

# Nate C. Apathy, PhD

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## Academic Appointments

|   |                     |
|---|---------------------|
| <b>Postdoctoral Fellow</b> , Health Services Research<br>Perelman School of Medicine, University of Pennsylvania                            | July 2020 – Present |
| <b>Associate Fellow</b> , Leonard Davis Institute of Health Economics   | Aug. 2020 – Present |
| <b>Affiliated Scientist</b> , Regenstrief Institute   | Aug. 2020 – Present |
| <b>Adjunct Faculty</b> , Health Policy & Management<br>Richard M. Fairbanks School of Public Health<br>Indiana University, Indianapolis, IN | Aug. 2020 – Present |

## Education

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| <b>Ph.D., Health Policy &amp; Management</b><br>Richard M. Fairbanks School of Public Health<br>Dissertation: <i>Health information exchange use in primary care</i> | Indiana University, 2020<br>Indianapolis, IN |
| <b>B.S., Business Administration</b> (summa cum laude)<br>Major: Economics<br>Minor: Behavioral and Cognitive Neuropsychology  | Creighton University, 2011<br>Omaha, NE      |

## Other Employment

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|--|---|
| <b>Department of Health Policy &amp; Management<br/>Fairbanks School of Public Health (IUPUI)</b><br>Predoctoral Fellow, Population & Public Health Informatics (NLM T15)<br>Graduate Research Assistant to <i>Christopher A. Harle, PhD, MS</i> | August 2016 – June 2020<br>Aug. 2017 – June 2020<br>Aug. 2016 – June 2020 |
| <b>Cerner Corporation</b> , Kansas City, MO  | July 2011 – April 2016  |

## Peer-Reviewed Publications

1. Taylor, HL; **Apathy, NC**; Vest, JR. Health information exchange use during dental visits. Accepted, *AMIA Annual Symposium Proceedings*. 2020 Nov.
2. **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*. 2020 Aug.
3. **Apathy, NC**; Everson, J. High rates of partial participation in the first year of the Merit-Based Incentive Program. *Health Affairs*. 2020 Sept.
4. Holmgren, AJ; **Apathy, NC**. Prescription drug monitoring program integration with hospital EHRs is low, especially in high opioid prescribing areas. *JAMA Network Open*. 2020 Jun 1;3(6).
5. Holmgren, AJ; **Apathy, NC**; Adler-Milstein, J. Barriers to Hospital Public Health Reporting and Implications for the COVID-19 Pandemic. *Journal of the American Medical Informatics Association*. 2020 May.
6. **Apathy, NC**; Holmgren, AJ. Opt-in consent policies: potential barriers to hospital health information exchange. *American Journal of Managed Care*. 2020;26(1).

7. Comer, AR; **Apathy, NC**; Waite C; Bestmann Z; Bradshaw J; Burchfield E; Harmon B; Legg R; Meyer S; O'Brien P, Sabec M; Sayeed J; Weaver A; D'Cruz L; Bartlett S; Marchand M; Zepeda I; Finnell, JT; Grannis, S; Silverman, RD; Embi, PJ. Electric Scooters (e-scooters): A Threat to Public Health and Safety. In Press, *Chronicles of Health Impact Assessment*.
8. Holmgren, AJ; **Apathy, NC**. Hospital adoption of API-enabled patient data access. *Healthcare: The Journal of Delivery Science and Innovation*. 2019;8.
9. Balio, CP; **Apathy, NC**; Danek, R. Health information technology and accountable care organizations: synthesis of the literature and future directions. *eGEMs (Generating Evidence & Methods to improve patient outcomes)*. 2019;7(1):24.
10. **Apathy NC**; Yeager VA. Examining Training Motivations Among Public Health Workers. *Journal of Public Health Management and Practice*. 2019;25(2), Public Health Workforce Interests and Needs Survey 2017: S157 –65.
11. Harle, CA; **Apathy, NC**; Cook, RL; Danielson, EC; Dilulio, 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. *AMIA Annual Symposium Proceedings*. 2018 Nov.
12. **Apathy, NC**; Menser, T; Keeran, L; Ford, EW; Harle, CA; Huerta, TR. Trends and gaps in awareness of direct-to-consumer genetic tests from 2007-2014. *American Journal of Preventive Medicine*. 2018 Jun 1;54(6):806-13.
13. Mosa, AS; Yoo, I; **Apathy, NC**; Ko, KJ; Parker, JC. Secondary Use of Clinical Data to Enable Data-Driven Translational Science with Trustworthy Access Management. *Missouri Medicine*. 2015;112(6):443-448.

