

## The Faculty of Medicine of Harvard University

### Curriculum Vitae

**Date Prepared:** May 18, 2021  
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#### Education:

2003	BS	Genetics	Iowa State University
2008	MS	Biostatistics	University of Minnesota
2011	PhD	Biostatistics	University of Minnesota

Thesis advisor: Bradley P. Carlin

#### Faculty Academic Appointments:

9/2011–3/2017	Assistant Professor	Health Care Policy	Harvard Medical School
4/2017–	Associate Professor	Health Care Policy	Harvard Medical School

#### Committee Service:

##### Local

2015–	Committee on Higher Degrees in Health Policy	Harvard University
2015–		Member
2016–	Curriculum Development Board, Essentials of Medicine Part I	Harvard Medical School
2016–		Member
2016	Junior Faculty Search Committee	Department of Health Care Policy
2016		Member
2016–	Dissertation Committees	Harvard University
2016–18		Member, Jamie Daw Committee
2016–18		Member, Jeannie Fugelsten Biniek Committee
2016–18		Member, Christine Baugh Committee
2017–20		Chair, Kate Lofgren Committee
2018–		Chair, Alyssa Bilinski Committee
2019–20		Member, Carrie Fry Committee
2020–		Member, Rebecca Gourevitch Committee
2020–		Member, Jason Buxbaum Committee
2020–	Executive Committee	Harvard PhD Program in Health Policy
2020–		Member

##### National

2016–19	Conflict of Interest Mitigation Panel 2016–19	RAND Evaluation of Coverage to Care Member
2017–18	Technical Advisory Panel  2017–18	Urban Institute Program on Retirement Policy Member

**International**

2014	Scientific Organizing Committee  2014	International Conference on Health Policy Statistics (ICHPS) 2015 Member
2017	Outreach Committee 2017	ICHPS 2018 Member
2019	Awards Committee 2019	ICHPS 2020 Chair
2020	Research Review Committee 2020	ISPOR 2020 Co-Chair

**Professional Societies:**

2009–	American Statistical Association 2009–	Member, Section on Bayesian Statistical Science, Biometrics Section
	2009–	Member, Biopharmaceutical Section
	2009–10	Member, Twin Cities Chapter
	2011–	Member, Health Policy Statistics Section (HPSS)
	2013–	Member, Boston Chapter
	2014–15	Secretary, HPSS
	2014–	Member, Section on Medical Devices and Diagnostics
	2018–19	Reviewer, HPSS Student Paper Awards
	2018–	Member, COPSS Florence David Award Committee
	2019	Chair-elect, HPSS
	2020	Chair, HPSS
	2021	Past Chair, HPSS
2009–	International Biometric Society, Eastern North American Region (ENAR) 2015–16	Associate Chair, Program Committee
	2018–20	Member, Regional Committee (RECOM)
	2021	Representative, JSM 2022 Program Committee
2010–18	International Society of Bayesian Analysis	Member
2019–	International Society for Pharmacoeconomics and Outcomes Research	Member
2011–13	International Statistics Institute	Member
2012–18	Institute of Mathematical Statistics	Member
2016–17	AcademyHealth	Member

**Grant Review Activities:**

2014–	External Peer Review	Medical Research Council, UK
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2017	2014– Biobehavioral and Behavioral Processes Integrated Review Group, R01/R21 Special Emphasis Panel	Ad hoc Reviewer NIH
2018–	2017 External Peer Review	Member National Science Foundation
2018–	2018– External Peer Review	Ad hoc Reviewer Economic and Social Research Council, UK
2019	2018– Healthcare Systems and Values Research Special Emphasis Panel/Scientific Review Group	Ad hoc Reviewer Agency for Healthcare Research and Quality
2019–	2019 Greater Value Portfolio Advisory Committee	Member Donaghue Medical Research Foundation
2021	2019– Mechanism for Time-Sensitive Drug Abuse Research (R21) Special Emphasis Panel	Member NIH
	2021	Member

**Editorial Activities:**

**Ad hoc Reviewer**

Annals of Applied Statistics  
Annals of Internal Medicine  
Biostatistics  
BMC Medical Research Methodology  
Computational Statistics and Data Analysis  
Circulation: Cardiovascular Genetics  
Circulation: Cardiovascular Quality and Outcomes  
Epidemiology  
Health Affairs  
Health and Quality of Life Outcomes  
Health Services and Outcomes Research Methodology  
Health Services Research  
JAMA Internal Medicine  
JAMA Network Open  
Journal of General Internal Medicine  
Journal of Health Economics  
Journal of the American Statistical Association  
Journal of the Royal Statistical Society  
Medical Care  
Medical Decision Making  
Naval Research Logistics  
Pharmacoepidemiology and Drug Safety  
Quality of Life Research

Statistics and Public Policy  
 Statistics in Medicine  
 Women's Health Issues

**Other Editorial Roles**

2013–15	Editorial Board	Medical Decision Making
2020–	Statistical Reviewer	JAMA Network Open

**Honors and Prizes:**

2000	National Merit Scholar	National Merit Scholarship Corp	
2003	Phi Beta Kappa	Iowa State University	
2005	Dean's Scholar	University of Minnesota School of Public Health	
2009	Outstanding Teaching Assistant Award	Division of Biostatistics, University of Minnesota School of Public Health	
2010	James R. Boen Award	Division of Biostatistics, University of Minnesota School of Public Health	Achievements in applied biostatistics
2010	Student Paper Award	Section on Bayesian Statistical Science, American Statistical Association	Research on Bayesian methodology
2010–11	Doctoral Dissertation Fellowship	University of Minnesota Graduate School	
2011	Young Investigator Travel Award	Institute of Mathematical Statistics and International Society of Bayesian Analysis (ISBA)	To attend the ISBA Annual Meeting
2011	Student Travel Award	University of Texas MD Anderson Cancer Center	To attend the Bayesian Biostatistics Conference
2011	Student Travel Award	American Statistical Association	To attend the International Statistics Institute World Congress
2011	Jacob E. Bearman Award	Division of Biostatistics, University of Minnesota School of Public Health	Outstanding academic and professional achievement
2015, 16	Top Reviewer	Pharmacoepidemiology and Drug Safety	Quality and timeliness among best of all reviews
2016	Finalist, Annual Research Award	National Institute for Health Care Management Foundation	For McWilliams, Hatfield, et al. 2016 NEJM (below)
2018	Award for Excellence in Methodology	International Society for Pharmacoconomics and Outcomes Research	For Hatfield et al. 2017 Med Decis Making (below)
2019	Outstanding Reviewer	Health Services Research (HSR)	Top 5% of reviewers in the previous 2 years

