

JING HAO
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EDUCATION

Ph.D. in Public Health Policy and Management with a Minor in Biostatistics and Economics, 2009 –2015

University of Massachusetts Amherst, MA

Quantitative Research Courses: Data Management and Statistical Computing; Advanced Statistical Computing; Intermediate Biostatistics; Principles of Epidemiology; Design and Analysis of Experiment; Health Economics and Reimbursement Methods; Economic Evaluation of Health Care Programs and Services; Mathematics in Economics; Macroeconomics; Econometrics

M.P.H. in Public Health Policy and Management, 2007 –2009

University of Massachusetts Amherst, MA

M.S. in Immunology, 2004 –2007

Shanghai Jiaotong University School of Medicine, Shanghai, China

M.D. in Clinical Medicine 1999 –2004

Shanxi Medical University, Taiyuan, Shanxi Province, China

EXPERTISE SUMMARY

Research Focus:

Health Services Research with a focus on economic evaluations of health services and programs which aim to improve patient outcomes through promoting individualized/precision healthcare. This includes risk-stratified cancer prevention and treatment approach, genome sequencing, pharmacogenomics and pharmacy innovations.

Research Methods:

Decision analysis modeling and simulation, biostatistics and econometrics methods, by utilizing electronic health records, claims data, both internal and national cost data sources and by systematic evidence synthesis

Software Skills:

SAS, TreeAge, Palisades DecisionTools Suite (Precision Tree and @Risk), TreePlan Excel Add-on, Dreamweaver, Microsoft Office (Word, Excel, Access, PowerPoint, Outlook)

Datasets Used: Clinical EMR, TSI DSS Clinical Financial Billing Data, Health Insurance Claims, MEPS, Micromedex Red Book, FDA Orange Book, Drug@ FDA; **Dataset Trained:** TruvenHealth MarketScan, HCUP

RESEARCH EXPERIENCE

Research Investigator I (Assistant Professor) Department of Epidemiology and Health Services Research, Geisinger Health System, July 2016-present

Research focus: Economic Evaluation of Precision Healthcare

1. Economic evaluation of risk-stratified cancer prevention and treatment approach
2. Economic evaluation of genome sequencing and pharmacogenomics
3. Economic evaluation of pharmacy innovation

AcademyHealth Delivery System Science Fellow Health Economics Research and Evaluation (HERE) core, Center for Health Research, Geisinger Health System, Sep 2014-June 2016

Major project areas include:

1. Economic evaluation of risk-stratified cancer screening and treatment approach
 - Project 1: A cost-effectiveness analysis of a biomarker test that predicts risk of malignant progression in Barrett's Esophagus
 - Project 2: Cost-effectiveness analysis of risk-stratified hematuria evaluation approach
 - Project 3: Economic evaluation of head and neck cancer treatment and post-treatment surveillance
2. Economic evaluation of genome sequencing and pharmacy innovation
 - Project 4: Economic evaluation of whole genome sequencing and genomic return of results (e.g. BRCA1/2 and Lynch Syndrome)
 - Project 5: Economic evaluation of HLA-B*1502 genotyping in carbamazepine induced Stevens–Johnson Syndrome (SJS) and Toxic Epidermal Necrolysis (TEN)
 - Project 6: Impact of Pharmacist-Led Management of Diabetes Mellitus on Patient Outcomes and Cost of Care
3. Cost analysis of health services
 - Project 7: Endoscopic ultrasound and endoscopic retrograde cholangiopancreatography procedures: a comparative cost analysis of tandem and separate procedures

(Mentors: Susan Snyder, PhD, MBA; Lester Kirchner, PhD; Daniel Maeng, PhD; Marc Williams, MD)

Dissertation School of Public Health and Health Sciences (SPHHS), University of Massachusetts Amherst, Nov, 2013-Feb, 2015

Projects: “Economics of fixed-dose combination drugs approved in the United States” (Advisor: Rosa Rodriguez-Monguio, PhD)

Research Assistant SPHHS, University of Massachusetts Amherst and Baystate Hospital, Jun 2010 – Sep 2010 & Jun 2011-Sep 2011

Project: “The effect of weight loss on change in mammographic breast density in postmenopausal women” (PI: Katherine W Reeves, PhD).

