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Place of Birth: New York, NY, USA

Education

Columbia University in the City of New York, New York, NY
Doctor of Philosophy in Biomedical Informatics, Expected May 2024
Master of Philosophy in Biomedical Informatics, May 2023
Master of Arts in Biomedical Informatics, May 2021 (GPA: 4.0)
Dissertation Committee: Noémie Elhadad (advisor), Suzanne Bakken, Karthik Natarajan
Coursework includes: Machine Learning for Healthcare, Symbolic AI in Healthcare, Data Science,
Natural Language Processing, Computer Applications in Health Care, Intelligent Decision Systems

Beijing Language and Culture University, Beijing, China
北京语言大学, 北京, 中国
Summer Student, Intensive Mandarin, 2019

Johns Hopkins Bloomberg School of Public Health, Baltimore, MD
Master of Applied Science in Spatial Analysis, June 2019
Thesis: Spatiotemporal modeling of opioid prescribing and persistent opioid use, 2000-2018
Coursework included: Biostatistics, Spatial Statistics, Epidemiology, Spatial Data Technologies

Harvard T.H. Chan School of Public Health, Boston, MA
Special Student, International and Population Health, 2009-2011
Coursework included: Immunology, Tuberculosis, Reproductive Health Issues, Survey Research Methods,
Planning and Evaluation of Health Programs, Financing Health Care in Developing Countries

Yale University, New Haven, CT
Bachelor of Arts in Sociology and History, May 2005
Coursework included: Elements of Computing, Current Issues in Biological Sciences, General Chemistry,
Social Policy Analysis, Social Inequality, Portuguese for Spanish Speakers, Elementary Yoruba

Research Experience

2022-2024	*National Institute of Allergy and Infectious Diseases Predoctoral Research Trainee*, Department of Biomedical Informatics, Columbia University in the City of New York, New York, NY
2019-2022	*National Library of Medicine Predoctoral Research Trainee*, Department of Biomedical Informatics, Columbia University in the City of New York, New York, NY
2013-present	*Visiting Postgraduate Research Fellow*, Department of Medicine, Harvard Medical School, Boston, MA
2013-2019	*Predoctoral Research Fellow*, Division of General Internal Medicine and Primary Care, Brigham and Women's Hospital, Boston, MA
2012-2019	*Research Manager*, Division of General Internal Medicine and Primary Care, Brigham and Women's Hospital, Boston, MA
2007-2008	*Research Assistant*, Division of General Internal Medicine and Primary Care, Brigham and Women's Hospital, Boston, MA
2004	*Research Assistant (work study)*, Yale University, Department of Sociology, New Haven, CT

Teaching Experience

Fall 2022	*Teaching Assistant*, BINF G4008 Interrogating Ethics and Justice in Digital Health, Columbia University, New York, NY
Spring 2022	*Preceptor in Clinical Informatics*, INTC M7210 Mechanisms and Practice, Columbia Vagelos College of Physicians and Surgeons, New York, NY
Spring 2021	*Preceptor in Clinical Informatics*, INTC M7210 Mechanisms and Practice, Columbia Vagelos College of Physicians and Surgeons, New York, NY
Fall 2020	*Teaching Assistant*, BINF G4011 Acculturation to Medicine & Clinical Informatics, Columbia University, New York, NY
Summer 2017	*Teaching Fellow*, HPM 299 Research with Large Databases, Harvard T.H. Chan School of Public Health, Boston, MA
Summer 2016	*Teaching Fellow*, HPM 299 Research with Large Databases, Harvard T.H. Chan School of Public Health, Boston, MA
2005–2006	*Teacher, English-as-a-Second-Language*, New York City Board of Education/New York City Teaching Fellows, New York, NY

Committee Service

2023	*Outreach Committee*, Machine Learning for Health (ML4H) co-located with NeurIPS 2023 Author Mentorship Sub-Chair
2021–present	*Diversity, Equity, and Inclusion Working Group*, Department of Biomedical Informatics, Columbia University 2021–present Founding Member
2021–2022	*Toward Diversity, Equity, and Inclusion in Informatics, Health Care, and Society Seminar Series Planning Committee*, Columbia University 2021–2022 Founding Member
2020–2022	*Biomedical Informatics Departmental Seminar Series Planning Committee*, Columbia University 2020–2022 Member
2019–2021	*Electronic Health Record Phenotyping Working Group*, Columbia University 2019–2021 Member
2015–2018	*Partners Sexual Orientation and Gender Identity Working Group* 2015–2018 Founding Member
2015–2016	*Brigham Health Equity and Diversity Council* 2015–2016 Founding Member 2015–2016 Co-Chair, Data Working Group
2013–2015	*Partners eCare Research Working Group* 2013–2015 Member
2013–2015	*Partners eCare Sexual Orientation and Gender Identity Working Group* 2013–2015 Founding Member
2013–2014	*Partners Human Research Committee, Insight Usability Working Group* 2013–2014 Member
2013–2014	*Partners Enterprise Research Portal Working Group* 2013–2014 Member
2011–2019	*Brigham Health LGBTQ and Allies Employee Resource Group* 2011–2019 Member 2014–2016 Co-Chair
2007–2008	*Association of Multicultural Members of Partners Healthcare* 2007–2008 Member 2007–2008 Vice-Chair, Brigham and Women's Hospital Chapter

Professional Organizations and Societies

2022–present	*Member*, Association for the Advancement of Artificial Intelligence
2022–present	*Member*, Association for Computational Linguistics
2020–present	*Member*, Latinx in AI
2019–present	*Member*, New York Academy of Sciences
2017–present	*Member*, Association for Computing Machinery
	Special Interest Groups: Artificial Intelligence; Biomedical Informatics; High Performance Computing; Knowledge Discovery in Data
2014–present	*Member*, American Medical Informatics Association
	Special Interest Groups: Knowledge Discovery and Data Mining, Natural Language Processing, Global Health Informatics, Public Health Informatics
	2014–present *Abstract Reviewer*, Annual Symposium
2012–2014	*Member*, American Public Health Association
	Special Interest Groups: Medical Care, Health Informatics Information Technology
2012–2014	*Member*, AcademyHealth

