CURRICULUM VITAE

BIOGRAPHICAL

Name:	Michael E. Matheny, MD, MS, MPH	Birth Date: September 06, 1973
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EDUCATION and TRAINING

POSTGRADUATE

2001-2004	St. Vincent Hospital & Health Services Indianapolis, IN Program Director: Robert M. Lubitz, M.D., M.P.H.	Internal Medicine Resident
2004-2007	Decision Systems Group Harvard/MIT Division of Health Sciences & Technology Boston, MA Advisor: Lucila Ohno-Machado, M.D., Ph.D.	Medical Informatics Fellow

GRADUATE

1997-2001	University of Kentucky, Lexington, KY	M.D.	Medicine
2004-2006	Massachusetts Institute of Technology, Cambridge, MA Advisor: Frederic S. Resnic, M.D., M.S.	M.S.	Biomedical Informatics
2005-2007	Harvard University, Cambridge, MA	M.P.H.	Public Health

UNDERGRADUATE

1991-1997	University of Kentucky, Lexington, KY	B.S	Chemical Engineering Cum Laude

CERTIFICATION and LICENSURE

Tennessee State License (09/30/07 – 09/30/17)	42571
United States DEA License (01/07 – 01/16)	On Request
American Board of Medicine Certification (10/2004 – 10/2025)	230233
Clinical Informatics Specialty Certification (01/2014 – 01/2024)	070362
National Provider Identifier	1275579427

APPOINTMENTS and POSITIONS

1994-1995	Center For Applied Energy Research, Lexington, KY	Co-Operative Student Researcher
2002-2004	ICU, Bariatrics, and Medicine Floor Coverage St. Vincent's Hospital, Carmel, IN	Moonlighting Physician
2004-2007	Harvard Medical School, Boston, MA	Instructor In Medicine
2004-2007	Urgent Care Clinic 1 Day/Wk Brigham Internal Medicine Associates Brigham & Women's Hospital, Boston, MA	Associate Physician
2007-2009	Department of Biomedical Informatics (2°) Vanderbilt University, Nashville, TN	Instructor in Biomedical Informatics
2007-2009	Division of General Internal Medicine (1°) Vanderbilt University, Nashville, TN	Instructor in Medicine
2007-	Geriatrics, Research, and Clinical Care (GRECC) Veteran's Administration, Nashville, TN	Staff Physician
2009-2017	Department of Biomedical Informatics Vanderbilt University, Nashville, TN	Assistant Professor of Biomedical Informatics
2009-2017	Division of General Internal Medicine Vanderbilt University, Nashville, TN	Assistant Professor of Medicine
2010-	VA TVHS Informatics Fellowship, Nashville, TN	Associate Director
2010-2017	Department of Biostatistics, Vanderbilt University, Nashville, TN	Assistant Professor of Biostatistics
2015-2019	Center for Population Health Informatics, Vanderbilt University, Nashville, TN	Director
2017-2022	Department of Biomedical Informatics (1°) Vanderbilt University, Nashville, TN	Associate Professor of Biomedical Informatics (Tenured)
2017-2022	Department of Biostatistics (2°) Vanderbilt University, Nashville, TN	Associate Professor of Biostatistics
2017-2022	Division of General Internal Medicine (2°) Vanderbilt University, Nashville, TN	Associate Professor of Medicine
2019-2021	Center for Improving the Public's Health through Informatics, Vanderbilt U. M. C., Nashville, TN	Co-Director
2021-	Center for Improving the Public's Health through Informatics, Vanderbilt U. M. C., Nashville, TN	Director
2022-	Department of Biomedical Informatics (1°) Vanderbilt University, Nashville, TN	Professor of Biomedical Informatics (Tenured)
2022-	Department of Biostatistics (2°) Vanderbilt University, Nashville, TN	Professor of Biostatistics
2022-	Division of General Internal Medicine (2°) Vanderbilt University, Nashville, TN	Professor of Medicine

PROFESSIONAL and SCIENTIFIC SOCIETY MEMBERSHIPS

1997-2007	Member, American Medical Association
2001-2005	Associate, American College of Physicians
2003-	Member, American Medical Informatics Association (AMIA)
2003-2007	Member, AMIA Student Workgroup
2006-	Member, Society of General Internal Medicine
2007-	Member, AMIA Clinical Research Informatics Workgroup
2007-	Member, AMIA Pharmacoinformatics Workgroup
2008-2011	Member, American College of Physicians
2009-2011	Elected Member-At-Large, AMIA Clinical Research Informatics Workgroup
2010-2017	Member, International Society for Pharmacoepidemiology (ISPE)
2011	Ad-Hoc Scientific Review Member, VA Health Services Research & Development Scientific Merit Review Board, Methods and Informatics Section
2011	Steering Committee, Medical Device Special Interest Group (ISPE)
2011	Review Committee, Health Information Technology Section, Academy Health
2011	Elected Fellow, American College of Physicians
2012	Ad-Hoc Scientific Review Member, VA Health Services Research & Development Scientific Merit Review Board, Long Term Care Section
2012/02	Ad-Hoc Scientific Review Member, Patient Centered Outcomes Research Institute (PCORI), Scientific Review Study Section
2012	Field Based Biomedical Informatics Funding Advisory Board, VA Health Services Research & Development
2013-2017	External Steering Committee Member, Indianapolis VA HSR&D Center for Health Information and Communication (COIN)
2014-2016	Standing Scientific Review member, VA Health Services Research & Development Scientific Merit Review Board, Methods and Informatics Section
2014	Elected Co-Chair, Medical Device Special Interest Group (ISPE)
2014-2016	Research & Publications Committee, National VA CART-CL Program
2014	Ad-Hoc Scientific Review Member, VA Health Services Research & Development Scientific Merit Review Board, Behavioral, Social, and Cultural Determinants of Health & Care
2015	Elected Chair, Medical Device Special Interest Group (ISPE)
2015	Scientific Program Committee Member, Foundations Track, American Medical Informatics Association
2015-2018	Strategic Advisory Board, Measurement Science QUERI (Mary Whooley), VA HSR&D Program
2016, 2017	Ad-Hoc Scientific Review Member, VA Health Services Research & Development Scientific Merit Review Board, Learning Health Care System Section
2016-	Steering Committee, VA Information Resource Center (VIREC)
2016	Planning Committee, Million Veterans Program Phenotyping Conference
2017-2018	External Steering Committee Member, Tampa VA HSR&D Center of Innovation on Disability and Rehabilitation Research (CINDR)
2018	Ad-Hoc Study Section Member, NIH Biomedical Computing & Health Informatics CSR
2018	Elected Fellow, American College of Medical Informatics, American Medical

	Informatics Association
2019	VA HSR&D GS14/15 Promotion Review Committee
2019-2021	VA ORD MVP Publication Committee Member
2020	Elected Member, American Society of Clinical Investigation
2020	Scientific Program Committee Member, Applications Track, American Medical Informatics Association
2022	Ad-Hoc Study Section Member, NIH Clinical Data Management and Analysis
2022-Cur	VA HSR&D HSR-3 Study Section Member, Standing
2022-Cur.	VA ORD MVP Executive Steering Committee
2022-2023	VA ORD MVP 2022 Conference Planning Committee
2022-2024	Co-Chair, Strategic Planning Implementation Committee, American College of Medical Informatics
2023-Cur	Technical Expert Panel Member, PCORI Trust Fund Data Advisory Committee, ASPE National Center of Excellence

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INVITED PRESENTATIONS

International Peer-Reviewed Presentation
2013-08-28 International Conference for Pharmacoepidemiology, Montreal, Canada. "Development and Evaluation of a Post-Operative Event Monitor: POEMS"

International Peer-Reviewed Expert Panel
2014-10-27 International Conference for Pharmacoepidemiology, Taipei, Taiwan, "Combination Medical Product Case Study: Biodegradable Drug Eluting Stents"

National Peer-Reviewed Presentation
2003-11-13, American College of Physicians – Indiana Chapter. Indianapolis, IN. "Comparison of Documentation and Patient Outcomes Between Paper and Electronic Medical Record Systems in a Resident Clinic."
2005-11, American Medical Informatics Association, Washington, DC. "Evaluating the Discriminatory Power of a Computer-Based System for Assessing Penetrating Trauma on Retrospective Multi-Center Data."
2005-11-29, Radiological Society of North America, Chicago, IL. "Lack of Integration between CPOE and RIS is a Potential Source of Reporting Errors for Outpatient Radiology Studies."
2007-04-27, Society of General Internal Medicine, Toronto, Canada. "Impact on Patient Satisfaction with Physician Use of an Automated Test Results Management System."
2007-11-12, American Medical Informatics Association, Chicago, IL. "Rare Adverse Event Monitoring of Medical Devices with the Use of an Automated Surveillance Tool."
2009-11-16, American Medical Informatics Association, San Francisco, CA. "Detection of Blood Culture Bacterial Contamination using Natural Language Processing."
2011-08-15, International Conference of Pharmacoepidemiology and Therapeutic Risk Management 2011, Chicago, IL. "Use of Propensity Score Matching for Automated Active Surveillance in Clinical Registries."

2015-07-10, VA Health Services Research & Development Conference, Philadelphia, PA. "National Surveillance of Acute Kidney Injury Following Cardiac Catheterization." 40 Attendees, 20 Minutes
2017-03-30, VHA VINCI OMOP & PCORNet CDM Lessons in ETL Performance and Maintainability, VA AMIA Spring Conference, San Francisco, CA
2017-07-13, Overview of the Availability and Use of the OMOP Common Data Model in the VHA, VA HSR&D National Conference, Washington, DC.
2022-12-01, VA MVP Scientific Conference, "MVP 021: Novel Data-Driven Phenotyping to Support GWAS Exploration,". 15 Minutes, 200 Attendees (190 VA), Tampa, FL.
2023-11-04,"IMPROVE AKI: Sustainability of Team-Based Coaching Interventions to Improve AKI in a Cluster-Randomized Trial" American Society of Nephrology Kidney Week Conference 2023, Chicago, IL, 150 attendees, 15 minutes, 25 VA.