WORKING PAPERS

Daniel Maeng, **Jing Hao**, John Bulger. Patterns of Multiple Emergency Department Visits: Do Primary Care Providers Matter? (Manuscript under review by The Permanente Journal, manuscript number: TPJ-16-063)

Jing Hao, Rosa Rodriguez-Monguio, Enrique Seoane-Vazquez. Are Patents and Market Exclusivities an Effective Strategy to Strengthen Pharmaceutical Innovation? (Manuscript under review by Journal of Health Services Research & Policy, manuscript number: JHSRP-16-170)

Jing Hao, James M. Pitcavage, Jove H. Graham, et.al. Measuring Adherence and Outcome in Treatment of Multiple Sclerosis in a Large Healthcare System. (Manuscript under finalization for submission to International Journal of MS Care)

Susan Snyder, **Jing Hao**, Marc Williams, et.al. Generic Economic Evaluation Models: A Timely Healthcare Decisionmaking Tool for the Era of Precision Medicine (manuscript under preparation)

Jing Hao, Susan Snyder, Rebecca Critchley-Thorne, John Inadomi, et.al. A Cost-Effectiveness Analysis of a Cancer Risk Prediction Test for Patients with Barrett's Esophagus (manuscript under preparation)

Jing Hao, Daniel Maeng, Susan Snyder, Zhi Geng, Nishal Ravindran, David Diehl. A comparative cost analysis of endoscopic ultrasound and endoscopic retrograde cholangiopancreatography in tandem versus non-tandem (manuscript under preparation)

Jing Hao, Susan Snyder, Alanna Rahm, Michael Murray, Marc Williams. Economic evaluation of whole genome sequencing and genomic return of results (work in progress)

Jing Hao, Daniel Maeng, John Moran, et.al. Employer Selection of High-Deductible Health Plans and Implications for Estimating Healthcare Cost Savings (work in progress)

Yunwei Gai, **Jing Hao**, Li Feng. Relationship between community pharmacist supply and influenza vaccination (Manuscript under finalization for submission to American Journal of Infection Control)

Yunwei Gai, **Jing Hao**, Li Feng. Relationship between local pharmacy market condition and influenza vaccination (Manuscript under preparation)

PUBLICATIONS

Hao J, Rodriguez-Monguio R, Seoane-Vazquez E. Fixed-Dose Combination Drug Approvals, Patents and Market Exclusivities Compared to Single Active Ingredient Pharmaceuticals. PLoS One. 2015 Oct 15;10(10):e0140708. PubMed PMID: 26469277.

Hao J, Rodriguez-Monguio R, Seoane-Vazquez E. Fixed-dose combination and single active ingredient drugs: a comparative cost analysis. Expert Rev Pharmacoecon Outcomes Res. 2015 Jul 15:1-8. [Epub ahead of print] PubMed PMID:26174631.

Deng S, Xi Y, Wang H, **Hao J**, Niu X, Li W, Tao Y, Chen G. Regulatory effect of Vasoactive

Intestinal Peptide on the balance of Treg and Th17 in collagen-induced arthritis. *Cell Immunol.* 2010; 265(2): 105-10.

Chen G, **Hao J**, Xi Y, Wang W, Wang Z, Li N, et.al. The therapeutic effect of Vasoactive Intestinal Peptide on experimental arthritis is associated with CD4+CD25+ T regulatory cells. *Scand J Immunol.* 2008; 68(6):572-8.

