD students to provide training in cutting edge CER research methods. Coursework consists of advanced methods in observational data analysis, decision sciences, preference assessment, network meta-analysis, and Bayesian statistics. A capstone project is also required. Originally sponsored by the PhRMA Foundation, the UW CER Center of Excellence has supported 5 PhD students with dissertation stipends ($10,000 each), 3 students with one-year research assistantships, and an additional 3 students who have completed the program without funding support. The Center will undergo its five year review by the UW Graduate School this fall. Lou Garrison, Beth Devine, and Anirban Basu lead the Certificate Program; all PORPP faculty contribute. Larry Kessler and Dave Grembowski contribute from Health Services.

Penny Evans is the Program Administrator. Interested parties can visit:


for additional information.
Blythe Adamson, MPH; PhD Student
In her second year, Blythe most enjoyed exploring and developing static and dynamic transmission models for infectious diseases like HIV and influenza. She successfully finished core coursework, passed the preliminary exams, and had her dissertation short proposal approved for development under the mentorship of Dr. Lou Garrison. Blythe collaborated with UW Bioengineering to develop a cloud connected rapid influenza diagnostic test with improved performance, a project awarded a technology prize and presented at ISPOR. She also gained experience providing health economics support to three HIV research groups at Fred Hutch who are studying financial incentives in the US, testing in Peru, and vaccines in South Africa. This summer Blythe is working at the Institute for Disease Modeling at Intellectual Ventures coding economic indicators into an HIV microsimulation model. The University of Washington recognized Blythe's enthusiasm this spring by including her in the Husky 100, an award for passionate students making a difference on campus, in their community, and for the future.

Sarah Baradaran, PharmD, MS
UW/Allergan Post-Doctoral Fellow 2015-2017
Sarah has finished the first year of her fellowship and has begun her second year, on-site at Allergan in Irvine, CA. Over the past year she has been working on her master’s thesis: “The identification and characterization of acute kidney injury (AKI) associated with systemic colistin in the management of severe gram negative infections.” She is excited to continue her research in this area in the upcoming year. Additionally, she presented a poster on pharmacogenomics at the ISPOR 21st Annual International Meeting in collaboration with her colleagues at UW.

Mark Bounthavong, PharmD, MS; PhD Student
Mark is a third-year PhD student who is working at the Department of Veterans Affairs (VA) in the National AcademicDetailing Program Office (ADPO). Mark’s dissertation will evaluate the impact of the ADPO on naltrexone prescribing at the VA and explore provider perception of academic detailing. Mark’s research interests also include health technology assessment, meta-analysis, and large database analysis. Mark presented a poster at the 21st Annual ISPOR Conference titled: “Economic Evaluation of In-home Telehealth Compared to In-person Treatment Delivery for Managing Depression.” Mark recently published a paper with fellow classmate, Meng Li, and a PORPP alum, Jonathan H. Watanabe, entitled “An evaluation of health care expenditures in Crohn’s disease using the United States Medical Expenditure Panel Survey from 2003 to 2013” in Research in Social and Administrative Pharmacy.

Elizabeth Brouwer, MPH; PhD Student
Elizabeth joined PORPP from University of Washington’s Department of Global Health, where she worked for over two years as a Health Economics Analyst on Disease Control Priorities, summarizing and synthesizing economic evidence for health policy in low-resource settings. Before coming to Seattle, Elizabeth received her Master of Public Health in Health Economics at the University of Michigan (’13) while working utilization data for tuberculosis patients in South Africa. During her 2nd year in the program, Elizabeth will work with Professor Josh Carlson as an RA on the ICER grant. Her other research and management resource settings.

William Canestaro, MS; PhD Candidate
Will is finishing his fourth year of the PhD program and is scheduled to defend in the Fall of 2016. The focus of his research is developing methods to estimate societal economic loss from publication bias. Will has spent the past year serving as the research assistant for the federally-funded PhNTER study, for which Drs. Carlson and Veenstra are both principal investigators. Will’s doctoral work was supported by competitive grants from the PhRMA Foundation and American Foundation for Pharmaceutical Education. Will has begun a full-time position with the Washington Research Foundation as a Manager of Strategic Investments. In this role Will is evaluating equity investments in early stage healthcare companies and research grants to promising technologies from Washington-based research institutions.

Devender Dhanda, BSPharm, MS; PhD Student
Devender will be entering his fourth year of the PhD program in PORPP. During his third year, Devender completed his coursework requirements and worked with Dr. Dave Veenstra on the Personalized Medicine Economics Research (PRiMER) grant. Devender worked on evidence comparison between the pharmacogenomics-based and clinical decisions based on drug-drug interactions by running value of information analysis (V0I) of the warfarin amiodarone drug-drug interaction and pharmacogenomics-based warfarin dosing. Devender presented his work as poster and podium presentations at 37th Annual Meeting of Society for Medical Decision Making (St. Louis, MO) and 2016 Canadian Health Technology Assessment Symposium (Ottawa, Canada). He also finalized his dissertation topic selection and submitted a short proposal on “Innovation and Uncertainty in Oncology Precision Medicine” for his PhD dissertation. Devender was awarded the prestigious Magnuson Scholarship for the 2016-2017 academic year. During his fourth year, Devender plans on completing his general exam by the end of fall quarter and embarking on his dissertation research.
Horacio Duarte, MD; MS Student
Horacio is entering his 2nd year as a master’s degree student in PORPP and 3rd year as a pediatric infectious diseases fellow at Seattle Children’s Hospital/ University of Washington. Prior to his infectious diseases fellowship, Horacio earned a B.A. in biological anthropology from Harvard College, an M.D. from the University of Texas Medical School at Houston, and he completed his pediatrics residency at Seattle Children’s Hospital. He is interested in economic evaluation of global health programs, with a special interest in HIV and child health, and he is currently studying the cost-effectiveness of HIV drug resistance testing in Kenya. His research is funded by the Pediatric Scientist Development Program K12 Award.