National Invited Presentation
2005-07-12, AHRQ Practice-Based Research Network, Washington, DC. "Evaluation of Guideline Compliance after the Implementation of a Clinical Decision Support and Computerized Physician Order Entry System for Medication Laboratory Monitoring."
2009-07-17, U.S. Preventive Services Task Force Meeting, AHRQ, Rockville, MD. "Systematic Review of Primary Cardiovascular Disease Risk Assessment Tools"
2009-08-17, VA Consortium for Healthcare Informatics Research, Salt Lake City, UT. "Applications of Natural Language Processing in VA Data: Lessons Learned."
2012-05-07 Academy for Healthcare Improvement: Advancing The Methods for Healthcare Quality Improvement Research, Washington, DC. "Time Series and Risk Adjusted Control Charts"
2012-07-31 National VA Systems Facing Health Management Platform Committee, Webinar. "TVHS Local Laboratory for Clinical Informatics"
2015-02-24 FDA Informatics Think Tank Meeting, Washington, DC, "Utility of Common Data Models for HER and Registry Data Integration: Use in Automated Surveillance". – 125 Attendees, 20 min
2015-07-28 New York Academy of Sciences: Leveraging Big Data & Predictive Knowledge to Fight Disease Conference, New York, NY. "Use of Electronic Health Records for Surveillance and Predictive Analytics." 50 Attendees, 30 Minutes
2016-01-19 VA Cyber Seminar Series, Virtual, "Towards Near Real-Time Surveillance of Acute Kidney Injury Following Cardiac Catheterization", 20 attendees, 60 minutes
2016-09-12 VA ORD Phenotyping Conference, Washington DC, "EHR Phenotyping Leveraging Unstructured Data Sources", 50 attendees, 20 minutes
2017-02-06 PCORNet Council Meeting, Washington, DC. "Kidney Health Clinical Research Group Update." 75 attendees, 15 minutes.
2017-10-19 OMOP and PCORNet CDMs Capacity for Medical Device Surveillance, FDA MDEpiNet Conference, White Oak, MD.
2017-11-07 Use and Aggregation of OMOP Standard Vocabularies for Administrative Codes & Medications, VA HSR&D CyberSeminar, Online.
2017-11-30, NAM Digital Learning Collaborative, Practical Challenges for AI/ML Development, Spread, and Scale, National Academy of Medicine, Washington, DC

2018-05-10, NAM Digital Learning Collaborative Workgroup, AI & Future of Continuous Health Learning & Improvement Update, Health & Policy Meeting, National Academy of Science, Engineering, and Medicine, Washington, DC.

2018-11-07, VA ORD CyberSeminar, Identifying Acute Inpatient Stays within the CDW Inpatient Domain & Inpatient OMOP Visit Occurrence Transformation, Online.

2019-01-11, Committee on Emerging Science, Technology, and Innovation, Presentation on Key AI Healthcare Opportunities & Challenges, National Academy of Medicine, Washington, DC.

2019-06-27, "VA Research Approaches from an Informatics Perspective,", VA ORD EHRM Implementation Evaluation & Research Meeting, Washington, DC

2019-09-12, "Development of a Probabilistic Phenotype for Hepatorenal Syndrome," VA MVP Science Meeting, Philadelphia, PA

2019-10-23, "Leveraging EHR Data through Machine Learning And NLP for Phenotyping, Data Quality, and Outcomes: The VHA Experience," FDA MDEpiNet Meeting, Rockville, MD

2020-04-30, National Academy of Medicine and Governmental Accountability Office Webinar, "Overview of Issues and Challenges in Healthcare AI," Online Format, Recorded, Publicly Available, 375 Attendees, 15 Minutes.

2020-08-10, Sentinel Innovation Center Webinar Series, "Exploring the Opportunities and Challenges of Common Data Model Representations of NLP Output of EHR Data" Virtual, 60 minutes, 115 attendees.

2020-09-10, International Conference on Complex Acute Illness (ICCAI) Opening Keynote, "Artificial Intelligence In Acute Care: Is It Fall or Spring?" Virtual, 40 minutes, 400 attendees.

2020-12-14, FDA MDEpiNet Virtual Conference, "Synthetic Mid-Urethral Slings for Stress Urinary Incontinence in Women" 15 minutes, 65 attendees.

2022-01-13, FDA NEST Webinar, "Synthetic Mid-Urethral Slings for Stress Urinary Incontinence in Women" 45 minutes, 83 attendees (0 VA).

2022-09-02, VA HSR&D PROVEN Consortium Annual Webinar, "Developing a Cerner OMOP Prototype", Virtual, 15 minutes, 130 attendees (130 VA).

2022-11-02, VA HRS&D PROVEN Consortium Update, "Clinical Encounter Data Evaluation & Harmonization Across the Legacy to Cerner Transition." 30 attendees (30 VA).

2023-04-26, VA Cyberseminar Series, "An Overview of the OMOP Common Data Model Transformation of the VHA Oracle-Cerner Millennium-Derived Data" 150 attendees, 60 minutes, 150 VA, Virtual.

2023-09-29, VA HSR&D PROVEN Consortium Annual Webinar, "Oracle Cerner Update & Encounter Comparison Pilot Preliminary Findings", Virtual, 15 minutes, 110 attendees (110 VA).

2024-04-22, Sentinel Innovation Center National Webinar, "Opportunities and Challenges in the use of Large Language Models for Post-Marketing Surveillance of Medical Products", 100 attendees, 60 minutes, 5 VA.

2024-07-14, AHRQ CDSiC Steering Committee, "Opportunities and Challenges in the use of AL and IM in Populatin and Patient Centered Clinical Decision Support." Virtual, 20 attendees, 30 minutes, 0 VA.

2024-07-22, VHA National CMO CNO QMO Meeting, "A Randomized Trial of Personalized Clinical Decision Support to Improve Statin Prescribing in Patients with Atherosclerotic Cardiovascular Disease." Virtual, 70 attendees, 70 VA, 15 minutes.

2024-09-04, Defense Health Board – Expert Presentation – "Opportunities and Challenges in the use of AI & ML in Healthcare: Focus on Virtual Health Assistants, Diagnostics, and Ambient AI." Virtual, 30 attendees, 30 minutes, 3 VA.
2024-09-20, PROVEN EHR Modernization Research Summit, "Opportunities and Challenges in the use of AI & ML in Healthcare" Virtual, 15 minutes, 200 attendees, 190 VA.

National Peer-Reviewed Expert Panel
2015-03-24 American Medical Informatics Association Joint Summits on Translational Science, San Francisco, CA. "OMOP & PCORNet CDM Implementation Experienced in the Department of Veteran Affairs" 120 Attendees, 15 Minutes
2016-09-13 Academy Health Condcordium, Washington, DC. "Record Linkage Challenges in Distributed Data Networks" 20 attendees, 15 minutes
2016-11-15 AMIA Annual Symposium, Chicago, IL. "Calibration of Predictive Models for Clinical Decision Making: Personalizing Prevention, Treatment, and Disease Progression." 150 attendees, 15 minutes.
2017-03-30 AMIA Spring Summit, San Francisco, CA. "VHA VINCI OMOP/PCORNet CDMs: Lessons in ETL Performance and Maintainability." 40 attendees, 20 minutes
2018-04-13 The OMOP Common Data Model for VHA and DoD. Society of General Internal Medicine, Denver, CO.
2018-04-27 Institutional Variation in AKI among Heart Failure Patients: OMOP Use Case, Academy Health Datapalooza, Washington, DC
2019-11-19, "NAM Artificial Intelligence in Healthcare: Chapter 6 & 7 Overview", NAM AI In Healthcare Expert Panel, AMIA Annual Symposium, Washington, DC
2020-11-17, "Pain Management Collaboratory Coordinating Center: Insights from Multiple Work Groups for Clinical Research Informatics Support", AMIA Annual Sypmosium, Virtual, 15 minutes, 15 attendees.
2021-03-25, AMIA Summit, "The Clinical Risk Prediction Modeling Lifecycle" 20 minutes, 25 attendees.
2021-05-21, AMIA Clinical Informatics Conference, "How Can Industry Self-Governance and Other Policies Lead to Sustained Trust in Ethical AI? A Panel Discussion", Virtual, 90 minutes, 90 attendees.
2021-08-12, HIMSS Global Health Conference, "Avoiding an AI Winter Through Industry Self-Governance." Las Vegas In Person & Virtual, 60 Minutes, 15 in person, 90 virtual
2022-03-15, HIMSS Annual Conference, "Making the Case for Evidence-Based AI," Orlando, FL, 90 minutes, 55 attendees (0 VA).
2022-11-09, AMIA Annual Symposium, "Can Data Science Move Medical Device Surveillance Forward? Highlights of Solutions and Remaining Challenges in Real-World Evidence Generation," Michael Matheny, Danica Marinac-Dabic, Art Sedrakyan, Omar Badawi, Fred Resnic, Washington, DC. 30 Attendees, 90 Minutes (5 VA)
2024-07-09, AIME Conference Panel Keynote, "Opportunities and Challenges in Healthcare AI Implementation: A Sociotechnical Focus" 30 minutes, 60 attendees (5 VA).

National Invited Expert Panel
2010-06-25, Society of Epidemiological Research, Seattle, WA. "FDA Panel: Application of Methodological Advancements and Challenges in Medical Device Research."

2012-05-08 Academy for Healthcare Improvement: Advancing The Methods for Healthcare Quality Improvement Research, Washington, DC. "Best Methods In Healthcare Quality Improvement"

2013-03-18 Brookings Institution, Washington DC, "Information Needs for Ongoing Care of Patients with Devices"

2016-09-23 OHDSI Conference, Washington, DC. "The VHA VINCI OMOP Experience." 150 attendees, 15 minutes.