Editorial Activities

Ad hoc Reviewer

American Psychologist	Journal of General Internal Medicine
Applied Clinical Informatics	Journal of the American Medical Informatics Association
JAMA Network Open	Journal of Medical Internet Research
Journal of Biomedical Informatics	Medical Care

Other Editorial Roles

2021–2023	Journal of the American Medical Informatics Association
	2021–2023, Student Editorial Board Member
	2022–2023, Journal Club Manager

Honors and Prizes

2022–2024	*National Institute of Allergy and Infectious Diseases (NIAID) Predoctoral Research Training Fellowship*, National Institutes of Health (NIH)
2021–2024	*Computational and Data Science Fellowship*, Association for Computing Machinery (ACM) Special Interest Group in High Performance Computing (SIGHPC)
2021–2023	*Hope Scholarship*, Biomedical Science Careers Program, Harvard Medical School
2021–2022	*HSF Scholar*, Hispanic Scholarship Fund (HSF)
2019–2024	*National Library of Medicine (NLM) Predoctoral Research Training Fellowship*, National Institutes of Health (NIH)
2019	*Dean's Fellowship*, Columbia University Vagelos College of Physicians and Surgeons
2018	*Ford Foundation Predoctoral Fellowship*, Honorable Mention, National Academies of Sciences, Engineering, and Medicine
2018	*Partners in Excellence Award for Leadership and Innovation*, Partners HealthCare
2018	*Ruth and William Silen MD Award, Third Prize*, New England Science Symposium
2017	*Travel Scholarship*, The Open Gate, Harvard Gender & Sexuality Caucus
2016-2018	*Merit Scholarship*, Johns Hopkins Bloomberg School of Public Health
2016	*LGBTQ Leadership Award*, Brigham Health
2015	*Brigham Way honoree*, Brigham and Women's Hospital
2015	*Travel Scholarship*, North American Primary Care Research Group
2014	*Partners in Excellence Award for Quality Treatment and Service*, Partners HealthCare
2014	*Outstanding Quality & Patient Safety Oral Presentation*, Society of General Internal Medicine
2012	*Partners in Excellence Award for Leadership and Innovation*, Partners HealthCare
2004	*Mellon Forum Undergraduate Thesis Research Funding Award*, Yale University

Report of Funded and Unfunded Projects

Funding Information
Past

2018–2019   *A Multicenter Randomized Controlled Trial of Pharmacist-Directed Transitional Care to Reduce Post-Hospitalization Utilization*
National Institute on Aging (NIA) R01 AG 058911-01
Project Manager (Site PI: Schnipper)
Aim: To measure the impact of pharmacist-led discharge (PHARM-DC) interventions on post-discharge utilization within 30 days. We will also identify patient sub-populations most likely to benefit from PHARM-DC.

2017–2018   *Novel electronic health record phenotyping of LGBTQ intersectional identities and associated health disparities using natural language processing and machine learning*
Harvard Catalyst
Co-Investigator (PI: Zhou)
Aim: Develop methods using machine learning and natural language processing to address logistical challenges in obtaining representative samples of sexual and gender minority (SGM) populations and characterize comorbidity prevalence and potential health inequities associated with different segments of SGM populations.

2016–2018   *Electronic Medication Adherence Reporting and Feedback During Care Transitions (Smart Pillbox)*
Agency for Healthcare Research and Quality (AHRQ) R21 HS 024587-01
Project Manager/Statistical Programmer (PI: Schnipper)
Aim: To implement a smart pillbox intervention for patients discharged from the hospital to the community and to evaluate the effects of the intervention on post-discharge medication discrepancies, medication adherence, and chronic disease management.

2015–2018   *Implementation of a Medication Reconciliation Protocol to Improve Patient Safety*
Agency for Healthcare Research and Quality (AHRQ) R18 HS 023757-01A1
Project Manager/Statistical Programmer (PI: Schnipper)
Aim: The long-term objective of this research is to widely disseminate, implement, and evaluate sustainable medication reconciliation interventions that improve patient safety during care transitions.

2015–2017   *Clinician-Patient Relationships: Boundaries, Barriers, Breakdowns*
Gold Foundation/Lucian Leape Family Foundation
Project Director (PI: Schiff)
Aim: This study examines physician attitudes and practices related to caring acts that have been questioned as "inappropriate" or "unethical" crossing of professional boundaries.

2014–2016   *Understanding and Preventing Diagnostic Pitfalls*
Risk Management Foundations of the Harvard Medical Institutions (CRICO)
Project Director (PI: Schiff)
Aim: The goal of this project is to identify leading diagnostic pitfalls that pose safety and malpractice risks, then design and test the accuracy of electronic screens for these pitfalls in the electronic health record.

2014–2016   *Evaluating Variation in Overactive Bladder Medication Use and Other Treatments*
Astellas Pharma US, Inc.
Statistical Programmer (PI: Loughlin)
Aim: Characterize overactive bladder treatment, medication adherence, and outcomes.

2014–2015   *Are Physicians and Patients Adhering to the Published Guidelines for Fasting during Ramadan?*
Martin P. Solomon Award for Primary Care Scholarship, BWH
Co-Investigator (PI: Ali)
Aim: To measure differences in rates of health care utilization for Muslim patients just prior to, during, and after Ramadan.

2014   *First Annual BWH DGIM Research Day*
BRI/ORC Microgrant Pilot Program
Principal Investigator ($1,000)
Aim: Develop BWH Division of General Internal Medicine and Primary Care retreat to showcase contributions of research assistants and promote their career development.