**Report of Funded and Unfunded Projects**

**Funding Information:**

## Past

- 2009–14     Income Effects and Current Law Forecasts of Health Care Spending Growth  
NIH R01 AG034417-01  
Co-Investigator (PI: Michael Chernew)  
This project addresses forecasting health care spending in light of forces expected to impact future growth, such as changing generosity of benefits and health technology. We will construct a microsimulation model of Medicare spending that focuses on the extent to which current-law cost sharing and financing rules may slow spending growth in the future, when premiums and out-of-pocket obligations will constitute a significant share of disposable income for many elderly Americans.
- 2011–14     The Medical Device Epidemiology Network (MDEpiNet) Methodology Center  
Chickasaw Nation Industries/FDA HHSF223201110172C  
Co-Investigator (PI: Sharon-Lise Normand)  
This center will develop and apply novel statistical and epidemiological methods to monitoring the safety and effectiveness of medical devices. Investigators will identify medical devices for post-market surveillance, develop statistical methods for inferring causal effects of the selected medical devices, and demonstrate the implementation of a unique device identifier within a hospital system.
- 2014         Durata and Riata ST Optim ICD Lead Independent Multicenter Study  
Minneapolis Heart Institute Foundation  
Principal Investigator (total direct costs \$26440)  
This prospective multicenter study will examine the failure modes and longevity of implantable cardioverter-defibrillator leads. In addition to clinical variables, detailed lead failure data will be collected. Phase I of this study is a retrospective enrollment of patients implanted or followed at each clinical center. Phase II will follow these patients prospectively to monitor leads and clinical status. HCP collaborators will analyze Phase I data, producing baseline summaries, exploratory analyses of clustering, and treatment choice models as well as statistical plans for analyses of Phase II data.
- 2015–16     Harvard Integrated Program to Protect and Improve the Health of NFLPA Members  
NFL Players Association  
Co-Investigator (PI: Lee Nadler)  
Participation in organized football presents both risks and benefits. In order to decide whether or not to participate in organized football, individuals must accurately appraise the risk-related information and then weigh future health risks against current and future financial, psychological, physical, and social benefits. Given the complex, and in some case unknown, risks associated with football participation, the goal of this program of research is to create effective risk communication strategies that inform and empower individual athletes to make informed autonomous decisions related to beginning, continuing, or ceasing football participation.
- 2015–17     Comparative Effectiveness of Treatment Regimens in Lung Cancer  
NIH 5R21AG047175-02  
Co-Investigator (PI: Haiden Huskamp)  
In this project, we will compare the survival and health care utilization of elderly individuals with extensive-stage small cell lung cancer treated with two different chemotherapy regimens. We will use propensity score methods to create matched cohorts from the SEER-Medicare database. The work fills important gaps in the existing literature by including an older, less healthy cohort than typically enroll in clinical trials and studying real-world outcomes following treatment.
- 2013–17     The MDEpiNet Medical Counter Measures Study  
US Food & Drug Administration 1U01FD004493  
Co-Investigator (PI: Sharon-Lise Normand)

This proposal plans to advance statistical and epidemiological methods to improve our understanding of the safety and effectiveness of medical countermeasure-related devices in general, and of their vulnerabilities to chemical, biological, radiological, chemical, or nuclear events in particular. Our methods will facilitate this research through the development of a probabilistic risk assessment framework supported by a comprehensive set of methodological approaches for continuous evaluation of premarket and postmarket device data and by harnessing the increasing power of large clinical and administrative databases, including government claims data; clinical data found in international, national and state registries run by professional societies and public health departments; and electronic medical record data.

2013–17

Evaluating a Tiered Hospital Network  
CareFirst

Co-Investigator (PI: Michael Chernew)

In 2011 CareFirst, the leading not-for-profit health insurance plan in the mid-Atlantic, implemented its Patient-Centered Medical Home (PCMH) model. The program rewards greater attention to patients with chronic disease who consume a substantial portion of health care spending and can benefit from care plans, and it provides extensive support to physicians to help them care for these patients. We propose to conduct a comprehensive evaluation of the effects of the CareFirst PCMH and to assess the aspects of the model that lead to its success. The evaluation will combine 3 rigorous components. The first two will be quantitative, using data from CareFirst and the Truven MarketScan database, respectively. The third will be a qualitative analysis based on original data collection.

2014–17

Impact of Price Transparency on Utilization and Spending  
Health Care Markets and Regulation Lab / Arnold Foundation  
Co-Investigator (PI: Ateev Mehrotra)

This project will estimate the impact of offering a price transparency tool to a health plan enrollee. We will analyze health care cost and utilization data from a national database of commercial claims (Truven MarketScan) using a difference-in-difference approach to compare the differential change over time between firms that offer or do not offer a price transparency tool to their enrollees. Key outcomes are utilization and spending across a variety of services, some of which we consider “shoppable”.

2014–17

An Intervention to Manage Acute Changes in Home Care Patients  
Health Care Markets and Regulation Lab / Arnold Foundation  
Co-Investigator (PI: David Grabowski)

This randomized evaluation of an Intervention in Home Care to Improve Health Outcomes (In-Home) will evaluate a telephone checklist that allows home care caregivers to assess acute changes in a patient’s physical or cognitive status. Primary outcomes are mortality and avoidable hospitalizations.

2015–17

The Impact of Castlight’s Price Transparency Tool on Utilization  
CalPERS  
Co-Investigator (PI: Ateev Mehrotra)

The overall goal of the proposed research is to examine whether use of the Castlight price-transparency tool is associated with a decrease in health care costs and greater use of higher-quality physicians and facilities. An analysis will be conducted of health plan claims of CalPERS members who use the Castlight tool and a control population.

2016–18

Impact of Maryland’s Hospital Global Budgets on Utilization, Quality, and Spending  
The Commonwealth Fund 20160555  
Co-Investigator (PI: Ateev Mehrotra)

Our goal is to conduct the first rigorous evaluation of Maryland’s hospital global budget program. Specifically, we will examine the program’s effects on hospitalizations and

readmissions, spending, inpatient and ambulatory care quality, and unintended provider behaviors. This work will shed light on the effects of population-based health care financing, when implemented at the hospital level, on patient outcomes and provider behavior.

2016–18

Constructing U.S. Life Tables by Educational Status, 1990-2011

National Institute on Aging R03AG050902

Co-Investigator (PI: David Cutler)

Health and survival are known to be worse for those with less education in the United States. However, the data for examining life expectancy by education level are not ideal. Vital Statistics data accurately measure deaths, but education reports on death certificates are known to be stated with error, and differences across states result in missing data. This project will combine these two types of data to estimate mortality by age, sex, race and education and adjust for changing educational attainment over time.

2015–19

Behavioral Economics and Improving Chemotherapy Decisions for Advanced Cancer

National Cancer Institute K24CA181510

Co-Investigator (PI: Nancy Keating)

The proposed work will provide support for Dr. Keating to further develop her research program focused on improving care for cancer patients by acquiring skills in behavioral economics and intervention research. It will also allow her to expand her mentoring activities to junior investigators in rigorous patient-oriented cancer research. In the proposed research, Dr. Keating and her mentees will develop and implement a new chemotherapy consent form, and assess if use of this consent form can increase advanced cancer patients' understanding of the goals of chemotherapy.

2015–20

Medicare in a Restructured Delivery System

National Institute of Aging P01AG032952

Co-Investigator (PI: Joseph Newhouse)

Successful integration of financing and care in the Medicare program is the single most important objective of health policy, and arguably, with its powerful budgetary implications, of social and fiscal policy in the US today. This Program Project proposal lays out a forward-looking research agenda encompassing three areas: 1) innovative and comprehensive analyses of current initiatives around ACOs, 2) rigorous research on the current form of integration, the MA program which, as our research has shown, has demonstrated improved performance in recent years, and, 3) research on innovative beneficiary as well as provider payment policy.

2017–20

Health Care Markets and Regulation Lab

Laura and John Arnold Foundation

Co-Principal Investigator, Methods Core (PI: Michael Chernew)

The methodological research of the Methods Core is designed to strengthen the robustness, validity, and rigor of health policy research. There are numerous methods challenges for which no "off-the-shelf" solutions exist, particularly for evaluations of policy impacts using difference-in-difference designs. Methods Core papers will address these shortcomings and provide practical, statistically valid, and causally appropriate approaches to health services researchers engaged in evaluation studies. Dr. Hatfield will develop improved tests for the key assumptions of diff-in-diff and new methods for control group selection in hierarchical settings.

2017–19

Using Telemedicine to Reduce Hospital Transfers

Donaghue Foundation

Principal Investigator

We study whether providing access to physicians via video (telemedicine) reduces unnecessary ED visits for residents of independent living communities. Continuing Life,

our partnering stakeholder organization, operates three independent living communities in California, each with several hundred residents. At one community, staff members now respond to resident calls carrying a mobile tablet that allows residents and staff to interact with an emergency medicine physician via video. We will study changes in ED transfers and hospital admissions.

