CHRISTOPHER A HARLE, PhD, FACMI

EDUCATION

Ph.D., Information Systems and Management	Carnegie Mellon University, 2009
M.S., Business Administration Decision and Information Sciences	University of Florida, 2003
B.S., Business Administration (with highest honors) Decision and Information Sciences	University of Florida, 2002

POSITIONS AND EMPLOYMENT

Indiana University

Department of Health Policy and Management
Richard M. Fairbanks School of Public Health

Professor and Chair	2023 –
Professor and Interim Chair	2022 – 2023
Associate Professor	2015 – 2019
Program Director – PhD in Health Policy and Management	2015 – 2019

Regenstrief Institute

Chief Information Officer (CIO)	2024 –

Center for Biomedical Informatics (CBMI)

Research Scientist	2017 – 2019, 2022 –
Affiliated Scientist	2015-2016, 2020 – 2022

Kelley School of Business

Associate Faculty	2022 – Present
	2017 – 2019

University of Florida (UF)

Department of Health Outcomes and Biomedical Informatics
College of Medicine

Professor	2020 – 2022
Chief Research Information Officer (CRIO), UF Health	2020 – 2022

Department of Health Services Research, Management and Policy
College of Public Health and Health Professions

Affiliate Professor	2020 – 2022
Assistant Professor	2009 – 2015
Faculty Liaison, Integrated Data Repository (IDR)	2011 – 2015
UF Health and Clinical and Translational Science Institute	2012 – 2015

KL2 Scholar, Clinical and Translational Science Institute

Department of Information Systems and Operations Management
Affiliate Assistant Professor 2011 – 2015

Institute for Child Health Policy
College of Medicine
Coordinator Statistical Research 2004-2005

HONORS AND AWARDS

ACMI Fellow (elected) 2024
American College of Medical Informatics (FACMI)

Tobias Fellow 2019
Tobias Leadership Center, Indiana University, Indianapolis, IN

Indianapolis Business Journal Forty Under 40 2018
Indianapolis, IN

IUPUI Research Frontiers Trailblazer Award 2017
Indiana University-Purdue University, Indianapolis (IUPUI)

Dean's Citation Award 2014
College of Public Health and Health Professions, University of Florida

Scholarship Recipient 2014
Fundamentals of Pain Management course at American Pain Society Annual Meeting

Dean's Citation Award 2013
College of Public Health and Health Professions, University of Florida

Teaching Excellence Award
Master of Health Administration Program, University of Florida 2013

Student Paper Award, Third Place 2009
American Medical Informatics Association Annual Symposium

Outstanding Teaching Assistant Award 2009
Heinz College – School of Public Policy and Management
Carnegie Mellon University

ARTICLES IN PEER REVIEWED JOURNALS AND PROCEEDINGS

1. Vest JR, Wu W, Gregory ME, Kasturi SN, Mendonca EA, Bian J, Magoc T, Grannis S, McNamee C, **Harle CA**. Performance of 4 Methods to Assess Health-Related Social Needs. *JAMA Network Open.* 2025; Performance of 4 Methods to Assess Health-Related Social Needs.

2. Mazurenko, O., Apathy, N.C., Sanner, L., McCord, E., Adams, M.C.B., Hurley, R.W., Grout, R.W., Mamlin, B.W., Fortin, S., Blackburn, J, Menachemi N., Vest, J.R., Gurka, M., and **Harle, CA**, (2025) Learning from Misses: Evaluating a Clinical Decision Support for Chronic Pain Management in Primary Care. *Applied Clinical Informatics*. In press.

3. Hasnain I, Staab EM, Kagarmanova A, Mackiewicz M, Ari M, Thompson K, Lazar D, Zhao A, Elwyn G, **Harle CA**, Press VG, Laiteerapong N. Primary Care Clinician Perspectives on Older Adult Chronic Pain Management and Clinical Decision Support: Qualitative Study, *JMIR Form Res* 2025;Primary Care Clinician Perspectives on Older Adult Chronic Pain Management and Clinical Decision Support: Qualitative Study.

4. Kuhn D, Pang PS, Musey PI, and **Harle CA**. Emergency Physician Perspectives on the Use of Patient Experience Surveys. *Cureus*. 2025 May 17(5): e83429. doi:10.7759/cureus.83429.

5. Mazurenko O, **Harle CA**, Blackburn J, Menachemi N, Hirsh A, Grannis S, Boustani M, Musey P, Schleyer T, Sanner L, Vest JR. (2025). Effectiveness of a clinical decision support system with prediction modeling to identify patients with health-related social needs in the emergency department: Study protocol. *PLOS One Protocols*. Effectiveness of a clinical decision support system with prediction modeling to identify patients with health-related social needs in the emergency department: Study protocol.

6. Kuhn D, Pang PS, Mazurenko O, Glober NK, Lardaro TA, Li X, **Harle CA**, Musey, PI. Use of Hallway Beds, Radiology Studies, and Patients in Pain on Arrival to the Emergency Department are Associated with Patient Experience. *Annals of Emergency Medicine.* 2025 Jan: Use of Hallway Beds, Radiology Studies, and Patients in Pain on Arrival to the Emergency Department are Associated with Patient Experience.

7. Kuhn D, Harrison NE, Musey PI Jr, Crandall DJ, Pang PS, Welch JL, **Harle CA**. Preliminary findings regarding the association between patient demographics and ED experience scores across a regional health system: A cross sectional study using natural language processing of patient comments. *Int J Med Inform*. 2025 Mar;195:Preliminary findings regarding the association between patient demographics and ED experience scores across a regional health system: A cross sectional study using natural language processing of patient comments.

8. Militello LG, Diiulio J, Wilson DL, Nguyen KA, **Harle CA**, Gellad W, Lo-Ciganic W. Using human factors methods to mitigate bias in artificial intelligence-based clinical decision support, *Journal of the American Medical Informatics Association.* 2025 Feb 1;32(2):Using human factors methods to mitigate bias in artificial intelligence-based clinical decision support.

9. Mazurenko, O, Hirsh, A, **Harle, CA**, Shen, J, McNamee, C, Vest, JR. Comparing the performance of screening surveys versus predictive models in identifying patients in need of health-related social need services in the emergency department. *PLOS ONE*. Comparing the performance of screening surveys versus predictive models in identifying patients in need of health-related social need services in the emergency department.

10. Mazurenko O, Hirsh, A, **Harle CA**, McNamee, C Vest, JR. A clinical decision support system for addressing health-related social needs in emergency department: defining end user needs and preferences. *Applied Clinical Informatics*. In Press. 2024.

11. Cuadros, P, McCord, E McDonnell, C, Apathy, N, Sanner, L, Adams, M, Mamlin, B, Vest, J, Hurley, R, **Harle, CA**, Mazurenko, O. (2024) Barriers, Facilitators, and recommendations to increasing the use of a clinical decision support tool for managing chronic pain in primary care. *International Journal of Medical Informatics*. 2024. Barriers, Facilitators, and recommendations to increasing the use of a clinical decision support tool for managing chronic pain in primary care.

12. Nguyen K, Wilson DL, Diiulio J, Hall B, Militello L, Gellad WF, **Harle CA**, Lewis M, Schmidt S, Rosenberg EI, Nelson D, He X, Wu Y, Bian J, Staras SAS, Gordon AJ, Cochran J, Kuza C, Yang S, Lo-Ciganic W. Design and development of a machine-learning-driven opioid overdose risk prediction tool integrated in electronic health records in primary care settings. *Bioelectron Med*. 2024 Oct 18;10(1):Design and development of a machine-learning-driven opioid overdose risk prediction tool integrated in electronic health records in primary care settings.

13. Alpert JM, Hampton CN, Campbell-Salome G, Paige S, Murphy M, Heffron E, Amin TB, **Harle CA**, Le T, Vasquez TS, Xue W, Markham MJ, Bylund C. Tele-oncology use during the COVID-19 pandemic: Patient experiences and communication behaviors with clinicians. *Telemed J E Health*. Tele-oncology use during the COVID-19 pandemic: Patient experiences and communication behaviors with clinicians.

14. Wang GHM, Hincapie-Castillo JM, Gellad WF, Jones BL, Shorr RI, Yang Seonkyeong, Wilson DL, Lee JK, Reisfield GM, Kwoh CK, Delcher C, Nguyen KA, **Harle CA**, Marcum ZA, Lo-Ciganic WH Association between opioid-benzodiazepine trajectories and injurious fall risk among US Medicare beneficiaries. *J Clin Med*. Association between opioid-benzodiazepine trajectories and injurious fall risk among US Medicare beneficiaries.