Simrun “Simi” Grewal, MHS; PhD Student
During her second year in the PhD program, Simi enjoyed working with Dr. Josh Carlson and colleagues on the Personalized Medicine Economics Research (PriMER) project. As an RA on PriMER, she has assisted on developing discrete choice experiment surveys to explore preferences for genetic testing from different stakeholder perspectives. The team’s work has been accepted for a poster presentation at the Society for Medical Decision Making (SMDM) conference in October. Additionally, Simi has provided research support to two key initiatives led by the International Society for Pharmacoeconomics and Outcomes Research (ISPOR) on Vaccine Economic Evaluation and Value Assessment Frameworks. Entering her third year, Simi is excited to continue learning in her research roles while exploring the next stages of her dissertation proposal.

Laura Hart, PharmD; MS Student
Laura will be entering her second year in the PORPP M.S. degree program. She is concurrently completing a two-year combined PGY2 residency and fellowship in geriatric pharmacy with the UW School of Pharmacy. She has been awarded the 2016-2017 UW Retirement Association Graduate Student Fellowship in Aging. This coming year, she will complete her master’s thesis under the guidance of her faculty mentors Zach Murcum and Shelly Gray. Her thesis is examining the association between central nervous system-active medications and falls in older adults with dementia.

Nathaniel Hendrix, PharmD; PhD Student
Nathaniel is entering the second year of his PhD program. During the past year, he has completed a portion of his coursework while also working for the Seattle-based non-profit PATH. He also served as a consultant for ISPOR’s vaccine task force and as a research assistant for Dr David Veenstra’s psoriasis modelling project for the Institute for Clinical and Economic Review. In the coming year, he will finish his coursework and begin a project with Dr Beth Devine on the cost-effectiveness of pharmacogenomic clinical decision support.

Meng Li, ScM; PhD Student
Meng is entering her fourth year in the PhD program. She has started working on her dissertation, which is examining the real options value of life and innovation. During the past year, she has been working with faculty on a number of projects, including establishing a framework for examining the value of information of heart failure clinical trials, validating a new instrument that measures the psychological impact associated with genetic testing, examining the utilization patterns of opioid in Washington State, and, examining the acceptability and performance of using visual inspection for cervical cancer screening in resource-limited settings.

Solomon Lubinga, BS Pharm; PhD Candidate
Solomon is entering the fifth year of the PhD program in PORPP. In the past year, he continued his work with Drs. Andy Stergachis and Joseph Babigumira in the Global Medicines Program to support a human resources intervention to strengthen the supply chain of essential medicines in Malawi. He is preparing two manuscripts from this work. He submitted a manuscript reporting his work with Dr. Brian Custer (Blood Systems Research Institute) to estimate the cost-effectiveness and budget impact of Methylene Blue Treated Plasma compared to the Quarantine Plasma for pathogen reduction in Spain. He passed his general examinations and is working on the first aim of his dissertation. This is a qualitative research piece that will form the foundations of a choice experiment that explores the preferences and behavioral psychological factors affecting individual decisions about medical male circumcision for HIV prevention.

Jean Malacan, PharmD, ECCM, MS
UW/Bayer Post-Doctoral Fellow 2015-2017
Jean received his PharmD degree from the Paris Sud University in 2015, completing the same year an executive advanced master in strategy & management of health industries at the ESSEC business school. Jean has completed the first year of the Bayer Post-Doctoral Fellowship and has received a master of science in pharmaceutical outcomes research and policy, focusing on economic evaluation, epidemiology and statistics, and applying it to current mesothelioma treatments in his thesis. Starting his second year, he is excited to work with the US HEOR Bayer team in Whippany, New Jersey, and receive real-world training in a major pharmaceutical company recognized for its commitment to innovation.
Blythe Adamson, PORPP PhD student shares tips for self-funding success

You would think three degrees from the University of Washington would take an enormous financial toll, but School of Pharmacy grad student Blythe Adamson, one of the UW’s Husky 100, has been energetic and enterprising about finding funding. “I will graduate with all three of my degrees essentially paid for through a variety of public and private support,” she shared.

Her secret: She applies for everything. “It’s a numbers game of sorts,” she figures, influenced by a colleague’s suggestion that if the average grant or fellowship acceptance rate is 13 percent, applying for at least 10 opportunities should land at least one. (The colleague had applied for 10 scholarships and received two.)

Over the past 18 months, Adamson applied for 20 scholarships. She initially received nine rejections in a row. “It was disheartening, but it gave me a thick skin about my research and writing.” Finally, the tide turned and she received five awards.

The benefits have built her confidence as well as her pocket. “Filling out applications over and over prepares me for a future of grant writing,” she said. And in reapplying for one of the nine she didn’t win last year, she said, “I can see improvements in the quality of my writing and, in particular, how I describe my research.”

As an undergrad studying microbiology, Adamson was a two-time Mary Gates Research Scholar for her work in an HIV lab. She earned a master’s degree in public health (epidemiology) with financial support from Fred Hutch.

In 2014, she decided to pursue a doctorate in pharmacy to study with one of the world’s leading pharmaceutical economists.

“With most American HIV researchers [being] at the age of retirement, I knew it was time for me to return to UW for a Ph.D. to gain the tools to carry the foundational HIV research forward and one day have an AIDS-free generation,” she said.

To find funding, Adamson subscribes to listservs and searches broadly among prospective sources, such as organizations that support women in science, HIV and AIDS research, and economics research. Public funds often come with restrictions, she has found, whereas private grants and fellowships afford more flexibility in paying for school fees, research and conference travel.

A pre-doctoral fellowship from the Agency for Healthcare Research and Quality funded two years of tuition and provided a stipend; this gave her more time to hunt for other opportunities – time that might’ve instead been working part-time in a class or lab.

It took Adamson a while to recognize and appreciate the relative anonymity of the application process.

“At the beginning, I felt very self-conscious and vulnerable writing my personal statement and research aims, but after 20 applications I feel much more comfortable with myself and what I feel passionate about. I like to remind myself that, in most cases, I won’t ever meet the people reading my application,” she said.

“And I hate the thought of leaving free money on the table.”

Alex Levine
CURRENT GRADUATE STUDENTS AND FELLOWS, CONT.

Cara McDermott, PharmD, MS, PhD
Cara completed her PhD and the Comparative Effectiveness Research certificate in June 2016. She is a T32 postdoctoral fellow with the Cambia Palliative Care Center of Excellence at the UW School of Medicine, where she is evaluating end-of-life care for older adults with cancer. Cara is grateful for the support and mentorship of the PORPP faculty.