2013–2015   *Patient Outcomes Associated with Year-End Departure of Resident Primary Care Physicians*
Support for Excellence in Educational Development (SEED) Grant, BWH
Co-Investigator (PI: Solomon)
Aim: To investigate whether acute care utilization is increased disproportionately among patients of graduating resident physicians compared to non-graduating residents.

2013–2014   *Acute Respiratory Infection Telephone Management Service*
Brigham and Women's Physicians Organization Care Redesign Incubator and Startup Program – Round 1 and Round 2
Data Manager (PI: Linder)
Aim: To develop, implement, and evaluate an acute respiratory infection telephone management service at one of the Brigham and Women's Primary Care Practices.

2012–2014   *Medical Malpractice and Patient Safety Protocol (PROMISES)*
Agency for Healthcare Research and Quality (AHRQ) 1R18HS019508-01
Project Manager (PI: Schiff)
Aim: To test the impact of quality improvement techniques to accomplish innovations and improvements in 3 high risk ambulatory malpractice areas: 1) medication management, 2) test ordering and results management 3) follow-up and referral management.

2012–2014   *Use of Behavioral Economics to Improve Treatment of Acute Respiratory Infections*
National Institutes of Health/University of Southern California 1RC4AG039115-01
Data Manager/Statistical Programmer (Site PI: Linder)
Aim: To evaluate the use of behavioral economic concepts such as enhanced defaults, alternative options, and social norms on inappropriate antibiotic prescribing for acute respiratory infections.

2010–2012   *President's Emergency Plan for AIDS Relief (PEPFAR)*
Health Resources and Services Administration (HRSA) U51HA02522
Data Quality Assurance Manager (PI: Kanki)
A $362 million grant for work in Nigeria, Botswana, and Tanzania to train health care workers, develop monitoring and evaluation systems, strengthen health care infrastructures, and collaborate with local hospitals and clinics that provide treatment for patients living with HIV/AIDS.

2008–2010   *President's Emergency Plan for AIDS Relief (PEPFAR)*
Health Resources and Services Administration (HRSA) U51HA02522
Data, Training, and Education Coordinator (PI: Kanki)
A $362 million grant for work in Nigeria, Botswana, and Tanzania to train health care workers, develop monitoring and evaluation systems, strengthen health care infrastructures, and collaborate with local hospitals and clinics that provide treatment for patients living with HIV/AIDS.

2007–2008   *Pharmacist Intervention to Decrease Medication Errors in Heart Disease Patients (PILL-CVD)*
National Heart, Lung, and Blood Institute (NHLBI), R01HL089755
Research Assistant (Site PI: Schnipper)
Aim: To evaluate a literacy-focused program that provides educational assistance from pharmacists at the time of hospital discharge to people hospitalized with heart problems.

2007   *Influenza in the Partners Primary Care Practice-Based Research Network*
Roche Laboratories, RLI 06001207
Research Assistant (PI: Linder)
Aim: To measure and evaluate antiviral and antibiotic prescribing for patients with influenza being treated in primary care clinics.

Projects Submitted for Funding

2021   *Financial Toxicity and Cancer Treatment: Examining Trends and Disparities via Causal Inference*
Robert Wood Johnson Foundation/AcademyHealth HD4A Award
Co-Principal Investigator (PI: Elhadad)
Aim: Apply state-of-the-art machine learning, natural language processing, and causal inference methods to a large, longitudinal cohort to isolate factors contributing to financial toxicity following cancer diagnosis. We will identify and quantify disparities in clinical and catastrophic financial outcomes, enabling policymakers and providers to prioritize targeted interventions most likely to reduce financial toxicity while mitigating disparities in clinical outcomes among different demographic and socioeconomic groups.

2018   *ARtificial Intelligence for the Study and Enhancement of Sexual and Gender Minority health*
NIH/NIMHD 1R21HD097292-01
Co-investigator (PI: Zhou)
Aim: The goals of the ARISE-SGM (ARtificial Intelligence for the Study and Enhancement of Sexual and Gender Minority health) research project are to leverage advances in artificial intelligence to address logistical challenges in obtaining representative samples of sexual and gender minority (SGM) populations and characterize comorbidity prevalence and potential health inequities associated with different segments of SGM populations.

Report of Invited Teaching and Presentations

No presentations below were sponsored by outside entities.

Local

2023   *Development and Validation of Multimodal Deep Learning Models to Identify Human Monkeypox in the Electronic Health Record.*
Division of Infectious Diseases, Columbia University Irving Medical Center, New York, NY.

2023   *Health Information Exchange Enables Enhanced STI Surveillance Using Electronic Health Record Data.*
Division of Infectious Diseases, Columbia University Irving Medical Center, New York, NY.

2022   *Mining the Health Disparities and Minority Health Bibliome.*
Biomedical Informatics Seminar Series
Department of Biomedical Informatics, Columbia University

2020   *Health Equity and Informatics*
Guest Lecturer, BINF G4011: Acculturation to Medicine and Clinical Informatics,
Department of Biomedical Informatics, Columbia University

2019   *LGBTQ Health - Diversity, Culture, and Inclusion Series*
Division of General Internal Medicine and Primary Care, Brigham and Women's Hospital

2018   *Documentation of Sexual Orientation and Gender Identity in the Electronic Health Record*
Division of General Internal Medicine and Primary Care, Brigham and Women's Hospital
2017   *Algorithmic Bias and Health Disparities*
Machine Learning Working Group, Partners HealthCare
2017   *Improving and Leveraging Sexual Orientation and Gender Identity Demographics in Epic*
Sexual Orientation and Gender Identity Working Group, Partners HealthCare
2014   *Designing and Building Clinical Research Databases*
Division of General Internal Medicine and Primary Care, Brigham and Women's Hospital
2014   *SQL-based Data Management and Manipulation*
Division of General Internal Medicine and Primary Care, Brigham and Women's Hospital
2014   *The LGBTQ Data Collection Gap: Sexual Orientation and Gender Identity in the EHR*
LGBTQ and Allies Employee Resource Group, Brigham Health
2013   *How Busy Clinicians Can Improve Care and Pursue Scholarship*
Division of General Internal Medicine and Primary Care, Brigham and Women's Hospital