### Peer-Reviewed Conference Presentations

1. Holmgren, AJ; **Apathy, NC**. Prescription drug monitoring program integration with hospital EHRs is low, especially in high opioid prescribing areas. *American Public Health Association Annual Meeting*. Nov. 2020.
2. **Apathy, NC**; Vest, JR; Adler-Milstein, J; Dixon, BE; Blackburn, J; Harle, CA. Health information exchange in primary care: use among teams. *National Library of Medicine Informatics Training Conference*. June 2020.
3. **Apathy, NC**; Vest, JR; Adler-Milstein, J; Dixon, BE; Blackburn, J; Harle, CA. Factors related to primary care use of health information exchange. *AcademyHealth Annual Research Meeting*. June 2020.
4. **Apathy, NC**; Roberts, A; Hayden, R; Harle, CA; Vest, JR. Visualizing patient-level risk factors from clinical risk prediction algorithms. *American Medical Informatics Association Clinical Informatics Conference*. May 2020.
5. **Apathy, NC**. Team-based measures of health information exchange. *Kentucky Bluegrass and Indiana Chapters of HIMSS Annual Conference*. April 2020.
6. **Apathy, NC**; Vest, JR; Menachemi, N; Morea, JG; Harle, CA. Differing patterns in frequency of electronic health records documentation among clinicians following the replacement of a legacy EHR system. *American Medical Informatics Association Annual Symposium*. Nov. 2019
7. **Apathy, NC**; Yeager, VA. Training Motivations Among Public Health Workers. *American Public Health Association Annual Meeting*. Nov. 2019.
8. **Apathy, NC**. Association between physician usage of health information exchange and quality measures. *National Library of Medicine Informatics Training Conference*. June 2019
9. **Apathy, NC**; Vest, JR; Menachemi, N; Morea, JG; Harle, CA. Impact of Transitioning from a Homegrown to a Commercial EHR on User Satisfaction. *AcademyHealth Annual Research Meeting*. June 2019
10. **Apathy, NC**; Everson, J. Variations in Primary Care Provider Competition Indices across Commonly Used Data Sources. *AcademyHealth Annual Research Meeting*. June 2019

11. **Apathy, NC**; Harle, CA. Patient consent policies for state health information exchange and level of provider exchange. *American Medical Informatics Association Annual Symposium*. Nov. 2018
12. **Apathy, NC**. Measurement of Health Information Exchange & Interoperability. *National Library of Medicine Informatics Training Conference*. June 2018
13. Balio, CP; **Apathy, NC**; Wiley, K; Holmes, A. The association between usual source of care at a patient-centered medical home and high-expense service utilization. *AcademyHealth Annual Research Meeting*. June 2018
14. Harle, CA; Anders, S; **Apathy, NC**; Cook, RL; Danielson, EC; Dilulio, J; Downs, SM; Hurley, RW; Mamlin, BW; Militello, LG. Designing a user-centered electronic health record decision support system for guideline-concordant opioid prescribing. *AcademyHealth Annual Research Meeting*. June 2018
15. **Apathy, NC**; Vest, JR; Menachemi, N; Putz, JW; Morea, JG; Harle, CA. Differing patterns of satisfaction and perception among clinical and non-clinical users following replacement of a legacy EHR system. *American Medical Informatics Association Annual Symposium*. Nov. 2017
16. **Apathy, NC**; Vest, JR; Menachemi, N; Harle, CA. Changes in user perceptions of their electronic health record following the replacement of a legacy system: a longitudinal analysis. *AcademyHealth Annual Research Meeting*. June 2017
17. Bako, AT; **Apathy, NC**; Vest, JR; Harle, CA. User concerns following replacement of a legacy electronic health record: A longitudinal qualitative study. *AcademyHealth Annual Research Meeting*. June 2017
18. **Apathy, NC**; Balio, CP; Danek, RL. Underrepresentation of health information technology studies in the context of accountable care organizations: Using the HSRProj database. *AcademyHealth Annual Research Meeting*. June 2017
19. **Apathy, NC**; Mosa, AS; & Ko, KJ. Protecting Patient Data and Maintaining Site Autonomy: Managing Project Access in a Multi-Site i2b2 Database. *American Medical Informatics Association Annual Symposium*. Nov. 2014