Wang W, Xi Y, Chen G, **Hao J**, Wang B, Shen T, et.al. Effect of Vasoactive Intestinal Peptide on immune privilege of the rat testis. *Journal of Reproduction and Contraception.* 2008; 19(1): 1-8.

Hao J, Chen G, Li W. New biologic therapies in rheumatoid arthritis. Review, *Chinese Journal of Rheumatology.* 2007; 11(2): 111-4. (Article in Chinese)

Wang W, Xi YB, Chen GJ, **Hao J**, Shen TW, Wang BG, et.al. Immunoregulation of Vasoactive Intestinal Peptide on rat Leydig cells. *Chinese Journal of Cellular and Molecular Immunology.* 2007; 23(8):696-700. (Article in Chinese)

Wang B, Wang W, Xi Y, Chen G, **Hao J**, Shen T, et. al. The regulation of FasL in rat Leydig cells expression and of their capacity to mediate Jurkat cell apoptosis by Vasocation Intestinal Peptide. *Chinese Journal of Immunology.* 2007; 23(4): 291-5. (Article in Chinese)

Hao J, Xi Y, Wang W, Wang B, Jiang L, Chen G, Li W. Vasoactive Intestinal Peptide inhibits the development of experimental arthritis. *Current Immunology.* 2007; 26(6): 483-7. (Article in Chinese)

CONFERENCE PRESENTATIONS (Presenters are underlined)

Jing Hao, Zhi Geng, Daniel Maeng, Susan Snyder, David Diehl. Accepted for poster presentation “Endoscopic Ultrasound and Endoscopic Retrograde Cholangiopancreatography on the Same Patient: A Comparative Cost Analysis of Tandem and Separate Procedures” American College of Gastroenterology 81st Annual Meeting, October 18th, 2016, Las Vegas, Nevada.

Snyder S, Leeming R, **Hao J**, Rahm A, et.al. Poster presentation: “High Risk Breast Clinic – A New Evidence-Based Model for Cancer Risk Assessment and Screening”. Enhancing Patient- and Family-Centered Care through Learning, Discovery and Engagement: A Symposium, June 14th, 2016, Danville, PA

Jing Hao, Susan Snyder, Rebecca Critchley-Thorne. Podium presentation: “A cost-effectiveness analysis of a test that predicts risk of malignant progression in Barrett's Esophagus” Research Podium Presentations-Session II: Cancer Outcomes Studies. ISPOR, May 23rd, 2016. Washington DC

Jing Hao, Susan Snyder, Rebecca Critchley-Thorne. Poster presentation: “A Cost-Effectiveness Analysis of a Cancer Risk Prediction Test for Patients with Barrett's Esophagus”. Digestive Disease Week (DDW) 2016, May 21, 2016, San Diego, CA

Jing Hao, Tullika Garg, Susan R. Snyder, Amanda J. Young, H. Lester Kirchner. Poster presentation: “Cost-Minimization Analysis of Risk-Stratified Hematuria Evaluation”. Health Care System Research Network (HCSRN) Annual Conference, April 14th, 2016, Atlanta, GA

Daniel Maeng, **Jing Hao**, John Bulger. Poster presentation: “Patterns of Multiple Emergency Department Visits: a Discretionary Care Seeking Behavior?” HCSRN Annual Conference, April 14th, 2016, Atlanta, GA

Snyder S, Leeming R, Rahm A, **Hao J**, et.al. Oral presentation: “High Risk Breast Cancer Clinic - A New Risk-Stratified, Evidence-Based and Efficient Patient Care Model”. HCSRN Annual Conference, April 14th, 2016, Atlanta, GA

Leeming R, Maney E, Fan A, Rocha H, Koenig J, Rahm A, Snyder S, **Hao J**, et.al. Poster presentation: “Evaluation and Risk Assessment for Breast Cancer: A Integrated Health System Approach”. America Society of Breast Surgeons (ASBS) Annual Meeting 2016. April 13-17th, 2016. Dallas, Texas