15. Mazurenko O, Hirsh A, **Harle CA**, McNamee C, Vest JR. Acceptance of automated social risk scoring in the emergency department: clinician, staff, and patient perspectives. *Western Journal of Emergency Medicine*. Acceptance of automated social risk scoring in the emergency department: clinician, staff, and patient perspectives.

16. Mazurenko O, Hirsh A, **Harle CA**, McNamee C, Vest JR. Health-related social needs information in the emergency department: clinician and patient perspectives on availability and use. BMC *Emergency Medicine*. 2024 24(1): Health-related social needs information in the emergency department: clinician and patient perspectives on availability and use

17. Burns A, Yeager VA, Vest JR, **Harle CA**, Madsen ER, Cronin CE, Singh S, Franz B. New insights about community benefit evaluation: Using the Community Health Implementation Evaluation Framework to assess what hospitals are measuring. *Health Care Manage Rev*. 2024 49(3): New insights about community benefit evaluation: Using the Community Health Implementation Evaluation Framework to assess what hospitals are measuring.

18. **Harle CA**, Wu W, Vest JR. Accuracy of electronic health record food insecurity, housing instability, and financial strain screening in adult primary care. *JAMA.* 2023 329(5): Accuracy of electronic health record food insecurity, housing instability, and financial strain screening in adult primary care.

19. Magoc T, Everson R, **Harle CA**. Enhancing an enterprise data warehouse for research with data extracted using natural language processing. *Journal of Clinical and Translational Science.* 2023 7(1): . Enhancing an enterprise data warehouse for research with data extracted using natural language processing.

20. Zapata RD, Huang S, Morris E, Wang C, **Harle C**, Magoc T, Mardini M, Loftus T, Modave F. Machine learning-based prediction models for home discharge in patients with COVID-19: Development and evaluation using electronic health records. *PLoS One*. 2023 Machine learning-based prediction models for home discharge in patients with COVID-19: Development and evaluation using electronic health records.

21. Deng Y, Gleason LP, Culbertson A, Chen X, Bernstam EV, Cullen T, Gouripeddi R, **Harle C**, Hesse DF, Kean J, Lee J, Magoc T, Meeker D, Ong T, Pathak J, Rosenman M, Rusie LK, Shah AJ, Shi L, Thomas A, Trick WE, Grannis S, Kho A, Evolving availability and standardization of patient attributes for matching, *Health Affairs Scholar.* 2023 Evolving availability and standardization of patient attributes for matching.

22. Peng L, Luo G, Walker A, Zaiman Z, Jones EK, Gupta H, Kersten K, Burns JL, **Harle CA**, Magoc T, Shickel B, Steenburg SD, Loftus T, Melton GB, Gichoya JW, Sun J, Tignanelli CJ. Evaluation of federated learning variations for COVID-19 diagnosis using chest radiographs from 42 US and European hospitals, *JAMIA*. 2023 30(1): Evaluation of federated learning variations for COVID-19 diagnosis using chest radiographs from 42 US and European hospitals.

23. Shear K, Rice H, Garabedian PM, Bjarnadottir R, Lathum N, Horgas AL, **Harle CA**, Dykes PC, Lucero R. Usability Testing of an Interoperable Computerized Clinical Decision Support Tool for Fall Risk Management in Primary Care. *Applied Clinical Informatics*. 2023 14(02): Usability Testing of an Interoperable Computerized Clinical Decision Support Tool for Fall Risk Management in Primary Care.

24. Mkuu R, **Harle CA**, Andreadis K, Muellers KA, McDonnell C, Goede D, Shychuk A, Ancker JS, Kausal R, Lin JJ. Financial factors that influenced telemedicine delivery during the COVID-19 pandemic. *American Journal of Managed Care*. 2023 11(2): Financial factors that influenced telemedicine delivery during the COVID-19 pandemic.

25. Mazurenko O, McCord E, McDonnell C, Apathy NC, Sanner L, Adam MCB, Mamlin BW, Vest JR, Hurley RW, **Harle CA.** Examining primary care provider experiences with using a clinical decision support tool for pain management. *JAMIA Open*. 2023 Examining primary care provider experiences with using a clinical decision support tool for pain management.

26. Magoc T, Allen KS, McDonnell C, Russ JR, Cummins J, Vest JR, **Harle CA**. Generalizability and portability of natural language processing system to extract individual social risk factors. *International Journal Medical Informatics.* 2023 Generalizability and portability of natural language processing system to extract individual social risk factors.

27. Mazurenko, O., Blackburn, J., Zhang, P., Gupta, S., **Harle CA**., Kroenke, K, Simon, K. Recent tapering from long-term opioid therapy and odds of opioid-related hospital use. *Pharmacoepidemiology and Drug Safety*. 2023 32(5): Recent tapering from long-term opioid therapy and odds of opioid-related hospital use.

28. Allen KS, Danielson EC, Downs SM, Mazurenko O, Diiulio J, Salloum RG, Mamlin BW, **Harle CA**. Evaluating a Prototype Clinical Decision Support Tool for Chronic Pain Treatment in Primary Care. *Applied Clinical Informatics*. 2022 May;13(3):Evaluating a Prototype Clinical Decision Support Tool for Chronic Pain Treatment in Primary Care.

29. Salloum RG, Bilello L, Bian J, Diiulio J, Paz LG, Gurka MJ, Gutierrez M, Hurley RW, Jones RE, Martinez-Wittinghan F, Marcial L, Masri G, McDonnell C, Militello LG, Modave F, Nguyen K, Rhodes B, Siler K, Willis D, **Harle CA**. Study protocol for a type III hybrid effectiveness-implementation trial to evaluate scaling interoperable clinical decision support for patient-centered chronic pain management in primary care. *Implement Science*. 2022 17(1): Study protocol for a type III hybrid effectiveness-implementation trial to evaluate scaling interoperable clinical decision support for patient-centered chronic pain management in primary care.

30. Yang X, Chen A, PourNejatian N, Shin HC, Smith KE, Parisien C, Compas C, Martin C, Costa AB, Flores MG, Zhang Y, Magoc T, **Harle CA**, Lipori G, Mitchell DA, Hogan WR, Shenkman EA, Bian J, Wu Y. GatorTron: A Large Language Model for Electronic Health Records. *Npj Digital Medicine*. 2022 5, GatorTron: A Large Language Model for Electronic Health Records.

31. Gupta AK, Kasthurirathne K, Xu H, Li X, Ruppert M, **Harle CA**, Grannis SJ. A Framework for a Consistent and Reproducible Evaluation of Manual Review for Patient Matching Algorithms. *JAMIA.* 2022 29(12): A Framework for a Consistent and Reproducible Evaluation of Manual Review for Patient Matching Algorithms.

32. Apathy NC, Sanner L, Adams MCB, Mamlin BW, Grout RW, Fortin S, Hillstrom J, Saha A, Teal E, Vest JR, Menachemi N, Hurley RW, **Harle CA**, Mazurenko O. Assessing the use of a clinical decision support tool for pain management in primary care, *JAMIA Open.* 2022 5(3): Assessing the use of a clinical decision support tool for pain management in primary care.

33. Mazurenko O, Sanner L, Mamlin B, Menachemi N, Adams MCB, Hurley RW, **Harle CA**. Recruiting Primary Care Providers Electronically as Research Subjects During the COVID-19 Pandemic. *Academy of Management Proceedings*. 2022 Recruiting Primary Care Providers Electronically as Research Subjects During the COVID-19 Pandemic.

34. Taylor H, Brumitt G, **Harle CA**, Johnston A, Williams KS, Vest JR. Student Perceptions of a Teaching Electronic Medical Record in Health Administration Education. J *Health Administration Education*. 2022; 38(4): Student Perceptions of a Teaching Electronic Medical Record in Health Administration Education.

35. Mazurenko M, Sanner LM, Apathy NC, Mamlin BW, Menachemi N, Adams MCB, Hurley RW, Fortin SE, **Harle CA.** Evaluation of electronic recruitment efforts of primary care providers as research subjects during the COVID-19 pandemic. *BMC Primary Care*. 2022 23(1): Evaluation of electronic recruitment efforts of primary care providers as research subjects during the COVID-19 pandemic.