Vanessa Shih, PharmD, MS UW/Allergan Fellow, 2014-2016
Vanessa has completed the second year of her fellowship, working under the mentorship of Joanna Campbell and Hitesh Chandwani, in the Global Health Economics and Outcomes Research team at Allergan. She was fortunate to work on a variety of projects in the Eye Care therapeutic area including claims analyses and electronic medical record analyses. Additionally, she presented a poster at the Annual Meeting of the Association for Research in Vision and Ophthalmology on “The Association between Onset of Self-Ignited Vision and Ophthalmology on “The Association between Onset of Self-Ignited Vision Impairment and Nursing Home Residence in an Older US Population.” She is excited to continue on at Allergan supporting the Retina products.

Kangho Suh, PharmD, MS; PhD Student
Kangho is entering his third year in the PhD program in PORPP. In the past year he was the RA for a project funded by the Corporate Advisory Board assessing the value of cures. In the summer he worked as a RA with Carrie Bennette on identifying possible factors that are associated with a cancer site’s participation in clinical trials. He also hopes to create and develop a dissertation idea by the end of the summer. In the upcoming year he will work as a RA with Anirban Basu and Justin Robertson using instrumental variable methods to estimate comparative effectiveness of alternative bariatric surgery protocols.

Amy Tung, PharmD, MS UW/Allergan Post-Doctoral Fellow 2015-2017
Amy received her PharmD degree from the University of Washington (UW) in 2015. Her interest in health economics and outcomes research (HEOR) grew from the desire to blend her background working in the tech industry as a market researcher with her interest in pharmaceutical outcomes and health policy. Her passion for HEOR continued to grow after taking various pharmaco-economics and managed care electives in pharmacy school. She further developed an appreciation for the field serving as president of UW’s Academy of Managed Care Pharmacy chapter, as well as through her experience writing dossiers for pharmaceutical companies.

She spent the past year building a strong foundation for becoming an effective health economics and outcomes researcher through coursework in biostatistics, epidemiology, economic evaluations, and patient-reported outcomes. For her thesis project, she conducted a retrospective claims-based analysis to assess the burden of interstitial cystitis in the US using a nationally representative dataset. Amy is excited to move to Orange County, and start the second year of her fellowship working in urology at Allergan.

Elisabeth Vodicka, MPH; PhD Candidate
Elisabeth is entering her 4th year in PORPP as a PhD Candidate having passed her general exam in June. Last year, Elisabeth worked as a research assistant on a Gates-funded economic evaluation of portable ultrasound in low-income countries with Drs. Brian Bresnahan, Joseph Babigumira, and Lou Garrison. She continued to collaborate with Dr. Andy Slergachis and researchers at Universidad Peruana Cayetano Heredia in Lima, Peru to assess the potential for private pharmacies to offer point-of-care screening and disease management services for hypertension and other non-communicable diseases. Her dissertation will focus on the integration of cervical cancer screening into existing healthcare services in Kenya and Uganda. This summer, Elisabeth completed a health economics internship in the Reproductive Health division at PATH in Seattle.

Wei-Jihih Wang, MS; PhD Student
Wei-Jihih is entering the second year in PORPP, and completed the required coursework. Last year, she worked with Dr. Ryan Hansen and Dr. Laurie Gold on the projects that involved literature reviews for multiple sclerosis and infantile spasm, and used MarketScan data for infantile spasm. Wei-Jihih also worked as a RA with Dr. Beth Devine and analyzed data for the project of pharmacogenomics. Her independent study is working with Dr. Anirban Basu and Dr. Steve White on the topic of seizure and stroke, and she will also explore the potential research topics. This summer, she is working with Dr. Carrie Bennette and doing data management for several public data sources to explore the relationship between characteristics of geographic area and clinical trials.

Marita Zimmermann, MPH, PhD
Marita Zimmermann is working on a UW project team with the Institute for Clinical and Economic Review. Her first project with this group will be examining the cost-effectiveness of various therapies for relapse-remitting multiple sclerosis. In February 2016, Marita completed her dissertation and gained her PhD in PORPP. Marita’s dissertation focused on the feasibility of a national active surveillance system for HIV medication in Namibia. This work resulted in two recent manuscripts. In addition, Marita continues to work on the cost-effectiveness of cervical cancer screening in Kenya, and other global health projects.
The Louis Garrison Sr. and Marilyn Garrison Endowed Prize in Health Policy and Economics is intended to recognize annually an outstanding research paper in the area of health policy and economics. PORPP Professor Louis Garrison, Jr, and his wife, Fran established this fund in 2008 in fond memory of his parents Louis P. Garrison, Sr. and Marilyn J. Garrison, who were great believers in the value of education and science.

This year the prize was shared by Will Canestaro for his paper titled: “Implications of Employer Coverage of Contraception: Cost-Effectiveness of Contraception Under an Employer Mandate” and Elisabeth Vodicka for her paper titled: “Costs of Cervical Cancer Screening Integrated into an HIV-Clinic in Kenya”. Both received a $500 monetary award.
The 3-quarter certificate program in Biomedical Regulatory Affairs was developed at the request of local industry and launched in September 1998. Its core curriculum seeks to develop an understanding of regulatory process for biologics, drugs and medical devices; a Clinical Trials Certificate followed in 2000. Both programs have enjoyed generous support from industry, the US Food and Drug Administration, and colleagues in the School of Law and the College of Engineering. UW Professional & Continuing Education has been an invaluable partner. Through spring 2016, 340 students have completed the Biomedical Regulatory Affairs certificate and 400 have completed the Clinical Trials certificate.

Largely through student interest, a part-time Biomedical Regulatory Affairs Master of Science (BRAMS) Degree program launched in 2008.

The BRAMS advisory committee mandated that the curriculum stress communication skills and include a practicum. The current curriculum includes the courses of both certificate series: a two-course technical writing series; as well as courses in international regulatory affairs, regulatory data essentials and analysis, medical risk analysis and management, regulatory affairs skills, and a 9-credit practicum. The 100th BRAMS student graduated in May.