2017-10-19 FDA MDEpiNet Conference, Silver Springs, MD. "OMOP & PCORNet CDMs: Capacity for Medical Device Surveillance."

2019-08-21 PCORI Panel Discussion on Artificial Intelligence, Online Webinar. Invited by Joe Selby, Director. Lead Panelist for "Are there key methodologic or study design issues that should be kept in mind for planning CER studies that aim to evaluate the clinical utility of these applications?"

202-05-14 PMC3 Consortium Yearly Meeting, Online Webinar. "EHR Workgroup Chair Update: VA COVID-19 Shared Data Resource." 150 attendees, 15 minutes.

2020-06-01 Regenstrief Artificial Intelligence Conference, Online Webinar, Recorded, Publicly Available. Invited Panelist, "Implementing Artificial Intelligence in Clinical Practice." 250 Attendees, 15 Minutes.

2020-08-05, NIH NINR Artificial Intelligence Boot Camp, Expert Panel on Ethical AI, "The Challenges of Bias, Transparency, and Fairness in Clinical Implementations of AI," Virtual, 30 minutes, 200 attendees.

2020-08-12, National VA Quality Scholars Conference, Predictive Analytics Panel, "Integration of Predictive Analytics into Clinical Workflows: The Example of Hospitalized Patients with Cirrhosis" 20 minutes, 30 attendees.

2021-03-11, Health Resources and Services Administration, Innovations Webinar, "The Clinical Risk Prediction Modeling Life Cycle" 20 minutes, 150 attendees.

2021-12-09, Stanford AI Health Conference, "Considerations for Safety Surveillance of AI as or in a Medical Device", Virtual, 15 minutes, 130 attendees (10 VA).

2024-07-27, NIHCM Foundation Webinar Panel, "Opportunities and Challenges in the use of AI and ML in Healthcare." Virtual, 15 minutes, 200 attendees (20 VA).

National Peer-Reviewed Workshop

2013-07-22 Academy Health, Baltimore, MD, "Natural Language Processing For Health Services Researchers"

2016-11-16 AMIA Annual Symposium, Chicago, IL. "pScanner PopMedNet Portal/Client Demonstration."

National Invited Workshop

2019-01-16. AI In Healthcare Publication Workshop Co-Chair, Full Day, ~60 Participants, National Academy of Medicine, Washington, DC.

2019-11-19, Co-Chair of All-Day CME Workshop presenting content of NAM AI in Healthcare Publication. Individual presentations in Chapters 1 & 8, Stanford, Stanford, CA.

Local Invited Presentation (Extramural)

2008-05-23, Decision Systems Group, Brigham & Women's Hospital, Boston, MA. "Towards Automated Medication Outcomes Surveillance Among Hospitalized Patients in the Veteran's Administration."

2009-11-02, UMass Department of Quantitative Health Sciences, Worcester, MA. "Automated Outcome Surveillance of Medical Products using Clinical Registries."

2010-08-02, Tampa VA HSR&D Center Of Excellence, Tampa, FL, "Development of a Machine Learning Assisted Annotation Tool for PTSD Medical Documents."

2011-05-11, UCSD Division of Biomedical Informatics, San Diego, CA. "Automated Applications for Medical Device Post-Marketing Surveillance."

2011-05-12 iDASH NCBC Symposium 2011, San Diego, CA. "Event Detection Statistics Toolbox: Method Selection Considerations."

2011-05-13 SCANNER R-01 Briefing Meeting, San Diego, CA. "Observational Cohort Surveillance: Anti-Platelet and Anti-Thrombotic Use Cases."

2011-09-09 IDASH NCBC Recorded Webinar, "Automated Surveillance of New Anti-Thrombotic and Anti-Platelet Agents: Data and Statistical Challenges."

2011-11-11 University of Kentucky Institute for Pharmaceutical Outcomes and Policy, Lexington, KY. "Automated Active Surveillance for Medical Products in Clinical Registries."

2012-01-11 VA CART-CL Cardiovascular Research Group, Denver, CO. "National Surveillance of Acute Kidney Injury following Cardiac Catheterization."

2012-03-06 Multi-Center SCANNER Grant Collaboration, Webinar. "OCEANS: Statistical Toolkit Update"

2012-04-27 Biomedical Research & Education Foundation, West Palm Beach, FL. "Utility of Electronic Health Record Data for Medical Device Surveillance"

2012-10-05 University of Kentucky Medical Center Department of Medicine Grand Rounds, Lexington, KY. "Automated Active Surveillance for Medical Products in Cardiac Catheterization Registries"

2013-09-16 IDASH National Center For Biomedical Computing All-Hands Meeting, UC San Diego, San Diego, CA. "Medication Surveillance Observation Study Summary Findings"

2013-10-23 University of Texas, School of Biomedical Informatics, Houston, TX. "Patient Safety: Enhancing Surveillance of Medical Devices."

2014-05-27 University of Iowa General Internal Medicine Division Rounds, Iowa City, IA "Patient Safety: Enhancing Surveillance of Medical Devices"

2014-09-16 IDASH National Center for Biomedical Computing All-Hands Meeting, UC San Diego, San Diego, CA. "Analytics Framework for pScanner Distributed Network"

2015-01-28 AstraZeneca Corporate, Virtual. "Overview of Observational Cohort Study Capacity within Veteran Affairs: Emphasis on Respiratory Diseases" – 25 Attendees, 1 hour

2015-04-08 VA CART-CL Cardiovascular Research Group, Denver, CO. "National Surveillance of Acute Kidney Injury Following Cardiac Catheterization." 20 Attendees, 60 minutes.

2016-05-20 Johnson & Johnson Corporate Headquarters, New Brunswick, "Automated Active Surveillance of Medical Devices: The DELTA Experience". 30 Attendees, 90 minutes

2016-10-13 pScanner CDRN All-Hands Meeting, UC San Diego, San Diego, CA. "Analytics Franework for pScanner Distributed Network" 40 attendees, 20 minutes

2017-01-26 VINCI Governance Meeting, Salt Lake City, UT. "VINCI OMOP Initiative." 20 attendees, 40 minutes.

2020-01-13 Booze-Allen-Hamilton Artificial Intelligence Roundtable, Washington, DC. Closing Keynote. "NAM Special Publication: Artificial Intelligence in Healthcare – Considerations for Operationalization of AI.' 20 attendees, 30 minutes.
2020-05-04 UT Memphis Informatics Seminar, Online Zoom. "The Clinical Risk Prediction Modeling Lifecycle." 10 attendees, 1 hour.
2020-08-21, Portland VA HSR&D Center Visiting Scholar, "Electronic Health Record-Based Clinical Risk Prediction & Common Data Models" 60 minutes, 20 attendees.
2020-08-26, University of Utah Department of Biomedical Informatics Visiting Faculty, "Biomedical Informatics in the Era of Data Science, Omics, and Personalized Healthcare: Opportunities and Challenges", 60 minutes, 40 attendees
2021-09-22, University of Kansas Medical Center Medical Grand Rounds, "Musings on Biomedical Informatics & Electronic Health Records", Virtual, 60 minutes, 125 attendees
2022-03-25, University of Kansas Renal Grand Rounds, "Opportunities and Challenges in Care before and after Acute Kidney Injury," Virtual, 60 minutes, 25 attendees, (5 VA)
2022-08-15, Meharry Medical College, Data Science Webinar, "Opportunities and Challenges in the use of AI and ML for Population Health Informatics: Focus on Medical Devices," Virtual, 60 minutes, 140 attendees, (10 VA)
2023-09-11 NESTcc Consortium Proposal Defense, "MEDSIGHT: Medical Device Active Surveillance for Global Health & Technologies." 60 Minutes, 10 attendees, 0 VA, Arlington, VA.
2023-09-13, Regenstrief Distinguished Invited Lecture, "Opportunities and Challenges in the use of AI and ML for Population Health Informatics." 60 minutes, 120 attendees, 20 VA, Indianapolis, IN.
2024-02-21, Middle TN Society of Hospital Medicine Dinner Presentation, "Opportunities and Challenges in the use of AI and ML in Healthcare: Focus on Hospital Medicine, 60 minutes, 25 attendees, 0 VA, Nashville, TN.
2024-04-15, University of Colorado Biostatistics Grand Rounds, "Opportunities and Challenges in the use of AI and ML for Population Health Informatics." 60 minutes, 45 attendees, 0 VA, Aurora, CO.

Local Invited Presentation (Home Institution)

2006-11-15, Harvard School of Public Health, Boston, MA. "Impact on Patient Satisfaction with Physician Use of an Automated Test Results Management System. HSPH MPH Research Practicum Presentation."
2007-05-02, Decision Systems Group, Brigham & Women's Hospital, Boston, MA. "Impact on Patient Satisfaction with Physician Use of an Automated Test Results Management System."
2008-01-24, Center for Improving Patient Safety, Vanderbilt University Medical Center, Nashville, TN. "Automated Outcome Surveillance of Medical Products Using Clinical Registry and Electronic Health Record Data"
2010-03-17, Vanderbilt Department of Biostatistics Seminar, Nashville, TN. "Analysis Methods for Medical Product Post-Marketing Surveillance."
2010-04-07, Vanderbilt Department of Biomedical Informatics Grand Rounds, Nashville, TN. "Automated Applications for Medical Device Post-Marketing Surveillance."
2011-03-11, Research Council, Department of Medicine, Vanderbilt University Medical Center, Nashville, TN. "Analysis Methods for Medical Product Post-Marketing Surveillance."