36. Zima BT, Edgcomb JB, Rodean J, Cochran S, **Harle CA**, Pathak J, Tseng C, Bussing R. Use of Acute Mental Health Care in U.S. Children's Hospitals Before and After Statewide COVID-19 School Closure Orders. *Psychiatric Services*. Use of Acute Mental Health Care in U.S. Children's Hospitals Before and After Statewide COVID-19 School Closure Orders.

37. Paige S, Campbell-Salome G, Alpert J, Markham Merry Jennifer, Murphy M, Heffron E, **Harle C**, Yue S, Xue W, Bylund CL. Cancer Patients' Satisfaction with Telehealth During the COVID-19 Pandemic. *PLOS ONE.* 2022 17(6): Cancer Patients' Satisfaction with Telehealth During the COVID-19 Pandemic.

38. Guerrier C, McDonnell C, Magoc T, Fishe J, **Harle CA**. Understanding Healthcare Administrators' Data and Information Needs for Decision-Making during the COVID-19 Pandemic: A Qualitative

Study at an Academic Health System. *MDM Policy & Practice*. 2022 7(Understanding Healthcare Administrators' Data and Information Needs for Decision-Making during the COVID-19 Pandemic: A Qualitative Study at an Academic Health System).

39. Lo-Ciganic WH, Hincapie-Castillo J, Wang T, Ge Y, Jones BL, Huang JL, Chang CY, Wilson DL, Lee JK, Reisfield GM, Kwoh CK, Delcher C, Nguyen KA, Zhou L, Shorr RI, Guo J, Marcum ZA, **Harle CA**, Park H, Winterstein A, Yang S, Huang PL, Adkins L, Gellad WF. Dosing profiles of concurrent opioid and benzodiazepine use associated with overdose risk among US Medicare beneficiaries: Group-based multi-trajectory models. *Addiction*. 2022 117(7): Dosing profiles of concurrent opioid and benzodiazepine use associated with overdose risk among US Medicare beneficiaries: Group-based multi-trajectory models.

40. Edgcomb JB, Benson NM, Tseng C, Thiruvalluru R, Pathak J, Bussing R, **Harle CA**, Zima BT. Mental health-related emergency department visits among children during the early COVID-19 pandemic. *Psychiatric Research and Clinical Practice*. 2022 4(1): Mental health-related emergency department visits among children during the early COVID-19 pandemic.

41. Danek R, Blackburn J, **Harle CA**, Bair M, Kara A, Mazurenko, O. Inpatient opioid receipt and care experiences for vaginal delivery. *American Journal of Managed Care.* 2022 28(7): Inpatient opioid receipt and care experiences for vaginal delivery.

42. Kostka K, Duarte-Salles T, Prats-Uribe A, Sena AG, Pistillo A , Khalid S, Lai LYH, Golozar A, Alshammari TM , Dawoud DM, Nyberg F , Wilcox AB, Andryc A , Williams A, Ostropolets A, Areia C, Jung CY, **Harle CA**, Reich CG , Blacketer C, Morales DR, Dorr DA, Burn E, Roel E, Tan EH, Minty E, DeFalco F, de Maeztu G, Lipori G, Alghoul H, Zhu H, Thomas JA, Bian J, Park J , Martínez Roldán J, Posada JD, Banda JM , Horcajada JP , Kohler J, Shah K, Natarajan K, Lynch KE, Liu L, Schilling LM, Recalde M, Spotnitz M, Gong M, Matheny ME, Valveny N , Weiskopf NG, Shah N, Alser O, Casajust P, Park RW, Schuff R, Seager S, DuVall SL, You SC, Song S, Fernández-Bertolín S, Fortin S, Magoc T, Falconer T, Subbian V, Huser V, Ahmed WUR, Carter W, Guan Y, Galvan Y, He X, Rijnbeek PR, Hripcsak G, Ryan PB, Suchard MA , Prieto-Alhambra D. Unraveling COVID-19: A Large-Scale Characterization of 4.5 Million COVID-19 Cases Using CHARYBDIS. *Clinical Epidemiology*. 2022 14: Unraveling COVID-19: A Large-Scale Characterization of 4.5 Million COVID-19 Cases Using CHARYBDIS.

43. Staras SAS, Bylund CL, Desai S, **Harle CA**, Richardson E, Khalil GE, Thompson LA. 2022. A novel method for evaluating physician communication: A pilot study testing the feasibility of parent-assisted audio recordings via Zoom. *PEC Innovation*. 2022 1: A novel method for evaluating physician communication: A pilot study testing the feasibility of parent-assisted audio recordings via Zoom.

44. Vest JR, Adler-Milstein J, Gottlieb LM, Bian J, Campion TR, Cohen GR, Donnelly N, Harper J, Huerta TR, Kansky JP, Kharrazi H, Khurshid A, Kooreman HE, McDonnell C, Overhage JM, Pantell MS, Parisi W, Shenkman EA, Tierney WM, Wiehe S, **Harle CA**. Assessment of Structured Data Elements for Social Risk Factors. *American Journal of Managed Care.* 2022 28(1): Assessment of Structured Data Elements for Social Risk Factors.

45. Jackson JR, **Harle CA**, Silverman R, Simon K, Menachemi N. State-level regulations and opioid-related health outcomes. *Drug and Alcohol Dependence*. 2022 232(1): State-level regulations and opioid-related health outcomes.

46. Nguyen OT, Turner K, Apathy NC, Magoc T, Hanna K, Merlo LJ, **Harle CA**, Thompson LA, Berner ES, Feldman SS, Primary care physicians' electronic health record proficiency and efficiency behaviors and time interacting with electronic health records: a quantile regression analysis, *Journal of the American Medical Informatics Association.* 2022 29(3): Primary care physicians' electronic health record proficiency and efficiency behaviors and time interacting with electronic health records: a quantile regression analysis.

47. Alpert JM, Campbell-Salome G, Gao C, Markham MJ, Murphy M, **Harle CA**, Paige SR, Krenz T, Bylund CL. Secure messaging and COVID-19: A content analysis of patient-clinician communication during the pandemic. *Telemedicine and e-Health.* 2022 28(7): Secure messaging and COVID-19: A content analysis of patient-clinician communication during the pandemic.

48. Danielson EC, **Harle CA**, Downs SM, Militello L, Mazurenko O. How opioid prescribing policies influence primary care clinicians' treatment decisions and conversations with patients with chronic pain. *Journal of Opioid Management*. 2021 17(6): How opioid prescribing policies influence primary care clinicians' treatment decisions and conversations with patients with chronic pain.

49. Taylor H, Brumitt G, Williams K, **Harle CA**, Johnston A, Vest JR. How and Why Health Administration Students Should Learn How to Use EHR. *Journal of Health Administration Education*. 2021 35(4): How and Why Health Administration Students Should Learn How to Use EHR.

50. Hogan WR, Shenkman EA, Robinson T, Carasquillo O, Robinson PS, Essner RZ, Bian J, Lipori G, **Harle C**, Magoc T, Manini L, Mendoza T, White S, Loiacono A, Hall J, Nelson D. The OneFlorida Data Trust: a centralized, translational research data infrastructure of statewide scope, *Journal of the American Medical Informatics Association*. 2021; The OneFlorida Data Trust: a centralized, translational research data infrastructure of statewide scope.

51. LeLaurin JH, Nguyen OT, Thompson LA, Hall J, Bian J, Cho GD, Acharya R, **Harle CA**, Salloum RG, Disparities in Pediatric Patient Portal Activation and Feature Use, *JAMIA Open.* 2021 4(3): Disparities in Pediatric Patient Portal Activation and Feature Use.

52. Biviji R, Williams K, Vest JR, Dixon BE, Cullen T, **Harle CA**. Consumer perspectives on maternal and infant health apps: Qualitative content analysis. *Journal of Medical Internet Research*. 2021 23(9): Consumer perspectives on maternal and infant health apps: Qualitative content analysis.

53. Danielson EC, **Harle CA**, Silverman R, Blackburn J, Menachemi N. Assessing variation in state opioid tapering laws: Comparing state laws with the CDC guideline. *Pain Medicine*. 2021 22(12): Assessing variation in state opioid tapering laws: Comparing state laws with the CDC guideline.

54. Apathy NC, Vest JR, Adler-Milstein J, Blackburn J, **Harle, CA**. Practice and market factors associated with provider volume of health information exchange. *Journal of the American Medical Informatics Association.* 2021 28(7): Practice and market factors associated with provider volume of health information exchange.