Again through student interest, we are currently seeking approval for a full-time, applied program. Students will enroll in both the core BRAMS course series, as well as a defined applied course series. Proposed series include: epidemiology, global health, health economics, medical biometry, and nutrition. We anticipate accepting up to 5 students per year, starting in Autumn 2017.
UWSOP Dean Sean D. Sullivan announced Dr. Lou Garrison’s retirement from the UW School of Pharmacy’s Pharmaceutical Outcomes and Research Policy Program (PORPP) effective July 1, 2016. “Lou has been a pivotal member of the PORPP faculty and will continue to be a world-class thought leader in health economics as President of the International Society for Pharmacoeconomics Outcomes and Research (ISPOR). Lou is an extraordinary teacher, mentor, colleague and economist and we are so grateful for his years of service to the UW. He’s been key to the growth of the program and has mentored hundreds of preeminent students over his years on our faculty,” said Dean Sullivan.

Lou came to UW in 2004 with a joint appointment as Associate Director and Professor in PORPP in the Department of Pharmacy and Adjunct Professor in the Departments of Global Health and Health Services in the School of Public Health. In 2013, he completed a sabbatical as Visiting Senior Research Fellow at the Office of Health Economics in London. In 2014, he graciously served as Interim Director of PORPP while a national search was run to fill the post.

In the 12 years before joining UW, he worked as an economist in the pharmaceutical industry. From 2002 to 2004, he was vice president and head of health economics and strategic pricing at Roche Pharmaceuticals in Basel, Switzerland and oversaw the development of the economic and pricing strategies, and research plans for all Roche compounds. Prior to this, he was director of the Project HOPE Center for Health Affairs, where he worked on a wide variety of health policy issues, including studies of healthcare reform in the U.S. and overseas. Before this, he worked at the Battelle Human Affairs Research Centers in Seattle, where he carried out studies of the adequacy of physician manpower supply and the cost-effectiveness of kidney and heart transplantation.

His research interests include national and international health policy issues related to pharmacogenomics and personalized medicine, regulatory benefit-risk analysis, insurance, pricing, reimbursement, and risk-sharing agreements, as well as the economic evaluation of pharmaceuticals, diagnostics, devices, surgical procedures, and vaccines, particularly as related to organ transplantation, renal disease, influenza, measles, obesity, and cancer.

Lou’s deep commitment to the UW and our students is shown through two funds he and his family have created to support a leading-edge student experience: Pharmaceutical Outcomes Research and Policy Program (PORPP) Endowed Prize in Health Policy and Economics and the newly established Garrison Family Fund for Global Health Economics Education. The Prize in Health Policy and Economics provides financial assistance to inspire PORPP graduates to study and excel in the fields of health policy and economics. To ensure the future of global health economics education, the Garrison Family Fund supports a wide range of global health education activities in the UW School of Pharmacy including: student and faculty travel for global health economics education, workshops and trainings.

We thank Lou for his dedicated service and in wishing him the best in his next evolution as a leader in health care.
After nearly two and a half years of deliberations (and over five years of planning), the Second Panel on Cost-effectiveness in Health and Medicine has finalized their recommendation for the practice of medical cost-effectiveness analysis. Anirban Basu contributed several chapters to the Panel report, which is due to come out on December 7, 2016 at a 1-day conference at the National Academies of Sciences in Washington DC. A summary of recommendations is also forthcoming in the Journal of the American Medical Association at the same time.

In May 2016, Carrie Bennette and co-authors Sean Sullivan and Scott Ramsey published a paper in Health Affairs that helps illuminate the complexity of anticancer drug pricing. They found several market forces that underlie changes in the prices of oral chemotherapy in the years after launch: prices rose nearly 10% with each supplemental indication approved by the FDA and declined 2-3% with the introduction of a competitor. Carrie is currently evaluating how Medicare Part D impacted pharmaceutical innovation and recently began a collaboration with Peter Bach from Memorial Sloan Kettering Cancer Center to study pricing trends of intravenous chemotherapy agents.

The University of Washington School of Pharmacy (UWSOP) and the Institute for Clinical and Economic Review (ICER) have formed a partnership to leverage UWSOP’s expertise in economic modeling of pharmaceutical interventions to support ICER’s growing body of work in new drug assessments. Josh Carlson is leading the overall endeavor with many PORPP faculty leading different projects within it. To date we have completed an economic model evaluating newer drugs developed to treat multiple myeloma. The UWSOP team is currently evaluating treatments for psoriasis, multiple sclerosis, and advanced non-small cell lung cancer for inclusion in future ICER reports.

The Pharmaceutical Outcomes Research and Policy Program has partnered with both the Patient Centered Outcomes Research Institute and also pharmaceutical manufacturers to explore the safety of prescription opioids. Ryan Hansen and his study team have completed evaluations of policy interventions within health care systems and also new technologies aimed at stemming the tide of the opioid abuse epidemic. These projects have included real world outcome evaluations of the impact of reducing opioid doses among long-term opioid users in collaboration with Dr. Michael Von Korff at Group Health Research Institute, and also alternative treatment strategies for acute pain within hospitals and emergency departments. Drs. Hansen and Marcum are also actively collaborating with Drs. Jeffrey Jarvik and Janna Friedly to better understand the utilization of opioids among people with back pain as well as methods work in characterizing adherence to prescription opioids. Their research is informing future policies and interventions within both health care systems and at the Federal level.

Investigators in PORPP are pursuing innovative methods and policy evaluation in Precision Medicine (PM). Dave Veenstra, Josh Carlson, and Anirban Basu have developed an economic framework for assessing the value of PM technologies, quantified evidence thresholds for PM implementation, and are collecting patient, provider, and payer preferences for PM to guide the development of a PM diffusion model. These activities are part of an NIH funded grant, Personalized Medicine Economics Research (PrMNER). Separately, Beth Devine and Dave Veenstra recently designed an RCT to assess a family communication tool for genomics, in collaboration with multiple investigators across UW. This study proposal was led by Gail Jarvik, MD, PhD, in the Division of Medical Genetics, and along with other ongoing work in clinical genomics at UW places PORPP in a leading position in the development and evaluation of novel PM technologies and policies.