2012-03-21 VISN 9 GRECC External Advisory Board, Nashville, TN. "National Surveillance of Acute Kidney Injury Following Cardiac Catheterization"

2012-08-09 Anesthesiology Informatics Research Seminar, VUMC, Nashville, TN. "Automated Active Surveillance for Medical Products in Clinical Registries"

2012-08-30 VA Central Office GRECC Site Visit, TVHS VA, Nashville, TN. "National Surveillance of Acute Kidney Injury following Cardiac Catheterization"

2012-09-13 VA GRECC Informatics WIP, TVHS VA, Nashville, TN. "National Surveillance of Acute Kidney Injury following Cardiac Cauterization"

2013-01-09 Vanderbilt Division of General Internal Medicine Grand Rounds, Nashville, TN. "Automated Active Surveillance for Medical Products in Cardiac Catheterization Registries"

2013-04-24 Personalized Risk Prediction Symposium, Vanderbilt Department of Biostatistics, Nashville, TN, "Challenges in Individual Risk Prediction for Hospitalized Acute Kidney Injury"

2013-08-01 Vanderbilt Department of Medicine Grand Rounds, Nashville, TN. "Patient Safety: Enhancing Surveillance of Medical Devices"

2014-08-06 Vanderbilt Department of Biomedical Informatics Guest Lecture, Nashville, TN "Population Health Informatics: Enhancing Surveillance of Medical Products"

2015-05-19 VINCI, Salt Lake City, UT. "VINCI Services: OMOP & PCORnet CDMs: OHDSI Tools and PCORNet Data Mart Client Tools" – 20 Attendees, 1 hour

2015-07-01 VA CART Program, Virtual. "VINCI Services: OMOP CDMs & OHDSI Tools" – 10 Attendees, 1 hour

2015-08-13 University of Washington, Seattle, WA – Center for Kidney Diseases "Extraction of AKI Risk Factors with Natural Language Processing" – 15 Attendees, 20 min

2015-08-19 NLP Research Group (Salt Lake), Virtual. "Automated Surveillance and Intervention among Patients with Liver Cirrhosis" – 5 Attendees, 1 hour

2015-08-26 VA Corporate Data Warehouse, Virtual. "OMOP CDM & OHDSI Tools"- 100 Attendees, 20 min

2015-09-14 Population Health IT Portfolio, VUMC, Nashville, TN. "Overview of Research Opportunities in Population Health Informatics"- 25 attendees, 15 min

2015-09-25 VA Quality Scholars TVHS, Nashville, TN. "TVHS VA Informatics Research Projects and VA National Resources"- 8 attendees, 1 hour

2015-09-25 Million Veterans Program (Boston, MA), Virtual. "VINCI Services: OMOP CDMs & OHDSI Tools" 10 attendees, 1 hour.

2018-02-16 Center for Population Health Informatics Overview for Oak Ridge National Laboratory Data Science Team Site Visit, VUMC, Nashville, TN.

2018-02-02 Center for Population Health Informatics – Internal Group Yearly State of Center, VUMC, Nashville, TN.

2018-08-29 Center for Population Health Informatics Overview for Aurum South Africa NGO, VUMC, Nashville, TN.

2018-12-04 Center for Population Health Informatics: Medical Device Surveillance. NEST Site Visit, VUMC, Nashville, TN.

2019-05-30, VA OMOP Initiative Overview, ONCHIT VUMC Site Visit, Nashville, TN

2019-09-18, DBMI State of the Department – CIPHI Center Update, VUMC, Nashville, TN

2019-09-19, CIPHI Summary, NEST Site Visit, VUMC, Nashville, TN

2019-09-20, NEST Project R2-B2, Stress Urinary Incontinence Slings Project, VUMC, Nashville, TN

2019-12-05, VUMC Biomedical Science Advisory Board – CIPHI, VUMC, Nashville, TN
2019-12-13, VUMC Mid-Career Training Program Faculty Proposal – "Developing an Implantable Device Institutional Data Resource." VUMC, Nashville, TN
2020-04-06 VA GRECC Research Update: "AI In Healthcare: Summary of NAM Report and an Overview of Recent AI/ML Research" 15 Attendees, 45 Minutes.
2020-10-16, DBMI State of the Department – CIPHI Center Update, VUMC, Nashville, TN
2022-10-04, Emerging Infections Program, "Public Health Data Modernization: Focus on Interoperability & Sharing," In Person, 15 minutes, 300 attendees, (10 VA)
2023-02-12, Center For Precision Medicine, "Center for Improving the Publics' Health Through Informatics: Overview & Recent Projects." 50 attendees, 30 minutes. (5 VA). Virtual.
2023-10-04, VUMC Informatics Grand Rounds, "Opportunities and Challenges in the use of AI & ML for Population Health Informatics." 90 attendees, 60 minutes, (5 VA), Nashville, TN.
2023-11-27, GRECC Staff Meeting Presentation "Opportunities and Challenges in the use of AI/ML for Population Health Informatics." 20 attendees, 45 minutes, (20 VA), Virtual.
2024-03-26, TVHS VA Primary Care Grand Rounds, "ACE/ARB underutilization in patients with CKD: known problems and an attempt to make progress." 55 attendees, 45 minutes (45 VA), Virtual.
2024-08-02, GRECC GAS Mtg, "VETWISE-LHS Overview", 15 attendees, 15 minutes (15 VA).
2024-08-15, DBMI Faculty Meeting, "CIPHI Center Faculty Update" 35 attendees, 20 minutes (5 VA).

Local Expert Panel (Extramural)
2011-05-12 iDASH NCBC Symposium 2011, San Diego, CA. "Medical Product Surveillance in Observational Cohorts."
2014-09-16 iDASH NCBC Symposium 2014, San Diego, CA. "Data Harmonization and Synergies: OMOP, PCORNet CDM and the CTSA cohort identification models"
2015-08-12 VUMC DBMI Informatics Retreat, "Population Health Informatics: Opportunities & Challenges" 75 attendees, 90 min
2015-09-30 pScanner / iDASH NCBC Symposium 2015, San Diego CA, Use of Natural Language Processing Expert Panel, 50 attendees, 60 minutes
2023-04-26, Regenstrief Institute Invited AI Panel, "Panel on Planning & Implementing AI for Healthcare Innovation: Challenges, Achievements, and Future Outlooks: Challenges in Sustaining AI/ML in Practice." 100 attendees, 15 minutes, 20 VA, Indianapolis, IN.

EDITORIAL EXPERIENCE

Editorial Board
2012-2021   Informatics
2012-2017   Methods of Information in Medicine

Invited Poster Judge
2009,2011,2013,2015,   AMIA Fall Symposium

2016-2019

Ad-Hoc Reviewer

2005,2007,2009,2011	Journal of Biomedical Informatics
2005-2008	American Journal of Managed Care
2006	Hawaii International Conference on System Sciences
2006-2007	Journal of Hospital Care
2006-2015	American Medical Informatics Association Fall Symposium
2007, 2009	Methods of Information in Medicine
2007-2008, 2013-2016	Journal of the American Medical Informatics Association
2007-2008	Artificial Intelligence in Medicine
2009	Archives of Internal Medicine
2009-2013	Medical Care
2010	Journal of Medical Internet Research
2010	Medical Decision Making
2011	BMJ Medical Informatics & Decision Making
2011	BMJ Quality & Safety
2011, 2015, 2021	Clinical Journal of the American Society of Nephrology
2012	CHEST
2012, 2014, 2015	Circulation: Cardiovascular Quality and Outcomes
2013	American Journal of Epidemiology
2013	Circulation
2014	AMIA Joint Summits on Translational Science
2020, 2021	New England Journal of Medicine
2020, 2021, 2024	JAMA Network Open
2023-2024	AMIA AI Showcase Scientific Program Committee

TEACHING

2006	Guest Lecturer, "Risk Modeling: Calibration, Recalibration, and Remodeling." HST.951 Medical Decision Support Massachusetts Institute of Technology, Cambridge, MA.
2006,2007	Internal Medicine Resident Preceptor Brigham Internal Medicine Associates Brigham & Women's Hospital, Boston, MA
2007-Current	Internal Medicine Resident Preceptor Vanderbilt University Medical Center, Nashville, TN
2008	Small Group Preceptor Preventive Medicine Vanderbilt Medical School, Nashville, TN
2008, 2010	Guest Lecturer, "Diagnostic Testing" Decision Analysis, Master's in Public Health Elective Vanderbilt University, Nashville, TN
2010, 2011, 2012, 2013, 2014	Guest Lecturer, "Introduction to Public Health Informatics," Foundations of Informatics, Department of Biomedical Informatics Vanderbilt University, Nashville, TN

2011	Guest Lecturer, "Propensity Score Methods," Evaluation Methods in Biomedical Informatics, Department of Biomedical Informatics, Vanderbilt University, Nashville, TN
2013	Guest Lecturer, "Study Designs, Clinical Registries, Controlled Vocabularies, and Common Data Models", Global Health Informatics, Department of Biomedical Informatics, Vanderbilt University, Nashville, TN
2014	Guest Lecturer, "Consideration for Scaling Medical Device Analyses to Large Observational Data", International Society of Pharmacoepidemiology, Taipei, Taiwan
2015-2019	Guest Lecturer, "Population Health Informatics Overview," Foundations of Informatics, Department of Biomedical Informatics Vanderbilt University, Nashville, TN
2015-2019	Guest Lecturer, "Risk Modeling Prediction: Part II," Evaluation Methods in Biomedical Informatics, Department of Biomedical Informatics, Vanderbilt University, Nashville, TN
2016-2018	Guest Lecturer, "Sequential Probability Ratio Testing: Applications for Prospective Surveillance in Healthcare," ECS126: Statistical Methods for Quality Improvement, Department of Health Policy and Clinical Practice, Dartmouth, Lebanon, NH
2019	American Society of Nephrology Pre-Conference CME Lectures, "From Silicon to Bedside: Integrating Machine Learning Models into Clinical Practice", Machine Learning and Kidney Diseases Pre-Course, Washington, DC.
2019, 2020, 2021	Guest Lecturer, "VA Data & Analytic Resources", VA Quality Scholars Fellowship Program, TVHS VA, Nashville, TN
2020, 2021	Guest Lecturer, "Introduction to Public Health Informatics," Foundations of Informatics, Department of Biomedical Informatics Vanderbilt University, Nashville, TN
2021	American Society of Nephrology Pre-Conference CME Lectures, "From Silicon to Bedside: Integrating Machine Learning Models into Clinical Practice", Machine Learning and Kidney Diseases Pre-Course, Washington, DC.
2022	VA TVHS Quality Scholars Program, "VA Data and Analytic Resources: Quality Scholars Program, TVHS VA In Person, 60 minutes, 6 attendees (6 VA).
2022	Guest Lecturer, "Overview of (Healthcare) Data Modeling and Controlled Vocabularies", Tennessee Department of Health, Virtual, 60 minutes (0 VA)