55. Bookman RJ, Cimino JJ, **Harle CA**, Kost RG, Mooney S, Pfaff E, Rojevsky S, Tobin J, Wilcox A, Tsinoremas NF. Research Informatics and the COVID-19 Pandemic: Challenges, Innovations, Lessons Learned, and Recommendations. *Journal of Clinical and Translational Science.* 2021 5(1):

Research Informatics and the COVID-19 Pandemic: Challenges, Innovations, Lessons Learned, and Recommendations.

56. Richardson E, Ryan KA, Lawrence RM, **Harle CA**, Young A, Livingston MD, Rawal A, Staras SAS. Perceptions and Knowledge About the MenB Vaccine Among Parents of High School Students. *Journal of Community Health*. 2021 46(4): Perceptions and Knowledge About the MenB Vaccine Among Parents of High School Students.

57. Apathy NC, **Harle CA**, Vest JR, Morea JG, Menachemi N. Use of Electronic Health Records on Days Off: Comparing Physicians to Other EHR Users. *Journal of General Internal Medicine.* 2021 35: 1140-1143.

58. Hentschel A, Hisao CJ, Chen LY, Wright L, Shaw J, Du X, Flood-Grady E, **Harle CA**, Reeder CF, Francois M, Louis-Jacque A, Shenkman E, Krieger JL, Lemas DJ. Perspectives of pregnant and breastfeeding persons on participating in longitudinal mother-baby studies involving electronic health records: a qualitative study. *JMIR Pediatric and Parenting.* 2021 4(1): e23842.

59. Richardson E, Ryan KA, Lawrence RM, **Harle CA**, Desai SM, Livingston MD, Rawal A, Staras SAS. Increasing awareness and uptake of the MenB vaccine on a large university campus. *Human Vaccines and Immunotherapeutics*. 2021 Jun 2:1-8.

60. Golembiewski EH, Mainous AG, Rahmanian KP, Brumback B, Rooks BJ, Krieger JL, Goodman KW, Moseley RE, **Harle CA**. An Electronic Tool to Support Patient-centered Broad Consent: A Multi-Arm Randomized Clinical Trial in Family Medicine. *Annals of Family Medicine.* 2021 19(1): 16-23.

61. Biviji R, Vest JR, Dixon BE, Cullen T, **Harle, CA**. Content Analysis of Behavior Change Techniques in Maternal and Infant Health Apps. *Translational Behavioral Medicine*. 2021 11(2): 504-515.

62. Jackson JR, **Harle CA**, Silverman RD, Simon K, Menachemi N. Characterizing variability in state-level regulations governing opioid treatment programs. *Journal of Substance Abuse Treatment*. 2020 115.

63. Bian J, Lyu T, Loiacono A, Mendoza-Viramontes T, Lipori G, Guo Y, Wu Y, Prosperi M, George TJ, **Harle CA**, Shenkman EA, Hogan WR. Assessing the Practice of Data Quality Evaluation in a National Clinical Data Research Network through a Systematic Scoping Review in the era of Real-world Data. *Journal of the American Medical Informatics Association*. 2020 27(12): 1999-2010.

64. Militello LG, Hurley RW, Cook RL, Danielson EC, Dilulio J, Downs SM, Anders S, **Harle CA.** Primary care clinicians' beliefs and strategies for managing chronic pain in an era of a national opioid epidemic. *Journal of General Internal Medicine.* 2020 35(12): 3442-3548.

65. Mazurenko O, Blackburn J, Bair MJ, Kara AY, **Harle CA**. Receipt of Opioids and Patient Care Experiences among Non-surgical Hospitalized Adults. *Health Services Research*. 2020 55(5):651-659.

66. Mazurenko O, Andraka-Christou B, Bair MJ, Kara A, **Harle CA**. Clinical perspectives on hospitals' role in the opioid epidemic. *BMC Health Services Research*. 2020 20, 521.

67. Biviji R, Vest JR, Dixon BE, Cullen T, **Harle CA**. Factors Related to User Ratings and User Downloads of Mobile Apps for Maternal and Infant Health: A Cross-Sectional Study. *JMIR MHealth and UHealth*. 2020 8(1):e15663.

68. Diiulio J, Militello LG, Andraka-Christou BT, Cook RL, Hurley RW, Downs SM, Anders S, **Harle CA**. Factors That Influence Changes to Existing Chronic Pain Management Plans. *Journal of the American Board of Family Medicine*. 2020 33(1): 42-50.

69. Danielson EC, Mazurenko O, Andraka-Christou BT, Diiulio J, Downs SM, Hurley RW, **Harle CA.** An Analysis of Primary Care Clinician Communication About Risk, Benefits, and Goals Related to Chronic Opioid Therapy. *MDM Policy & Practice.* 2019 4(2).

70. Marcial LH, Blumenfeld BH, **Harle CA**, Jing Xia, Keller MS, Lee VC, Lin Z, Dover A, Midboe A, Al-Showk S, Bradley V, Breen JK, Fadden M, Lomotan E, Marco-Ruiz L, Reem M, O'Connor PJ, Rosendale D, Solomon H, Kawamoto K. Barriers, Facilitators, and Potential Solutions to Advancing Interoperable Clinical Decision Support: Multi-Stakeholder Consensus Recommendations for the Opioid Use Case. *Proceedings of the 2019 American Medical Informatics Association (AMIA) Annual Symposium*. Washington, D.C., November 2019, 527-534.

71. **Harle CA**, Diiulio J, Downs SM, Danielson EC, Anders S, Cook RL, Hurley RW, Mamlin BW, Militello LG. Decision-Centered Design of Patient Information Visualizations to Support Chronic Pain Care. *Applied Clinical Informatics*. 2019 10(4): 719-728.

72. **Harle CA**, Golembiewski EH, Rahmanian KP, Brumback B, Krieger JL. Mainous AG III, Moseley RE. Does an Interactive Trust-enhanced Electronic Consent Improve Patient Experiences when Asked to Share their Health Records for Research? A Randomized Trial. *Journal of the American Medical Informatics Association*. 2019 26(7): 620-629.

73. Mazurenko O, Andraka-Christou, B, Bair M, Kara A, **Harle, CA**. Balancing patient-centered and safe pain care for non-surgical inpatients: clinical and managerial perspectives. *The Joint Commission Journal on Quality and Patient Safety* 2019 45(4): 241-248.

74. Smith DM, Weitzel KW, Elsey AR, Langaee T, Gong Y, Wake DT, Duong BQ, Hagan M, **Harle CA**, Mercado E, Nagoshi Y, Newsom K, Wright A, Rosenberg EI, Starostik P, Clare-Salzler MJ, Schmidt SO, Fillingim RB, Johnson JA, Cavallari LH. CYP2D6-guided opioid therapy improves pain control in CYP2D6 intermediate and poor metabolizers: a pragmatic clinical trial. *Genetics in Medicine* 2019, 21: 1842-1850.

75. Taylor H, **Harle CA**, Johnson SM, Menachemi N. Workplace Incivility experienced by Health Administration Faculty. *Journal of Health Administration Education*. 2019, 36(2): 191-216.

76. Williams K, **Harle CA**, Vest JR, Johnson AL, Menachemi N. How and Why Health Administration Students Should Learn How to Use an EHR. *Journal of Health Administration Education*. 2018, 35(4): 575-585.

77. **Harle CA**, Apathy NC, Cook RL, Danielson EC, DiIulio J, Downs SM, Hurley RW, Mamlin BW, Militello, LG, Anders, S. Information Needs and Requirements for Decision Support in Primary Care: An Analysis of Chronic Pain Care. *Proceedings of the 2018 American Medical Informatics Association (AMIA) Annual Symposium*. Washington, D.C., November 2018, 527-534.

78. Vest JR, **Harle CA**, Menachemi N. Guidance on academic presentations for doctoral students and junior faculty. *Journal of Health Administration Education*. 2018 35(4): 587-598.

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PEER REVIEWED ABSTRACTS

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OTHER PUBLICATIONS

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**Member of the working group*

136. **Harle CA**, Dewar MA, Gruber LA. Start Simple… Maybe: Rolling Out an EHR in a Multispecialty Group Practice. in *HIT or Miss: Lessons Learned from Health Information Technology Implementations*, Leviss (ed), AHIMA, 2013 [Book chapter].

137. **Harle CA**, Menachemi N. Meaningful Use in Year Two and Beyond: Informing the Efforts of RECs *iHealthbeat.org*, 6 Feb 2012. iHealthBeat is the premier daily news digest reporting on the impact of information technology on healthcare. [Invited commentary].