Regional

2023   *Getting into Graduate School and Succeeding*/Panel.
New England Science Symposium, Biomedical Science Careers Program, Boston, MA
2022   *Mining the health disparities and minority health bibliome: a computational scoping review and gap analysis of 200,000+ articles.*
Biomedical Informatics Colloquium, New York City College of Technology (City Tech), City University of New York (CUNY), New York, NY
2016   *Identifying and Understanding Malpractice-Prone Diagnostic Pitfalls*
Risk Management Foundation of the Harvard Medical Institutions Incorporated (RMF), CRICO Research Day. Boston, MA

International

2011   *Introduction to Data Management*/Seminar
AIDS Prevention Initiative Nigeria Plus (APIN Plus), Abuja, Nigeria
2011   *Critical Elements in Database Cleaning, a Checklist*/Seminar
AIDS Prevention Initiative Nigeria Plus (APIN Plus), Abuja, Nigeria
2011   *Basics of Programming and Scripting*/Seminar
AIDS Prevention Initiative Nigeria Plus (APIN Plus), Abuja, Nigeria
2011   *Monitoring data and Trouble-shooting*/Seminar
AIDS Prevention Initiative Nigeria Plus (APIN Plus), Abuja, Nigeria
2011   *Programming: Creating a Utility and Basics of Scripting*/Seminar
AIDS Prevention Initiative Nigeria Plus (APIN Plus), Abuja, Nigeria
2011   *Programming and Trouble-shooting Databases*/Seminar
AIDS Prevention Initiative Nigeria Plus (APIN Plus), Abuja, Nigeria
2011   *Cohort Analyses I: Using EHR Data*/Seminar
AIDS Prevention Initiative Nigeria Plus (APIN Plus), Abuja, Nigeria
2011   *Cohort Analyses II: Using EHR Data*/Seminar
AIDS Prevention Initiative Nigeria Plus (APIN Plus), Abuja, Nigeria
2009   *Improving Understanding and Medication Adherence*/Podium Presentation
HIV Counselor Training, AIDS Prevention Initiative Nigeria (APIN), Abuja, Nigeria

Report of Clinical Activities and Innovations

Software and Data

2022   *HDMH Monitor* / Principal developer
         https://hdmhmonitor.dbmi.columbia.edu/
         HDMH Monitor is an online article repository and interactive dashboard that leverages natural language processing and machine learning methods to support scientific discovery via automated archive, search, information synthesis, and data visualization of articles concerning health disparities and minority health (HDMH) in MEDLINE.

2022   *C-REACT: Contextualized Race and Ethnicity Annotations for Clinical Text* / Co-developer
         The C-REACT dataset is a large publicly-available corpus of sentences from clinical notes manually annotated for information related to race and ethnicity (RE). This corpus contains two sets of gold-standard annotations for RE data. The first set contains granular RE-information such as patient country of origin and spoken language. The second set of annotations contains RE labels manually assigned by clinicians. This corpus is intended to improve understanding about granular information related to RE contained within the clinical note and how this information might be used to infer RE.

2020   *CovidWatcher* / Co-developer
         https://covidwatcher.dbmi.columbia.edu/
         CovidWatcher is an `app` and `online portal` that surveys users about their COVID-19 exposure, symptoms, access to medical care, and impact on daily life. The data collected is used to track the spread of COVID-19, giving citizens real-time information about hot spots and enabling health care officials to deploy resources where needed most.

2011   *Electronic health record (EHR) data quality assessment tool, version 2.0* / Co-developer
         Instituted major modifications to and evaluated a pre-existing EHR utility to incorporate expanded data quality indicators at 33 Harvard PEPFAR sites in Nigeria. With this utility, central and site-level data managers are able to better monitor and improve data completeness, validity, accuracy, and currency.

2011   *EHR pediatric quality improvement tool* / Co-developer
         Co-developed and evaluated a utility to extract information from data warehouse and generate measures based on 23 pediatric quality of care indicators at 33 Harvard PEPFAR sites in Nigeria. Programmed module to review continuity of care, drug therapy initiation, medication adherence, loss to follow-up, laboratory monitoring, disease screening based on clinical symptoms assessment or diagnostic evaluation, treatment failure, toxicity management, nutritional assessment, and treatment response.

2010   *EHR adult quality improvement tool* / Co-developer
         Co-developed and evaluated a utility to extract information from data warehouse and generate measures based on 15 adult quality of care indicators at 33 Harvard PEPFAR sites in Nigeria. Module reviews continuity of care, drug therapy initiation, loss to follow-up, laboratory monitoring, disease screening based on clinical symptoms assessment, treatment failure, and treatment response.

Report of Education of Patients and Service to the Community

2021   *COVID-19 Vaccination Effort, New York Presbyterian Hospital*/Armory Volunteer
Verified patients had scheduled appointments prior to entrance, checked patients in for visit via Epic system, scheduled follow-up visits for second dose administration, and assisted with traffic flow as patients move through the vaccination process.

2019   *High School Scholars Program, American Medical Informatics Association*/Mentor
Supported high school students with research projects; reviewed their work and helped them practice scientific presentations; offered career advice and encouragement.

2018   *Queer Health Hackathon*/Co-organizer
Co-organized 3-day collaborative event to convene software engineers, data scientists, and clinical experts to examine longitudinal clinical database for potential LGBTQ health disparities. Extracted and transformed/de-identified EHR data from health system enterprise data warehouse; loaded on Amazon Web Services Cloud platform.