### Research in Progress

**Apathy, NC**; Vest, JR; Adler-Milstein, J; Blackburn, J; Harle, CA. Practice and market factors associated with provider volume of health information exchange.

**Apathy, NC**; Vest, JR; Adler-Milstein, J; Dixon, BE; Blackburn, J; Harle, CA. Team-based use of health information exchange in primary care.

**Apathy, NC**; Vest, JR; Adler-Milstein, J; Dixon, BE; Blackburn, J; Harle, CA. User-level patterns of health information exchange use.

Baxter, SL; **Apathy, NC**; Cross, DA; Sinsky, C; Hribar, ME. Comparison of vendor-provided electronic health record usage measures in ambulatory settings. Under Review.

**Apathy, NC**; Holmgren, AJ; Greenstein, S. Innovation spillovers from government investment in information technology: evidence from the HITECH Act.

**Apathy, NC**; Holmgren, AJ; Adler-Milstein, J. Meaningful use incentives and the digital divide after a decade.

**Apathy, NC**; Holmgren, AJ; Werner, RM. Out in the cold? ACO market penetration and health information exchange market dynamics.

### Book Chapters

Dixon, BE; Rahurkar, S; & **Apathy, NC**. Health Information Exchange. In: Magnuson, JA; Dixon, BE, editors. *Public Health Informatics and Information Systems*, 3<sup>rd</sup> edition. Springer London. August 2020.

## Research Interests

Health Information Technology  
Health Information Exchange

Health IT Policy  
Health IT Use & Quality Measurement

Population Health Informatics  
Health Economics

## Authored Web Applications

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|--|---------------------------------|-----------------------------|
| <a href="#">Economics Seminar Diversity</a>  | RShiny Dashboard w/ ggplot2     | v2.0.0 deployed August 2019 |
| <i>Interactive visualizations of invited seminar speakers to examine representation of female and under-represented minority economists at university economics departments</i>    |                                 |                             |
| <a href="#">CHF Risk Prediction Tool (Demo)</a>  | RShiny, randomForest, & ggplot2 | v1.2.1 deployed March 2019  |
| <i>Interactive visualization of risk scores for CHF at the population level, with option to view individual level risk factors underlying low, rising, or high-risk prediction</i> |                                 |                             |
| <a href="#">Opioid Prescribing Rate Visualization Tool</a>   | RShiny, ggplot2, & leaflet      | v2.0.0 deployed August 2018 |
| <i>Interactive mapping visualization of CDC prescribing rates and changes over time by county and state</i>  |                                 |                             |
| EHR Survey Response Visualizer   | RShiny & ggplot2                | v2.0.0 released Dec 2018    |
| <i>Interactive tool to analyze responses to a user satisfaction survey administered during an electronic health record transition at a large public safety net hospital</i>        |                                 |                             |

