

Alexis A. Krumme

aak723@mail.harvard.edu ♦ (203) 676-7365 ♦ scholar.harvard.edu/alexiskrumme

EDUCATION

**Harvard T.H. Chan School of Public Health** Boston, MA  
*Doctor of Science* 2015-2017

Major: Epidemiology, Minors: Biostatistics

Concentration: Pharmacoepidemiology

Thesis Committee: Joshua J. Gagne (advisor), Niteesh K. Choudhry, Robert J. Glynn, Sebastian Schneeweiss

Thesis: Long-term use of cardiovascular medications: Identifying and encouraging optimal duration

**Harvard T.H. Chan School of Public Health** Boston, MA  
*Master of Science* 2011-2013

Concentration: Infectious disease

Certificate: Infectious Disease Epidemiology

Thesis: Depression, adherence, and attrition from care in HIV-infected adults in Rwanda

**Yale College** New Haven, CT  
*Bachelor of Arts* 2003-2007

Major: History, with distinction

RESEARCH  
EXPERIENCE

**Brigham and Women's Hospital** Boston, MA  
Research Scientist 2013-Present  
Department of Medicine  
Division of Pharmacoepidemiology and Pharmacoeconomics

**Harvard Medical School** Boston, MA  
Research Assistant (Prof. Megan Murray) 2012-2013  
Department of Global Health and Social Medicine

**Acumen, LLC** Burlingame, CA  
Research Analyst 2009-2011

**University of California at Berkeley** Berkeley, CA  
Research Assistant (Prof. David Levine) 2008-2009  
Haas School of Business

HONORS &  
AWARDS

**Yale College** New Haven, CT  
Pro Bono Publico award for service to residential college 2007

FUNDING &  
SCHOLARSHIPS

**Pharmaceutical Research and Manufacturers of America** Washington, DC  
Grant to Brigham and Women's Hospital for the study of pharmacy-based medication synchronization programs 2014-2017

**Harvard T.H. Chan School of Public Health** Boston, MA  
Wilson-Fineberg Scholarship 2012

**Belgian American Educational Foundation** Brussels, Belgium  
Fellowship for study at the Institute of European Studies 2007-2008  
Université Libre de Bruxelles

PROFESSIONAL  
MEMBERSHIPS

International Society for Pharmacoepidemiology 2016-Present

PEER REVIEW	<i>BMJ Open</i>	2018
	<i>Pharmacoepidemiology and Drug Safety</i>	2018
	<i>Research in Social and Administrative Pharmacy</i>	2017
	<i>European Journal of Internal Medicine</i>	2017
	<i>American Journal of Managed Care</i>	2016-Present
	<i>Journal of Managed Care Pharmacy</i>	2016-Present
TEACHING EXPERIENCE	<b>Harvard T.H. Chan School of Public Health</b>	Boston, MA
	<i>Teaching Assistant</i> Implementation Research in Healthcare	2017
INVITED PRESENTATIONS	<ol style="list-style-type: none"> <li>1. “Medication Adherence: Prediction and Intervention.” Women in Government event at Massachusetts Statehouse. Boston, Massachusetts. May 2016.</li> <li>2. “Does medication synchronization improve medication adherence and health care utilization?” Capitol Hill medication synchronization and adherence event. Washington, DC. March 2018.</li> </ol>	
ACCEPTED CONFERENCE PRESENTATIONS	<p><i>Poster Presentations</i></p> <ol style="list-style-type: none"> <li>1. “The impact of medication synchronization on adherence, cardiovascular events, and healthcare resource utilization” American Heart Association, Anaheim, CA, November 2017.</li> <li>2. “Defining exposure in observational studies comparing outcomes of treatment discontinuation.” International Society for Pharmacoepidemiology, Montreal, QC. August 2017.</li> <li>3. “Development and performance of Natural Language Processing algorithms to identify predictors of medication adherence.” International Society for Pharmacoepidemiology Midyear meeting, Baltimore, MD. April 2016.</li> </ol>	
PUBLISHED PEER-REVIEWED MANUSCRIPTS	<ol style="list-style-type: none"> <li>1. Franklin JM, Mahesri M, <b>Krumme AA</b>, Barberio J, Fischer MA, Brill G, McKay C, Black H, Choudhry NK. Time to filling of new prescriptions for chronic disease medications among the elderly. <i>Journal of General Internal Medicine</i> 2018; in press.</li> <li>2. <b>Krumme AA</b>, Glynn RJ, Schneeweiss S, Choudhry NK, Tong AY, Gagne JJ. Defining exposure in observational studies comparing outcomes of treatment discontinuation. <i>Circulation Cardiovascular and Quality Outcomes</i> 2018; in press.</li> <li>3. <b>Krumme AA</b>, Glynn RJ, Schneeweiss S, Gagne JJ, Dougherty JS, Brill G, Choudhry NK. Impact of medication synchronization programs on adherence, clinical outcomes, and healthcare resource utilization. <i>Health Aff (Millwood)</i>. 2018 Jan; 37(1):125-133</li> <li>4. Morawski KE, Ghazinouri R, <b>Krumme AA</b>, Lauffenburger JC, Lu Zhigang, Durfee E, Oley L, Lee J, Mohta N, Haff N, Jusuola J, Choudhry NK. Effect of a smartphone application on medication adherence and blood pressure control: The MedISAFE-BP randomized clinical trial. <i>JAMA Internal Medicine</i>. 2018 Jun; 178(6):802-809</li> <li>5. Lauffenburger J, Franklin JM, <b>Krumme AA</b>, Shrank WH, Matlin OS, Spettell CM, Brill G, Choudhry NK. Predicting adherence to chronic disease medications in patients with long-term initial medication fills using indicators of clinical events and health behaviors. <i>J Manag Care Spec Pharm</i>. 2018 May; 24(5):469-477</li> <li>6. <b>Krumme AA</b>, Pawar A, Schneeweiss S, Glynn RJ, Choudhry NK, Kuldorff M, Ortiz A, Avorn J, Gagne JJ. The Dabigatran, Apixaban, Rivaroxaban, Edoxaban, Warfarin Comparative Effectiveness Research Study (The DARE warfarin CER Study): Study protocol. <i>J Comp Eff Res</i>. 2018 Jan; 7(1):57-66</li> <li>7. Franklin JM, Gopalakrishnan C, <b>Krumme AA</b>, Singh K, Rogers JR, McKay C, McEllwee N, Choudhry NK. The relative benefits of claims and electronic health record data for predicting medication adherence trajectory. <i>Am Heart J</i>. 2018 Mar; 197:153-162</li> <li>8. Pandey A, <b>Krumme AA</b>, Patel T, Choudhry NK. The impact of text messaging on medication adherence and exercise among post-myocardial infarction patients. <i>JMIR Mhealth Uhealth</i>. 2017 Aug 3; 5(8):e110</li> </ol>	