Beth Devine and John Gore are the UW Assistant Directors and site principal investigators of the Pacific Northwest Evidence-based Practice Center (EPC) and, along with Paul Kraegel, UW EPC Program Manager, coordinate EPC projects across the three partner institutions: Oregon Health & Science University, the University of Washington CHASE Alliance, and Spectrum Research (Tacoma, WA). The UW joined the EPC program in 2013, and, to date has participated in twelve projects ranging in scope from imaging for hepatocellular cancer to medication-assisted treatment for opioid use disorder. One currently pending application proposes to synthesize the evidence for the use of telehealth modalities for acute and chronic consultation. This proposal includes a plan to estimate the cost-effectiveness of these telehealth interventions, a particular strength in PORPP. Several PORPP faculty have led and participated in these projects. In addition to Beth Devine and John Gore, these include Josh Carlson, Laurie Gold, Ryan Hansen, Scott Ramsey, Sean Sullivan, and numerous colleagues from the UW Schools of Medicine and Public Health.

Biomarker-guided individualized decision-making is an active area of research at PORPP. Aasthaa Bansal and Anirban Basu are using statistical modeling and decision theory to develop methods for the optimal timing of biomarker collection in settings of long-term patient follow-up. These methods are motivated by Aasthaa Bansal’s research on optimal monitoring strategies for treatment sequencing in chronic myeloid leukemia, as part of a health outcomes research starter grant from the PhRMA Foundation. The goal of this project is to use existing clinical trials data to determine how to best use patient molecular response history to predict outcomes and guide treatment decisions over time. Aasthaa Bansal is also working with PORPP affiliate faculty Lotte Steuten on statistical methods for developing cost-effective biomarker combinations for disease diagnosis and prognosis.
PORPP Faculty & Students Strengthening Pharmaceutical Systems in Developing Countries

By Andy Stergachis, PhD

PORPP faculty and graduate students are helping improve access to medicines in developing countries. Despite some progress towards achieving the Millennium Development Goal access to medicines, the availability of essential medicines remains low in developing countries. Compounding this problem is concerns with the quality of medicines, weak regulatory and distribution systems for medicines, and an insufficient supply of and access to pharmacy workers. Here are three examples of how our faculty and graduate students are addressing many of these challenges in developing countries through the PORPP-affiliated Global Medicines Program.

- The sub-Saharan African country of Malawi reflects many of these challenges. Many health centers suffer from frequent shortages of medicines and other supplies, largely attributable to poor supply chain performance. Joseph Babbage, Andy Stergachis, Solomon Lubinga, and Alisa Jenny have been involved in a three-year program designed to improve health system capacity through training and deploying pharmacy assistants to support primary health care in Malawi. This activity is a partnership between VillageReach, the Barr Foundation, the Malawi Ministry of Health, the Malawi College of Health Sciences, and the University of Washington. The impact evaluation protocol was published in Implementation Science.

- In the country of Namibia, Marita Zimmermann led a project evaluating the cost-effectiveness of a national active surveillance pharmacovigilance system for highly active antiretroviral therapy (HAART) compared with the existing spontaneous reporting system in that country. This activity, supported by the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program funded by the US Agency for International Development (USAID), concluded that active surveill-

ance pharmacovigilance was projected to be highly cost-effective to improve treatment for HIV in Namibia. Findings were reported in Drug Safety and a complimentary study was published in Pharmacoepidemiology and Drug Safety.

- In 2015, we completed one of the world’s largest studies on the safety of medicines used to treat malaria in pregnant women in sub-Saharan Africa, with an emphasis on the safety of artemisinin combination therapies (ACTs) in early pregnancy. Funded by the Bill & Melinda Gates Foundation, Andy Stergachis was principal investigator of this prospective cohort study of over 2,800 pregnant women, conducted with partner institutions in Burkina Faso, Mozambique, Kenya, in conjunction with the Liverpool School of Tropical Medicine through the Malaria in Pregnancy Consortium. Findings were presented to a World Health Organization Evidence Review Group (WHO-ERG) in July 2015, who recommended that treatment of clinical uncomplicated malaria episodes in women in the first trimester of pregnancy should be updated to include first-line ACTs as a treatment option. This recommendation then went to the WHO Malaria Policy Advisory Committee who recommended that this new data on miscarriage and congenital malformations following exposure to artemisinin derivatives in the first trimester of pregnancy should support the update of the WHO Guidelines for the treatment of malaria, following the process established by WHO. Results were reported at the ASTMH 2015 annual meeting and initial publications have appeared in Malaria Journal, BMJ Open, and Reproductive Health.

In addition to these three examples, over the past year PORPP faculty and/or graduate students have engaged in understanding how to integrate public health programs into pharmacies and drug shops in Peru to improve care for patients with hypertension (Elisabeth Vodicka); conducted trainings in pharmacoeconomics and health technology assessment in Uganda and Kenya (Joseph Babbage and Lou Garrison); and completed a study of 25 pharmaceutical companies’ and non-governmental organization’s past, present, and planned evaluations of their medical donation programs, with an emphasis on outcomes and impact, funded by the Partnership for Quality Medical Donations (Meng Li, Alisa Jenny, and Andy Stergachis).
Souvik Banerjee, PhD
Souvik has completed his second year as the Pfizer Senior Post-Doctoral Fellow at PORPP. He has been involved with two studies looking at the patterns in the use of prescription opioids, particularly those with an extended-release formulation for the treatment of chronic pain for children. He presented two posters, based on this work, at the 35th American Pain Society Annual Meeting. Souvik was also a discussant for the paper, “The costs of crime during and after publicly-funded treatment for opioid use disorders: a population-level study for the state of California” at the 6th Vancouver Health Economics Methodology (VanHEM) meeting. Moreover, he has a keen interest in modeling the impact of different health interventions and policies on varied outcomes using alternative causal frameworks. His recent work with Anirban Basu, comparing the traditional instrumental variables approach and the latent factor model was presented at the 6th Biennial Conference of the American Society of Health Economists (ASHEcon). In the policy realm, he is working with Ryan Hansen and Anirban Basu on a project to assess the impact of marijuana laws in Washington State and in Colorado on medical costs, opioid related outcomes and healthcare utilization. He has recently accepted a position as Research Assistant Professor at Boston University in the Section of General Internal Medicine, School of Medicine. He will begin his new position in October of this year.

