

POLINA V. KUKHAREVA, PhD, MPH, MS

Department of Biomedical Informatics

University of Utah

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## EDUCATION

2007	Biology	BS	Saint Petersburg State University, Russia
2009	Immunology	MS	Saint Petersburg State University, Russia
2012	Biostatistics	MPH	University of North Carolina, USA
2017	Biomedical Informatics	PhD	University of Utah, USA

## PROFESSIONAL POSITIONS

### CURRENT ACADEMIC APPOINTMENTS

2018 - Present	Research Associate	Department of Biomedical Informatics	University of Utah
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### PAST ACADEMIC APPOINTMENTS

2013 - 2017	Graduate Research Assistant	Department of Biomedical Informatics	University of Utah
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### PROFESSIONAL APPOINTMENTS

2012 - 2013	Statistical Programmer	Collaborative Studies Coordinating Center	University of North Carolina
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## SERVICE

### DEPARTMENTAL/SCHOOL AND UNIVERSITY SERVICE

2015	Student Member	PhD Admissions Committee
2016	Student Member	Tenured Faculty Review Committee
2017	Student Member	Gardner Award for Faculty Excellence Committee
2020	Member	Gender and Racial Equity Dashboard Initiative

**PROFESSIONAL SOCIETIES**

2013-Present	Member	AMIA
2015-Present	Member	AMIA Clinical Decision Support WG
2020-Present	Member	AMIA Evaluation WG
2020-Present	Member	AMIA People and Organizational Issues WG
2020-Present	Member	The Professional Society for Health Economics and Outcomes Research (ISPOR)
2020	Session Chair	AMIA 2020 Virtual Annual Symposium

**EDITORIAL ROLES****Journal of American Medical Informatics Association (JAMIA)**

2018-2020	Reviewer	JAMIA
2020-2021	Editorial Board Member	JAMIA

**HONORS AND DISTINCTIONS**

2004-2007	Potantin Scholarship	Vladimir Potantin Russian Federal Grant Foundation	Selected based on GPA 4.0, analytical abilities test, and two day in-person competition
2007	Summa Cum Laude honors	St. Petersburg State University	GPA 4.0
2008	Yale AIDS International Training and Research Scholar	Yale University / Duke University	The Yale University AITRP has provided mentorship, research support, and lasting partnerships to 27 Russian trainees.
2009	Cum Laude honors	St. Petersburg State University	GPA 3.8
2010-2013	Fulbright Scholarship	U.S. Department of State's Bureau of Educational and Cultural Affairs	Selected based on CV, letters of recommendation and personal statement

2013	SAS Global Forum Junior Professional Award	Statistical Analysis Software (SAS)	Selected based on conference paper submission and personal statement
2013	Scholarship to Attend a Summer School of Public Health in France	10 <sup>ème</sup> école de santé publique à Besançon	Selected based on personal statement in French and recommendation letters
2014	Utah HIMSS Graduate Student Scholar	Healthcare Information and Management Systems Society (HIMSS)	Selected based on personal statement and recommendation letters
2014	Utah HIMSS Graduate Scholarship	Utah HIMSS Chapter	Selected based on personal statement and recommendation letters
2014	Nomination for Distinguished Paper Award at AMIA	AMIA	Selected based on personal statement and recommendation letters
2015	Richard A. Fay and Carol M. Fay Endowed Graduate Fellowship (2015)	Department of Biomedical Informatics, University of Utah	Selected based on personal statement and recommendation letters
2015	AMIA Distinguished Poster Award	AMIA	Selected based on poster presentation at AMIA
2017	Helmuth F. Orthner Travel Assistance Award	Department of Biomedical Informatics, University of Utah	Selected based on
2019	Winner of AMIA-HL7 SMART on FHIR Apps Showcase Competition	AMIA	Selected based on 9-minutes presentation at AMIA
2019-2020	Women in AMIA Leadership Scholar	AMIA	Selected based on CV, letters of recommendation and leadership statement

