

JARED E. KNOWLES

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28 Rangeley Rd., Watertown, MA 02472

SUMMARY

- Skilled in applying quantitative social science methods to public policy problems to help leaders and elected officials make change
- Skilled data communicator with experience co-creating policy analysis with media, elected officials, researchers, and the general public
- Over a decade of experience training analyst teams transitioning from proprietary/disparate analysis tools to standardize on R

PROFESSIONAL EXPERIENCE

Civilytics Consulting

President, Founder, 2016 – Present

- **Faculty for Statistical Computing for the Strategic Data Project at Harvard (2016-present).** Curriculum designer and lead instructor for courses on predictive analytics, regression, data visualization, data preparation, and data governance to LEA, SEA, CMO, nonprofit, and higher education data staff. Advise various SDP capstone projects annually.
- **Build Predictive Analytics Systems for Multiple Clients.** Created system for City Colleges of Chicago to predict student success in gateway courses and trained staff on how to deploy it. Built the Freshmen Recruiting and Admissions Intelligence System for the Pennsylvania State System of Higher Education (PASSHE) to identify clusters of academically prepared minority students to recruit. Built an enrollment forecasting model for PASSHE schools and created a dashboard to monitor and evaluate predictions weekly.
- **Develop Education Dashboards for LEAs and SEAs.** Developed dashboard on student test participation for Boston Public Schools and trained analysts in R to maintain and enhance it. Developing a teacher workforce dashboard for the Connecticut Department of Education under contract with REL Northeast and Islands.
- **Conceptualize and Co-develop Dashboards for the Tableau Racial Equity Data Hub.** Built a [district-level dashboard](#) for all public-school districts in the U.S. using the Civil Rights Data Collection to analyze student arrests and referrals to law enforcement by race/ethnicity, gender, and state. Currently building a dashboard that uses Census data to examine racial gerrymandering and the implications of mass incarceration for political power. Responsible for all aspects of dashboard design and execution, including accessing, preparing, and analyzing data and designing dashboard functionality.

EDUCATION

University of Wisconsin-Madison

Ph.D. in Political Science, 2015

M.A. in Political Science, 2009

Pacific University

B.A. in Politics and Government, German Studies 2008

AWARDS

- IES Pre-Doctoral Training Fellowship, 2009-2015

TECHNICAL EXPERIENCE

- World-class expertise in programming statistical models in R and integrating them into operational data systems
- Also fluent in: Shiny dashboards, Stan, Python, SQL/PostGIS, L_AT_EX, and Stata
- **Databases:** IPEDS, National Student Clearinghouse, CRDC, ACS and Decennial Census products, FBI crime data
- **Analysis Methods:** Geospatial analysis, predictive modeling, deep learning, causal inference and quasi-experimental methods, Bayesian modeling

- **Conduct Budget Analyses and Trainings.** Train grassroots organizations to read and engage with their local budgets. Analyze city, county, and state budgets, along with adjacent data like calls for service and daily population counts in prisons and jails. Prepare memos and visualizations for local groups to use in advocacy campaigns. Present to community groups, academic researchers, journalists, and local government officials about this work.
- **Build Budget Advocacy and Other Open Source Tools.** Build [budget advocacy tools](#) to help groups compare their police department's size to other cities, price alternative public programs, and examine their city's [spending on policing compared to other public services](#) over time. Develop visualizations and interactive tools using Census and open city data to help community organizations understand inequalities in city services by neighborhood.
- **Train and Assist Staff in Using R.** Conduct R trainings ranging from introductory workshops to specialized training on hierarchical linear modeling, machine learning, Bayesian estimation, and shiny app development. Clients include Gwinnett County Public Schools, Leading Educators, and others.
- **Serve in Various Advisory Roles:**
 - [National Student Attendance Engagement and Success Center](#) Subject Matter Expert, 2020-present
 - [Urban Institute Education Data Portal](#) Advisory Board member, 2020-present
 - [Tableau Racial Equity Data Hub](#) Advisory Board, 2020-present
 - [The Geospatial Neighborhood Analysis Package \(geosnap\)](#) Advisory Board, 2021-present
 - IES Peer Review Panel Member, State Longitudinal Data Systems competition, 2019

Wisconsin Department of Public Instruction

Senior Research Analyst, 2013-2016

Policy Research Advisor, 2011-2013

Policy Analysis Intern, 2010-2011

- **Developed and Deployed Statewide Early Warning System.** Developed, piloted, and deployed the Wisconsin Dropout Early Warning System (DEWS), an EWS still used across the state and built in close collaboration with educators to ensure its adoption. Awarded [The Lloyd D. Gladfelter Award for Government Innovation](#) from La Follette School of Public Affairs.
- **Agency Representative and Project Director for SLDS Grant.** Lead grant writer for Wisconsin's winning 2015 Statewide Longitudinal Data System (SLDS) grant from the U.S. Department of Education (value: \$5.25M). Hired under 2009 grant and initial project director for 2015 grant. Agency representative to the National Forum on Education Statistics (2011-16). Founded and organized Data Analysis Technical Assistance-Community of Practice in Education (DATA-COPE) to bring together staff working on SLDSs across states (2014-18).
- **Integrated Education Data with Other State and Academic Data.** DPI liaison to Department of Children and Families, Wisconsin Center for Education Research, and Institute for Research on Poverty. State Superintendent's Wisconsin Education Research Advisory Council chair and organizer (2012-16). Responsible for building partnerships with external researchers to improve quality and timeliness of research for supporting agency decisions.
- **Grew State Government Employee Data Literacy and Statistical Computing.** Founded R User Group and taught [bootcamps on R](#) to transition agency analysis from Stata to R. Developed and led dozens of workshops on R, statistics, and data. Created merTools and eeptools packages in R to respond to specific needs of analysts using administrative data, including generating and presenting valid prediction intervals from a wide array of generalized hierarchical linear models.
- **Supported Agency Policy and Budget Development and Advancement of State Superintendent's Agenda.** Analyzed statewide longitudinal student data and other available data to support evidence-based policymaking. Conducted quick turnaround and longer-term analyses of math and reading data,

student absenteeism, English proficiency and bilingual and bicultural education programs, and many other topics. Developed interactive dashboards, data visualizations, and other methods for communicating analytics to practitioners and decision-makers at all levels of government. Supported agency's strategic goal-setting.