COMMITTEES

2011 - Current	Admissions Committee, Department of Biomedical Informatics, Vanderbilt University Medical Center, Nashville, TN
2012	Editorial Board, Reputation Book & Web Content, Department of Biomedical Informatics, Vanderbilt University Medical Center, Nashville, TN
2012	Clinical Informatics Fellowship Curriculum/Organization Committee, Department of Biomedical Informatics, Vanderbilt University Medical Center, Nashville, TN

2020	Search Committee, Associate Chair for Education of Biomedical Informatics, Department of Biomedical Informatics, VUMC, Nashville, TN
2024-Current	COAP, Department of Biomedical Informatics, VUMC, Nashville, TN

HONORS and AWARDS

1991-1995	National Merit Scholarship, University of Kentucky
2000-2001	Robert P. Meriwether Scholarship, University of Kentucky College of Medicine
2003	1st Place Research Abstract, American College of Physicians Indiana Chapter
2004	Internal Medicine Research Award, St. Vincent Hospital & Health Services
2005	Nominated for Distinguished Student Paper Award, American Medical Informatics Association Annual Symposium
2008	Notable Publication (Matheny ME, et al. Arch Intern Med 2007:167-2233-9), Year In Review, American Medical Informatics Association Annual Symposium
2008	Notable Publication (Matheny ME, et al. JAMIA 2008:15(4):424-9), Year In Review, American Medical Informatics Association Annual Symposium
2009	Notable Publication (Ho L, et al. JAMIA 2009;16(1):66-71), Year In Review, American Medical Informatics Association Annual Symposium
2009	Director's Star for Positive Patient Feedback, TVHS VA Facility, Nashville, VA
2011	Notable Publication (Resnic, et al. JAMA 2010;304(18):2019-27), Year in Review, American Medical Informatics Association Clinical Research Informatics Summit
2011	Selected Publication (Matheny, et al. Med. Decis. Making 2010;30:639-50), 2011 Yearbook, International Medical Informatics Association
2012	Distinguished Young Alumni Award, University of Kentucky College of Medicine
2013	TVHS VA Facility Nominee for Presidential Early Career Award for Scientists and Engineers (PECASE), TVHS Veterans Administration
2017	Primary Mentor for 1st Place Submission in Working Group Student Paper Competition, Sharon Davis, Knowledge Discovery & Data Mining WG, American Medical Informatics Association Annual Symposium
2017	Outstanding Researcher Award, Department of Biomedical Informatics, Vanderbilt University
2018-2019	Invited Co-Chair for Publication, National Academy of Medicine, Digital Learning Collaborative's Artificial Intelligence and the Future of Continuous Health Learning & Improvement
2019	Selected for VUMC Mid-Career Leadership Training Program, VUMC School of Medicine.
2019	Top Publication in Clinical Information Systems, (Parr, et al, Matheny, JAMIA 2018;25:1292-1300), 2019 Yearbook, International Medical Informatics Assoc.
2019	Top Publication in Human Computer Interaction, (Miller, et al., Int J Med Inform 2018;117:55-65), 2019 Yearbook, International Medical Informatics Assoc.
2019	Primary Mentor for 1st Place AMIA Student Paper Competition & Epstein Award, Sharon Davis, American Medical Informatics Association Annual Symposium

MENTORSHIP

PRIOR RESEARCH MENTORSHIP			
Name	**Type of Mentee**	**Dates**	**Career outcome (*VA)**
Bilal A. Ahmed	Medical Student	2005-2007	
Kou-Wei Chiu, MD, MS	VUMC Informatics Fellow	2008-2009, Master's Thesis Committee.	Clinical practice
Michelle Griffith, MD, MS	Endocrinology Fellow	2009-2011	Academic clinician educator*
Kathleen Figaro, MD, MPH	Endocrinology Fellow	2010-2013	Clinical practice
Jeffrey Leegon, MS	Biomedical Informatics PhD Candidate	2009-2011, PhD Thesis Committee	
Robert Cronin, MD, MS	Medicine-Pediatrics Resident Biomedical Informatics MS PostDoc, VUMC	2011-2013 2013-2015, 1 1st, 1 middle author pubs	K & R Awards, Asist. Prof Biomedical Informatics, Vanderbilt U*
Dax Westerman, MS	Biomedical Informatics MS Candidate	2012-2013	VUMC DBMI Staff
Jejo Koola, MD, MS	VA Informatics Fellow VUMC Biomedical Informatics MS	2012-2016, Master's Thesis Committee Chair, 4 1st author, 2 middle author pubs	Ast. Prof Informatics, Univ Calif San Diego
Eleanor Barone, MD	VA Informatics Fellow VA Fayetteville, ACOS Education/Informatics	2013-2016, Research Advisor	Went on to VA ACOS Informatics
Jacob VanHouten, MD, PhD, MS	Biomedical Informatics PhD Candidate	2013-2016, PhD Thesis Committee Member, returned to med school after completing PhD, currently in	IM Resident, Griffin hospital
Keaton Morgan	Vanderbilt Medical Student	2014-2016, VSM Research Clerkship Mentor, completed MD,	Resident, U. Utah
Jin-Ruey Hu	Vanderbilt Medical Student	2015-2016, Research Advisor	
Kim Kondratieff, MS	Biomedical Informatics PhD Candidate	2018-2020, MS Thesis Committee Member 2020-Current PhD Thesis Committee Member	Pursing VUMC DBMI PhD
Matthew Lenert, MS	Biomedical Informatics PhD Candidate	2018-2020, PhD Thesis Committee Member, 2 first author pubs	Hired to Industry
Michael Ward, MD, PhD	VA Clinician Scientist Assoc. Professor of Emergency Medicine	2018-2020, Mentor, supported for IIR & manuscripts	Obtained HSR&D IIR (R-01)
Alvin Jeffery PhD, RN/APN	VA Informatics Fellow VUMC Assist. Prof of	2016-2019, MS Thesis Committee Chair	Received Avanir award (R-01)

	Nursing	2019-2022, Faculty K Mentor	equivalent 2022
Mirza Khan, MD	VA Informatics Fellow	2018-2022, MS Thesis Chair	to Cardiology Fellowship
GENERAL CAREER ADVICE MENTORSHIP (~5-10 hours per year)			
Glenn Gobbel, DVM, PhD, MS	VA Informatics Fellow VA HSRD Research Scientist VUMC Ast. Prof Biomedical Informatics	2009-2012, Master's Thesis Committee Chair 2012-, Junior Faculty Mentor, co-author 10 pubs, successfully obtained PCORI R-01.	
Ruth Reeves, PhD	VA Informatics Fellow VA HSRD Research Scientist VUMC Ast. Prof Biomedical Informatics	2009-2011 2011-, Junior Faculty Mentor, co-author 8 pubs, successfully obtained HSR&D IIR.	
Sharidan Parr, MD, MS, MSCI	VA Informatics Fellow VUMC Ast Prof Biomedical Informatics	2015-2018, MS Thesis Committee Chair Top Paper Clin Inform Sys, Yearbook, Int Med Inform Assoc (VA project) 2018-Current, Junior Faculty Mentor Co author 9 pubs	
Stephen A. Deppen, PhD	Assistant Professor of Surgery	2017-current, Mentor, has obtained multiple small pilot grants as PI, 3 co-authors	
Sharon Davis, PhD, MPH	VUMC PhD Student Assistant Professor, Biomedical Informatics VUMC	2013-2016, Master's Thesis Committee Chair 2016-2019, PhD Thesis Committee Chair 7 pubs co-authored, Top Paper award 2 years AMIA KDDM WG, 2019 Epstein Award Top Student Paper 2019-Current, Faculty Mentor	Awarded Multi-PI R-01 NHLBI 2021
CURRENT/ACTIVE RESEARCH MENTORSHIP (Regular Support)			
Sanket Dhruva, MD, MHS	VA Clinician Scientist Assist. Professor of Cardiology, UCSF	2018-Current HSR&D CDA Awardee 3 co-authored papers	
Justin Bachmann, MD, MPH	VA Clinician Scientist Assist. Professor of Cardiology, VUMC	2018-current, Mentor, VA HSR&D CDA Awardee, new VA HSR&D IIR Awardee. 1 co-authored paper	
Jialin Mao, MD, MS	Assist. Professor of Population Health Sciences, Weill Cornell Medicine	2019-Current, NIH K awardee (mentor) 4 co-authored papers	
Thomas Reese, PharmD, PhD	Assist. Prof. of Biomedical Informatics, VUMC	2021-Current NIH K Awardee 2 co-authored papers	
Jesse Wrenn, MD, PhD	Assist. Prof of Emergency Medicine & Biomedical Informatics	2021-Current Mentoring for NIH NHLBI K Award 1 co-authored paper	
Brian Douthit, PhD, RN-	VA Informatics Fellow	2021-2024 Fellowship Mentor, MS Thesis Chair	

BC		2024-Current, Faculty Mentor
Julie Kim, PharmD	VA Informatics Fellow	2022-Current Fellowship Mentor 2023-Current, MS Thesis Committee Member