**FUNDED GRANTS AND OPERATIONALLY FUNDED PROJECTS****ACTIVE GRANTS**

- 2018-2021     **Hitachi**                      Kawamoto and Weir (MPI)  
*Clinical Decision Support System to Optimize Diabetes Mellitus Disease Management*  
 The objective of this project is to finalize development of an EHR-integrated diabetes management dashboard that leverages standards-based interoperability frameworks including SMART on FHIR and to conduct a clinic-randomized controlled trial to evaluate the system's impact on patient care.  
 Role: Co-Investigator
- 2019-2022     **1R18HS026198**                      Kawamoto and Weir (MPI)  
*Scalable Decision Support and Shared Decision Making for Lung Cancer Screening*  
 The objective of this project is to increase appropriate low-dose CT scan (LDCT) screening through the development and wide dissemination of patient-centered clinical decision support (CDS) tools.  
 Role: Co-Investigator
- 2020-2025     **1R18DK123372**                      Conroy (PI)  
*Promoting Real World Implementation of an Evidence-Based Weight Management Intervention in Primary Care*  
 The objective of this project is to adapt an evidence-based weight management intervention to 14 primary care practices affiliated with the University of Utah and improve HIT support for this intervention.  
 Role: Key Personnel

**COMPLETED GRANTS**

- 2008             **5D43TW001028**                      Dubrow (PI)  
*Training and Research in HIV Prevention in Russia*  
 This Yale University project has provided mentorship, research support, and lasting partnerships to multiple Russian trainees primarily in biology, medicine, sociology, and psychology. With support of this grant, I completed the training at Duke University Center for HIV-AIDS Vaccine Immunology.  
 Role: Trainee

## OPERATIONALLY FUNDED PROJECTS

2010-2012	A Cluster-Randomized Controlled Trial of HIV Prevention Intervention Among Injection Drug Users	University of North Carolina
2013	An NIH Randomized Controlled Trial of Folic Acid for Vascular Outcome Reduction in Transplantation Trial (FAVORIT)	University of North Carolina
2013	Protect Study, A Multi-Center Prospective Cohort Study of Standardized Medical Therapy (Mesalamine Or Corticosteroids) In Newly Diagnosed Ulcerative Colitis in Children and Adolescents	University of North Carolina
2015-2017	Validation of Electronic Clinical Quality Measures (HEDIS)	University of Utah
2015-2017	Addressing Decision Support Fatigue: Analysis of Frequency of CDS Alerts	University of Utah
2017	Reducing Inpatient Laboratory Costs Through A Multifaceted Intervention Including Education, Rounding Checklist Implementation, Cost Feedback, And Financial Incentives	University of Utah
2018	Improving Physician Communication with Patients as Measured by HCAHPS Using A Standardized Communication Models	University of Utah
2014-2015	A Retrospective Pre-Post Study of Impact of Evidence-Based Care Pathway for Cellulitis on Process, Clinical, And Cost Outcomes	University of Utah
2017-2018	A Retrospective Cohort Study of Impact of Clinical Decision Support Interventions on Hepatitis C Testing	University of Utah
2017-2020	Analysis of Cost and Clinical Impact of Modified Early Warning Score-Based (MEWS) Clinical Decision Support for Sepsis Detection	University of Utah
2017-2019	A Cluster-randomized Trial to Evaluate Impact of a SMART on FHIR App for Diabetes Pharmacotherapy	University of Utah, Hitachi
2018-2019	A Retrospective Cohort Study of Osteoporosis Care Following Incidental Vertebral Fractures in VA	University of Utah
2018-2019	A Retrospective Pre-Post Study of Reducing Diabetic Ketoacidosis (DKA) Intensive Care Unit	University of Utah