Jing Hao, Susan Snyder, Steve Chang, Farzan Siddiqui, Jonathan Bock, James Pitcavage et.al. Poster presentation: “Using systematic review and decision modeling to fill gaps in evidence: Application to Positron Emission Tomography (PET) scan use in post-treatment Squamous cell carcinoma of the oropharynx (SCOOP)”. HMO Research Network Annual Conference, March 11th, 2015, Long Beach, CA

Wayne Psek, **Jing Hao**, James Pitcavage. Oral presentation: “Comparison of organizational context across HMORN sites”, HMO Research Network Conference, March 12th, 2015, Long Beach, CA

Jing Hao, Jove H. Graham, James M. Pitcavage, Carl R. Hoegerl, J.B. Jones, Scott R. Taylor, Ashley M. Ryman. Poster presentation: “Measuring adherence and outcome in treatment of multiple sclerosis in the Geisinger Clinic”, ISPOR, May 20th, 2015, Philadelphia, PA

Jing Hao, Rosa Rodriguez-Monguiro, Enrique Seoane-Vazquez. Poster presentation: “Analysis of combination drugs approved in the US from 1980 to 2010”. Public Health System Research Interest Group Meeting, AcademyHealth Annual Research Meeting. June 25th, 2013, Baltimore, MD

Jing Hao, Rosa Rodriguez-Monguiro, Enrique Seoane-Vazquez. Accepted for Short-oral presentation (but didn’t attend): “Analysis of combination drugs approved in the US from 1980 to 2010”. International Health Economics Association 9th World Congress. July, 2013, Sydney, Australia

Jing Hao, Rosa Rodriguez-Monguiro, Enrique Seoane-Vazquez. Oral presentation: “Public Health and Economics of Combination drug- A review of literature”. American Public Health Association Annual Meeting. October 30, 2012, San Francisco, CA

Jing Hao, Rosa Rodriguez-Monguiro, Enrique Seoane-Vazquez, Rongheng Lin. Oral presentation: “Exploring the Relationship between Drug Patent Life and Drug Approvals”. American Public Health Association Annual Meeting. October 31, 2011, Washington DC.

Jing Hao, Rosa Rodriguez-Monguiro, Enrique Seoane-Vazquez. Poster Presentation: “Analysis of the generic drugs Approved by the US FDA between 1980 and 2009.” Westlake Forum III: Healthcare Reform in China and the US: Similarities, Differences and Challenges. April 10, 2011, Atlanta, GA

Jing Hao, Rosa Rodriguez-Monguiro, Enrique Seoane-Vazquez. Poster Presentation:

“Analysis of the generic drugs Approved by the US FDA between 1980 and 2009.” American Public Health Association Annual Meeting, November 8, 2010, Denver, CO

GRANTS

Current Projects

1. Project: Economic Outcomes of Genomic Return of Results to MyCode® Participants.
Grant & Amount: Geisinger Large Internal Research Grant, \$95,867
Time period: April, 2015-July, 2017; Role: Co-Investigator (PI: Snyder, Susan)
2. Project: A cost-effectiveness analysis of a test that predicts risk of malignant progression in Barrett's Esophagus
Grant & Amount: Cernostics Inc, \$33,755
Time period: July, 2016-November, 2016; Role: Co-Investigator (PI: Snyder, Susan)
3. Project: Economic and health outcomes associated with pre-eclampsia and benefits of a new diagnostic test
Grant & Amount: Progenity, Inc, \$258,512
Time period: July, 2016-December, 2017; Role: Co-Investigator (PI: Snyder, Susan)
4. Project: Impact of Pharmacist-Led Management of Diabetes Mellitus on Patient Outcomes and Cost of Care
Grant & Amount: GlaxoSmithKline, \$187,000
Time period: June, 2015-May, 2017; Role: Co-Investigator (PI: Maeng, Daniel)