Alice Ellyson, PhD
Alice will begin the Pfizer postdoctoral fellowship after receiving a PhD in Economics from Florida State University in April of 2016. In her dissertation, she investigated the effect of medical malpractice liability reforms on the practice of defensive medicine among family medicine physicians funded by a $35,000 grant from the Gus A. Stavros Center. Her research included a study of physician decision-making using a dataset of 28,277 family medicine physicians over 16 years and various discrete choice models. In 2014, Alice had the honor of attending the 5th Lindau Meeting on Economic Sciences with Nobel prize winning economists sponsored by the National Science Foundation in Lindau, Germany. As a postdoctoral fellow, she will be mentored by Lou Garrison and Anirban Basu at the University of Washington and Cristina Masseria at Pfizer.

Jevay Grooms, PhD
Jevay recently completed a PhD in Economics at the University of Florida. Her broad research interests lie in factors which impede early detection and the effective healthcare delivery in under-served communities. Her dissertation focused on the health implications of the World Trade Organization’s Agreement on Trade Related Aspects of Intellectual Property Rights and less-developed members access to pharmaceutical drugs. She has two papers in progress; Early Intervention for Children Who are Deaf or Hard of Hearing: The States that Have it Right, and, Health Education in Primary Schools or Learned at Home; Estimating the Effects on Health Outcomes into Adulthood.

Kai Yeung, PharmD, PhD
Kai Yeung PharmD, PhD, just completed his PhD in PORPP September 2016. For this year, he is post-doctoral fellow at PORPP working on a project supported by the UW Program in Policy Research for Health Technologies entitled, “Paying for Cures and Other High-Cost, Breakthrough Treatments: Value, Affordability, Financing, and Policy Challenges”. He has conducted interviews with 20 healthcare payers and manufacturers on the topic of coverage and pricing for high cost curative treatments. Following this, he surveyed over 100 audience members at the annual meeting of the Academy of Managed Care Pharmacy during an educational session on policy options to pay for innovative curative treatments. Kai was recognized for the “best student paper award” for his dissertation work at the Vancouver Health Economics Methodology (VanHEM) Meeting. He was also recognized for runner up for the “best paper of the year award”. This Fall, Kai will be starting a new position at Group Health Research Institute as an assistant scientist.
Melissa Rosen, PhD
Melissa received her PhD in Social Policy from Brandeis University in 2016. Prior to completing her doctorate, Melissa worked as an analyst for the U.S. Department of Health and Human Services. In addition, she holds Master of Public Health and Master of Science in Nutrition degrees from Tufts University. Her research has focused on Medicare Part D insurance plan switching behavior and associated health and spending outcomes among individuals with chronic mental and physical illness. Additional research interests include psychotropic medication access and adherence, policies and programs that affect Medicare-Medicaid dually eligible beneficiaries, and impacts of drug plan formularies and utilization controls on medication utilization, cost and health-related outcomes.

As part of her fellowship, she will work on NIH funded research for Dr. Anirban Basu and Dr. Norma Coe including, their “Value of Information Methods for NHLBI Trials” and “Current and Future Costs of Alzheimer’s and Dementia Care” projects. Melissa is excited to join PORPP to further develop her health economics and outcomes research skills.

Marita Zimmermann, PhD
Marita Zimmermann is working on a UW project team with the Institute for Clinical and Economic Review. Her first project with this group will be examining the cost-effectiveness of various therapies for relapse-remitting multiple sclerosis. In February 2016, Marita completed her dissertation and gained her PhD in PORPP. Marita’s dissertation focused on the feasibility of a national active surveillance system for HIV medication in Namibia. This work resulted in two recent manuscripts. In addition, Marita continues to work on the cost-effectiveness of cervical cancer screening in Kenya, and other global health projects.

JUNIOR FACULTY

CARRIE BENNETTE, PhD
Acting Assistant Professor
Carrie is a K12 Scholar and Acting Assistant Professor in the Department of Pharmacy and an Affiliate Investigator at the Fred Hutchinson Cancer Research Center. She received her PhD from the University of Washington and completed postdoctoral training at the Fred Hutchinson and Group Health Research Institute before joining the UW faculty in early 2016. Before moving to Seattle, she worked as a biostatistician at Memorial Sloan Kettering Cancer Center and earned a masters degree from Columbia University in New York.

Her research interests include developing methods and tools to inform uncertain and complex decisions in research priority setting and pharmaceutical policy. For her dissertation, Carrie developed novel methods to estimate the expected risk and return for publicly funded cancer clinical trial proposals and inform the prioritization of NCI’s limited research resources. This work leveraged promising advances in value of information analyses and risk prediction to inform investment decisions within a large cancer clinical trials cooperative group. She also has a strong interest in using data visualizations and web-based tools to communicate complex information to decision makers in accessible formats. She taught a new short course on the Principles of Effective Data Visualization at the Society for Medical Decision Making last year and is currently building a user-friendly and web-based interface for the methods she developed in her dissertation.

Carrie’s recent research focuses on informing the design of payment systems for anticancer therapies so as to foster pharmaceutical innovation and improve the affordability of these treatments for patients and society. Specifically, she plans to evaluate the clinical and economic consequences of a series of recently enacted state laws to reduce out-of-pocket costs for oral chemotherapy and study how Medicare Part D impacted pharmaceutical innovation in the market for oral chemotherapy. Carrie was recently selected as a finalist for the prestigious NIH Director’s Early Independence Award to pursue this line of research. Carrie believes that PORPP is a very special place and cherishes the collegiality and her relationships with the other faculty and students in the program.
**Students**

**Blythe Adamson**
- Pre-Doctoral Fellowship in Pharmaceutical Sciences from the American Foundation for Pharmaceutical Education
- Student Technology Finalist Prize for "Cloud Connected System for Augmenting Existing Rapid Diagnostic Test Performance" from the Massachusetts General Hospital Ambulatory Practice of the Future, sponsored by the Gelfand Family Charitable Trust
- Scholarship Recipient, Reducing Barriers for the Ambitious Fund
- Husky 100 Award. University of Washington. Selected as one of 100 students, among 43,000 students across 3 University of Washington campuses, for capturing the Husky Experience and academic pillars.