	Admissions Through an Electronic Health Record-Driven, Standardized Care Pathway	
2018-2020	Analysis of Impact of a Pathway for Community-Acquired Pneumonia (CAP) With Rapid Conversion to Oral Therapy on Healthcare Value	University of Utah
2018-2020	Analysis of Impact of a System-Wide EHR Change and a Multifaceted Hospitalist Intervention on Inpatient Telemetry Utilization	University of Utah
2018-2020	A Retrospective Cohort Study of Impact of Delirium Checklist on Patient Falls	University of Utah
2018-Present	An Analysis of Impact of Mobile Workstation Rounding-In-Flow on Resident Efficiency	University of Utah
2018-Present	Mdcalc Connect: Analysis of Impact of a SMART on FHIR App for Integrated Medical Calculators on Healthcare Value	University of Utah, MD Aware
2018-Present	Disease Manager: Analysis of Impact of a SMART on FHIR App for Chronic Disease Management on Healthcare Value	University of Utah
2018-Present	BiliApp: Analysis of Impact of a SMART on FHIR App for Neonatal Bilirubin Management on Healthcare Value, Provider Efficiency and Provider Satisfaction	University of Utah
2018-Present	Establishing an Evaluation Program for SMART on FHIR Apps	University of Utah, ReImagine EHR
2020-Present	A Pre-Post Trial to Evaluate Impact of a SMART on FHIR App for Diabetes Pharmacotherapy	University of Utah, Hitachi

## TEACHING AND TRAINING

### TEACHING

2014-2015	Medical Decision Making, University of Utah	Teaching Assistant
2015	Clinical and Public Health Informatics Terminologies and Standards, University of Utah	Teaching Assistant
2021	Medical Decision Making, University of Utah	Instructor

### ADVISORY AND SUPERVISORY RESPONSIBILITIES

2019	Bulat Idrisov	Advising	Mentee
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## PRESENTATIONS

### INVITED PRESENTATIONS

2020	Establishing an Evaluation Program for SMART on FHIR Apps at an Academic Medical Centre	Centre for Digital Transformation of Health, University of Melbourne
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### CONFERENCE PRESENTATIONS

2013	Cox Proportional Hazard Model Evaluation in One Shot	SAS Global Forum, oral presentation
2013	Customized Comparison Tables for Clinical Studies	Western Users of SAS Software Conference, oral presentation
2014	Quick Analysis and Visualization of Excluded and Missing Data	Western Users of SAS Software Conference, oral presentation
2014	Clinical Decision Support-based Quality Measurement (CDS-QM) Framework: Prototype Implementation, Evaluation, and Future Directions	AMIA Annual Symposium, oral presentation
2015	Errors with Manual Phenotype Validation: Case Study and Implications	AMIA Annual Symposium, poster presentation
2016	Analysis and Redesign of Alerts and Reminders in a Commercial Electronic Health Record System to Reduce Alert Fatigue	AMIA Annual Symposium, poster presentation
2017	Standardized Approaches for Analyzing Quality Improvement Interventions in Healthcare Settings	Western Users of SAS Software Conference, oral presentation
2018	Integration of Clinical Decision Support and Electronic Clinical Quality Measurement: Domain Expert Insights and Implications for Future Direction	AMIA Annual Symposium, oral presentation
2019	Balancing Functionality versus Portability for SMART on FHIR Applications: Case Study for a Neonatal Bilirubin Management Application	AMIA Annual Symposium, oral presentation
2019	BiliApp: a SMART on FHIR App for Neonatal Bilirubin Management	AMIA Annual Symposium, oral presentation

## COMMUNITY SERVICE ACTIVITIES

- Gender and Racial Equity Dashboard Initiative, University of Utah Health (2020)
- Mentored high-schoolers and undergraduate female students during American Medical Informatics Organization (AMIA) conferences (2017-2019)
- Mentored professionals in time-management through a web-coaching program

## BIBLIOGRAPHY

- ORCID: <https://orcid.org/0000-0002-5576-1486>
- Google scholar: <https://scholar.google.com/citations?user=g52flboAAAAJ&hl=en>
- Pubmed: <https://www.ncbi.nlm.nih.gov/myncbi/polina.kukhareva.2/bibliography/public/>