SELECTED PUBLICATIONS

Geller, Wendy, Dorothyjean Cratty, and **Jared E. Knowles**. (Forthcoming). *Education Data Done Right: Volume 2*. Leanpub.

Ritchie, Andrea J. and **Jared E. Knowles**. (2021). [*Cops Don't Stop Violence: Combating Narratives Used to Defend Police Instead of Defunding Them*](#). Community Resource Hub.

Community Resource Hub for Safety and Accountability and **Jared E. Knowles**. (2020). [*How to Take Back the Budget: A Guide to Reviewing and Changing the Police Budget in Your Community*](#). Community Resource Hub.

Knowles, Jared E. (2020). [*Policing the American University*](#). Boston, MA: Civilytics Consulting.

Geller, Wendy, Dorothyjean Cratty, and **Jared E. Knowles**. (2019). [*Education Data Done Right: Lessons from the Trenches of Applied Data Science*](#). Leanpub.

Carlson, Deven, and **Jared E. Knowles**. (2016). [*The Effect of English Proficiency Classification on Future Outcomes: Evidence from a Statewide Discontinuity*](#). *Journal of Policy Analysis and Management*. 35:3, 559-586.

Knowles, Jared E. (2015). [*Of Needles and Haystacks: Building an Accurate Statewide Dropout Early Warning System in Wisconsin*](#). *Journal of Educational Data Mining*. 7:3, 18-67.

Knowles, Jared E., and Douglas White (2013). [*The Wisconsin Dropout Early Warning System \(DEWS\) Action Guide for Educators*](#). Madison, WI: Wisconsin Department of Public Instruction.

SELECTED PRESENTATIONS

Caven, Meg, and **Jared E. Knowles**. (Upcoming). STATS-DC National Center for Education Statistics (NCES) Summer Data Conference. Online.

Knowles, Jared E. (June 23 and July 22, 2021). "Data Viz When Who Counts Matters Most." Summer Institute in Learning Analytics (SILA): The Center for Education Policy Research at Harvard University. Online.

Knowles, Jared E. (April 17, 2021). "Police Accountability from the Grassroots." University of California-Berkeley Conference on Analysis Pending Revolution. Online.

Knowles, Jared E. (March 11, 2021). "The Promise and Successes of Integrating Public Data with Education Data Systems." National Student Attendance Engagement and Success Center. Online.

Knowles, Jared E. (January 28, 2021). "Building a Data Culture." New Orleans Data Collaborative. Online.

Geller, Wendy, and **Jared E. Knowles**. (February 19, 2020). "Doing Education Data Right." Winter 2020: Accountability Systems and Reporting Collaborative Meeting. Council of Chief State School Officers. New Orleans, LA.

Knowles, Jared E. (July 17, 2019). "Applying Predictive Analytics in Education Ethically." SILA: The Center for Education Policy Research at Harvard University. Cambridge, MA.

Knowles, Jared E. (May 23-24, 2018). "Open Analytics." Colloquium 2018: Reimagining Assessment and Accountability in an Open World. National Center for Innovation in Education Assessment. Ketchum, ID.

MEDIA APPEARANCES

- Analysis and interview for *The Intercept* article "[Schumer Amendment Shorts States \\$5 Billion in Covid-19 Relief Funding](#)." June 30, 2021.
- Analysis for Reveal at The Center for Investigative Reporting episode "[Don't Count on the Census](#)." Feb. 1, 2020.
- Interview for Marketplace episode "[Using Data to Head Off Dropouts](#)." Nov. 12, 2014.

Levesque, Karen, and **Jared E. Knowles**. (July 8, 2015). "Two Sides of the Same Coin: State Staff and Researcher Perspectives on State Longitudinal Data." STATS-DC NCES Summer Data Conference. Washington, D.C.

Knowles, Jared E. (July 31, 2014). "An Early Warning System for You: Wisconsin's Open Source Predictive Analytic Approach." STATS-DC NCES Summer Data Conference. Washington, D.C.

Reschovsky, Andrew, Lindsay Amiel, and **Jared E. Knowles**. (March 15, 2014). "The Political Economy of Voter Support for School Property Taxation." Association for Education Finance and Policy. San Antonio, TX.

Knowles, Jared E. (January 31, 2014). "Statistical Learning and Applied Modeling in Education: Examples and Concerns. Wisconsin Center for Education Research. Madison, WI.

Knowles, Jared E. (July 17, 2013). "Building and Deploying an Early Warning System: Lessons Learned from a Large Scale Pilot." STATS-DC NCES Summer Data Conference. Washington, D.C.

Knowles, Jared E. (June 13, 2012). "Using R for Policy Research in a State Education Agency." International useR! Conference 2012. Nashville, TN.

Knowles, Jared E. (January 20, 2012). "Policy Relevant Visualization and Analysis of Longitudinal Data Systems Data with Open Source Tools." 25th Annual Management and Information Systems (MIS) Conference. San Diego, CA.