**William Canestaro**
- JMCP 2015 Award for Excellence for his paper, "Improving the Efficiency and Quality of the Value Assessment Process for Companion Diagnostic Tests: The Companion text Assessment Tool, (CAT)"
- PORPP Endowed Prize in Health Policy and Economics (Co-Recipient)
- Scholarship Recipient, Reducing Barriers for the Ambitious Fund

**Amy Cizik**
- Scholarship Recipient, Reducing Barriers for the Ambitious Fund

**Devender Dhanda**
- School of Pharmacy Magnuson Scholar Award

**Horacio Duarte**
- Scholarship for the 2016 Summer Institute in Statistics & Modeling in Infectious Diseases

**Laura Hart**
- 2016-2017 UW Retirement Association Graduate Student Fellowship in Aging
- ACCP Research Institute Futures Grant to support thesis research

**Cate Lockhart**
- 2016 Ocular Toxicology Specialty Section-Covance-OSOD Graduate Student/Postdoctoral Fellow Research Award
- Young Scholar Award, Dove Medical Press LTD for work on the pathophysiology of Bietti's crystalline dystrophy (BCD)

**Solomon Lubinga**
- Scholarship Recipient, Reducing Barriers for the Ambitious Fund

**Sheila Shapouri**
- Washington State Student Pharmacist of the Year (Awarded by Washington State Pharmacy Association; Annual Meeting-November 2015)

**Kangho Suh**
- 2016 ISPOR Student Travel Grant

**Amy Tung**
- ISPOR 21st Annual International Meeting Research Presentation Award Finalist

**Elisabeth Vodicka**
- PORPP Endowed Prize in Health Policy and Economics (Co-Recipient)
- Scholarship Recipient, Human Rights to Family Planning Conference, Seattle, WA
- Scholarship Recipient, Reducing Barriers for the Ambitious Fund

**Faculty & Post-Docs**

**Aasthaa Bansal**
- Best Poster Presentation: New Investigator, ISPOR 21st Annual International Meeting

**Anirban Basu**
- Research Excellence Award for Methodological Excellence, International Society for Pharmacoeconomics and Outcomes Research (ISPOR) 2016
- Fellow, American Statistical Association 2016

**Carrie Bennette**
- Top Reviewer, Annals of Internal Medicine, 2016
- Finalist, NIH Director's Early Independence Award, 2016

**Zachary Marcum**
- K12 Scholar, Patient Centered Outcomes Career Development

**Joshua Roth**
- Best New Investigator Podium Research Presentation, ISPOR 21st Annual International Meeting

**Kai Yeung**
- Best Student Paper of the Year, Vancouver Health Economics Methodology (VanHEM) Annual Meeting, June 2016
- Honorable Mention Best Paper of the Year, Journal of Managed Care & Specialty Pharmacy, April 2016

**Student Publications & Posters**

**BLYTHE ADAMSON**

**MARK BOUTHAVONG**

**ELIZABETH BROUWER**

**SIMRUN GREWAL**
EKIRI LANDAAS

MENG LI

SOLOMON LUBINGA


MICHAEL SERBIN

SHEILA SHAPOURI

KANGHO SUH

POSTER

Washingon, DC, USA

ELISABETH VODICKA


POST-DOC PUBLICATIONS

SOUKI BANERJEE

KAI YEUNG

MARITA ZIMMERMANN


PORPP FACULTY RECENT PUBLICATIONS

JOSEPH BABIGUMIRA


Othieno C, Babigumira JB, Richardson B: Are women with complications of an incomplete abortion more likely to be HIV infected than women without complications? BMC Womens Health 2015, 15:95.

AASTHA BANSAL


ANIRBAN BASU


The 2016 PORPP Retreat celebrated 20 years of success with a day and a half agenda that included strategic planning, dinner at a Woodinville brewery, a lip-sync contest and wine tasting. Students, faculty, alumni and staff all contributed to the working sessions and the festivities. The strategic planning session laid the groundwork for the vision that will lead the program into the next decade. Some of the areas that both students and faculty identified as being important to the future development and vision include:

- Provide state-of-the-art education and training
- Research Leaders (Be a global leader in generating knowledge)
- Health Economics & Outcomes Research/Pharmacoeconomic Outcomes Research
- Impact Healthcare Value
- Change name of program
- Become a “center” or “institute” within the university hierarchy system
- Develop actionable knowledge

The Retreat ended on an optimistic note, with many meaningful, thoughtful and positive suggestions to carry the program forward into the future.
regarding their access and use. Medical Care 2016 In press.

CARRIE BENNETTE


Bennette CS, Richards C, Sullivan RM, Ramsey SD, Steady Increase In Prices For Oral Anticancer Drugs After Market Launch Suggests A Lack Of Competitive Pressure. Health Affairs. May 2016 vol. 35 no. 5 805-812

DENISE BOUDREAU


BRIAN BRESNAHAN


Review. PMID: 26922978.

JOSH CARLSON


BETH DEVINE


LOUIS GARRISON, JR.


SHELLY GRAY


RYAN HANSEN


In Press.

LOTTE STEUTEN


LARRY KESSLER


RYAN HANSEN


In Press.
PUBLICATIONS & GRANTS


DANIELLE LAVALLEE


ZACHARY MARCUM


JOSH ROTH


SCOTT RAMSEY


andy stergachis


SEAN SULLIVAN


DAVID VEEENSTRA


Wright DR, Haaland WL, Ludman E, McCauley E, Lindenbaum J, Richardson LP. The costs and cost-effectiveness of collaborative care for adolescents with depression in primary care settings. JAMA Pediatrics [In Press]

DAVENE WRIGHT


Faculty — Recent Grants

AASTHAA BANSAL

PI Comparative effectiveness of molecular response guided sequential treatment strategies in chronic myeloid leukemia Sponsor: PhRMA Foundation 2015-2017

Co-I (Pls: Sullivan, Ramsey)A Pragmatic Trial to Improve Colony Stimulating Factor Use in Cancer Sponsor: PCORI 2015-2019
PUBLICATIONS & GRANTS