2013-2016   *Human Rights Commission, City of Cambridge*/Commissioner, Vice Chair
Adjudicated complaints of discrimination occurring in Cambridge, Massachusetts related to housing, employment, education, and public accommodation. Facilitated conciliations to settle disputes among parties. Conducted information sessions on civil rights.

2006-2016   *Boston Medical Reserve Corps*/Emergency Medical Technician
The Boston Medical Reserve Corps is a group of volunteers who are ready to respond should there be a public health emergency in Boston.

2007   *Timmy Global Health, Dominican Republic*/Medical Relief Volunteer
Helped establish temporary medical clinics along Haiti-Dominican Republic border; triaged patients, managed pharmacy, translated proper drug use and application.

2001-2005   *Latino Youth Enrichment Team (LYET)*, New Haven, CT/Co-Director
Managed community center mentorship program and developed instructional methods for Latino youth ranging in age from 6 through 13.

Report of Scholarship

Publications

Peer reviewed publications in print or other media

1. Bear Don't Walk OJ IV, Pichon A, **Reyes Nieva H**, Sun T, Altosaar J, Natarajan K, Perotte A, Demner-Fushman D, Elhadad N. Auditing Learned Associations in Deep Learning Approaches to Extract Race and Ethnicity from Clinical Text. *AMIA Annu Symp Proc.* 2023. In press.

2. Spotnitz M, Acharya N, Cimino JJ, Murphy S, Namjou B, Crimmins N, Walunas T, Liu C, Crosslin D, Benoit B, Rosenthal E, Pacheco J, Ostropolets A, **Reyes Nieva H**, Patterson JS, Richter LR, Callahan TJ, Elhussein A, Pang C, Kiryluk K, Nestor J, Khan A, Mohan S, Minty E, Chung W, Wei WQ, Natarajan K, Weng C. A metadata framework for electronic phenotypes. *JAMIA Open.* 2023 Jul; 6(2):ooad032. PMID:37181728

3. Schnipper JL, **Reyes Nieva H**, Yoon C, Mallouk M, Mixon AS, Rennke S, Chu ES, Mueller SK, Smith GR, Williams MV, Wetterneck TB, Stein JM, Dalal A, Labonville S, Sridharan A, Stolldorf D, Orav J, Levin B, Gresham M, Goldstein J, Platt S, Nyenpan C, Howell E, Kripalani S, and MARQUIS2 Site Leaders for the MARQUIS2 Study Group. What Works in Medication Reconciliation: An On-Treatment and Site Analysis of the MARQUIS2 Study. *BMJ Qual Saf.* Published Online First: 22 March 2023. PMID:36948542.

4. Shahani A, **Reyes Nieva H**, Czado K, Shannon E, Gaetani R, Gresham M, Cruz Garcia J, Ganesan H, Cerciello E, Dave J, Jain R, Schnipper JL. An Electronic Pillbox Intervention Designed to Improve Medication Safety During Care Transitions: Challenges and Lessons Learned regarding Implementation and Evaluation. *BMC Health Serv. Res.* 2022;22(1):1304. `PMID:36309744`.

5. Bear Don't Walk OJ IV, **Reyes Nieva H**, Lee SSJ, Elhadad N. A Scoping Review of Ethics Considerations in Clinical Natural Language Processing. *JAMIA Open.* 2022;5(2):ooac039. `PMID:35663112`.

6. Schiff GD, Volodarskaya M, Ruan E, Lim A, Wright A, Singh H, **Reyes Nieva H**. Characteristics of Disease-Specific and Generic Diagnostic Pitfalls: A Qualitative Study. *JAMA Netw Open.* 2022;5(1):e2144531. `PMID:35061037`.

7. Groisser A, **Reyes Nieva H**, Wright A, Ruan E, Schiff GD. Terminations in Primary Care: A Retrospective Observational Study of 16 Primary Care Clinics. *J Gen Intern Med.* 2022;37(3):548-555. `PMID:33948801`.

8. Chaplin B, Agbaji O, **Reyes Nieva H**, Olatunde B, Chang C, Mitruka K, Sule H, Dajel T, Zee A, Ahmed ML, Ahmed I, Okonkwo P, Rawizza H, Kanki P. The Timeliness of Point of Care Viral Load Results Improves HIV Monitoring in Nigeria. *Clin. Infect. Dis.* 2023 Feb 8;76(3):e671-e680. `PMID:35872644`.

9. Schnipper JL, **Reyes Nieva H**, Mallouk M, Mixon AS, Rennke S, Chu ES, Mueller SK, Smith GR, Williams MV, Wetterneck TB, Stein JM, Dalal A, Labonville S, Sridharan A, Stolldorf D, Orav J, Levin B, Gresham M, Yoon C, Goldstein J, Platt S, Nyenpan C, Howell E, Kripalani S, and MARQUIS2 Site Leaders for the MARQUIS2 Study Group. Effects of a Refined Evidence-based Toolkit and Mentored Implementation on Medication Reconciliation Quality and Safety at Eighteen Hospitals: Results of the MARQUIS2 Quality Improvement Study. *BMJ Qual Saf.* 2022 Apr;31(4):278-286. `PMID:33927025`.

10. Kraemer KM, Litrownik D, Moy ML, Wayne PM, Beach D, Klings ES, **Reyes Nieva H**, Pinheiro A, Davis RB, Yeh GY. Exploring tai chi exercise and mind-body breathing in patients with COPD in a randomized controlled feasibility trial. *COPD.* 2021;18(3):288-298. `PMID:34106027`.

11. Yeh GY, Litrownik D, Wayne PM, Beach D, Klings ES, **Reyes Nieva H**, Pinheiro A, Davis RB, Moy ML. The BEAM Study (Breathing, Education, Awareness, Movement): a Randomized Controlled Feasibility Trial of Tai Chi Exercise in Patients with COPD. *BMJ Open Respiratory Research.* 2021; 18(3):288-298. `PMID:33219007`.