## Current

- 2017–22 Consumer Assessment of Healthcare Providers and Systems CAHPS V  
Yale University Subcontract (u/d AHRQ) GR101547 (CON-80001087)/  
2U18HS016978-11  
Co-Investigator (PI: Alan Zaslavsky/Paul Cleary)  
The Harvard Medical School team will: Maintain, develop and document the CAHPS analysis macro and assist with response to user queries that are beyond the expertise of the support staff; (2) Perform selected analyses of psychometric properties of CAHPS pilot and field test data; (3) Provide statistical advice on design and analysis of CAHPS instruments, field tests and implementations as required
- 2020–25 National Implementation of Medicare Advantage and Prescription Drug Plan CAHPS Surveys  
RAND Subcontract (u/d CMS) 9920120015  
Co-Investigator (PI: Alan Zaslavsky/Marc Elliot)  
The purpose of this project is the implementation of the MA and PDP CAHPS surveys using the model where MA, MMP, and PDP contracts contract with CMS-approved vendors for data collection. The work shall also include analyses of the survey results and preparation of Medicare CAHPS measures, as well as sampling and analysis of the Medicare Fee-For Service (FFS) CAHPS data and production of comparable FFS CAHPS measures for public reporting.
- 2019–24 Comparing hospitalization rates, outcomes, and treatment intensity for elderly patients across OECD countries  
National Institute of Aging R01AG058878  
Co-Investigator (Co-PIs: Landon, Cram)  
This study compares treatment for older adults from five OECD countries (US, Canada, Netherlands, Israel and England) hospitalized with one of 5 conditions: hip fracture (HF), acute myocardial infarction (AMI); ischemic stroke, elective aortic aneurysm repair (AAA), and congestive heart failure (CHF). Our aims are to assess: (1) differences in the epidemiology of the conditions; (2) differences in treatment intensity; (3) differences in outcomes, including mortality at 90 days and one year; and (4) differences after stratifying by socioeconomic status and overall health. This work will provide a nuanced understanding of the effectiveness of treatment approaches in the five countries and will provide insights into the functioning of their health care systems.
- 2015–21 Effects of Expanded Coverage on Access, Health Care and Health in the South  
National Cancer Institute / Vanderbilt R01CA189152  
Co-Investigator (PI: Michael McWilliams/John Graves)  
This project will provide timely and rigorous analysis of the effect of health insurance coverage expansions on health care use and outcomes among a large cohort of low-income adults in 12 southeastern states (VA, WV, KY, TN, NC, SC, FL, GA, AL, MS, LA, AR). Using a quasi-experimental research design, we aim to quantify the effects of coverage expansion through Medicaid and private health insurance exchanges on access to care, cancer screening and use of preventive clinical services (Aim 1); on self-reported health outcomes, mortality and use of emergent and inpatient care (Aim 2); and on cancer stage at diagnosis and quality of cancer care (Aim 3).



2021–24 Improving Medicare in an Era of Change  
 National Institute of Aging P01AG032952  
 Co-Investigator / Core Leader (PI: Bruce Landon / Michael McWilliams)  
 Successfully integrating the financing and delivery of care remains a primary goal of the Medicare program after years of expanding efforts, including a recent period of unprecedented experimentation. This Program Project proposal is to supply foundational insights for designing payment systems in healthcare. Our research agenda encompasses four key areas: 1) comparative performance of MA and TM and variants of each; 2) strategies employed by MA plans; 3) learning from state Medicaid programs; and 4) experiences of Medicare patients with dementia and their implications for payment system refinements for patients with special needs.

### **Training Grants and Mentored Trainee Grants**

2017–18 The Impact of Resource Constraints on Provider Behavior and Health Outcomes in Childbirth  
 AHRQ R36HS024898  
 Faculty (PI: Katherine Donato)  
 This project tests how resource availability affects the clinical decision to expedite childbirth by performing a cesarean delivery (C-section) on low-risk mothers. Economic theory does not provide a clear prediction about the impact of resource availability on quality of care: at times, limited resources can lead to improved efficiency and coordination; at other times they could lead to insufficient, delayed, or rushed care.

2016–21 A Multi-stakeholder Examination of the Drivers and Value of Inpatient Consultation  
 AHRQ K08HS024288  
 Faculty (PI: Jennifer Stevens)  
 Inpatient consultation by specialists is the primary mechanism by which specialist care is provided to hospitalized patients. The aims of the research project are to 1) engage patients and providers through a mixed-methods approach to identify characteristics of beneficial consultations, 2) use Medicare claims and electronic health record data to investigate novel non-clinical drivers of variation in the use of inpatient consultation, and 3) incorporate these drivers into models that quantify the impact of consultation on patient outcomes and costs.

### **Report of Local Teaching and Training**

#### **Teaching of Students in Courses:**

2012–16	Methods Seminar Graduate students, fellows	Harvard Health Economics Seminar 2-hr sessions, twice a year
2014–	Methods Seminar Graduate students, fellows	Department of Health Care Policy 7, 1-hr sessions each year
2014–	Graduate Reading Course: Evaluative Science and Statistics (Health Policy 3080) Health Policy PhD students	Harvard University 2-hr sessions, twice a year
2015	Health Care Policy (HC 750) 1 <sup>st</sup> year medical students	Harvard Medical School 8, 1-hr sessions each January
2015–	Research Seminar in Health Policy (Health Policy 3040hf) Health Policy PhD students	Harvard University 1-hr sessions, weekly
2017–19, 21	Health Policy, Essentials of the Profession, Part I 1 <sup>st</sup> -year medical students	Harvard Medical School 8, 1-hr sessions each January

2017–	Formal exam prep sessions Health Policy PhD students	Harvard University 4, 1-hr sessions each spring
2020	Design of Experimental and Non- experimental Studies Graduate students	1-hour guest lecture  Harvard University

**Laboratory and Other Research Supervisory and Training Responsibilities:**

2016–	Health Policy Data Science Lab	1-hr group lab meeting, monthly
2015–17	Co-supervisor of two-year Seidman Fellow	1-hr 1:1 meeting, twice monthly
2015–	Supervision of research assistantships and dissertation research of Harvard health policy PhD students	1-hr 1:1 meetings, weekly

**Formally Mentored Harvard Medical, Dental and Graduate Students:**

2015–18	Christine Baugh, PhD candidate, Harvard University Co-supervised dissertation research and co-authored three manuscripts (all in preparation) on risks, benefits, and decision-making in sports. Now Assistant Professor at University of Colorado.
2015–18	Jamie Daw, PhD candidate, Harvard University Co-supervised dissertation research and co-authored two papers. Now Assistant Professor at Columbia University. Winner, 2019 Outstanding Dissertation Award from AcademyHealth.
2016–18	Jean Fugelsten Biniek, PhD candidate, Harvard University Co-supervised dissertation research in provider responses to information shocks and use of new medical technologies. Now Senior Policy Analyst at KFF.
2016–20	Kate Lofgren, PhD student, Harvard University Supervised dissertation research in value-of-information approaches to evaluating heterogeneous treatment effects and proxy outcome measures. Now Senior Decision Scientist at Foundation Medicine.
2016–17	Robbert Zusterzeel, MD, PhD, MPH Student, Harvard T.H. Chan School of Public Health Co-mentored MPH practicum on establishing an objective performance goal for transcatheter aortic valve replacement.
2017–21	Alyssa Bilinski, PhD student, Harvard University Supervised dissertation research on assessing assumptions of difference-in-difference studies. Starting Summer 2021, Assistant Professor at Brown University.
2017–	Rebecca Gourevitch, PhD student, Harvard University Supervising research in adequacy of prenatal care.
2019–20	Carrie Fry, PhD candidate, Harvard University Supervised dissertation research in causal assumptions for comparative interrupted time series versus difference-in-differences. Now Assistant Professor at Vanderbilt.
2020–	Jason Buxbaum, PhD student, Harvard University Advising dissertation research on quasi-experimental methods for estimating the impact of insurance mergers on hospital costs.

**Other Mentored Trainees and Faculty:**

2015–17	Megan Schuler, PhD, Marshall J. Seidman Fellow in Health Care Policy Co-supervised two-year fellowship and co-authored three manuscripts. Now a Health Policy Researcher at RAND (Boston).
2016–17	Nina Joyce, PhD, NIMH Postdoctoral Fellow

- Co-authored two manuscripts on longitudinal trajectories. Now an Assistant Professor of Health Services, Policy, and Practice at Brown University.
- 2017–19 Christoph Kurz, PhD student, Helmholtz Zentrum München, University of Munich  
Mentoring dissertation research in mixture models for health care utilization data and synthetic control methods Now postdoctoral fellow at Helmholtz Zentrum München.
- 2018–19 Christine Baugh, PhD NIMH Postdoctoral Fellow  
Supervised one-year fellowship. Now an Assistant Professor at University of Colorado.
- 2018–20 Bret Zeldow, PhD, Postdoctoral Fellow  
Supervised two-year fellowship on methods for difference-in-differences. Now Assistant Professor of Statistics at Colby College.
- 2020– Tamryn Gray, PhD, RN, MPH, Instructor in Medicine, Dana Farber Cancer Institute  
Mentoring Sojourn Scholars (Cambia Health Foundation) project on CARE Act implementation and impact.