Co-I (PI: Goulart) Assessing Molecular Profiling in Non-Small Cell Lung Cancer at the Population Level: A Validation Study of Natural Language Processing Algorithms for SEER
Fred Hutchinson Cancer Research Center 2015 – 2016

ANIRBAN BASU
Co-PI, (PI Coleman, Kaiser Permanente) NHLBI R01, Effectiveness of Gastric Sleeve vs. Gastric Bypass for Cardiovascular Disease 2016-2019

DENISE BOUDREAU
Co-PI, Extended Release/Long Acting Opioid Post-Marketing Requirement Studies: Observational Study 1A, Campbell Alliance, 2015-2016
Co-I, Co-Management and Health Impacts of Breast Cancer and Diabetes, NCI, 2015-2019
Co-I, FDA Sentinel-Infrastructure, FDA 2015-2016

BRIAN BRESNAHAN
PI, Economic analysis of an international, multi-site randomized controlled trial of ultrasound screening? primary project sponsor (Bill and Melinda Gates Foundation).

JOSH CARLSON
PI ICER Economic Modeling ; ICER, 1/2016-12/2017
Co-Investigator (Basu PI) Value of Information Methods for NHLBI Trials; NHLBI, 2015-2019
Co-Investigator (Veenstra PI), Personalized Medicine Economics Research (PrMER) NIH/NIAAA, 2013-2018

BETH DEVINE
PI, UW-Allergan Post-Doctoral Fellowship, Allergan Pharmaceuticals, 2012-2013

LOUIS GARRISON, JR.
Principal Mentor, UW-Pfizer Post-Doctoral Fellowship, 2016-2018.
Co-Inv. (PI-Chung) University of Nairobi HIV Capacity Building Fellowship, USAID, 2014-2018

SHELLY GRAY
Co-Investigator, (Dublin PI), Opioids, benzodiazepines, general anesthesia & risk of suppression of NIV replication.. NIH, 2012-2015

RYAN HANSEN
Royalty Research Fund: Legalization And recreational Marijuana effects on PoPulAtION health and coSTs (LAMPOost)
National Institute of Dental and Craniofacial Research (NIDCR); Oral Health Equity in Alaska (OHEAL): Implementation and Evaluation of Delivery System Changes to Reduce Oral Health Disparities for Native American Children

ZACHARY MARCUM
Scholar; UW K12 in Patient-Centered Outcomes Research (Sullivan PI) – AHRQ, 08/2016-07/2019
Co-Investigator, (Dublin PI) AGING Initiative Pilot Projects Program Grant (Dublin PI) – HMRN-OAIC 01/2016-12/2016
Co-Investigator; (Gray PI) Elmer M. Plein Endowed Research Fund 01/2016-12/2016

JOSH ROTH
Co-PI (PI Gilliland) CCGS Pilot Award, FHCRC, NCI, 2015-2016

SCOTT RAMSEY
PI: Ramsey PCORI A Pragmatic Trial to Improve Colony Stimulating Factor Use in Cancer 07/01/15 – 03/31/21 (award received 9/15) PCS-1402-09988
PI: Mandelblatt, Ramsey, Lieu, Georgetown University/NIH, Optimizing personalized care using economic studies of genetic testing – Admin Supplement 09/01/15 – 08/31/17 U01 CA183081-02S1

LOTTE STEUTEN
PI; Merkel Cell Carcinoma Burden of Disease Study in the US, EMD Serono, 02/2016-12/2016
Co-PI (PI-Hsu), Statistical Methods for Genetic Epidemiologic Studies; NIH/NCI, 2015-2019
Co-I (PI: Feng/Thornquist/Pepe), The Early Detection Research Network: Data Management and Coordinating Center; NIH/NCI 2000-2021

ANDY STERGACHIS
PI, Maternal Immunization Pharmacovigilance in Low and Middle-Income Countries, Global Alliance to Prevent Prematurity and Stillbirth (GAPPS), 7/2016-6/2017.

SEAN SULLIVAN
PI, CHASE K12 Training, 2014-2019, AHRQ
Co-Inv. (PI Linda Teri) From Evidence-Based Practice: Implementing RDAD in AAA Community-Based Services. (National Institute of Aging)
Co-Director, Pacific Northwest Evidence-Based Practice Center (AHRQ) August 2012 to July 2017
Co-Investigator, (PI-Ramsey) Pragmatic Trial of Pharmacist-based Guideline Use of CSF; PCORI; 2015-2019

DAVID VEEENSTRA
Co-Inv. (PI Burke) Center for Genomics and Healthcare Equality, 2010-2015, NIH/NGRI
Co-Inv. (PI Thummel) Pharmacogenetics in Rural and Underserved Populations, 2010-2015, NIGMS

DAVENE WRIGHT
PI Improving Parental Obesity-Related Risk Assessment Funded by NHLBI K01 HL130413 03/2016-02/2021
Consultant, (PI Austin) The Economic Case for Eating Disorders Prevention and Early Detection: A Comparative Cost-Effectiveness Analysis of Six Intervention Strategies Funded by the National Eating Disorders Association 01/2016-12/2017
PORPP would like to acknowledge our many supporters of this past year. Our accomplishments would not have been possible without these generous educational grants and gifts.

- Allergan
- Alnylam Pharmaceuticals
- Anirban Basu
- Bayer AG
- Benevity
- Biogen Idec
- Jonathan & Christina Campbell
- Josh & Amy Carlson
- James T. Cross
- Beth Devine
- Eli Lilly & Company
- Louis and Fran Garrison, Jr.
- GE Foundation
- Thomas Hazlet
- Mitchell & Mandy Higashi
- Ipsen Pharma
- Pfizer Inc.
- Shelby & Steve Reed
- Joshua Roth & Meghann Glavin
- Shire Pharmaceuticals
- Julia Slejko
- Andy and JoAnn Stergachis
- Sean and Catrena Sullivan
- David and Julie Veenstra
- William Wong
- PORPP Health Technology Fund (Eli Lilly, GE Healthcare, Genentech, GlaxoSmithKline, Novartis, Ortho-McNeil, Pfizer, Roche, Sanofi-Aventis)