12. Sun TY, Bear Don't Walk OJ IV, Chen J, **Reyes Nieva H**, Elhadad N. Exploring Gender Disparities in Time to Diagnosis. *Machine Learning for Health (ML4Health) Workshop at the Conference on Neural Information Processing Systems (NeurIPS)*; 12/2020. `arXiv:2011.06100`.

13. **Reyes Nieva H**, Ruan E, Schiff G. Professional-Patient Boundaries: a National Survey of Primary Care Physicians' Attitudes and Practices. *J Gen Intern Med.* 2020;35(2):457–464. `PMID:31755012`.

14. Linder JA, Weissman JS, **Reyes Nieva H**, Lipsitz S, Haring RS, DeAngelis J, Kristy RM, Loughlin KR. Overactive bladder in an integrated delivery system: a longitudinal cohort study. *BMC Health Serv Res.* 2020; 20(1):447. `PMID:32434511`.

15. Ali NB, **Reyes Nieva H**, Percac-Lima S, Shields HM, Linder JA, Yusuf Osman N. Health Care Utilization by Muslim Patients During Ramadan. *J Health Care Poor Underserved.* 2019;30(4):1360-1372. `PMID:31680102`.

16. Mixon AS, Smith GR, Mallouk M, **Reyes Nieva H**, Kripalani S, Rennke S, Chu E, Sridharan A, Dalal A, Mueller S, Williams M, Wetterneck T, Stein JM, Stolldorf D, Howell E, Orav J, Labonville S, Levin B, Yoon C, Gresham M, Goldstein J, Platt S, Nyenpan C, Schnipper JL. Design of MARQUIS2: study protocol for a mentored implementation study of an evidence-based toolkit to improve patient safety through medication reconciliation. *BMC Health Serv Res.* 2019 Sep 11; 19(1):659. `PMID:31511070`.

17. Schiff GD, **Reyes Nieva H**, Griswold P, Leydon N, Ling J, Federico F, Keohane C, Ellis BR, Foskett C, Orav EJ, Yoon C, Goldmann D, Weissman JS, Bates DW, Biondolillo M, Singer SJ. Randomized Trial of Reducing Ambulatory Malpractice and Safety Risk: Results of the Massachusetts PROMISES Project. *Med Care.* 2017 08; 55(8):797-805. PMID:28650922.

18. Schiff GD, **Reyes Nieva H**, Griswold P, Leydon N, Ling J, Biondolillo M, Singer SJ. Addressing Ambulatory Safety and Malpractice: The Massachusetts PROMISES Project. *Health Serv Res.* 2016 12; 51 Suppl 3:2634-2641. PMID:27892623.

19. Kroll DS, **Reyes Nieva H**, Barsky AJ, Linder JA. Benzodiazepines are Prescribed More Frequently to Patients Already at Risk for Benzodiazepine-Related Adverse Events in Primary Care. *J Gen Intern Med.* 2016 09; 31(9):1027-34. PMID:27177914.

20. Bell SP, Schnipper JL, Goggins K, Bian A, Shintani A, Roumie CL, Dalal AK, Jacobson TA, Rask KJ, Vaccarino V, Gandhi TK, Labonville SA, Johnson D, Neal EB, Kripalani, PILL-CVD Study Group*. Effect of Pharmacist Counseling Intervention on Health Care Utilization Following Hospital Discharge: A Randomized Control Trial. *J Gen Intern Med.* 2016 May; 31(5):470-7. (*member of the investigative team cited in the appendix of the manuscript) PMID:26883526.

21. Solomon SR, Gooding HC, **Reyes Nieva H**, Linder JA. Acute Care Utilization by Patients After Graduation of Their Resident Primary Care Physicians. *J Gen Intern Med.* 2015 Nov; 30(11):1611-7. PMID:25896089.

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23. Chaplin B, Meloni S, Eisen G, Jolayemi T, Banigbe B, Adeola J, Wen C, **Reyes Nieva H**, Chang C, Okonkwo P, Kanki P. Scale-up of networked HIV treatment in Nigeria: creation of an integrated electronic medical records system. *Int J Med Inform.* 2015 Jan; 84(1):58-68. PMID:25301692.

24. Linder JA, Doctor JN, Friedberg MW, **Reyes Nieva H**, Birks C, Meeker D, Fox CR. Time of day and the decision to prescribe antibiotics. *JAMA Intern Med.* 2014 Dec; 174(12):2029-31. PMID:25286067.

25. **Reyes Nieva H**, Doctor JN, Friedberg MW, Birks C, Fiskio JM, Volk LA, Linder JA. "Comparing Clinicians' Perception of Their Own and Their Peers' Antibiotic Prescribing to Actual Antibiotic Prescribing for Acute Respiratory Infections in Primary Care" in Abstracts from the 37th Annual Meeting of the Society of General Internal Medicine. *J Gen Intern Med.* 2014 Apr;29 Suppl 1(Suppl 1): 55. PMID: 24737224.

26. Schiff G, Griswold P, Ellis BR, Puopolo AL, Brede N, **Reyes Nieva H**, Federico F, Leydon N, Ling J, Wachenheim D, Leape LL, Biondolillo M. Doing right by our patients when things go wrong in the ambulatory setting. *Jt Comm J Qual Patient Saf.* 2014 Feb; 40(2):91-6. PMID:24716332.

27. Kripalani S, Roumie CL, Dalal AK, Cawthon C, Businger A, Eden SK, Shintani A, Sponsler KC, Harris LJ, Theobald C, Huang RL, Scheurer D, Hunt S, Jacobson TA, Rask KJ, Vaccarino V, Gandhi TK, Bates DW, Williams MV, Schnipper JL, PILL-CVD Study Group*. Effect of a pharmacist intervention on clinically important medication errors after hospital discharge: a randomized trial. *Ann Intern Med.* 2012 Jul 03; 157(1):1-10. (*member of the investigative team cited in the appendix of the manuscript) PMID:22751755.