CLINICAL

Jason Pritchett, MD	Internal Medicine Resident	2007-2009, Clinic Preceptor
Nathaniel Coleman, MD	Internal Medicine Resident	2007-2009, Clinic Preceptor
Cyndya Shibao, MD	Internal Medicine Resident	2007-2009, Clinic Preceptor
Christen Klochan, MD	Internal Medicine Resident	2007-2010, Clinic Preceptor
Lynsay Waller, MD	Internal Medicine Resident	04/2008, VA Ward Team 5
Debi Mitra, MD	Internal Medicine Intern	04/2008, VA Ward Team 5
Amy Valet, MD	Dermatology Intern	04/2008, VA Ward Team 5
Nathaniel Hoot, MD	Internal Medicine Resident	04/2008, VA Ward Team 5
Scott Huntington, MD	Internal Medicine Resident	2009- 2011, Clinic Preceptor
Dawn Wiese, MD, MS	Internal Medicine Resident	2009-2012, Clinic Preceptor
Norman Clark, MD	Internal Medicine Resident	2009-2012, Clinic Preceptor
Dia Waguespack, MD	Internal Medicine Resident	2010-2013, Clinic Preceptor
Colin Holtze, MD	Internal Medicine Resident	2011-2014, Clinic Preceptor 11/2012, VA Ward Team 6
Burcu Gul, MD	Internal Medicine Resident	2012-2014, Clinic Preceptor
Thomas Atwater, MD	Internal Medicine Resident	2012-2014, Clinic Preceptor
Kaylin S. Watson, MD	Internal Medicine Intern	11/2012, VA Ward Team 6
Natasha A. Kassim	VUSM Medical Student	11/2012, VA Ward Team 6
Luke Habegger, MD	Internal Medicine Resident	2014-2017, Clinic Preceptor
Nikki Winters, MD, PhD	Internal Medicine Resident	2015-2017, Clinic Preceptor
Jeff Schmeckpeper, MD, PhD	Internal Medicine Resident	2015-2017, Clinic Preceptor
Rachel Petry, MD	Internal Medicine Resident	2017-2020, Clinic Preceptor
Vivek Patel, MD	Internal Medicine Resident	2017-2020, Clinic Preceptor
Christopher Cann, MD	Internal Medicine Resident	2017-2020, Clinic Preceptor
Jamie Pfaff, MD	Internal Medicine Resident	2020-2023, Clinic Preceptor
Michael Davidson, MD	Internal Medicine Resident	2020-2023, Clinic Preceptor
Trey Richardson, MD	Internal Medicine Resident	2020-2023, Clinic Preceptor

RETIRED FROM RESIDENT TEACHING 2023

RESEARCH SUPPORT (ACTIVE)

DeepCOPD: Development and Implementation of Deep Learning to Predict and Prevent COPD Health Care Encounters
Agency: NHLBI
Grant Type: R-01-HL-157130-01
PIs: Jeremiah Brown (Contact), Michael Matheny, Sharon Davis   Effort 15%
Period: 12/2021-11/2025   Total Funding: $255,124
This project seeks to develop ML risk prediction models using integrate structured and unstructured data features to predict COPD disease progression and acute events, in order to support panel management and population health approaches within primary care and pulmonary clinical provider teams to improve patient quality of life and decrease acute events.

Incorporating Learning Effects into Medical Device Active Safety Surveillance Methods
Agency: NIH NHLBI
Grant Type: 1 R01 HL149948-01
PIs: Michael Matheny (Corresponding), Frederic Resnic   Effort: 20%
Period: 02/01/2020 – 01/31/2025   Total Funding: 1,998,000
This proposal seeks to extend the previously validated, open-source, active, prospective device safety surveillance tool, by developing and validating robust learning curve (LC) detection and machine learning quantification algorithms, designed to simultaneously account for the effects at the operator and institutional levels.

VA Informatics and Computing Infrastructure (VINCI)
Agency: VA HSR&D RES-13-457 (Service Centers)
PI: Scott DuVall
Site PI: Michael Matheny
Period: 10/1/2015 – 09/30/2027   Total Site Funding: ~1,200,000/yr
Description: This grant is a national service center to provide computing resources and infrastructure to the national VA R&D research community, with emphasis within the HSR&D community.   This funding is a hybrid operational/research funded project that includes scholarly work relating to data modeling, data quality, natural language processing, and data science.

IMPROVE AKI: A Cluster-Randomized Trial of Team-Based Coaching Interventions to IMPROVE Acute Kidney Injury
Agency: NIH NIDDK
Grant Type: R01-DK-113201-01A1
PI (Multiple): Jeremiah Brown, Michael Matheny, Richard Solomon
Period: 09/2018 – 08/2024   Total Funding: 2,500,000
Our previous VA HSR&D IIR identified huge variation in post-cardiac catheterization AKI rates and variable clinical practice. The proposed study asks whether supporting the use of the AKI Prevention Toolkit by: 1) VLC coaching augmented by ASR (VLC+ASR) will lead to better patient outcomes compared to TA, TA + ASR, and VLC alone; and 2) VLC will be superior to TA with or without ASR. We will address these questions in a 2x2 factorial cluster--randomized trial that randomizes 16 hospitals to receive one of the following interventions for 18 months: A) Technical Assistance (TA); B) Technical Assistance with Automated Surveillance Reporting (TA+ASR); C) Virtual Learning Collaborative (VLC) with team--based coaching; and D) Virtual Learning Collaborative with Automated Surveillance Reporting (VLC+ASR). All sites have been recruited and will receive the AKI Prevention Toolkit (Appendix 1) that includes 3 core preventive interventions: 1. Standardized order sets; 2. IV and oral fluids; and 3. Reduced contrast volume.

Title: WO2000.3: Maintenance of the Innovation Center (IC)

Major Goals: The IC is responsible for identifying methodological gaps and developing methods to improve the utility of Sentinel by developing new Sentinel analysis tools and create new approaches to automate key epidemiologic study operations, such as chart review.

Status of Support: Active

Project Number: VUMC89882

Name of PD/PI: Matheny, Michael

Source of Support: Sentinel/FDA

Primary Place of Performance: Vanderbilt University Medical Center

Project/Proposal Start and End Date: (MM/YYYY) (if available): 09/30/2021 – 09/29/2024

Total Award Amount (including Indirect Costs): $212,583 (Subaward)

Title: WO2021.0: Master Plan for Integration of Innovation Technologies and IC Collaboration Activities

Major Goals: The Master Plan Workgroup, comprising members of the IC Executive Leadership team, Innovation Core co-leads, members of the SOC Executive Leadership team, and FDA Sentinel Core team members, will be responsible for planning, coordinating, and overseeing the development, launch, execution, and coordination of Work Orders that fulfil the IC Master Plan

Status of Support: Active

Project Number: VUMC89883

Name of PD/PI: Matheny, Michael

Source of Support: Sentinel/FDA

Primary Place of Performance: Vanderbilt University Medical Center

Project/Proposal Start and End Date: (MM/YYYY) (if available): 10/01/2021 - 09/30/2024

Total Award Amount (including Indirect Costs): $147,514 (subaward)

Title: IIR 19-134: Evaluating a Prescribing Feedback System for Acute Care Providers

Major Goals: To develop an automated feedback system for acute care providers using antibiotic and NSAID prescribing as two exemplars of the need for acute care provider feedback in the VHA. Taking a user-centered approach by placing the provider at the center of the design process will substantially advance the ability to enhance provider activities through the delivery of scalable feedback using Veteran, provider, and stakeholder input.

Status of Support: Active

Project Number: application number: 1 I01 HX003057-01A2 (IIR 19-134)

Name of PD/PI: Matheny, Michael/Ward, Michael

Source of Support: VA HSR&D

Primary Place of Performance: Vanderbilt University Medical Center

Project/Proposal Start and End Date: (MM/YYYY) (if available): 10/01/2020 – 09/30/2024

Total Award Amount (including Indirect Costs): $1,199,033

Title: Augmenting Date of Death & Cause of Death Ascertainment in Sentinel

Major Goals: Develop a set of algorithms to augment assessment of mortality through probabilistic linkage of alternative data sources with electronic health records (EHRs) in order to leverage online publicly available data to detect date of death for patients being cared for at two healthcare systems, and to estimate probabilistic contributions to the causes of death for patients using linked healthcare system and publicly available patient data.

Status of Support: Active

Project Number: Work Order 2015

Name of PD/PI: Desai, Rishi/Matheny, Michael

Source of Support: Sentinel

Primary Place of Performance: Mass General Brigham/Vanderbilt University Medical Center

Project/Proposal Start and End Date: (MM/YYYY) (if available): 01/01/2022 – 12/31/2024

Total Award Amount (including Indirect Costs): $1,005,647

RESEARCH SUPPORT (PENDING)

RESEARCH SUPPORT (COMPLETED)

Use of NLP in the Extraction of Values from Semi-Structured Free Text
Agency: Veteran's Administration Health Services Research & Development (VA HSR&D)
Grant Type: SHP-08-179 (Short-Term Project)
PI: Michael Matheny   Effort: 40%
Period: 04/2008 – 10/2008   Total Funding: 123,000
This project involves the development of an NLP tool to extract values from semi-structured free text, such as microbiology reports and templates. The tool will then be evaluated by extracting bacteriology culture and sensitivity data, and a rule algorithm will be developed to detected contaminated blood cultures.

Syndromic Surveillance using Natural Language Processing
Agency: Veteran's Administration Health Services Research & Development (VA HSR&D)
Grant #: SDR-07-330 Phase 2 (Service Directed Research)
PI: Steven Brown
Co-I: Michael E. Matheny   Effort: 25%
Period: 7/2007 - 9/2008   Total Funding: 376,492*
* Total funding is for both phases of the grant, each a year long.
Troops deployed to OEF and OIF missions are at risk of exposure to biological and chemical agents. Electronic surveillance of discharge medical examinations (BDD) and VA C&P examinations could provide early detection of signs and symptoms resulting from biological and chemical agents for which troops are at risk of exposure in the middle East deployment areas. In addition, outpatient clinical care in the VA provides an opportunity to detect excess prevalence of symptoms and symptoms sets stratified by theater of military operation after adjusting for acute and chronic medical conditions and active medication usage. Such symptom detection in either data source may provide signals to detect unknown biochemical exposures during military service.