**Formal Teaching of Peers (e.g., CME and other continuing education courses):**

***No presentations below were sponsored by outside entities***

- |       |  |   |
|-------|--|---|
| 2015– | Methods Toolkit: Health Services, Outcomes Research, and Policy Analysis<br>T3/T4 Research: Translating Effective Interventions into Practice (Harvard Catalyst) | 1-hr lecture, yearly<br>Boston, MA                |
| 2018  | Machine Learning and Bayesian Approaches for Data Science in Medicine (Harvard Catalyst)   | 6-hour short course (co-instructor)<br>Boston, MA |

**Local Invited Presentations:**

***No presentations below were sponsored by outside entities***

- |      |  |
|------|--|
| 2011 | Bayesian hierarchical joint modeling for longitudinal and survival data / Invited seminar<br>Department of Biostatistics, Harvard School of Public Health                                    |
| 2012 | Comparing block Kronecker and unstructured covariance matrix estimation in a hierarchical model for health care quality / Invited seminar<br>Department of Statistics, Harvard University    |
| 2013 | Statistical properties and health policy applications of microsimulation / Invited seminar<br>Applied Statistics Workshop, Institute for Quantitative Social Science, Harvard University     |
| 2014 | Tailoring treatment information using personal characteristics and health outcome preferences/ Invited seminar<br>Dana Farber / Harvard Cancer Center Health Outcomes Research Seminar       |
| 2016 | Learning in Bayesian hierarchical joint models for longitudinal and survival data / Guest lecture<br>Applied Bayesian Analysis (BST 228), Harvard T.H. Chan School of Public Health          |
| 2016 | Incorporating decision-maker loss functions in safety monitoring / Invited seminar<br>Harvard/MIT Econometrics seminar, Cambridge, MA  |
| 2018 | Reproducibility and Open Science / Invited seminar (co-presenter)<br>Dana Farber/Harvard Cancer Center Outcomes Research Seminar, Boston, MA   |
| 2018 | Methods for difference-in-differences studies / Invited seminar<br>Beth Israel Deaconess Medical Center Richard A. and Susan F. Smith Center for Outcomes Research in Cardiology, Boston, MA |
| 2018 | Methods for difference-in-differences studies / Invited seminar<br>Healthcare Markets and Regulations Lab Governance Board Meeting, Boston, MA   |

## **Report of Regional, National and International Invited Teaching and Presentations**

***Those presentations below sponsored by outside entities are so noted and the sponsor(s) are identified.***

### **Regional**

- 2011 Bayesian adaptive methods for clinical trials / Invited 2-day short course  
Yale Center for Analytical Sciences, Yale School of Public Health, New Haven, CT
- 2012 Learning and information in Bayesian joint models for longitudinal and survival data /  
Invited seminar  
Center for Statistical Sciences, Brown University, Providence, RI
- 2012 Comparing block Kronecker and unstructured covariance matrix estimation in a  
hierarchical model for health care quality / Contributed presentation  
New England Statistics Symposium, Boston University, Boston, MA
- 2012 Learning and information in Bayesian joint models for longitudinal and survival data /  
Invited seminar  
Department of Statistics, University of Connecticut, Storrs, CT
- 2015 Incorporating regulator loss functions for safety signal escalation / Invited seminar  
Department of Biomedical Data Science, Dartmouth College, Hanover, NH
- 2016 A Picture is Worth a Thousand Tables / Invited guest lecture  
Phys 1130, Northeastern University
- 2018 Methods for difference-in-differences studies / Invited seminar  
RAND Corporation, Boston, MA

### **National**

- 2010 Hierarchical joint models of zero-inflated longitudinal patient-reported outcomes and  
progression-free survival times in mesothelioma / Contributed presentation  
Annual Meeting of the Eastern North American Region (ENAR) of the International  
Biometric Society, New Orleans, LA
- 2010 Multilevel Bayesian models of zero-inflated longitudinal outcomes and survival times in  
oncology / Invited presentation  
Eli Lilly & Co., Indianapolis, IN
- 2010 Multivariate Bayesian models for longitudinal patient-reported outcomes and survival  
data in cancer clinical trials / Invited presentation  
Eli Lilly & Co., Indianapolis, IN
- 2011 Multilevel Bayesian models of zero-inflated longitudinal outcomes and survival times in  
mesothelioma / Contributed presentation  
Bayesian Biostatistics Conference, Houston, TX
- 2011 Hierarchical Bayesian modeling of zero-inflated longitudinal patient-reported outcomes  
and survival / Invited seminars  
Department of Mathematics & Statistics, University of Maryland—Baltimore County,  
Baltimore, MD  
Department of Statistics, University of Florida, Gainesville, FL  
Department of Biostatistics, University of Pittsburgh School of Public Health,  
Pittsburgh, PA  
Department of Epidemiology & Biostatistics, Memorial Sloan-Kettering, New York, NY  
Department of Biostatistics, John Hopkins School of Public Health, Baltimore, MD  
Department of Statistics, University of Missouri, Columbia, MO  
Department of Statistics, Iowa State University, Ames, IA  
Department of Health Care Policy, Harvard Medical School, Boston, MA  
Department of Statistics, The Ohio State University, Columbus, OH

- 2011 Multilevel Bayesian models for zero-inflated longitudinal patient-reported outcomes and survival times in mesothelioma / Contributed presentation  
Annual Meeting of the Eastern North American Region (ENAR) of the International Biometric Society, Miami, FL
- 2011 Hierarchical Bayesian modeling of longitudinal and survival outcomes / Contributed presentation  
New England Statistics Symposium, Storrs, CT
- 2011 Modeling, analysis, and software for spatial and other hierarchically structured data / Invited 2-day short course  
Centers for Disease Control and Prevention, Atlanta, GA
- 2012 Bayesian learning in joint models for longitudinal and survival data / Contributed presentation  
Bayesian Biostatistics Conference, Houston, TX
- 2012 Clinically relevant graphical displays of posterior predictions from Bayesian joint longitudinal-survival models / Contributed presentation  
Innovations in Design, Analysis, and Dissemination: Frontiers in Biostatistical Methods, Kansas City, MO
- 2012 Topics in Hierarchical Bayesian Analysis / 4-day graduate course  
University of Minnesota School of Public Health Summer Public Health Institute
- 2013 Bayesian methods and computing for joint longitudinal-survival and other multi-component models / Invited tutorial  
Annual Meeting of the Eastern North American Region (ENAR) of the International Biometric Society, Orlando, FL
- 2014 Hierarchical models for surveillance: Application to adverse medical device events among hospitalized children / Invited seminar  
Division of Epidemiology Grand Rounds, CDRH, US FDA, Silver Spring, MD
- 2014 Comparing treatment when effects vary across individuals and multiple outcomes matter / Invited talk  
Annual Meeting of the Western North American Region (WNAR) of the International Biometric Society, Honolulu, HI
- 2014 Shrinkage targets and utility functions in signal detection and escalation / Invited presentation  
MDEpiNet Annual Meeting, Silver Spring, MD
- 2015 Realistic loss functions in safety signal escalation / Invited presentation  
G70: A Celebration of Alan Gelfand, Durham, NC
- 2015 Methods for multiple treatment comparisons / Invited half-day short course  
MDEpiNet Annual Meeting, Silver Spring, MD
- 2016 Using Bayesian analysis to produce better and more useful estimates of intervention impacts / Invited panelist  
AcademyHealth Annual Research Meeting, Boston, MA
- 2016 Existing/national standards for interoperability, UDI, claims data, and methodological opportunities / Invited panelist  
GI Coordinated Registry Network: A Case for Obesity Devices (FDA MDEpiNet), Silver Spring, MD
- 2016 Incorporating decision-maker loss functions in safety monitoring / Invited seminar  
Statistics Department, Brigham Young University, Provo, UT
- 2016 Modeling insurance choice for the Medicare population / Invited presentation  
Association for Public Policy Analysis & Management 2016 Pre-Conference Workshop, Washington, DC
- 2016 Modeling hierarchical variance with Kronecker structure, with application to quality measures in Medicare Advantage / Invited seminar