9. Morawski K, Ghazinouri R, **Krumme A**, McDonough J, Durfee E, Oley L, Mohta N, Juusola J, Choudhry NK. Rationale and design of the Medication adherence Improvement Support App for Engagement-Blood Pressure (MediSAFE-BP) trial. *Am Heart J*. 2017 Apr; 186: 40-407
10. Dong YH, Choudhry NK, **Krumme A**, Lee MP, Wu LC, Lai MS, Gagne JJ. Impact of hospitalization on medication adherence estimation in claims data. *J Clin Pharm Ther*. 2017 Jun; 42(3): 318-328
11. **Krumme AA**, Franklin JM, Isaman DL, Matlin OS, Tong AY, Spettell CM, Brennan TA, Shrank WH, Choudhry NK. Predicting 1-year statin adherence among prevalent users: a retrospective cohort study. *J Manag Care Spec Pharm*. 2017 Apr;23(4):494-502
12. Choudhry NK, **Krumme AA**, Ercole PM, Girdish C, Tong AY, Khan NF, Brennan TA, Matlin OS, Shrank WH, Franklin JM. A randomized trial of reminder devices to increase evidence-based medication use: The Randomized Evaluation to Measure Improvements in Non-adherence from Low-Cost Devices (REMIND) trial. *JAMA Internal Medicine*. 2017 May 1;177(5):624-631
13. **Krumme AA**, Gimeno GSF, Franklin JM, Isaman DL, Mahesri M, Matlin OS, Shrank WH, Brennan TA, Brill G, Choudhry NK. Can purchasing information be used to predict adherence to cardiovascular medications? An analysis of linked retail pharmacy and insurance claims data. *BMJ Open*, e011015, 6
14. Lauffenburger JC, Shrank WH, Bitton A, Franklin JM, Glynn RJ, **Krumme AA**, Matlin OS, Pezalla EJ, Spettell CM, Brill G, Choudhry NK. Association between patient-centered medical homes and adherence to chronic medications. *Annals of Internal Medicine*. 2017 Jan 17;166(2):81-88
15. Lauffenburger JC, Franklin JM, **Krumme AA**, Shrank WH, Brennan TA, Spettell CM, Brill G, Choudhry NK. Longitudinal patterns of spending enhance the ability to predict costly patients: A novel approach to identify patients for cost containment. *Med Care*. 2017 Jan; 55(1): 64-73
16. **Krumme AA**, Isaman DL, Stolpe SF, Dougherty JS, Choudhry NK. Prevalence, effectiveness, and characteristics of pharmacy-based medication synchronization programs. *Am J Manag Care*, 3, 22: 179-186, March, 2016
17. Sparks JA, **Krumme AA**, Shrank WH, Matlin OS, Brill G, Pezalla EJ, Choudhry NK, Solomon DH. Brief report: Intensification to triple therapy after treatment with nonbiologic disease-modifying antirheumatic drugs for rheumatoid arthritis in the United States from 2009 to 2014. *Arthritis Rheumatol*. 2016 Jul; 68(7):1588-95
18. Franklin JM, **Krumme AA**, Shrank WH, Matlin OS, Brennan TA, Choudhry NK. Predicting adherence trajectory using initial patterns of medication filling. *Am J Manag Care*. 2015 Sept 1; 21(9): e537-44
19. Choudhry NK, **Krumme AA**, Ercole PM, Girdish C, Isaman DL, Matlin OS, Brennan TA, Shrank WH, Franklin JM. Rationale and design of the Randomized Evaluation to Measure Improvements in Non-adherence from Low-Cost Devices (REMIND) trial. *Contemp Clin Trials*. 2015 Jul; 43:53-9
20. Franklin JM, **Krumme AA**, Tong AY, Shrank WH, Matlin OS, Brennan TA, Choudhry NK. Association between trajectories of statin adherence and subsequent cardiovascular events. *Pharmacoepidemiology and Drug Safety*, 24: 1105-1113
21. Franklin JM, Shrank WH, Lii J, **Krumme AA**, Matlin OS, Brennan TA, Choudhry NK. Observing versus predicting: initial patterns of filling predict long-term adherence more accurately than high-dimensional modeling techniques. *Health Serv Res*. 2016 Feb; 51(1):220-39
22. Najafzadeh M, Andersson K, Shrank WH, **Krumme AA**, Matlin OS, Brennan TA, Avorn J, Choudhry NK. Cost Effectiveness of Novel Regimens for the Treatment of Hepatitis C. *Annals of Internal Medicine*. 2015 Mar 17;162(6):407-19
23. **Krumme AA**, Kaigamba F, Binagwaho A, Murray MB, Rich M, Franke MF. Depression, Adherence, and Attrition from Care in HIV-infected Adults Receiving Antiretroviral Therapy. *Journal of Epidemiology and Community Health*. 2015 Mar;69(3):284-9
24. Shrank WH, **Krumme AA**, Tong AY, Spettell CM, Matlin OS, Sussman A, Brennan TA, Choudhry NK. Quality of care delivered at retail clinics for three common conditions. *American Journal of Managed Care* 2014;20(10):794-801