## PEER REVIEWED JOURNAL PUBLICATIONS

1. Hoffman IF, Latkin CA, **Kukhareva PV**, et al. A peer-educator network HIV prevention intervention among injection drug users: Results of a randomized controlled trial in St. Petersburg, Russia. *AIDS Behav.* 2013;17(7):2510-2520. doi:10.1007/s10461-013-0563-4
2. Idrisov B, Sun P, Akhmadeeva L, Arpawong TE, **Kukhareva PV**, Sussman S. Immediate and six-month effects of Project EX Russia: a smoking cessation intervention pilot program. *Addict Behav.* 2013;38(8):2402-2408. doi:10.1016/j.addbeh.2013.03.013
3. **Kukhareva PV**, Kawamoto K, Shields DE, et al. Clinical decision support-based quality measurement (CDS-QM) framework: prototype implementation, evaluation, and future directions. *AMIA Annu Symp Proc.* 2014;2014:825-834. <http://europepmc.org/abstract/med/25954389>.
4. Tippetts TJ, Warner PB, **Kukhareva PV**, Shields DE, Staes CJ, Kawamoto K. Challenges and solutions in optimizing execution performance of a clinical decision support-based quality measurement (CDS-QM) framework. *AMIA Annu Symp Proc.* 2015;2015:1194-1203. <http://europepmc.org/abstract/med/26958259>. Accessed March 6, 2016.
5. Yarbrough PM, **Kukhareva PV**, Spivak ES, et al. Evidence-based care pathway for cellulitis improves process, clinical, and cost outcomes. *J Hosp Med.* 2015;10(12):780-786. doi:10.1002/jhm.2433
6. Yarbrough PM, **Kukhareva PV**, Horton D, Edholm K, Kawamoto K. Multifaceted intervention including education, rounding checklist implementation, cost feedback, and financial incentives reduces inpatient laboratory costs. *J Hosp Med.* 2016;11(5):348-354. doi:10.1002/jhm.2552
7. Horton DJ, Yarbrough PM, Wanner N, Murphy RD, **Kukhareva PV**, Kawamoto K. Improving Physician Communication With Patients as Measured by HCAHPS Using a Standardized Communication Models. *Am J Med Qual.* 2017;32(6):617-624. doi:10.1177/1062860616689592
8. **Kukhareva PV**, Staes C, Noonan KW, et al. Single-reviewer electronic phenotyping validation in operational settings: Comparison of strategies and recommendations. *J Biomed Inform.* 2017;66:1-10. doi:10.1016/j.jbi.2016.12.004



9. **Kukhareva PV**, Weir CR, Staes C, Borbolla D, Slager S, Kawamoto K. Integration of Clinical Decision Support and Electronic Clinical Quality Measurement: Domain Expert Insights and Implications for Future Direction. *AMIA Annu Symp Proc*. 2018;2018:700–709. <http://europepmc.org/abstract/med/30815112>. Accessed February 27, 2019.
10. Kawamoto K, Flynn MC, **Kukhareva PV**, et al. A Pragmatic Guide to Establishing Clinical Decision Support Governance and Addressing Decision Support Fatigue: a Case Study. *AMIA Annu Symp Proc*. December 2018:624–633.
11. Edholm K, **Kukhareva PV**, Ciarkowski C, et al. Decrease in inpatient telemetry utilization through a system-wide electronic health record change and a multifaceted hospitalist intervention. *J Hosp Med*. 2018;13(8):531-536. doi:10.12788/jhm.2933
12. **Kukhareva PV**, Warner P, Rodriguez S, et al. Balancing Functionality versus Portability for SMART on FHIR Applications: Case Study for a Neonatal Bilirubin Management Application. *AMIA Annu Symp Proc*. January 2019:562-571.
13. Kawamoto K, **Kukhareva PV**, Shakib JH, et al. Association of an electronic health record add-on app for neonatal bilirubin management with physician efficiency and care quality. *JAMA Netw Open*. 2019;2(11):e1915343. doi:10.1001/jamanetworkopen.2019.15343
14. Reese TJ, Del Fiore G, Tonna JE, Kawamoto K, Segall N, Weir C, Macpherson BC, **Kukhareva PV**, Wright MC. Impact of integrated graphical display on expert and novice diagnostic performance in critical care. *J Am Med Inform Assoc*. 2020;27(8):1287-1292. doi:10.1093/jamia/ocaa086
15. Ciarkowski CE, Timbrook TT, **Kukhareva PV**, et al. A Pathway for Community-Acquired Pneumonia with Rapid Conversion to Oral Therapy Improves Healthcare Value. *Open Forum Infect Dis*. October 2020. doi:10.1093/ofid/ofaa497
16. Curran RL, **Kukhareva PV**, Taft T, et al. Integrated displays to improve chronic disease management in ambulatory care: A SMART on FHIR application informed by mixed-methods user testing. *J Am Med Informatics Assoc*. 2020;27(8):1225-1234. doi:10.1093/jamia/ocaa099
17. Bradley S, Harwell C, **Kukhareva PV**, Yarbrough P, Hall SK. Osteoporosis Care Following Incidental Vertebral Fractures: a Retrospective Cohort Study. *J Gen Intern Med*. June 2020. doi:10.1007/s11606-020-05858-3
18. Horton DJ, Graves KK, **Kukhareva PV**, et al. Modified early warning score-based clinical decision support: cost impact and clinical outcomes in sepsis. *JAMIA Open*. 2020. doi:10.1093/jamiaopen/ooaa014
19. Edholm K, Lappé K, **Kukhareva PV**, et al. Reducing Diabetic Ketoacidosis Intensive Care Unit Admissions Through an Electronic Health Record-Driven, Standardized Care Pathway. *J Healthc Qual*. January 2020:1. doi:10.1097/jhq.0000000000000247
20. Tarumi S, Takeuchi W, Chalkidis G, Rodriguez-Loya S, Kuwata J, Flynn M, Turner KM, Sakaguchi FH, Weir C, Kramer H, Shields DE, Warner PB, Kukhareva P, Ban H, Kawamoto K. Leveraging Artificial Intelligence to Improve Chronic Disease Care: Methods and Application to Pharmacotherapy Decision Support for Type-2 Diabetes Mellitus. *Methods Inf Med*. 2021 May 11; . doi: 10.1055/s-0041-1728757. [Epub ahead of print] PubMed PMID: 33975376.