- 2017 Department of Statistics, University of Washington, Seattle, WA  
Utility maximizing models of Medicare supplemental insurance choices / Invited presentation  
Annual Meeting of the Eastern North American Region (ENAR) of the International Biometric Society, Washington, DC
- 2017 Handling incomplete correlated continuous and binary outcomes in meta-analysis of individual participant data / Invited oral presentation  
Biostatistics in the Modern Computing Era, Wauwatosa, WI
- 2017 Methods for difference-in-difference studies / Invited seminar  
Department of Biostatistics, Johns Hopkins University, Baltimore, MD
- 2017 Networking among junior statisticians: Peer mentoring and strategies to promote one another / Invited panelist  
Women in Statistics and Data Science, La Jolla, CA
- 2018 Methods for difference-in-difference studies / Invited seminar  
Department of Biostatistics, MD Anderson Cancer Center, Houston, TX
- 2018 Clustering discrete state trajectories of varying lengths: health care utilization patterns / Invited presentation  
Annual Meeting of the Eastern North American Region (ENAR) of the International Biometric Society, Atlanta, GA
- 2018 Bayesian models for objective performance criteria / Invited presentation  
11th Annual FDA/AdvaMed Medical Devices & Diagnostics Statistical Issues Conference, Washington, DC
- 2018 Complex real-world evidence: Networked and missing data / Invited workshop  
Annual meeting of the International Society of Pharmacoeconomics and Outcomes Research, Baltimore, MD
- 2018 Bayesian models for objective performance criteria / Invited presentation  
ASA Biopharmaceutical Section Regulatory-Industry Statistics Workshop, Washington, DC
- 2019 Personalized Bayesian minimum-risk decisions / Invited presentation  
Annual Meeting of the Eastern North American Region (ENAR) of the International Biometric Society, Philadelphia, PA
- 2019 Practical Bayesian approaches to evidence generation and synthesis for medical devices / Invited full-day short course  
12th Annual FDA/AdvaMed Medical Devices and Diagnostics Statistical Issues Conference, Washington, DC (AdvaMed)
- 2019 Difference-in-differences: More than meets the eye / Invited seminar  
SAMSI Causal Inference Opening Workshop, Durham, NC (SAMSI)
- 2020 Fundamentals of difference-in-differences / Invited 2-hour tutorial  
Annual Meeting of the Eastern North American Region (ENAR) of the International Biometric Society, Nashville, TN (moved online due to COVID-19)
- 2020 Why not test for parallel trends in difference-in-differences? / Invited seminar  
Columbia University, New York, NY (moved online due to COVID-19)
- 2020 Why not test for parallel trends in difference-in-differences? / Invited seminar  
New York University, New York, NY (moved online due to COVID-19)
- 2021 Discussion of "Using stacked comparative interrupted time series to estimate opioid policy effects" / Invited discussant  
Online Causal Inference Seminar, Stanford, CA (moved online due to COVID-19)

## International

- 2010 Hierarchical joint models of zero-inflated longitudinal patient-reported outcomes and progression-free survival times in mesothelioma / Contributed presentation

- 2011 Joint Statistical Meetings, Vancouver, BC  
Learning in hierarchical Bayesian models for longitudinal and survival outcomes / Contributed presentation
- 2012 International Conference on Health Policy Statistics, Cleveland, OH  
Identifiability and learning in Bayesian joint longitudinal-survival models / Special topic presentation
- 2012 International Society of Bayesian Analysis World Meeting, Kyoto, Japan  
Bayesian adaptive methods for clinical trials / Invited 2-day short course
- 2012 Erasmus University Medical Center, Rotterdam, The Netherlands  
Hierarchical Bayesian methods for combining multiple endpoints for comparative effectiveness research / Invited seminar
- 2012 I-Biostat (KU Leuven and Hasselt University), Belgium  
Introduction to Bayesian methods and software for data analysis / Invited 1-day short course
- Learning and information in Bayesian joint models for longitudinal and survival data / Topic contributed presentation
- 2013 Joint Statistical Meetings, San Diego, CA  
Bayesian methods developments in microsimulation / Topic contributed presentation
- 2013 Joint Statistical Meetings, Montréal, Québec, Canada  
Hierarchical models and computing for joint longitudinal-survival and other multiple component or endpoint data / Invited tutorial
- Combining data to study utilization and effectiveness of medical devices / Invited presentation
- 2014 International Conference on Health Policy Statistics, Chicago, IL  
Consumer choices in microsimulation / Invited presentation
- Institute of Mathematical Statistics-International Society for Bayesian Analysis 5th Joint Meeting, Chamonix, France
- 2014 Structured covariance matrices for cross-classified data: a Bayesian approach / Invited presentation
- 2014 International Society of Bayesian Analysis World Meeting, Cancún, Mexico  
Consumer choice modeling in microsimulation / Invited presentation
- 2015 Joint Statistical Meetings, Boston, MA  
Modeling multiple outcomes to inform patient treatment decisions / Invited presentation
- 2015 Joint Statistical Meetings, Seattle, WA  
Tailoring treatment information using personal characteristics and health outcome preferences / Invited presentation
- 2016 International Conference on Health Policy Statistics, Providence, RI  
Varying relationships between beneficiary traits and quality measures affect comparison in Medicare Advantage / Topic contributed presentation
- 2017 Joint Statistical Meetings, Chicago, IL  
Medical devices: Generating and using real-world observational data for decision-making on value / Invited panel presentation
- 2017 Canadian Agency for Drugs and Technologies in Health Symposium, Ottawa, Canada  
Handling incomplete correlated continuous and binary outcomes in meta-analysis of individual participant data / Invited oral presentation
- 2018 Joint Statistical Meetings, Baltimore, MD  
Choosing comparison groups for difference-in-difference studies / Contributed presentation
- 2018 International Conference on Health Policy Statistics, Charleston, SC  
Illuminating variation in implantable cardiac device use and outcomes with billing claims data / Invited presentation

- Annual meeting of the International Chinese Statistical Association, New Brunswick, NJ
- 2018 Big data detectives: improving human health through informing policy / Invited panelist  
Joint Statistical Meetings, Vancouver, BC, Canada
- 2018 Methods for difference-in-differences / Invited presentation  
Workshop on Statistical Inference, Learning, and Models in Data Science (Fields Institute), Toronto, BC, Canada
- 2019 How do we know what works in health policy? / Invited plenary  
ISPOR Europe 2019, Copenhagen, Denmark
- 2020 Handling silently missing data in Medicare Advantage encounter data / Invited presentation  
International Conference on Health Policy Statistics, San Diego, CA
- 2020 Estimating mortality by educational attainment: combining data sources with Bayesian models / Invited presentation  
Statistical methods for state health policy evaluations / Invited discussant  
Joint Statistical Meetings, Philadelphia, PA (conference moved online due to COVID-19)

### **Report of Education of Patients and Service to the Community**

*Those activities below sponsored by outside entities are so noted and the sponsor is identified*

- 2017 Care at the end of life / Panelist (Moore Foundation)  
Health Affairs Issue Briefing, Advanced Illness and End-of-Life Care
- 2017 Data Science & Medicine / Invited presentation  
Harvard Medical School Talks@12
- 2018 How will we know if alternative payment models are working? / Invited presentation  
30<sup>th</sup> Anniversary Celebration of the Department of Health Care Policy