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in Cardiovascular Disease (PILL-CVD) study. *Circ Cardiovasc Qual Outcomes.* 2010 Mar; 3(2):212-9. (*member of the investigative team cited in the appendix of the manuscript) `PMID:20233982`.

29. Linder JA, **Reyes Nieva H**, Blumentals WA. Antiviral and antibiotic prescribing for influenza in primary care. *J Gen Intern Med.* 2009 Apr; 24(4):504-10. `PMID:19225847`.

Proceedings of meetings and other non-peer reviewed research publications

1. **Reyes Nieva H**, Kaplan RL, Madani N. Women and HIV: Update from the Middle East and North Africa. Global Network of Researchers on HIV/AIDS in the Middle East and North Africa (GNR-MENA). 2010 International AIDS Conference, Vienna, Austria.

Professional educational materials or reports, in print or other media

1. When Things Go Wrong in the Ambulatory Setting. 2013. The PROMISES Study.*
   *member of the writing committee

2. Using the Monthly Report Form Tool. 2011. Harvard PEPFAR Nigeria. Training Manual.

3. Using the Adult Quality Improvement Tool. 2011. Harvard PEPFAR Nigeria. Training Manual.

4. Using the Pediatric Quality Improvement Tool. 2011. Harvard PEPFAR Nigeria. Training Manual.

5. Using the Data Quality Assessment Tool. 2011. Harvard PEPFAR Nigeria. Training Manual.

6. Data Quality Control and Assurance (Intermediate Data Manual). 2010. Harvard PEPFAR Nigeria. Training Manual.

7. Guidelines for Reporting Clinical Data Quality Assessments. 2010. Harvard PEPFAR Nigeria. Technical Guideline.

8. Generating Adult Quality of Clinical Care Indicators in an HIV Program. 2010. Harvard PEPFAR Nigeria. Technical Guideline.

9. Generating Pediatric Quality of Clinical Care Indicators in an HIV Program. 2010. Harvard PEPFAR Nigeria. Technical Guideline.

10. Introduction to Data Management (Beginner Data Manual). 2009. Harvard PEPFAR Nigeria. Training Manual.

Abstracts, Poster Presentations and Exhibits Presented at Professional Meetings
Works resulting in publication are not included below unless awarded special recognition.

Regional

1. **Reyes Nieva H**, Blackley S, Streed C, Fiskio J, Zhou L. High physician and clinic-level variation in documentation of sexual orientation and gender identity in the electronic health record. Plenary presentation. New England Science Symposium, Boston, MA; 4/2018.
   Received the *Ruth and William Silen Award, Third Prize*

National

1. **Reyes Nieva H**, Zucker J, Tucker EG, Castor D, Yin MT, Gordon P, Elhadad N. Enabling a Learning Public Health System: Enhanced Surveillance of Sexually Transmitted Infections. Oral Presentation. American Medical Informatics Association 2023 Annual Symposium. New Orleans, LA; 11/2023.

2. **Reyes Nieva H**, Tucker EG, McLean J, DeLaurentis C, Gunaratne S, Elhadad N, Zucker J. Development and Validation of Machine Learning and Deep Learning Models for Mpox in a Learning Health System. Poster Presentation. American Medical Informatics Association 2023 Annual Symposium. New Orleans, LA; 11/2023.

3. **Reyes Nieva H** and Elhadad N. Mining the Health Disparities and Minority Health Bibliome: A Computational Scoping Review. Oral Presentation. American Medical Informatics Association Annual Symposium. Washington, DC; 11/2022.

4. Acharya N, **Reyes Nieva H**, Natarajan K. Analyzing shifts in healthcare-seeking behavior among All of Us enrollees in the era of COVID-19. Poster Presentation. American Medical Informatics Association Annual Symposium. Washington, DC; 11/2022.

5. Sun T, Hardin J, **Reyes Nieva H**, Natarajan K, Cheng RF, Ryan P, Elhadad N. Large-scale Characterization of Gender Differences in Age at Diagnosis and Time to Diagnosis in Longitudinal Observational Health Data. National Institutes of Health (NIH) Office of Research on Women's Health (ORWH) Workshop on Gender and Health: Impacts of Structural Sexism, Gender Norms, Relational Power Dynamics, and Gender Inequities. Poster Presentation. Virtual Event; 10/2022.

6. **Reyes Nieva H**, Sun TY, Gorman SR, Mao G, Elhadad N. Differential Presentation and Delays in Treatment for Acute Myocardial Infarction Associated with Sex and Race/Ethnicity. Oral Presentation. American Medical Informatics Association Annual Symposium. San Diego, CA; 11/2021.

7. Sun TY, Chen J, **Reyes Nieva H**, Bear Don't Walk OJ IV, Altosaar J, Elhadad N. Gender Differences in Time to Diagnosis through Fairness and Time Variant Evaluation of EHR Data. American Medical Informatics Association Annual Symposium. San Diego, CA; 11/2021.

8. **Reyes Nieva H** and Elhadad N. Latent Topics and Trends in Health Disparities Literature. Poster presentation. National Library of Medicine Informatics Training Conference. 06/2021.

9. Pang C, Chen R, **Reyes Nieva H**, Kalluri KS, Sun TY, Jiang X, Rodriguez VA, Ryan PB, Natarajan K. Characterization and Comparison of Embedding Algorithms for Phenotyping across a Network of Observational Databases. Oral Presentation. American Medical Informatics Association Annual Symposium. 11/2020.

10. Boskey E, Tabaac A, Wigell R, Wolf K, Lage I, Landrum S, **Reyes Nieva H**, Bearnot B, Streed C. Using patterns of missing EHR data to identify care disparities in gender diverse patients. Oral Presentation. APHA Annual Meeting and Expo. 10/2020.