#### OTHER PEER REVIEWED PUBLICATIONS (PROCEEDINGS, POSTERS)

1. **Kukhareva PV**. Cox Proportional Hazard Model Evaluation in One Shot. In: *SAS Global Forum*; 2013. <http://support.sas.com/resources/papers/proceedings13/428-2013.pdf>.
2. **Kukhareva PV**, Roggenkamp K. Customized Comparison Tables for Clinical Studies. In: *SAS: WUSS*; 2013. [http://www.lexjansen.com/wuss/2013/71\\_Paper.pdf](http://www.lexjansen.com/wuss/2013/71_Paper.pdf).
3. Lin Y, Welch B, Tippetts TJ, **Kukhareva PV** et al. Identification of Common Concepts for Clinical Decision Support and Mapping to the Health Level 7 Virtual Medical Record Data Model. *AMIA Annu Symp*. 2014.
4. **Kukhareva PV**, Borbolla D, Kawamoto K. Analysis and Redesign of Alerts and Reminders in a Commercial Electronic Health Record System to Reduce Alert Fatigue. In: *AMIA Annual Symposium*; 2016.
5. **Kukhareva PV**, Roggenkamp K, Carpenter M. Quick Analysis and Visualization of Excluded and Missing Data. In: *SAS: WUSS*; 2014. [http://www.lexjansen.com/wuss/2014/32\\_Final\\_Paper\\_PDF.pdf](http://www.lexjansen.com/wuss/2014/32_Final_Paper_PDF.pdf).
6. **Kukhareva PV**, Staes CJ, Tippetts TJ, et al. Errors with Manual Phenotype Validation: Case Study and Implications. In: *AMIA Annual Symposium*. AMIA; 2015. <https://knowledge.amia.org/amia-59310-annual-1.2837803/t002-1.2839374?qr=1#>
7. **Kukhareva PV**. Standardized Approaches for Analyzing Quality Improvement Interventions in Healthcare Settings. In: *SAS: WUSS*; 2017. doi:10.1002/jhm.2552
8. **Kukhareva PV**. Advancing Clinical Decision Support (CDS) and Electronic Clinical Quality Measurement (eCQM) - ProQuest. 2017. <https://search.proquest.com/docview/2268373239?pq-origsite=gscholar>.