Systematic Review of Cardiovascular Disease Risk Assessment Tools
Agency: Agency for Healthcare Research and Quality (AHRQ)
Grant #: Evidence-Based Practice Center Contract HHSA-290-2007-10065-1
Content Lead: Michael E. Matheny   Effort: 10%
Methods Lead: Melissa McPheeters
Period: 07/01/2008 – 12/31/2009   Total Funding: 93,000
Evaluation of the performance and external validation of existing cardiovascular disease risk tools with emphasis on the predictive ability of the tool and the magnitude of errors. In addition, the evaluation will focus on tools that include diabetes mellitus as one of the risk factors, and contrast these tools with those that exclude diabetes mellitus.

Electronically Identifying Adverse Events in Clinical Narrative
Agency: Veteran's Administration Health Services Research & Development (VA HSR&D)
Grant #: SAF 03-223-3 (IIR)
PI: Theodore Speroff
Co-I: Michael E. Matheny   Effort: 10%
Period: 10/01/06- 9/30/10   Total Funding: 299,000 / yr
Advancing the process of quality improvement by developing and testing innovative methodological approaches for identifying sources of variation. Health services research and quality improvement are data-driven methods dependent on an ability and capacity for measuring the process and outcome determinants of care.

Automated Medical Device Safety Monitoring
Agency: Food and Drug Administration (FDA)
Contract #: FDA-SOL-08-00837A
PI: Frederic S. Resnic
Site PI (Vanderbilt): Michael E. Matheny   Effort: 10%
Period: 09/2008 – 08/2011   Total Funding: 100,000
Contract from the FDA to provide Massachusetts state-wide surveillance through existing state-mandated interventional cardiology database using the DELTA prospective surveillance system

Information Systems for Detecting and Managing Acute Kidney Injury
Agency: National Library of Medicine (NLM)
Grant Type: R-01-009965
PI: Josh F. Peterson
Co-I: Michael Matheny   Effort: 5%
Period: 9/30/08-9/30/11   Total Funding: 681,000 (direct)
This grant will develop validated methods to detect early acute kidney injury in hospitalized patients and incorporate these methods into information tools which assist hospital care teams with management steps to ameliorate kidney injury and tailor medications and other therapies.

Automated Data Acquisition for Heart Failure: Performance Measures and Treatment
Agency: VA HSR&D
Grant Type: IIR IBE-09-069
PI: Jennifer Garvin, PhD
Site PI: Michael Matheny   Effort: 5%
Period: 04/01/2010 – 03/31/2013   Total Funding: $1,042,300
The major goals of this project are to address the need to measure treatment performance for chronic heart failure using information extraction and natural language processing techniques.

Integrating Data for Analysis, Anonymization and Sharing (iDASH)
Agency: NIH/ NHLBI
Grant Type: 1-U54-HL108460-01
PI: Lucila Ohno-Machado
Site PI: Michael Matheny   Effort: 10%
Period: 09/20/10 – 09/20/13   Total Funding: 2,314,179
The major goal is to create a National Center for Biomedical Computing that will provide high performance computing infrastructure, develop new data anonymization algorithms to enable privacy-protecting sharing and data analyses of heterogeneous data types, and train the new generation of biomedical informaticists.

Scalable National Network for Effectiveness Research (SCANNER)
Agency: NIH/AHRQ
Grant Type: 1R01HS019913-01
PI: Lucila Ohno-Machado
Site PI: Michael Matheny   Effort: 10%
Period: 10/01/10 - 09/31/13   Total Funding: 2,143,803
The goal is to develop new strategies and tools to allow secure and privacy-protecting electronic health information exchange for research.

Automated Data Acquisition for Heart Failure: Performance Measures and Treatment
Agency: VA Operations (HI^2)
Grant Type: Health Informatics Initiative
PI: Jennifer Garvin, PhD
Site PI: Michael Matheny   Effort: 5%
Period: 10/01/2012 – 10/01/2013   Total Funding: $250,000
The major goals of this project are to address the need to measure treatment performance for chronic heart failure using information extraction and natural language processing techniques.

Development and Evaluation of a Machine Learning Assisted Annotation Tool for PTSD Medical Documents
Agency: Veteran's Administration Health Services Research & Development (VA HSR&D)
Grant Type: CHIR Center Grant, subcontract
PI: Matthew Samore
Site PI: Ted Speroff/Michael Matheny   Effort: 8%
Period: 03/01/10-10/01/13
This contract's objectives are to develop and evaluate a machine learning assisted interactive learning annotation tool to perform efficient and accurate knowledge extraction of free text notes within the Veteran's Administration in collaboration with the CHIR imitative.

Natural Language Processing to Ascertain Stress Test Data
Agency: VA IHD QUERI
PI: Steven Bradley (Denver VA)
Site PI: Michael E. Matheny
Period: 07/2013 – 06/2014   Total Funding: 100,000
The goal of this grant is to develop natural language processing tools for the extraction of cardiac stress testing results in order to evaluate the appropriate management among patients nationally within the VA.

Development of an Automated Nephrotoxicity Pharmacosurveillance System
Agency: Veteran's Administration Health Services Research & Development (VA HSR&D)
Grant Type: CDP-09-387 (Career Development Award)
PI: Michael E. Matheny   Effort: 36%
Period: 09/2009 – 08/2014   Total Funding: 793,750
This project is a career development award under the mentorship of Drs. Ted Speroff and Robert Dittus to develop and pilot an automated nephrotoxicity surveillance tool using VA data. This project is series of retrospective studies to: 1) perform a systematic review of risk factors for acute kidney injury, 2) validate a data processing system for extracting VA data and structuring it for use in surveillance activities, 3) perform retrospective evaluation of existing VISN9 data with established and experimental methods, 4) risk prediction model for AKI in order to perform risk adjustment, and 5) perform a feasibility study of a prospective automated system in retrospective VISN9 VA data.

Automating Heart Failure Data for Patient Treatment Goals at the Point of Care
Agency: VA HSR&D
Grant Type: IIR (Investigator Initiated Research - Houston CREATE)
PI: Jennifer Garvin, PhD
Site PI: Michael Matheny
Period: 10/01/2013 – 09/31/2015   Total Funding: $1,000,000
In this study, we will develop an automated post-discharge communication aid that contains information needed to prompt beta blocker titration by the PACTs at the point of care. We operationally define point of care within the context of PACT practice as any setting where a provider evaluates clinical information and makes a care decision. This communication aid will contain key clinical information such as the patient's ejection fraction, current beta blocker dose, target beta blocker dose per the guidelines, information on patient's heart rate and blood pressure, and any beta blocker allergy. We will use informatics techniques, including information extraction and natural language processing (NLP), to accurately extract key clinical information and to identify candidate patients for beta blocker titration.

Patient-Centered SCAlable National Network for Effectiveness Research (pSCANNER) Phase 1
Agency: PCORI
Grant Type: Clinical Data Research Network (CDRN)
PI: Lucila Ohno-Machado   Site PI: Michael Matheny
Period: 04/2014 – 10/2015   Total Funding: 7,000,000 (Site 500,000)
This project is designed to utilize a distributed privacy-preserving architecture to integrate data from three existing networks covering over 21 million patients in all 50 states: (1) VA Informatics and Computing Infrastructure (VINCI), with data from Veteran Health Administration's (VHA) 151 inpatient and 827 community-based outpatient clinics; (2) the University of California Research eXchange (UC-ReX) network, with data from UC Davis, Irvine, Los Angeles, San Francisco, and San Diego; and (3) SCANNER, a consortium of UCSD, Tennessee VA, and three federally qualified health systems in the Los Angeles area supplemented with claims and health information exchange (HIE) data, led by the University of Southern California. Initial use cases will focus on three conditions: (1) congestive heart failure, (2) Kawasaki disease, and (3) obesity. Stakeholders, such as patients, clinicians, and health service researchers will be engaged to prioritize research questions to be answered through the network.

Active Surveillance of Cardiovascular Devices: The Multi-Registry DELTA Network
Agency: FDA
Grant Type: U-01-FD-004963
PI: Frederic S. Resnic (Lahey Clinic)
Site PI: Michael E. Matheny (Nashville VA)
Period: (projected) 03/2014 – 02/2016   Total Funding: 250,000 (Site 40,000)
Establishing appropriate expectations for device performance is critical in monitoring for medical device failures, as well as for surveillance for potential risks from contamination or sabotage. We propose to develop methods and infrastructure for prospective medical device safety surveillance that address these key limitations, while establishing a national distributed cardiovascular device safety network to monitor newly released, high risk cardiovascular devices.

National Surveillance of Acute Kidney Injury Following Cardiac Catheterization
Agency: VA HSR&D
Grant Type: IIR-292-1 (Investigator Initiated Research)
PI: Michael Matheny   Effort 15%
Period: 09/2012 – 08/2016   Total Funding: 1,048,664
The goal of this grant is to develop real-time natural language processing tools to augment the national voluntary Veterans Administration cardiac catheterization registry, to develop national risk adjustment and risk prediction models for post-procedural acute kidney injury, and to perform national institutional quality profiling and quality improvement.

Leveraging Information in the EHR to Measure Pressure Ulcer Risk in Veterans with SCI
Agency: VA HSR&D
Grant Type: IIR (Investigator Initiated Research)
PI: Steven Luther
Site PI: Michael E Matheny
Period: 12/2013-10/2016
Description/Goals of Project: Pressure ulcers (PrU) are among the most significant complications in Veterans with spinal cord impairment (SCI) in terms of quality of life and cost of care. The goal of this 3-year healthcare informatics study is to leverage structured and unstructured (text) data available in the VA electronic health record to develop SCI specific risk models that can be used to better identify risk for PrUs and target prevention strategies, thereby reducing the burden of this condition on Veterans.