Completed Projects

1. Project: Economic evaluation of HLA-B*1502 genotyping in carbamazepine induced Stevens–Johnson Syndrome (SJS) and Toxic Epidermal Necrolysis (TEN)
Grant & Amount: NIH U01 GM007269
Time period: October, 2014-April, 2016; Role: Key Personnel (Site PI: Williams, Marc)
2. Project: Endoscopic ultrasound (EUS) and endoscopic retrograde cholangiopancreatography (ERCP) procedures: a comparative cost analysis of tandem and separate procedures
Grant & Amount: Geisinger Small Internal Research Grant, \$19,934
Time period: June, 2015-May, 2016; Role: Principal-Investigator

TEACHING EXPERIENCES

Teaching Assistant, SPHHS. University of Massachusetts Amherst

Course: “Capstone course (PUBHLTH 490B)” Jan 2014 – May 2014

Course: “Human nutrition and performance (KIN110)” Sep 2010 – Dec 2010

Guest Lecturer, SPHHS. University of Massachusetts Amherst, March 2011

Course: “Introduction to Health Economics (PUBHLTH 490C)”

Teaching Assistant. School of Nursing, University of Massachusetts Amherst, Sep 2008 – Jan 2009.

Course: “Maternal-newborn nursing” and “Nursing care of children” (NURSING325&326)

AWARDS AND HONORS

New Investigator Research Presentation Award finalist 2016, International Society of Pharmacoeconomics and Outcome Research (ISPOR) 21st Annual International Meeting

Public Health System Research (PHSR) Student Scholarship 2013 from AcademyHealth and the Robert Wood Johnson Foundation (Mentor: Dennis Ross-Degnan, Sc.D.)

American Public Health Association Medical Care Section Student Presentation Award 2012, American Public Health Association

Westlake Youth Forum Fellowship 2012, China Medical Board (CMB) and Zhejiang University

Westlake Forum III Travel Expenses Scholarship 2011

University Scholarship for Outstanding Student 2006, Shanghai Jiaotong University School of Medicine

University Scholarship for Outstanding Student 2000, 2001 & 2002, Shanxi Medical University

REFeree SERVICES

Referee Service (*numbers in parentheses indicate the year and the number of manuscripts/abstracts reviewed):

BMC Health Services Research (2015:1; 2016:9)

Health Care System Research Network (HCSRn) (2015: 10)

Issue Panel Review Committee, International Society of Pharmacoeconomics and Outcome Research (ISPOR) (2016: 12)

Research Abstract Congress Review Committee, ISPOR19th Annual European Congress (2016: 18)

PROFESSIONAL SERVICES

Member of the Reviewer Group, Oncology Health Economic Modeling - Post-Progression Working Group, ISPOR, 2016-present

Member of the Reviewer Group, Precision Medicine: Assessing the Value Working Group, ISPOR, 2016-present

Moderator Health Services, Health Policy and Cost concurrent session, 2016 Health Care System Research Network (HCSRn) Annual Conference

Planning Committee Member China Health Policy and Management Society, 2010-present

Editor China Health Policy and Management Society monthly newsletter (CHPAMS Monthly), 2012-present

Interviewer China Health Review, China Health Policy and Management Society, 2012

Panelist SPHHS, Health Policy and Management Doctoral Seminar Series, Nov 2013

Session Discussant Westlake Youth Forum 2012, Hangzhou, China Aug 2012

Session Interpreter Westlake Forum III: Healthcare Reform in China and the US: Similarities, Differences and Challenges. Atlanta, GA, April 2011

PROFESSIONAL AFFILIATIONS

International Society of Pharmacoeconomics and Outcome Research (ISPOR), 2015-Present

Health Care System Research Network (HCSRN), 2014-Present

AcademyHealth, 2010 – Present

China Health Policy and Management Society (CHPAMS), 2009 – Present

American Public Health Association (APHA), 2009 – 2014