CURRENT GRANTS AND CONTRACTS

PI, R18HS028584. Scaling Interoperable Clinical Decision Support for Patient-Centered Chronic Pain Care. Agency for Healthcare Research and Quality (AHRQ). $2,952,700. 2021-2025 (MPI Salloum).

Co-I, 5P30DK097512-09. Indiana Diabetes Research Center. National Institute of Diabetes and Digestive and Kidney Disease (NIDDK). 2020-2025 (PI Evans-Molina).

Co-I, R01DA050676. Developing and Evaluating a Machine-Learning Opioid Prediction & Risk-Stratification E-Platform (DEMONSTRATE). National Institute on Drug Abuse (NIDA). $3,207,039. 2021-2026 (PI Lo-Ciganic).

Co-I, R01HS028636. Computable social factor phenotyping using EHR and HIE data. Agency For Healthcare Research and Quality (AHRQ). $1,989,292. 2021-2026 (PI Vest Indiana University).

Co-I, HS028008. Predictive modeling for social needs in emergency department settings. Agency For Healthcare Research and Quality (AHRQ). $1,967,217. 2021-2026 (PI Vest Indiana University).

Co-I, R01CA234030. Text and Talk: A Intervention to Increase Multi-level Provider HPV Vaccine Recommendation Effectiveness. National Cancer Institute (NCI) $2,900,000. 2019-2026. (PI Staras).

Co-I, R21/R33AG072265. Harmonizing and Integrating Nursing Data into Multidisciplinary Datasets to Evaluate Hospital Care and Readmissions of Older Adults with Alzheimer's Disease and Alzheimer's Disease-Related Dementias. National Institute on Aging (NIA) $190,625. 2021-2025 (PIs Macieira, Keenan, Yao).

COMPLETED GRANTS AND CONTRACTS

Co-PI, Social Needs Screening for Department of Corrections. Indiana Department of Correction. 2023-2024. (MPI Vest, Indiana University).

PI, R33DA046085. (R21/R33). Nudging Primary Care Providers toward Guideline-Recommended Opioid Prescribing through Easier and More Convenient EHR Information Design. National Institute on Drug Abuse (NIDA). $2,223,377. 2017-2023. (MPI Mazurenko, Indiana University).

Co-I (site PI), Evaluating the Comparative Effectiveness of Telemedicine in Primary Care: Learning from the COVID-19 Pandemic. Patient Centered Outcomes Research Institute (PCORI) $ $3,083,675. 11/2020-10/2022 (PI Ancker and Kaushal, Vanderbilt University, Weill Cornell Medical College).

Co-Director (site PI), IUCRC Planning Grant University of Florida: Center for Population Health Analytics & Technology [CPHAT]. National Science Foundation (NSF) $19,981. 2021-2022 (co-directors Vest Indiana University, Huerta Ohio State University).

Co-I, R01HS023808. Enhancing Patient Matching in Support of Operational Health Information Exchange. Agency For Healthcare Research and Quality (AHRQ). $1,122,239. 2017–2022. (PI Grannis).

Co-I, Advancing Privacy-Preserving Record Linkage Methods in the Context of Real-World Data Networks & HIE. Patient Centered Outcomes Research Institute (PCORI). $1,027,578. 2018-2021. (PI Grannis).

PI, Rapid Development of Pandemic Models for Actionable Clinical and Administrative Decision Support. University of Florida Clinical and Translational Science Institute (subproject under: National Center for Advancing Translational Science UL1TR001427) and University of Florida Informatics Institute. $99,792. 5/2020 – 11/2020.

Co-I, Doctor-Patient Cancer Communications through Telemedicine during COVID-19. (subproject under: National Center for Advancing Translational Science UL1TR001427). $80,555. 5/2020 – 11/2020. (PI Bylund).

PI, R01HS023306. Designing User-Centered Decision Support Tools for Chronic Pain in Primary Care. Agency For Healthcare Research and Quality (AHRQ). $1,954,230. 2015-2020.

Co-PI, Analytics for Administrators: Adapting Novel Clinical Education Platform for Health Administration Education. IUPUI Center for Teaching and Learning: Curriculum Enhancement Grant. $14,969. 2018-2019 (Co-PIs Vest and Johnston).

PI, R01HD086700. An Interactive Patient-Centered Consent for Research Using Electronic Medical Records. Eunice Kennedy Shriver National Institute of Child Health & Human Development. $1,150,923. 2015 –2019. (Co-PIs Ray Moseley and Arch Mainous)

PI, Clinical Decision Support for Centers for Disease Control and Prevention (CDC) Opioid Guidelines. The Office of the National Coordinator for Health IT (ONC) and the CDC (subcontract from Security Risk Solutions), $96,174. 2019.

Co-I, 3T15LM012502-01S1. The Indiana Training Program in Public & Population Health Informatics (Administrative Supplement). National Library of Medicine (NLM). $100,000. 2017-2018. (PIs Dixon, Schleyer).

PI, An Integrative and Sustainable Approach to Pain Management in Primary Care. Pfizer, Inc. Medical Education Group. $499,977.00. October 2013 – March 2016. (Co-PI Robert Hurley)

PI, Using Information Technology to Improve Opioid Prescribing Decisions in Primary Care. KL2 Mentored Career Development Award. National Institutes of Health (NCATS) and University of Florida Clinical and Translational Science Institute (CTSI). October 2012 – March 2015.
**Research funds supplement awarded in January 2013.*

Co-I, Designing an Information System for Conducting Community-Based Trials on People's Health Insurance Choices. University of Florida Clinical Translational Science Institute – Pilot and Collaborative Research Projects Program Grants Application, $19,995 (with Lyle Brenner, Paul Duncan, Christopher Barnes, Narayan Raum). June 1, 2011 – June 30, 2012.

Co-I, (PI on sub-contract from Carnegie Mellon University) Information Visualization for Cognitively Guided Decision Making for Diabetes Risk Assessment and Guideline Compliance, UPMC Healthcare Innovation Grant, $9,568.50. (with Rema Padman, PI and Daniel Neil). October 12, 2011 – December 31, 2011.

PI, A Mental Models Approach to Understanding Cancer Survivors' Health Risk Beliefs. American Cancer Society – Chris DiMarco Institutional Research Grant, $30,000 (with Jessica Schumacher, Merry-Jennifer Markham and Patricia Shearer). December 31, 2010 – December 30, 2011.

Co-I, Clinician and Patient Characteristics Associated with Clinical Inertia in Blood Pressure Control. Novartis. $36,715. (with Jeffrey Harman, PI and Shuo Yang). September 1, 2010 – February 28, 2011.

PI (on sub-contract from WellFlorida Council, Agency for Health Care Administration), State of Florida Health Information Technology Environmental Scan Medicaid Environmental Scan, $10,500.
June 15, 2010 – October 31, 2010.

Co-PI, Reversing Type 1 Diabetes After it is Established: A Pilot Safety and Feasibility Study of Anti-Thymocyte Globulin (Thymoglobulin®) and Pegylated GCSF (Neulasta®) in Established Type 1 Diabetes - Type 1 Diabetes Pilot Study Informatics Core, University of Florida Clinical and Translational Science Institute Pilot and Collaborative Research Project, $99,336, (with Michael Haller, PI and June Nogle), November 2009 – October 2011.

PI, The Impact Of Web-Based Health Risk Communication On Information Processing and Risk Perceptions. McDowell Research Center for Global Information Technology Management (MRC), University of North Carolina at Greensboro (UNCG), $5,000, (with Rema Padman and Julie Downs), April 2008.

PI, Risk Information Processing and Perceptual Updating in the Context of Web-Based Risk Calculators. Carnegie Mellon University Center for Behavioral Decision Research (CBDR), $2,500, (with Rema Padman and Julie Downs), December 2007.

SELECTED PRESENTATIONS

Harle CA. Delivering Real World Patient Data for Clinical and Translational Research: Approaches from Four Institutions. Panel Research Presentation at 2023 American Medical Informatics Association (AMIA) Annual Symposium, November 5-9, 2022.

Magoc T, Chen Y, Galvan Y, Hanson K, Liao R, Lipori G, McDevitt L, Nguyen K, Pierre F, Quinones A, Staley B, **Harle CA**. Supporting Electronic Health Record Data Usage in Research for Teams with Varying Data Science and Clinical Knowledge. Poster Research Presentation at 2022 American Medical Informatics Association (AMIA) Spring Summit, March 21-24, 2022.