11. Mlaver E, Dalal AK, **Reyes Nieva H**, Chang F, Hanna J, Ravindran S, McNally K, Stade D, Morrison C, Bates D, Dykes P. An Analysis of Patient Portal Use in the Acute Care Setting. Oral Presentation. American Medical Informatics Association Annual Meeting. San Francisco, CA; 11/2015.

12. **Reyes Nieva H**, Palm K, Zucconi T. Advocacy and Implementation: Gathering SOGI Demographics in the Clinical Setting. Oral presentation. GLMA 33rd Annual Conference. Portland, OR; 9/2015.

13. Dempsey P, **Reyes Nieva H**, Businger A, Linder JA. Accuracy and Gaming of the Acute Bronchitis Antibiotic Prescribing Performance Measure. Poster presentation. Society of General Internal Medicine Annual Meeting. San Diego, CA; 04/2014.

14. **Reyes Nieva H**, Doctor JN, Friedberg MW, Birks C, Fiskio JM, Volk LA, Linder JA. Comparing Clinicians' Perception of Their Own and Their Peers' Antibiotic Prescribing to Actual Antibiotic Prescribing for Acute Respiratory Infections in Primary Care. Oral presentation. Society of General Internal Medicine Annual Meeting, San Diego, CA; 4/2014.
    Received the *Outstanding Quality and Patient Safety Oral Presentation Award*

International

1. **Reyes Nieva H**, Tucker EG, Castor D, Yin M, Gordon P, Elhadad N, Zucker J. Health Information Exchange Enables Enhanced STI Surveillance Using Electronic Health Record Data. Oral Presentation. STI & HIV 2023 World Congress, Chicago, IL; 07/2023.

2. **Reyes Nieva H**, Zucker J, Tucker EG, McLean J, DeLaurentis C, Gunaratne S, Elhadad N. Development and Validation of Machine Learning and Deep Learning Models to Identify Human Monkeypox. Poster Presentation. STI & HIV 2023 World Congress, Chicago, IL; 07/2023.

3. **Reyes Nieva H**, Zucker J, Tucker EG, McLean J, DeLaurentis C, Gunaratne S, Elhadad N. Development and Validation of Machine and Deep Learning Classifiers for Monkeypox. Poster Presentation. Symposium on Artificial Intelligence for Learning Health Systems (SAIL), Río Grande, Puerto Rico; 05/2023.

4. Tucker EG, **Reyes Nieva H**, Schiffer K, Grant L, Yin MT, Castor D, Gordon P, Elhadad N, Zucker J. HIV Viral Load Suppression and Racial Disparities During the COVID-19 Pandemic in NYC. Poster Presentation. Conference on Retroviruses and Opportunistic Infections (CROI 2023). Seattle, WA; 02/2023.

5. Desai PM, Ostropolets A, Richter LR, **Reyes Nieva H**, Spotnitz M, Rodriguez VA, Sun TY, Natarajan K. Phenotype Development and Evaluation of Heart Failure: A Case Study in using Patient-Level Prediction to Improve Phenotype Validity. Poster presentation. OHDSI Global Symposium. 09/2021.

6. **Reyes Nieva H**, Linder JA. Gathering Sexual Orientation and Gender Identity Demographics in the Clinical Setting. Oral Presentation. North American Primary Care Research Group Practice-Based Research Network Conference, Bethesda, MD; 7/2015.

7. **Reyes Nieva H**, Linder JA. PBRN Organization and Governance to Promote Practice, Clinician, Researcher, and Patient Engagement. Workshop. North American Primary Care Research Group Practice-Based Research Network Conference, Bethesda, MD; 07/2014.

Educational Material for Patients and the Lay Community
Books, monographs, articles and presentations in other media

2012 Harvard School of Public Health/AIDS Prevention Initiative in Nigeria: Reducing the Burden of AIDS U.S. President's Emergency Plan for AIDS Relief
Contributor, Harvard PEPFAR Nigeria Program Report

2012 Harvard School of Public Health/Management and Development for Health: Reducing the Burden of AIDS in Tanzania U.S. President's Emergency Plan for AIDS Relief
Contributor, Harvard PEPFAR Tanzania Program Report

2012 Botswana-Harvard AIDS Institute Partnership: Reducing the Burden of AIDS U.S. President's Emergency Plan for AIDS Relief
Contributor, Harvard PEPFAR Botswana Program Report

Other Professional Positions

2010-2012 *Data Quality Assurance Manager*, Harvard University/U.S. President's Emergency Plan for AIDS Relief (PEPFAR), Boston, MA

2008-2010 *Data, Training, and Education Coordinator*, Harvard University/U.S. President's Emergency Plan for AIDS Relief (PEPFAR), Boston, MA

2006-2007 *Emergency Medical Technician*, Tufts Emergency Medical Services, Medford, MA

2004-2005 *Client Outreach Officer*, Advanced Strategies for Healthcare Access, New Haven, CT

2003-2004 *Editorial Assistant/Contributor (work study)*, Yale Medicine Magazine, New Haven, CT

2003 *Paralegal*, Raymond B. Schwartzberg & Associates, New York, NY

2001-2002 *Client Advocate (work study)*, Student Health Outreach (SHOut), New Haven, CT

2000-2001 *Library Clerk (work study)*, Yale University, Sterling Memorial Library, New Haven, CT

2000-2001 *Program Assistant (work study)*, Yale International Affairs Council, New Haven, CT

2000-2001 *Reading Tutor (work study)*, America Reads, New Haven, CT

Computer and Language Skills

Computing Python, R, SAS, SQL, Unix, bash, git, LaTeX, HTML, ArcGIS, QGIS, SaTScan

Languages English, Spanish, Mandarin (beginner)