### **Report of Scholarship**

**Peer-Reviewed Scholarship in print or other media:**

#### **Research investigations**

1. Kossoff EH, **Hatfield LA**, Ball KL, Comi AM. Comorbidity of epilepsy and headache in patients with Sturge-Weber syndrome. *Journal of Child Neurology*. 2005;20(8):678-682, 2005. PMID 16225815
2. Kelley TM, **Hatfield LA**, Lin DDM, Comi AM. Quantitative analysis of cerebral cortical atrophy and correlation with clinical severity in unilateral Sturge-Weber syndrome. *Journal of Child Neurology*. 2005;20(11):867-870. PMID 16417855.
3. Comi AM, Mehta P, **Hatfield LA**, Dowling MM. Sturge-Weber syndrome associated with other abnormalities: a medical record and literature review. *Archives of Neurology*. 2005;62(12):1924-1927. PMID 16344352
4. Lin DDM, Barker PB, **Hatfield LA**, Comi AM. Dynamic MR perfusion and proton MR spectroscopic imaging in Sturge-Weber syndrome: correlation with neurological symptoms. *Journal of Magnetic Resonance Imaging*. 2006;24(2):274-281. PMID 16786573
5. **Hatfield LA**, Crone NE, Kossoff EH, Ewen JB, Pyzik PL, Lin DDM, Kelley TM, Comi AM. Quantitative EEG asymmetry correlates with clinical severity in unilateral Sturge-Weber syndrome. *Epilepsia*. 2007;48(1):191-195. PMID 17241228
6. Kossoff EH, Balasta M, **Hatfield LA**, Lehmann CU, Comi AM. Self-reported treatment patterns in patients with Sturge-Weber syndrome and migraines. *Journal of Child Neurology*. 2007;22(6):720-726. PMID 17641257



7. Rosser BRS, Horvath KJ, **Hatfield LA**, Peterson JL, Jacoby S, Stately A, Positive Connections Team. Predictors of HIV disclosure to secondary partners and sexual risk behavior among high-risk sample of HIV-positive MSM: results from six epicenters in the US. *AIDS Care*. 2008;20(8):925-930. PMID 18777221. PMCID 2597109
8. **Hatfield LA**, Horvath KJ, Jacoby SM, and Rosser BRS. Comparison of substance use and risky sexual behavior among a diverse sample of urban, HIV-positive men who have sex with men. *Journal of Addictive Diseases*. 2009;28(3):208-218. PMID 20155589
9. **Hatfield LA**, Hoffbeck RW, Alexander BH, Carlin BP. Spatiotemporal and spatial threshold models for relating UV exposures and skin cancer in the central United States. *Computational Statistics & Data Analysis*. 2009;53(8):3001-3015. PMID 20161236 PMCID 2705173
10. **Hatfield LA**, Ghiselli ME, Jacoby SM, Cain-Nielsen A, Kilian G, McKay T, Rosser BRS. Methods for recruiting men of color who have sex with men in prevention-for-positives interventions. *Prevention Science*. 2010;11(1):56-66. PMID 19731034
11. Rosser BRS, **Hatfield LA**, Miner MH, Ghiselli ME, Lee BR, Welles SL, Positive Connections Team. Effects of a behavioral intervention to reduce serodiscordant unsafe sex among HIV positive men who have sex with men: The Positive Connections randomized controlled trial study. *Journal of Behavioral Medicine*. 2010;33(2):147-158. PMID 20101454
12. **Hatfield LA**, Gutreuter S, Boogaard MA, Carlin BP. Multilevel empirical Bayes modeling for improved estimation of toxicant formulations to suppress parasitic sea lamprey in the upper Great Lakes. *Biometrics*. 2011;67(3):1153-1162. PMID 21361894 PMCID 3111860.
13. **Hatfield LA**, Boye ME, Carlin BP. Joint modeling of multiple longitudinal patient-reported outcomes and survival. *Journal of Biopharmaceutical Statistics*. 2011;21(5):971-991. PMID 21830926 PMCID 3212950 NIHMS332780 doi:10.1080/10543406.2011.590922
14. **Hatfield LA** and Carlin BP. Clinically relevant graphical predictions from Bayesian joint longitudinal-survival models. *Health Services and Outcomes Research Methodology*. 2012;12(2-3):169-181. doi: 10.1007/s10742-012-0087-9
15. **Hatfield LA**, Boye ME, Hackshaw MD, Carlin BP. Multilevel Bayesian models for survival times and longitudinal patient-reported outcomes with many zeros. *Journal of the American Statistical Association*. 2012;107(499):875-885. doi: 10.1080/01621459.2012.664517
16. **Hatfield LA**, Hodges JS, Carlin BP. Joint models: When are treatment estimates improved? *Statistics and Its Interface*. 2014;7(4): 439-453. doi: 10.4310/SII.2014.v7.n4.a2
17. Rizopoulos D, **Hatfield LA**, Carlin BP, Takkenberg JJM. Combining dynamic predictions from joint models for longitudinal and time-to-event data using Bayesian model averaging. *Journal of the American Statistical Association*. 2014;109(508): 1385-1397. doi: 10.1080/01621459.2014.931236
18. Wright AA, **Hatfield LA**, Earle CC, Keating NL. End-of-life care for older patients with ovarian cancer is intensive despite high rates of hospice use. *Journal of Clinical Oncology*. Nov 2014;32(31): 3534-3539. PMID: 25287831 PMCID: 4209104 doi: 10.1200/JCO.2014.55.5383
19. Kramer DB, **Hatfield LA**, McGriff D, et al. Transvenous implantable cardioverter-defibrillator lead reliability: implications for postmarket surveillance. *Journal of the American Heart Association*. May 2015;4(6): e001672. PMID: 26025935 PMCID: PMC4599526 doi: 10.1161/JAHA.114.001672
20. Providência R, Kramer D, Pimenta D, Babu GG, **Hatfield LA**, Ioannou A, Novak J, Hauser R, Lambiase P. Transvenous ICD lead performance: A meta-analysis of observational studies. *Journal of the American Heart Association*. 2015;4: e002418. PMCID: 4845221 doi: 10.1161/JAHA.115.002418

21. Gomes M, **Hatfield LA**, Normand SL. Handling incomplete correlated continuous and binary outcomes in meta-analysis of individual participant data. *Statistics in Medicine*. 2016;35(21): 3676-89. PMID: 27090498 doi: 10.1002/sim.6969
22. McWilliams JM, **Hatfield LA**, Chernew ME, Landon BE, Schwartz AL. Early performance of accountable care organizations in Medicare. *New England Journal of Medicine*. Jun 2016;374(24): 2357-66. PMID: PMC4963149 doi: 10.1056/NEJMsa1600142
23. Desai S, **Hatfield LA**, Hicks AL, Chernew ME, Mehrotra A. Association between availability of a price transparency tool and outpatient spending. *Journal of the American Medical Association*. May 2016;315(17): 1874-81. PMID: 27139060 doi: 10.1001/jama.2016.4288
24. **Hatfield LA**, Huskamp HA, Lamont EB. Survival and toxicity after cisplatin plus etoposide versus carboplatin plus etoposide for extensive-stage small-cell lung cancer in elderly patients. *Journal of Oncology Practice*. Jul 2016;12(7): 666-73. PMID: PMC4957252 doi: 10.1200/JOP.2016.012492
25. **Hatfield LA**, Kramer DB, Volya R, Reynolds MR, Normand SL. Geographic and temporal variation in cardiac implanted electric devices to treat heart failure. *Journal of the American Heart Association*. Aug 2016;5(8): e003532. PMID: PMC5015279 doi: 10.1161/JAHA.116.003532
26. Dean K, **Hatfield LA**, Jena AB, Cristman D, Flair M, Kator K, Nudd G, Grabowski D. Preliminary data on a care coordination program for home care recipients. *Journal of the American Geriatrics Society*. Aug 2016;64(9): 1900-36. PMID: 27506164 doi: 10.1111/jgs.14351
27. Tai-Seale M, **Hatfield LA**, Wilson C, Stults C, McGuire TG, Diamond L, Frankel R, McLean L, Stone A, and Elston Lafata J. Periodic health examinations and missed opportunities among patients likely needing mental health care. *American Journal of Managed Care*. Oct 2016;22(10): e350-7.
28. Chien AT, Ganeshan S, Schuster MA, Lehmann LS, **Hatfield LA**, Koplan KE, Petty CR, Sinaiko AD, Sequist TD, Rosenthal MB. The effect of price information on the ordering of images and procedures. *Pediatrics*. Feb 2017;139(2): e20161507. doi: 10.1542/peds.2016-1507
29. Kumar P, Wright AA, **Hatfield LA**, Temel JS, Keating NL. Family perspectives on cancer patients' hospice care experiences. *Journal of Clinical Oncology*. Feb 2017;35(4): 432-9. PMID: 27992271 doi: 10.1200/JCO.2016.68.9257
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31. Chien AT, Lehmann LS, **Hatfield LA**, Koplan KE, Petty CR, Sinaiko AD, Rosenthal MB, and Sequist TD. A randomized trial of displaying paid price information on image and procedure ordering rates. *Journal of General Internal Medicine*. Apr 2017;32(4):434-48. doi: 10.1007/s11606-016-3917-6
32. Daw JR\*\*, **Hatfield LA**, Swartz K, Sommers BD. U.S. women experience high rates of insurance coverage 'churn' in months before and after childbirth. *Health Affairs*. Apr 2017;36(4):598-606. doi: 10.1377/hlthaff.2016.1241
33. Gourevitch RA, Desai S, Hicks AL, **Hatfield LA**, Chernew ME, Mehrotra A. Who uses a price transparency tool? Implications for increasing consumer engagement. *Inquiry*. May 2017;54:1-5. doi: 10.1177/0046958017709104
34. Schuler MS\*\* and **Hatfield LA**. Combining patient preferences with expected treatment outcomes to inform decision-making. *Health Services and Outcomes Research Methodology*. Jun 2017;17(2):144-74. doi: 10.1007/s10742-016-0166-4