Harle CA. Using Clinical Informatics to Improve Chronic Pain and Opioid Management in Real-World Clinical Practice. Panel Research Presentation at 2022 American Medical Informatics Association (AMIA) Spring Summit, March 21-24, 2022.

Allen KS, Danielson EC, Downs SM, Mazurenko O, Diiulio J, Mamlin BW, **Harle CA.** Evaluating the Utility of a Prototype Clinical Decision Support Tool for Chronic Pain Treatment Choices in Primary Care. Poster Research Presentation at 2021 American Medical Informatics Association (AMIA) Annual Symposium, October 30 – November 3, 2021.

Magoc T, Galvan Y, Deason R, Fishe JN, Labilloy G, Lipori G, Tfirn I, **Harle CA.** Rapid Creation of a De-Identified COVID-19 Dataset for Clinical Research. Podium Research Presentation at 2021 American Medical Informatics Association (AMIA) Virtual Informatics Summit.

Magoc T, Lipori G, Myles J, Sortino S, **Harle CA**. COVID-19 Research: Messy Data, Consequent Pitfalls and Lessons Learned. Poster Research Presentation at 2021 American Medical Informatics Association (AMIA) Virtual Informatics Summit.

Harle CA. Actionable Opportunities for Improving Opioid Prescribing through Use of Informatics. Panel Research Presentation at 2020 American Medical Informatics Association (AMIA) Annual Symposium, November 15-18, 2020.

Harle CA. Healthcare Delivery Systems, EHRs, and the Future of an App-based Ecosystem: Old Wine in New Bottles? Panel Research Presentation at 2020 American Medical Informatics Association (AMIA) Annual Symposium, November 15-18, 2020.

Harle CA. Effects of an Interactive Trust-enhanced Electronic Consent on Patient Experiences with Consenting to Share their Health Records for Research**.** Podium Presentation at 2019 American Medical Informatics Association (AMIA) Annual Symposium, November 16-20, 2019.

Danielson E, **Harle CA.** Factors Related to User Ratings and User Downloads of Mobile Apps for Maternal and Child Health (MCH). Poster presentation at 2019 American Medical Informatics Association (AMIA) Annual Symposium, November 16-20, 2019.

Harle CA. Informatics Needs and Solutions to Support Safe Opioid Prescribing and Effective Pain Care. Panel Research Presentation at 2018 American Medical Informatics Association (AMIA) Annual Symposium, San Francisco, November 4-7, 2018.

Harle CA, Apathy, NC, Cook, RL, Danielson, EC, DiIulio, J, Downs, SM, Hurley, RW, Mamlin, BW, Militello, LG, Anders, S. Information Needs and Requirements for Decision Support in Primary Care: An Analysis of Chronic Pain Care. Oral Paper presentation at the 2018 American Medical Informatics Association (AMIA) Annual Symposium. Washington, D.C., November 4-7, 2018.

Rahurkar S, Vest JR, **Harle CA**, Menachemi N. Scientific Evidence Now Links Health Information Exchange to A Wide Range of Benefits. Oral Presentation at 2018 American Medical Informatics Association (AMIA) Annual Symposium, San Francisco, November 4-7, 2018.

Apathy NC, **Harle CA**. Patient Consent Policies for State Health Information Exchange and Level of Provider Exchange. Oral Presentation at 2018 American Medical Informatics Association (AMIA) Annual Symposium, San Francisco, November 4-7, 2018.

Hogan T, Mazurenko O, **Harle CA**, Hiligoss B, Menachemi N, Lemak C. First Year on Faculty: How to Hit the Ground Running. Professional Development Workshop (PDW) Presentation at 2018 Academy of Management Annual Meeting – Health Care Management Emerging Scholars Consortium, Chicago, August 10, 2018.

Danielson EC, Mazurenko O, Andraka-Christou BT, DiIulio J, Downs SM, Hurley RW, **Harle CA**. How patients and primary care clinicians discuss the risks, benefits, and goals of opioid treatment. Oral presentation at AcademyHealth Annual Research Meeting, Seattle, WA, June 24-26, 2018.

Harle CA, Anders S, Apathy N, Cook RL, Danielson EC, DiIulio J, Downs SM, Hurley RW, Mamlin BW, Militello L. Designing a user-centered electronic health record decision support system for guideline-concordant opioid prescribing. Poster presented at AcademyHealth Annual Research Meeting, Seattle, WA, June 24-26, 2018.

Biviji R, Vest JR, Dixon BE, Cullen T, **Harle CA**. Factors Related to User Ratings and User Downloads of Mobile Apps for Maternal and Child Health (MCH). Poster presented at AcademyHealth Annual Research Meeting, Seattle, WA, June 24-26, 2018.

Golembiewski EH, **Harle CA**. Creating a Lexicon to Support Identifying Patients with Homelessness through Natural Language Processing of Clinical Notes. Poster presented at AcademyHealth Annual Research Meeting, Seattle, WA, June 24-26, 2018.

Harle, CA. Designing and Evaluating Information Systems to Support Decision Making. Visiting Professor, Health Policy Workshop Series, School of Public and Environmental Affairs, Indiana University, Bloomington, IN. March 29, 2018.

Harle CA. Using Data to Address the Opioid Crisis. Panel Presentation at AcademyHealth Health Datapalooza, Washington, D.C., April 26-27, 2018.

Anders S, Militello LG, Downs SM, Hurley RW, Cook RL, Danielson EC, **Harle CA.** Information Technology Gaps in Primary Care Management of Chronic Pain. Oral Presentation at 2018 International Symposium on Human Factors and Ergonomics in Health Care, Boston, MA, March 26-28, 2018.

Harle CA. Opioid prescribing decisions: patients, providers, pain, and PDMPs. Presentation at WFYI Indianapolis Side Effects Event on Prescription Drug Monitoring and Opioid Prescribing Guidelines, December 2017. Opioid prescribing decisions: patients, providers, pain, and PDMPs

Harle CA. Successes and Challenges in Developing and Implementing Electronic Informed Consent Tools for Research. Panel Research Presentation at 2017 American Medical Informatics Association (AMIA) Annual Symposium, Washington, D.C., November 4-8, 2017.

Apathy N, Vest JR, Menachemi N, Putz J, Morea J, **Harle CA.** Differing patterns of satisfaction and perception among clinical and non-clinical users following replacement of a legacy EHR system. Podium Abstract Presentation at 2017 American Medical Informatics Association (AMIA) Annual Symposium, Washington, D.C., November 4-8, 2017.

Harle CA, Vest JR, Menachemi N. Using Bibliometric Big Data to Analyze Faculty Research Productivity. Oral Presentation at 2017 Academy of Management Annual Meeting, Healthcare Management Division Professional Development Workshop, Atlanta, GA, August 4-8, 2017.

Harle CA, Downs SM. Designing Decision Support Tools for Chronic Pain in Primary Care. Oral Presentation at Indiana Academy of Family Physicians Annual Meeting, July 2017.

Andraka-Christou B, Dilulio J, Downs SM, Cook R, **Harle CA**. Clinician-Patient Discussions of Opioid Risks, Opioid Benefits, and Pain Management Goals: A Qualitative Study of Primary Care Visits. Poster presented at AcademyHealth Annual Research Meeting, New Orleans, LA, June 25-27, 2017.

Apathy N, Vest JR, Menachemi N, **Harle CA**. Changes in User Perceptions of Their Electronic Health Record Following the Replacement of a Legacy System. Poster presented at AcademyHealth Annual Research Meeting, New Orleans, LA, June 25-27, 2017.

Bako AT, Apathy N, **Harle CA**, Menachemi N, Vest JR. User Concerns Following Replacement of a Legacy Electronic Health Record: A Longitudinal Qualitative Study. Poster presented at AcademyHealth Annual Research Meeting, New Orleans, LA, June 25-27, 2017.

Norwood C, **Harle CA**. The Association Between Nurse Practitioner (NP) Scope-of-Practice Policies and NP Time Spent Providing Direct Patient Care. Poster presented at AcademyHealth Annual Research Meeting, New Orleans, LA, June 25-27, 2017.

Anders S, Militello L, Downs SM, Danielson EC, Mamlin BW, Cook RL, Hurley RW, **Harle CA.** Primary Care Clinician Sensemaking for Managing Patients with Chronic Pain. Poster presented at Human Factors and

Ergonomics Society (HFES) International Symposium on Human Factors and Ergonomics in Health Care, New Orleans, LA, March 5-8, 2017.

