Harry Reyes Nieva, MPhil, MAS, MA

Columbia University Irving Medical Center Department of Biomedical Informatics 622 West 168th Street, PH20 New York, NY 10032

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Homepage: https://www.harryreyesnieva.com

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 2024

Master of Philosophy in Biomedical Informatics, 2023

Master of Arts in Biomedical Informatics, 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, 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, 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
2012 2014	2013–2014 Member Partners Enterprise Research Portal Working Group
2013–2014	2013–2014 Member
2011–2019	Brigham Health LGBTQ and Allies Employee Resource Group
2011–2019	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
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Professional Organizations and Societies

2023–present Member, Society for Advancement of Chicanos/Hispanics & Native Americans in Science

2023-present *Treasurer*, Columbia University Chapter

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

Member, American Public Health Association

Special Interest Groups: Medical Care, Health Informatics Information Technology

Editorial Activities

Ad hoc Reviewer

2012-2014

Applied Clinical Informatics Journal of Medical Internet Research

Health Services Research Journal of the American Medical Informatics Association

JAMA Network Open Medical Care

Journal of Biomedical Informatics Natural Language Engineering
Journal of General Internal Medicine Open Forum Infectious Diseases

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

2012

2004

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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
2014	Partners in Excellence Award for Quality Treatment and Service, Partners HealthCare
2014	Outstanding Quality & Patient Safety Oral Presentation, Society of General Internal Medicine

Partners in Excellence Award for Leadership and Innovation, Partners HealthCare

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) Ro1 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.

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), Ro1HL089755

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

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.

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

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.

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 Crosses Posteron
 - 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
- 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
- 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.

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.

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

Biomedical Science Careers Program / Educational Relief Fund Review Committee Member 2023-present The Educational Relief Fund provides financial support to BSCP students and fellows whose education is impacted by unexpected roadblocks and hardship. High School Scholars Program, American Medical Informatics Association/Mentor 2019 Supported high school students with research projects; reviewed their work and helped them practice scientific presentations; offered career advice and encouragement. Queer Health Hackathon/Co-organizer 2018 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. Human Rights Commission, City of Cambridge/Commissioner, Vice Chair 2013-2016 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. Timmy Global Health, Dominican Republic/Medical Relief Volunteer 2007 Helped establish temporary medical clinics along Haiti-Dominican Republic border; triaged patients, managed pharmacy, translated proper drug use and application. Latino Youth Enrichment Team (LYET), New Haven, CT/Co-Director 2001-2005 Managed community center mentorship program and developed instructional methods for Latino youth ranging in age from 6 through 13.

Report of Scholarship

Publications

Manuscripts under peer review

- Reyes Nieva H, Bakken S, Elhadad N. Mining the Health Disparities and Minority Health Bibliome: A Computational Scoping Review and Gap Analysis of 200,000+ Articles. medRxiv 2023.10.17.23296754. PMID: 37905137
- 2. Sun TY, **Reyes Nieva H**, Altosaar J, Cheng RJ, Natarajan K, Sena A, Chinthala L, Dorr DA, Benton ES, Liu F, Zai HS, Gerber BS, Gillberg J, Callahan A, Petucci J, Ryan PB, Madlock-Brown C, Weiskopf N, Elhadad N. Large-Scale Characterization of Diagnosis Prevalence by Race, Gender, and Age across All Disease Chapters: A Cross-Sectional Study.
- 3. Sun TY, Hardin J, **Reyes Nieva H**, Natarajan K, Cheng RJ, Ryan PB, Elhadad N. Large-scale characterization of gender differences in diagnosis prevalence and time to diagnosis. medRxiv 2023.10.12.23296976. PMID: 37873224
- 4. Bear Don't Walk OJ IV, Pichon A, **Reyes Nieva H**, Sun T, Altosaar J, Joseph J, Kinberg S, Richter LR, Crusco S, Kulas K, Ahmed SA, Snyder D, Rahbari A, Ranard BL, Juneja P, Demner-Fushman D, Elhadad N. C-REACT, Two Sets of Gold-standard Annotations for Race and Ethnicity in Clinical Notes from MIMIC-III.

Peer reviewed publications in print or other media

- 1. Tucker EG, Reyes Nieva H, Yin MT, Castor D, Gordon P, Elhadad N, Zucker J. Using a Health Information Exchange to Characterize Changes in HIV Viral Load Suppression and Disparities During the COVID-19 Pandemic in NYC. *Open Forum Infectious Diseases*. 2023. In press.
- 2. 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.
- 3. 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):00ad032. PMID:37181728
- 4. 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.* 2023 Aug;32(8):457-469. PMID:36948542.
- 5. 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.
- 6. 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):00ac039. PMID: 35663112.
- 7. 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.
- 8. 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.
- 9. 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.
- 10. 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.
- 11. 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.

- 12. 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.
- 13. 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.
- 14. **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.
- 15. 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.
- 16. 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.
- 17. 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.
- 18. 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.
- 19. 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.
- 20. 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.
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- 22. 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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- 24. 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.
- 25. 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.
- 26. **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.
- 27. 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.
- 28. 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.
- 29. Schnipper JL, Roumie CL, Cawthon C, Businger A, Dalal AK, Mugalla I, Eden S, Jacobson TA, Rask KJ, Vaccarino V, Gandhi TK, Bates DW, Johnson DC, Labonville S, Gregory D, Kripalani S, PILL-CVD Study Group*. Rationale and design of the Pharmacist Intervention for Low Literacy 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.
- 30. 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. Hegselmann S, Parziale A, Shanmugam D, Tang S, Severson K, Asiedu MN, Chang S, Dossou BFP, Huang Q, Kamran F, Zhang H, Nagaraj S, Oala L, Xu S, Okolo CT, Zhou H, Dafflon J, Ellington C, Jabbour S, Jeong H, **Reyes Nieva H**, Yang Y, Zamzmi G, Mhasawade V, Truong V, Chandak P, Lee M, Argaw P, Heuton K, Singh H, Hartvigsen T. Machine Learning for Health (ML4H) 2023. 2023. *Proceedings of Machine Learning Research*. In Press.
- 2. **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.
- 3. **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.

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

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

Regional

 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. Challenges, Opportunities, and Considerations: Promoting Inclusive Research in the Era of Big Data. Oral Presentation / Panelist on "Advancing Diversity, Equity, and Inclusion in Biomedical Informatics Research: Strategies and Best Practices for Using Inclusive Language Across the Research Lifecycle" Panel. American Medical Informatics Association 2023 Annual Symposium. New Orleans, LA; 11/2023.
- 2. **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.
- 3. **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.

- 4. **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.
- 5. 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.
- 6. 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.
- 7. **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.
- 8. 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.
- 9. **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.
- 10. 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.
- 11. 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.
- 12. 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.
- 13. **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.
- 14. 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.
- 15. **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. 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.
- 5. **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.
- 6. **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
- 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
- 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 English, Spanish, Mandarin (beginner)