Modeling of Opioid-Induced Constipation Among Opioid-Treated Patients with and without Laxative Response
Agency: AstraZeneca
Grant Type: Unrestricted Research Grant
PI: Michael Matheny
Period: (projected) 07/2014 – 06/2017   Total Funding: 700,000
The purpose of the study is 1) to determine within the national VA patient cohort if any clinical characteristics would predict an opioid-treated patient's subsequent development of OIC and 2) to determine if any clinical characteristics would predict an OIC patient's response or lack of a response to generic or over-the-counter (OTC) laxatives. This study is in support of AstraZeneca's Naloxegol program obtain insights into the development of OIC among opioid-treated patients and OIC patients' response to laxatives.

Temporal Pattern Discovery Across & Within Documents of Veterans in PTSD Care
Agency: VA HSR&D IIR 12-364
Grant Type: IIR (Investigator Initiated Research)
Multiple PIs: Ruth Reeves and Theodore Speroff (Nashville)
Co-Investigator: Michael E. Matheny
Period (projected) 08/2014 – 07/2018   Total funding $667,087
Tracking a veteran's PTSD symptoms and treatments over time is currently a matter of reading through narrative text to assemble a working time-line in the clinician's mind. We propose to develop a temporal reasoning NLP tool for ordering relevant events contained within the EHR, linking across multiple documents to construe sequences of PTSD symptom occurrences and treatments over time, importing and updating these events within a queriable event database.

DOD and VA Infrastructure for Clinical Intelligence (DaVINCI)
Agency: DOD/VA Joint Incentive Fund
PI: Scott DuVall (Prior PI: Jonathan Nebeker)
Site PI: Michael Matheny
Period: 10/2015 – 09/2018   Total Site Funding: 400,000/yr
Description: This grant is a VHA national infrastructure grant to develop the necessary data connections between the Department of Defense and the Department of Veterans Affairs to share DOD national data with the VA, to transform the data into the OMOP common data model, develop necessary ETL and data quality and characterization analytics in order to maintain good data quality, to oversee a VA contract for systems administration and to support adequate documentation for national research use of the DOD data resources. This includes research scholarly work in data quality and data representation.

Kidney Health Collaborative Research Group
Agency: PCORI
Grant Type: CRG
PI (Multiple): Laura Mariani, Michael Matheny, Edward Siew, Debra Gipson
Period 09/2016 – 08/2018   Total Funding: 200,000
Description:
This was a pilot grant to develop a set of queries to help phenotype and describe kidney-related conditions across the PCORNet network.

Patient-Centered SCAlable National Network for Effectiveness Research (pSCANNER) Phase 2
Agency: PCORI CDRN 1306-04819
Grant Type: Clinical Data Research Network (CDRN)
PI: Lucila Ohno-Machado   Co-PI: Michael Matheny
Period: 10/2015 – 03/2019   Total Funding: 6,250,000 (Site 400,000)
The patient-centered SCAlable National Network for Effectiveness Research (pSCANNER) is a clinical data research network (CDRN) that is contributing to PCORI's national patient-centered clinical research network (called PCORnet) to close this gap. pSCANNER integrates data from multiple health systems with fully operational electronic health record (EHR) systems. The security, privacy, and confidentiality of identified patient data are maintained using national standards in HIPAA-compliant environments. pSCANNER focuses on three conditions: congestive heart failure, Kawasaki disease, and obesity. Patients, patient advocates, researchers, and clinicians from these conditions participate in every aspect of pSCANNER decision-making and governance. The network covers over 32 million patients from the University of California systems, the National Veteran Health Administration, AltaMed Health Services, QueensCare Family Clinics, and The Children's Clinic in Los Angeles area, Cedars-Sinai Medical Center, Keck Medicine of University of Southern California, Los Angeles County Department of Health Services, Children's Hospital Los Angeles, San Mateo Medical Center, University of Colorado Health System, the Scalable Architecture for Federated Translational Inquiries Network (SAFTINet), the Washington Wyoming Alaska Montana Idaho (WWAMI) region Practice and Research Network (WRPN), and Intermountain Healthcare, a large integrated delivery network in Utah and southern Idaho.

Automated Surveillance and Intervention Among Patients with Liver Cirrhosis
Agency: VA HSR&D
Grant Type: IIR 13-052 (Investigator Initiated Research)
Multiple PIs: (Corresponding) Michael Matheny (Nashville), Samuel Ho (San Diego)
Period: (projected) 07/2014 – 06/2019   Total Funding: 1,050,000 (Site 400,000)
The overall objective of this project is to develop the informatics infrastructure and tools to facilitate improved evidence based quality care delivery to patients with cirrhosis that will impact readmission and mortality rates. More specifically, we will 1) develop and validate near real-time natural language processing (NLP) tools in order to extract information that is relevant for case finding and risk factor modification among these patients, 2) develop and validate a robust family of logistic regression prediction models for readmission and mortality following hospitalization for use in the identification of high risk patients, 3) development of a clinical dashboard with imbedded clinical decision support and patient data visualization tools to support clinical care delivery, and 4) conduct a pre-post clinical pilot to evaluate the efficacy and adoption of the dashboard when used.

Information Extraction from EMRs to Predict Readmission Following Acute Myocardial Infarction
Agency: NIH BCHI R01-HL-130828   Grant Type: R-01
Multiple PIs: Jeremiah Brown (Corresponding), Wendy Chapman (Utah), Michael Matheny
Period: 05/2016 – 04/2020   Total Funding: $1,020,000
Description: In this grant, we will apply natural language process to extract symptoms, treatments, procedures, diagnoses, social risk factors, and functional status relevant to post-myocardial infarction care and risk assessment, developed in parallel at University of Colorado and Vanderbilt, develop risk prediction models from the merged data to predict re-admission risk, and to cross-validate them within the other institution, as well as the national VA data externally.

NeSTcc Test Case 6 Johnson and Johnson Certus Device Evaluation
Agency: NESTcc
Grant Type: 5 U01 FD 006292-02
Site PI: Duke PI, Michael Matheny
Period: 07/01/2019 – 11/30/2020   Total Funding: $49,445 (subaward)
The goal of this proposal is to conduct medical device surveillance within the NEST network. Vanderbilt University Medical Center will be responsible for collecting, cleaning, aggregating, and analyzing the health care date at its site. Dr. Matheny and his team will also conduct chart reviews for outcome adjudication and potentially data variable element extraction in support of the analysis.

Deriving high-quality evidence from national healthcare databases to improve suicidality detection and treatment outcomes in PTSD and TBI
Agency: NIH   Grant Type: R-56
PI: Christophe Lambert, Site PI: Michael Matheny
Period: 06/01/2020 – 05/31/2021   Site Funding: $98,594
Dr. Michael Matheny and his team will be responsible for managing the national VHA data sources, databases, and OMOP common data model resources for this proposal, and supporting the machine learning and NLP analytics for the project.

Synthetic Mid-Urethral Slings for Stress Urinary Incontinence in Women
Agency: NESTcc
Grant Type: 6292-2020-R2TC-B05
PI: Michael Matheny
Period: 09/01/2019 – 08/31/2021   Total Funding: $494,764
The objectives of this project are to assess the capacity of routinely collected electronic health record data to be used to evaluate long-term (>2 years) adverse events following synthetic surgical mesh implantation (mid-urethral slings) for female stress urinary incontinence (SUI).

Advancing the Phenotyping of Acute Kidney Injury for the Million Veteran Program
Agency: VA HSR&D
Grant Type : SDR 18 194
PI (Multiple): Edward Siew, Michael Matheny
Period: 04/01/2019 – 12/31/2021   Total Funding: $400,000
AKI phenotyping is typically limited to laboratory based binary/severity assessment. This grant will 1) conduct data-drive discovery of novel AKI sub-phenotypes using unsupervised machine learning methods, 2) conduct clinically-directed identification of known intrinsic AKI phenotypes that take advantage of structured and unstructured data, and 3) conduct a study that evaluates the phenotypes from Aims 1 and 2 within the Million Veterans Cohort using a genome wide association study to conduct genomic discovery of susceptibility traits and look for associations with the identified phenotypes.

Determining and Targeting Reasons for Low Statin Use to Improve Guideline-concordant Statin Therapy in High-Risk Patients
Agency: VA HSR&D
Grant Type: IIR-16-072
PI: Salim Virani
Site PI: Michael Matheny
Period: 07/2017 – 06/2023   Total Funding: 1,050,000 (Site 431,000)
Description: This study seeks to identify high-risk CVD patients on suboptimal statin therapy and the reasons behind this using NLP methods, and then deliver this information to the providers at the point-of-care along with cognitive support to discuss the risk-benefit ratio of statin therapy in these patients and algorithms to reinitiate or titrate statins. We will involve stakeholders to further adapt the algorithm for treatment of patients with statin associated side effects. Summative evaluation of the providers and information technology (IT) personnel following the conclusion of the pilot will inform future large-scale dissemination of our study findings.

Automated Surveillance of Postoperative Infections (ASPIN)
Agency: AHRQ
Grant Type; R-01
PI: Kathryn Colborn, Site PI: Ruth Reeves
Period: 09/01/2020 – 08/31/2025   0.30 calendar months
Matheny stopped work 07/2023. The goal of this proposal is to develop a surveillance system for infectious postoperative complications across the University of Colorado Health System (UC Health) by applying machine learning algorithms on the electronic health record (EHR). Vanderbilt University Medical Center will serve as an analysis site.

Pain Management Collaboratory Coordinating Center (PMC³)
Agency: NIH/VA/DoD
Grant Type: U-24
PI (Multi) Robert Kerns, Peduzzi, Cynthia Brandt)
Period: 07/01/2016 – 06/30/2023   Consultant
This grant is a coordinating center grant to develop, adapt, and adopt technical policy guidelines and best practices for effective design and conduct of pragmatic trials, to work collaboratively with 11 funding R-01, VA, and DoD grants, and to dissemination NIH, DoD, and VA pain management policies, publications, and lessons learned within the military and veteran health care systems.

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