## Teaching

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|---|-------------------------------------|--------------------------|
| H320: Health Systems Administration                     | Guest Lecturer                      | Fall 2019                |
| H325: Health Information Technology Management & Policy | Instructor ( <i>rating: 4.7/5</i> ) | Fall 2018, Fall 2019     |
| E335: Chronic Disease Epidemiology                      | Guest Lecturer                      | Spring 2018              |
| H628: Healthcare Information Systems                    | Teaching Assistant                  | Spring 2017, Spring 2019 |

## Editorial Experience

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| <i>American Journal of Managed Care</i>  | Peer Review                    |
| <i>Journal of General Internal Medicine</i>  | Peer Review                    |
| <i>Milbank Quarterly</i>   | Peer Review                    |
| <i>Digital Health</i>  | Peer Review                    |
| International Conference on Information Systems, 2019  | Conference Submission Review   |
| AcademyHealth Annual Research Meeting, 2019<br><i>Digital Technologies, Data, and Data Science Theme</i> | Theme Reviewer & Session Chair |
| Journal of the American Medical Informatics Association (JAMIA)  | Assisted in Peer Review        |
| AMIA Annual Symposium  | Conference Submission Review   |
| AMIA Informatics Summits   | Conference Submission Review   |

## Leadership & Service

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| National Research Network Audit Log Measures Workgroup   | Spring 2020 – Current  |
| AMIA Annual Symposium, Session Moderator   | Fall 2019              |
| Collaborating Across Borders VII Conference, Session Moderator   | Fall 2019              |
| Indiana State Department of Health R Training Workshop, Instructor   | July 2019              |
| AMIA Policy Response Team, ONC Notices of Proposed Rulemaking<br><i>Draft Federal Health IT Strategic Plan</i> | Spring 2020            |
| <i>21st Century Cures, Information Blocking</i>  | Spring 2019            |
| NLM Informatics Training Conference, 2018 & 2019<br><i>Student Planning Committee Co-Chair</i>                 | Nov. 2018 – June 2019  |
| <i>Student Planning Committee Member</i>   | Jan. 2018 – June 2018  |
| AcademyHealth Student Competition: Identifying Gaps in HSR, Judge  | April 2018             |
| hsR: Using R for Health Services Research, Workshop Instructor   | Spring 2018            |
| AcademyHealth Student Chapter at IUPUI, President & Co-Founder   | Feb. 2017 – March 2019 |

## Professional Memberships

|   |                |
|---|----------------|
| American Public Health Association                      | 2019 – Present |
| AcademyHealth   | 2016 – Present |
| Health Information & Management Systems Society (HIMSS) | 2016 – Present |
| American Medical Informatics Association (AMIA)         | 2013 – Present |

## Honors, Awards, and Certificates

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| Delta Omega (Public Health Honors Society)                 | April 2020            |
| Med About Data Hackathon (Haifa, Israel) – Second Place    | March 2019            |
| IUPUI University Fellowship                                | Aug. 2016 – Jul. 2017 |
| Population Health Leadership Development Program           | Jan. 2015 – Dec. 2015 |
| Cerner Masters Award                                       | Aug. 2014             |
| Successful Presentations – Advanced Facilitator            | Certified May 2014    |
| Bioscience Entrepreneurship Program (Creighton University) | Jan. 2010 – Dec. 2010 |

## Press Coverage

Barriers to Hospital Public Health Reporting and Implications for the COVID-19 Pandemic, *JAMIA*  
[Becker's Hospital Review](#), May 27, 2020  
[Healthcare IT News](#), May 27, 2020  
[Healthcare Dive](#), May 27, 2020  
What the Fax? [Tradeoffs podcast episode](#), May 12, 2020  
Opt-In Health Information Exchange Drive Administrative Burden, [EHRIntelligence.com](#), January 2020  
API growing pains. [POLITICO Morning eHealth](#), September 2019  
IUPUI PhD student unpacks the impact scooters are having on Indianapolis, [FOX59 Indianapolis](#), April 2019  
Researcher's data shows how Indianapolis is using scooters. [IndyStar](#), March 2019  
Lyft warns it may never make any money. [Oversharing](#), March 2019