Harle CA, Listhaus A, Covarrubias C, Schmidt SOF, Carek PJ, Fillingim RB, Hurley RW. Overcoming Barriers to Implementing Social and Behavioral Patient-Reported Outcomes in an Electronic Health Record. Oral presentation at AcademyHealth Annual Research Meeting, Minneapolis, MN, June 14-16, 2015.

Kinsell HS, Harman JS, **Harle CA**, Duncan RP, Cook RL. The Impact of Florida's Anti-Pill Mill Law on Prescription Drug Abuse Outcomes. Oral presentation at AcademyHealth Annual Research Meeting, Minneapolis, MN, June 14-16, 2015.

Harle CA, Schmidt SOF, Mercado E, Orlando F, Desai A, Listhaus A, Bell L, Chisholm T, Hurley R, Assessing the Impact of Integrating Electronic Health Records and Patient-Reported Outcomes for Chronic Pain on the Process and Quality of Care in Family Medicine. Oral presentation at Society of Teachers of Family Medicine (STFM) Annual Spring Conference, Orlando, FL, April 25-29, 2015.

Harle CA, Hurley RW, Bell L, Chisolm T, Schmidt SOF, Shuster JJ, Fillingim RB. Process Variation and Data Quality Risks in Electronically Collected Patient Reported Outcomes. Poster presented at AcademyHealth Annual Research Meeting, San Diego, CA, June 8-10, 2014.

Harle CA, Kinsell H, Schwarz J, Bavry AA, Shorr RI, Limacher MC, Pearson TA, Mainous AG. Toward Automated Cardiovascular Disease Risk Assessment in Electronic Health Records: How Useful are the Data?, Poster presented at University of Florida Clinical and Translational Science Institute (CTSI) Research Day, Gainesville, FL, June 5, 2014.

Harle, CA, Kitchens B, Li Shengli. The Relationship between Health Information Quality and Search Engine Results. Visiting Professor, Center for Health Informatics and Policy (CHiP), Weill Cornell Medical College, New York, May 28, 2014.

Harle CA, Hurley RW, Schmidt SOF, Shuster JJ, Fillingim RB. Designing, Implementing, and Evaluating an Information System to Integrate Patient Reported Outcomes in Electronic Health Records, Poster and oral presentation at University of Florida Clinical and Translational Science Institute (CTSI) Research Day, Gainesville, FL, June 5, 2014.

Harle CA, Cook RW, Fillingim RB. Informing Clinical Decision Support for Chronic Pain in Primary Care: How do Physicians Decide When to Initiate Opioids? Poster presented at American Pain Society Annual Meeting, Tampa, FL, April 30 – May 3, 2014.

Harle CA, Hurley RW, Bell L, Chisolm T, Schmidt SOF, Shuster JJ, Fillingim RB. Process Variation and Data Quality Risks in Electronically Collected Patient Reported Outcomes. Poster presented at the Translational Science Meeting, Washington, D.C., April 9-11, 2014.

Harle CA, Fillingim RB, Cook RL. The Pain of Managing Opioid Analgesics in Primary Care: Can Electronic Health Records Help? Late breaking abstract presented at 2013 American Medical Informatics Association (AMIA) Annual Symposium, Washington, D.C., November 16-19, 2013.

Harle CA, Cook RL, Kinsell HS, Harman JS. The Relationship between Electronic Health Record Use and Opioid Prescribing in U.S. Primary Care Office Visits. Oral presentation at AcademyHealth Annual Research Meeting, Baltimore, MD, June 23-25, 2013.

Bilello L, **Harle CA**, Harman JS, Duncan RP, Cook RL. The Relationship Between Electronic Health Record Stage 1 Meaningful Use Objectives and Hospital Quality of Care. Poster presented at AcademyHealth Annual Research Meeting, Baltimore, MD, June 23-25, 2013.

Bilello L, **Harle CA**, Harman JS, Duncan RP, Cook RL. Organizational Characteristics Associated with Electronic Health Record "Meaningful Use" in Hospitals. Poster presented at AcademyHealth Annual Research Meeting, Baltimore, MD, June 23-25, 2013.

Harman JS, Cook RL, **Harle CA**. Association of EMR Use with Anxiety Treatment During Office Visits in the United States. Poster presented at AcademyHealth Annual Research Meeting, Baltimore, MD, June 23-25, 2013.

Diana, M, **Harle CA**, Huerta TR, Ford EW, Menachemi N. What Type of Hospitals Have Achieved Meaningful Use? Poster presented at AcademyHealth Annual Research Meeting, Baltimore, MD, June 23-25, 2013.

Harle CA, Cook RL, Fillingim RB. The Pain of Managing Chronic Opioid Therapy in Primary Care: Can Electronic Health Records Help? Oral presentation at University of Florida Clinical and Translational Science Institute (CTSI) Research Day, Gainesville, FL, June 20, 2013.

Lipori G, Iafrate P, **Harle CA**, Deason R, Horne E, Sortino S. Putting the Pieces Together for Research, Quality and Safety: University of Florida Health Integrated Data Repository. Poster presented at 6th Annual Clinical Research Management Workshop, Yale Center for Clinical Investigation, Washington, D.C., June 3-4, 2013.

Harle CA, Cook RL, Kinsell H, Harman JS. The Relationship Between Electronic Health Record Use and Opioid Prescribing in U.S. Primary Care Office Visits. Poster presented at Association for Clinical and Translational Science Meeting 2013, Washington, DC, April 18, 2013.

Harle CA, Deason D. UF&Shands Academic Health Center Integrated Data Repository – 2012 Update on i2b2 for Cohort Discovery. Oral presentation at UF and VA Institute on Aging Clinical Translational Aging Research Series, Oct. 29, 2012.

Harle CA, Schumacher JR, Everhart DM, Bilello, LA, Markham, MJ. Long-term Breast Cancer Survivors' Perceptions of Cancer Risk: A Mental Models Study. Poster presented at the Society for Medical Decision Making Annual Meeting, Phoenix, AZ, October 17, 2012.

Harle CA, Huerta T, Ford E, Diana M, Menachemi N. Overcoming Challenges to Achieving Meaningful Use: Insights from hospitals that successfully received CMS payments in 2011. Oral presentation at Workshop on Health IT and Economics (WHITE), Washington D.C., October 6, 2012.

Harle CA, Dewar MA. Physician Beliefs about an Upcoming Electronic Health Record Implementation. Poster presented at AcademyHealth Annual Research Meeting, Orlando, FL, June 18, 2012.

Harman JS, **Harle CA**, Yang S. Clinician and Patient Characteristics Associated with Clinical Inertia in Blood Pressure Control. Poster presented at AcademyHealth Annual Research Meeting, Orlando, FL, June 18, 2012.

Harman JS, **Harle CA**, Yang S. Clinician and Patient Characteristics Associated with Clinical Inertia in Blood Pressure Control. Poster presented at American Society of Hypertension Annual Scientific Meeting and Exposition, New York, May 19, 2012.

Harle CA, Ebel C, Lipori G, Deason D. UF&Shands Integrated Data Repository. Oral presentation at UF and VA Institute on Aging Clinical Translational Aging Research Series, Oct. 31, 2011.

Neil D, **Harle CA**, Padman R, Solano F, Zgibor J. Clinician Information Needs for Data Visualization Based Diabetes Risk Assessment and Guideline Compliance. Poster presented at American Medical Informatics Association Annual Symposium, Washington D.C., Oct. 25, 2011.

Harle CA, Kitchens B, Li Shengli. The Relationship between Health Information Quality and Search Engine Results. Oral presentation at Workshop on Health IT and Economics (WHITE), Washington D.C., October 22, 2011.

Harman JS, **Harle CA**, Cook RL, Rost KM. Association of EMR Use with Depression Treatment During Primary Care Office Visits. Oral presentation at AcademyHealth Annual Research Meeting, Seattle, WA, June 2011.

Bilello LA, **Harle CA**, Menachemi N, Siler-Marsiglio K, Sullivan C. Assessing Florida Hospital's Preparedness for the HITECH EHR Incentive Program. Poster presented at AcademyHealth Annual Research Meeting, Seattle, WA, June 2011.

Menachemi N , Yeager V, Bilello LA, **Harle CA**, Sullivan C, Siler-Marsiglio K. Factors Predicting Physician Reported Intention to Participate in HITECH's EHR Initiative. Poster presented at AcademyHealth Annual Research Meeting, Seattle, WA, June 2011.