35. **Hatfield LA**, Baugh CM\*\*, Azzone V, Normand S-LT. Regulator loss functions and hierarchical modeling for safety decision making. *Medical Decision Making*. Jul 2017;37(5): 512-22. doi: 10.1177/0272989X16686767
36. Schuler MS\*\*, Joyce NR\*\*, Huskamp HA, Lamont EB, **Hatfield LA**. Medicare beneficiaries with advanced cancer experience diverse patterns of care from diagnosis to death. *Health Affairs*. Jul 2017; 36(7):1193-1200. doi: 10.1377/hlthaff.2017.0448
37. **Hatfield LA** and Zaslavsky AM. Implications of variation in the relationships between beneficiary characteristics and Medicare Advantage CAHPS measures. *Health Services Research*. Aug 2017; 52(4):1310-1329. doi: 10.1111/1475-6773.12544
38. Desai S, **Hatfield LA**, Hicks AL, Sinaiko AD, Chernew ME, Cowling D, Gautam S, Wu S-J, Mehrotra A. Offering a price transparency tool did not reduce overall spending among California Public Employees and Retirees. *Health Affairs*. Aug 2017;36(8):1401-7. doi: 10.1377/hlthaff.2016.1636
39. Stevens JP, Nyweide DJ, Maresh S, **Hatfield LA**, Howell MD, Landon BE. Comparison of hospital resource use and outcomes among hospitalists, primary care physicians, and other generalists. *JAMA Internal Medicine*. Dec 2017;177(12):1781-1787. doi: 10.1001/jamainternmed.2017.5824
40. Joyce NR\*\*, Schuler MS\*\*, Hadland S, **Hatfield LA**. Variation in 12-month treatment trajectories among children and adolescents after a diagnosis of depression. *JAMA Pediatrics*. Jan 2018;172(1):49-56. doi: 10.1001/jamapediatrics.2017.3808
41. Roberts ET, McWilliams JM, **Hatfield LA**, Gerovich S, Chernew ME, Gilstrap LG, Mehrotra A. Changes in health care use associated with the introduction of hospital global budgets in Maryland. *JAMA Internal Medicine*. Jan 2018;178(2):260-268. doi: 10.1001/jamainternmed.2017.7455
42. **Hatfield LA**, Favreault MM, McGuire TG, Chernew ME. Modeling health care spending growth of older adults. *Health Services Research*. Feb 2018;53(1):138-155. doi: 10.1111/1475-6773.12640
43. Roberts ET, **Hatfield LA**, McWilliams JM, Chernew ME, Done N, Gerovich S, Gilstrap LG, Mehrotra A. Changes in hospital utilization three years into Maryland's global budget program for rural hospitals. *Health Affairs*. April 2018;37(4):644-653. doi: 10.1377/hlthaff.2018.0112
44. **Hatfield LA** and Zaslavsky AM. Separable covariance models for health care quality measures across years and topics. *Statistics in Medicine*. May 2018;37(12): 2053-2066. doi: 10.1002/sim.7656
45. Daw JR\*\* and **Hatfield LA**. Matching and regression-to-the-mean in difference-in-difference analysis. *Health Services Research*. Dec 2018;53(6):4138-56. doi: 10.1111/1475-6773.12993  
Note: JR Daw received a 2019 CIHR Institute of Health Services and Policy Research Rising Star Award for this paper.
46. McWilliams JM, **Hatfield LA**, Landon BE, Hamed P, Chernew ME. Medicare spending after 3 years of the Medicare Shared Savings Program. *New England Journal of Medicine*. Sept 2018;379:1139-49. doi:10.1056/NEJMsa1803388
47. Kramer DB, Normand, S-LT, Volya M, **Hatfield LA**. Facility-level variation and clinical outcomes in use of cardiac resynchronization therapy with and without an implantable cardioverter-defibrillator. *Circulation: Cardiovascular Quality and Outcomes*. Dec 2018;11:e004763. doi: 10.1161/CIRCOUTCOMES.118.004763
48. Spertus JV, **Hatfield LA**, Cohen DJ, Arnold SV, Ho M, Jones PG, Leon M, Zuckerman B, Spertus JA. Integrating quality of life and survival outcomes in cardiovascular clinical trials: Results from the PARTNER trial. *Circulation: Cardiovascular Quality and Outcomes*. Jun 2019;12(6):e005420. doi: 10.1161/CIRCOUTCOMES.118.005420

49. Baugh CB\*\*, Meehan W, Kroshus E, McGuire TG, **Hatfield LA**. College football players less likely to report concussions and other injuries with increased injury accumulation. *Journal of Neurotrauma*. Jul 2019;36(13):2065-2072. doi: doi.org/10.1089/neu.2018.6161
50. Desai S, **Hatfield LA**, Hicks AL, Chernew ME, Mehrotra A, Sinaiko AD. What are the potential savings from steering patients to lower-priced providers? A static analysis. *American Journal of Managed Care*. Jul 2019 (ePub ahead of print) PMID: 31318511
51. Progovac AM, Mullin BO, Creedon TB, McDowell A, Sanchez-Roman MJ, **Hatfield LA**, Schuster MA, Cook BL. Trends in mental health care use in Medicare from 2009 to 2014 by gender minority and disability status. *LGBT Health*. Aug 2019 (ePub ahead of print) doi: 10.1089/lgbt.2018.0221
52. Kurz CF\*\* and **Hatfield LA**. Identifying and interpreting subgroups in health care utilization data with count mixture regression models. *Statistics in Medicine*. Sept 2019 38(22):4423-35. doi: 10.1002/sim.8307
53. Graves JA, **Hatfield LA**, Blot WJ, Keating NL, McWilliams JM. Medicaid expansion reduced rates of health status declines among low-income safety net patients in Southern states. *Health Affairs*. Jan 2020;39(1):67-76. doi: 10.1377/hlthaff.2019.00929
54. Stevens JP, **Hatfield LA**, Nyweide DJ, and Landon BE. Association of variation in consultant use among hospitalist physicians with outcomes among Medicare beneficiaries. *JAMA Network Open*. Feb 2020;3(2): e1921750-e1921750. doi: 10.1001/jamanetworkopen.2019.21750
55. Baugh CM\*\*, Meehan WP, McGuire TG, **Hatfield LA**. Staffing and financial and administrative oversight models are associated with rates of injury in college athletes. *Journal of Athletic Training*. April 2020;55(6):580-586. doi: 10.4085/1062-6050-0517.19
56. McWilliams JMM, **Hatfield LA**, Landon BE, Chernew ME. Savings or selection? Initial spending reductions in the Medicare Shared Savings Program and considerations for reform. *Milbank Quarterly*. Jul 2020; 98 (3), 847-907. doi: 10.1111/1468-0009.12468
57. Carolan KJ, Grabowski DC, Mehrotra A, **Hatfield LA**. Use of telemedicine for emergency triage in an independent senior living community: Mixed methods study. *Journal of Medical Internet Research*. Dec 2020; 22(12):e23041. doi: 10.2196/23014
58. Baugh CM\*\*, Kroshus E, Meehan WP, McGuire TG, **Hatfield LA**. Accuracy of college football players' estimates of their risk of concussion or injury. *JAMA Network Open*. Dec 2020;3(12): e2031509. doi: 10.1001/jamanetworkopen.2020.31509
59. Zeldow B\*\* and **Hatfield LA**. Confounding and regression adjustment in difference-in-differences studies. *Health Services Research*. (Online ahead of print) doi: 10.1111/1475-6773.13666
60. Fry CE\*\* and **Hatfield LA**. Birds of a feather flock together: comparing controlled pre-post designs. *Health Services Research*. (In Press)