25. Berkowitz SA, **Krumme AA**, Avorn J, Brennan TA, Matlin OS, Brill G, Shrank WH, Choudhry NK. Initial Choice of Oral Glucose-Lowering Medication for Diabetes: A Patient-Centered Comparative Effectiveness Study. *JAMA Internal Medicine*. 2014 Dec;174(12):1955-62
26. **Krumme AA**, Choudhry NK, Shrank WH, Brennan TA, Matlin OS, Brill G, Gagne JJ. Cigarette purchases at pharmacies by patients at high-risk of smoking-related illness. *JAMA Internal Medicine*. 2014 Dec;174(12):2031-2
27. Desai NR, **Krumme AA**, Schneeweiss SS, Shrank WH, Brill G, Pezalla EJ, Spettell CM, Brennan TA, Matlin OS, Avorn J, Choudhry NK. Patterns of Initiation of Oral Anticoagulants in Patients with Atrial Fibrillation – Quality and Cost Implications. *American Journal of Medicine*. 2014 Nov;127(11):1075-82.e1

SUBMITTED  
MANUSCRIPTS

1. **Krumme AA**, Choudhry NK, Singh K, Gopalakrishnan C, Rogers J, Tong AY, Kimura J, McKay C, McEllwee N, Franklin JM. Development and performance of Natural Language Processing algorithms to identify predictors of medication adherence. *Pharmacoepidemiology and Drug Safety*
2. Kumamaru H, Lee MP, Dong YH, **Krumme AA**, Khan N, Brill G, Kohsaka S, Miyata H, Choudhry NK, Schneeweiss S, Gagne JJ. Using prior medication adherence to predict future adherence. *Journal of Managed Care Pharmacy – revise and resubmit*

MANUSCRIPTS  
IN PREPARATION

1. **Krumme AA**, Glynn RJ, Schneeweiss S, Choudhry NK, Lewey J, Tong AY, Gagne JJ. Comparative effectiveness and safety of long-term clopidogrel and prasugrel therapy after drug-eluting stent.
2. Lauffenburger JC, Lewey J, Jan S, Makanji S, Ferro CA, **Krumme AA**, Lee J, Ghazinouri R, Haff N, Choudhry NK. Effect of targeted insulin adherence interventions for glycemic control with predictive analytics: the TARGIT-Diabetes randomized clinical trial.
3. Zhu Y, **Krumme AA**, Levin R, Bateman BT. Opioid prescribing patterns after vaginal delivery and risk of long-term use.