Harle CA, Ebel C, Lipori G, Deason D. UF&Shands Integrated Data Repository. Oral presentation at Shands HealthCare Executive Meeting, Jun 22, 2011.

Harle, CA, Barnes C, Williams S, Deason R, Ebel C, Nayfield S. Implementing Risk Assessment Tools in an Integrated Patient Data Repository for Aging Research, Poster Presented at 2nd Annual University of Florida Spotlight on Research in Aging, April 15, 2011.

Bilello LA, **Harle CA**. Assessing Florida Hospital's Preparedness for the HITECH EHR Incentive Program. Poster presented at University of Florida College of Public Health and Health Professions Research Day, March 23, 2011.

Harle CA, Downs JS, Padman R. Biased Assimilation of Personalized Health Risk Calculator Information, Oral Presentation at AcademyHealth Annual Research Meeting, Boston, MA, June 29, 2010.

Harle CA. Invited presentation at Information Systems and Operations Management Forum, Warrington College of Business, University of Florida. April 9, 2010.

Harle CA, Downs JS, Padman R. Exploring Variation in User Adoption of Personalized Risk Calculator Estimates, Oral presentation at American Medical Informatics Association (AMIA) Annual Symposium, San Francisco, CA, November 15, 2009.

Harle CA, The Impact of Web-Based Risk Calculators on Health Risk Perceptions and Information Processing, Invited presentation at INFORMS 2008, Washington, D.C., October 12-15, 2008.

Harle CA, Padman R, Neil D. An Information Visualization Approach to Classification and Assessment of Diabetes Risk, Poster Presented at 29th Annual Meeting of the Society for Medical Decision Making, Pittsburgh, PA, October 20-24, 2007.

Harle CA, Padman R, Neil D. An Information Visualization Approach to Classification and Assessment of Diabetes Risk, Poster Presented at Quality of Life Technology Center Expo, Pittsburgh, PA, April 12, 2007.

Harle CA, Padman R, Neil D. Information Visualization and Meeting Physician Information Needs for Risk and Compliance Assessment, Oral presentation at INFORMS 2006, Pittsburgh, PA, November 5-8, 2006.

PROFESSIONAL SERVICE

Grant Review

Reviewer, HEAL Initiative: HEAL Data2Action – Innovative and Acceleration Projects, Phased Awards National Institute on Drug Abuse (NIDA)
National Institutes of Health — 2023

Reviewer, Sickle Cell Disease Pain Management Trials Utilizing the Pain Management Effectiveness Research Network Cooperative Agreement
National Center for Complementary and Integrative Health (NCCIH)
National Institutes of Health — 2022

Reviewer, NIH Healthcare Research Collaboratory – Pragmatic and Implementation Trials of Embedded Interventions
National Center for Complementary and Integrative Health (NCCIH)
National Institutes of Health — 2022

Reviewer, NIH Healthcare Research Collaboratory - Coordinating Center
National Center for Complementary and Integrative Health (NCCIH)
National Institutes of Health — 2022

Reviewer, Integration, Dissemination, and Evaluation (BRIDGE) Center for the NIH Bridge to Artificial Intelligence (Bridge2AI) Program (U54)
National Institutes of Health — 2021

Reviewer, COVID-19 Special Emphasis Panel
Agency for Healthcare Research and Quality (AHRQ) — 2020

Reviewer, HEAL Initiative: Pragmatic and Implementation Studies for the Management of Pain to Reduce Opioid Prescribing (PRISM)
National Center for Complementary and Integrative Health (NCCIH)
National Institutes of Health — 2020

Reviewer, National Institutes of Drug Abuse (NIDA)
National Institutes of Health — 2019

Standing Member, Health Information Technology Research (HITR) Study Section — 2016 – 2019

Agency for Healthcare Research and Quality (AHRQ) (Ad-hoc 2015)

Reviewer, National Institute of Dental and Craniofacial Research (NIDCR) 2019
National Institutes of Health

Reviewer, National Awareness and Early Diagnosis Initiative (NAEDI)
Dept. of Health England

Technical Expert Panel
eCare Planning for Multiple Chronic Conditions 2019-2020
Agency for Healthcare Research and Quality (AHRQ) and National Institute
Of Diabetes and Digestive and Kidney Diseases (NIDDK)

Journal Editing
Special issue on Interactive Systems for Patient-Centered Care 2016
to Enhance Patient Engagement
Journal of the American Medical Informatics Association (JAMIA)

Special issue on Healthcare Information Systems 2012
Decision Support Systems

Conference and Workshop Organization
AMIA Annual Symposium Student Paper Competition Committee 2020-2024
Scientific Program Committee 2021
American Medical Informatics Associate (AMIA) Virtual Informatics Summit

Theme Co-leader, Digital Technologies, Data, and Data Science 2019
AcademyHealth Annual Research Meeting

Theme Co-leader, Technology and Health Theme 2017
AcademyHealth Annual Research Meeting

Scientific Program Committee 2016, 2023
American Medical Informatics Associate (AMIA) Annual Symposium

Co-organizer 2014
Workshop on Interactive Systems in Healthcare (WISH)
co-located with AMIA Annual Symposium

Program committee member 2014
Big Data Analytics in Healthcare Conference

Health care track associate editor 2012
International Conference on Information Systems (ICIS)

Journal Review *(selected)*
International Journal of Medical Informatics, Journal of the American Medical Informatics Association (JAMIA), JAMIA Open, Health Affairs, Journal of Medical Internet Research, Applied Clinical Informatics, Management Science, Healthcare: The Journal of Delivery Science and Innovation, Pain Medicine, Family Medicine, Pediatrics, BMC Health Services Research, Advances in Health Care Management

Conference Review *(selected)*
AcademyHealth Annual Research Meeting, American Medical Informatics Association (AMIA) Annual Symposium, Big Data Analytics in Healthcare Conference, Hawaii International Conference on Systems Sciences (HICSS), International Conference on Information Systems (ICIS), Global Information Technology and Management Association Conference (GITMA), Medicine 2.0 World Congress, Pacific Asia Conference on Information Systems (PACIS).

Professional Association Membership and Service

Member, American Medical Informatics Association (AMIA)	2009 –
Member, AcademyHealth	2010 –
Education Council	2018 –
Member, Academy of Management	2017 –
Member, American Pain Society	2013 – 2018
Member, Association for Information Systems (AIS)	2009–2010
Member, INFORMS	2006, 2008–2010

TEACHING AND ADVISING

INSTRUCTOR

Indiana University
Business Analytics in Healthcare (Kelley School of Business)
Management Science (Fairbanks School of Public Health)
Healthcare Information Systems (Fairbanks School of Public Health)
PhD Seminar in Health Policy and Management Research (Fairbanks School of Public Health)
Operations Management (Kelley School of Business)

University of Florida
Information Management in Health Administration
Health Services Operations Management
PhD Quality and Outcomes in Health Services Research
PhD Seminar in Information Systems/Information Technology (Warrington College of Business)

DOCTORAL STUDENT ADVISING

	Current position
Committee member, Golnoush Kazeminezhad (2024)	
Committee member, Kristen Shear (2022)	U.S. Army
Committee co-chair, Nate Apathy (2020)	Research Scientist, MedStar Health Research Institute, National Center for Human Factors in Healthcare
Committee co-chair, Elizabeth Danielson (2020)	Postdoctoral Fellow, Northwestern University Feinberg School of Medicine
Committee member, Joanna Jackson (2019)	Assistant Professor, Winthrop University, College of Business

Committee chair, Elizabeth Golembiewski (2019)	Postdoctoral Researcher, Mayo Clinic
Committee chair, Rizwana Biviji (graduated 2018)	Lecturer, Arizona State University, College of Health Solutions
Committee chair, Connor Norwood (2017)	CEO, Delineate LLC
Committee member, Jon Mills (2016)	Research Faculty, Florida State University, College of Medicine
Committee member, Macey Henderson (2016)	Associate Professor, Johns Hopkins University, School of Medicine
Committee member, Sarah Bauer (2016)	Clinical Assistant Professor, Clemson University, Public Health Sciences
Committee member, Patrice Jones (2015)	
Committee member, Heidi Kinsell (2015)	Assistant Professor, Florida State University, College of Medicine
Committee co-chair, Lori Bilello (2012)	Research Associate Professor, University of Florida, College of Medicine (Jacksonville)
Committee member, Christopher Sistrom (2010)	Associate Professor, University of Florida, College of Medicine