\*\* Indicates mentee author

### Other peer-reviewed scholarship

1. Normand S-LT, **Hatfield LA**, Drozda J, Resnic FS. Postmarket surveillance for medical devices: America's new strategy. *BMJ*. 2012;345:e6848. doi: 10.1136/bmj.e6848
2. **Hatfield LA**. Discussion of "Spatial accessibility of pediatric primary healthcare: Measurement and inference". *Annals of Applied Statistics*. 2014;8(4):1947-1951. doi: 10.2307/24522368
3. Kramer DB, **Hatfield LA**, Normand S-LT. Comparative effectiveness of cardiac implantable electric devices. *Heart*. 2015;101(22):1773-5. PMID 26303153 doi: 10.1136/heartjnl-2015-308295
4. Daw JR\*\* and **Hatfield LA**. Matching in difference-in-differences: between a rock and a hard place. *Health Services Research*. Dec 2018; 53(6):4111-17. doi: 10.1111/1475-6773.13017

*Response to:* Ryan A. Well-balanced or too matchy-matchy? The controversy over matching in difference-in-difference analysis. Health Services Research. Dec 2018 53(6): 4106-10. doi: 10.1111/1475-6773.13015

### **Non-peer reviewed scientific or medical publications/materials in print or other media**

1. Bilinski AM\*\* and **Hatfield LA**. Commentary & Response: Potential unintended effects of Medicare's bundled payments for care improvement program. Journal of the American Medical Association. Jan 2019;321(1):106. doi: 10.1001/jama.2018.18158
2. Bilinski AM\*\* and **Hatfield LA**. Nothing to see here? Non-inferiority approaches to parallel trends and other model assumptions. Jan 2020 arXiv:1805.03273v5 [stat.ME]
3. NA Haber, E Clarke-Deelder, A Feller, ER Smith, J Salomon, B MacCormack-Gelles, EM Stone, C Bolster-Foucault, JR Daw, **LA Hatfield**, CE Fry, CB Boyer, E Ben-Michael, CM Joyce, BS Linas, I Schmid, EH Au, SE Wieten, BA Jarrett, C Axfors, VT Nguyen, BA Griffin, A Bilinski, and EA Stuart. Problems with Evidence Assessment in COVID-19 Health Policy Impact Evaluation (PEACHPIE): A systematic strength of methods review. medRxiv 2021.01.21.21250243; <https://doi.org/10.1101/2021.01.21.21250243>

\*\* Indicates mentee author

### **Reviews, chapters, monographs and editorials**

1. **Hatfield LA**, Comi AM. Neurological complications of congenital heart disease. In S. Gilman, editor, MedLink Neurology. San Diego: MedLink Corporation, Aug 2004.
2. **Hatfield LA**, Carlin BP. Complete solutions manual for Carlin & Louis's Bayesian Methods for Data Analysis, 3rd ed. Boca Raton: Chapman & Hall/CRC, 2009.

### **Professional educational materials or reports, in print or other media:**

1. **Hatfield LA**, Zusterzeel R, Daluwatte C, Normand S-L. Improving access to medical devices: The use and evaluation of objective performance criteria. Health Affairs Blog. 26 Jul 2018. <https://www.healthaffairs.org/doi/10.1377/hblog20180726.907775/full/>
2. Zeldow B and **Hatfield LA**. Difference-in-Differences (website). Originally published Feb 2019. [diff.healthpolicydatascience.org](http://diff.healthpolicydatascience.org) [Averages >500 visitors a month]
3. **Hatfield LA** and Rose S. A conversation with Sherri Rose, winner of the 2020 health policy statistics section mid-career award. Health Services and Outcomes Research Methodology. Aug 2020;20(4):208-14. doi: 10.1007/s10742-020-00216-6

### **Thesis:**

**Hatfield LA**. (2011) Bayesian hierarchical joint modeling for longitudinal and survival data. (Doctoral dissertation). University of Minnesota. Advisor: Bradley P. Carlin, PhD

### **Abstracts, Poster Presentations, and Exhibits Presented at Professional Meetings:**

1. Bilinski A and **Hatfield LA**. Goldilocks and the pre-intervention time series: how long is "just right"? AcademyHealth Annual Research Meeting Aug 2020 (moved online due to COVID-19; poster presented by A Bilinski)

### **Narrative Report**

On a foundation of expertise in methods for analyzing data with hierarchical structure and multiple outcomes, I have expanded my work into health economics, comparative effectiveness research,

variation in health care quality and delivery, evaluations of interventions using observational data and quasi-experimental designs, and health decision-making.

**Hierarchical Bayesian modeling.** Many analysis settings involve data with complex structure and interrelationships; hierarchical Bayesian modeling offers a natural and flexible approach to estimation and inference. Through close collaboration with subject matter experts, I have developed and applied hierarchical Bayesian models to address the complex data structures of experimental designs, spatial relationships, and repeated observations. I have made contributions in multiple outcome modeling. My earliest work focused on jointly modeling survival and patient-reported outcomes in cancer clinical trials. Clinical trials typically report each outcome separately, but patients and physicians must weigh multiple health outcomes when choosing among treatments. My approaches combine evidence across outcomes, treatments, and data sources to produce joint output that supports decisions that must trade off risks and benefits. My recent work in this area combines joint model output with explicit loss functions and utilities to improve decision-making for patients and regulators.

**Observational studies of health and health care variation.** Health policy research often relies on observational data to understand variation in health care spending, health outcomes, and quality of care. In recent collaborative work, I have studied variation in family reports on end-of-life care, care delivered in periodic health exams, implants of cardiac electric devices, and inpatient resource utilization (ongoing). My most recent methods development in this area addresses variation in the casemix adjustment models used for survey-based measures of quality in Medicare Advantage plans. This work has implications for the way plan quality reports could be tailored to beneficiaries' characteristics. I have also developed microsimulation models of health care spending of Medicare beneficiaries. The consequences of growing health care spending vary according to seniors' health needs and financial resources. Our models, which incorporate these distributional consequences, provide key insights into variation in the impact of health care spending growth.

**Evaluations using experimental and quasi-experimental designs.** Delivery systems and payers introduce numerous innovations designed to reduce health care spending and improve quality and health outcomes. I have evaluated several such innovations, including Medicare accountable care organizations and physician- and consumer-facing price transparency tools. In ongoing work, I am evaluating a checklist-based intervention for home care services, a patient-centered medical home program, and Maryland's hospital global budget initiative. Inspired by these evaluations, I am conducting ongoing methods research to improve the popular quasi-experimental difference-in-difference study design. These methods will reduce threats to validity by matching on appropriate baseline variables, selecting valid control groups, and specifying proper tests of key assumptions.

In addition to formal mentoring of graduate students, I engage in mentoring through the **Health Policy Data Science Lab**, which I co-direct with my colleague Dr. Sherri Rose (now of Stanford). The Lab is an informal group of postdoctoral fellows, students, and research assistants who are interested in rigorous methods for health policy research. The Lab provides trainees a collegial space to network with faculty and peers and to present their ongoing research. It is also an accessible entry point for students who are interested in pursuing graduate studies or identifying thesis projects.