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idc

innovation advisory committee

**data science,  
augmented +  
artificial  
intelligence**

# vision

**Vision:** Widely disseminate data science and AI knowledge to advance nursing data stewardship, advanced analytics, and advocate for its safe and equitable use to support nursing practice and care delivery. Accelerate the discover of new insights from healthcare and nursing data sets that enable automation to optimize care delivery, research, and academia.

**Purpose:** The committee aims to provide the best, leading-edge, beneficial, and timely resources to equip all nurses with data science and artificial and augmented intelligence knowledge to optimize clinical and operational efficiencies and improve the nurse experience, people, and population outcomes.

**Call to Action:** It is imperative nurses have a voice in the discovery, development, and deployment of data science, artificial and augmented intelligence products in health care. As patient advocates, and the most trusted profession, we need to ensure the highest standards for the safe, ethical, and equitable use of this technology. It is time to take a bold step froward and advance the role of the nursing community in advancing this cause.

## Committee Members

Chair: Robbie Freeman, MSN, RN, ME-BC [[LinkedIn](#)]

Bonnie Adrian, PhD, RN-BC [[LinkedIn](#)]

Whende Carroll, MSN, RN-BC, FHIMSS [[LinkedIn](#)]

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In compiling these innovation resources our goal was to ensure unique information across all eight resource guides and to avoid redundancy. You may find additional content around **Data Science Artificial & Augmented Intelligence** (Data Science AI2) in the general resource guide. We thank the Data Science AI2 committee for contributing content to advance nurse-led innovation.



# general resources

## General Resources

- WHO Digital Health Worker - Florence [[website](#)]
- Why Nurses Are Key to a Strong IT Strategy [[article](#)]
- Digital Innovation in Nursing - Nurses Week 2021 [[video](#)]
- Data Science Terms [[Guide](#)]

## Data Repositories

- Broad Institute [[website](#)]
- Census Bureau [[website](#)]
- CDC Data Statistics [[website](#)]
- Health Data [[website](#)]
- Healthy People 2030 Data Set [[website](#)]
- Medicaid & CHIP Open Data [[website](#)]
- Medicare Claims Data [[website](#)]
- NASA Planetary Data System [[website](#)]
- NASA Earth Data Sets [[website](#)]
- National COVID Cohort Collaborative (N3C) [[website](#)]
- NIH Cancer Statistics [[website](#)]
- NHS Data [[website](#)]
- Open Science Data Cloud [[website](#)]
- Project NELL [[website](#)]
- U.S. Bureau of Labor Statistics [[website](#)]
- WHO Global Health Observatory [[website](#)]



# government

## Government

- CDC Healthy People 2030 [[website](#)]
- FDA Artificial Intelligence and Machine Learning (AI/ML) Enabled Medical Devices [[website](#)]
- FDA Focus Area Artificial Intelligence [[website](#)]
- FDA Digital Health Center of Excellence [[website](#)]
- NAM Artificial Intelligence in Healthcare: The Hope, Hyper, Promis, and Peril [[website](#)]
- Office of the National Coordinator for Health Information Technology [[website](#)]
- WHO Global Report on AI [[website](#)] [[press release](#)]
- Ethics & Governance of Artificial Intelligence for Health [[website](#)]
- USAID Artificial Intelligence in Global Health [[website](#)]

## Legislation + Policy

- Blueprint for AI Bill of Rights [[website](#)]



# universities + academia

## Universities and Academia

- Columbia School of Nursing Q&A: Artificial Intelligence and Nursing [\[website\]](#)
- MIT AI for Healthcare and Life Sciences [\[website\]](#)
- University of Florida Health Artificial Intelligence [\[website\]](#)
- Vanderbilt Data Science [\[website\]](#)
- Vanderbilt School of Engineering: Computing and AI for Health, Medicine, and Surgery [\[website\]](#)



# websites

## Websites

- Kaiser Family Foundation [[website](#)]
- Nursing Now [[website](#)]
- Nurse.org [[website](#)]
- Nurse Evolution [[website](#)]
- Towards Data Science [[website](#)]
- Quantitative Nurse [[website](#)]



# businesses, non-profits, programs

## Business Organizations, Non-Profits, Programs

- AI Now Institute [[website](#)]
- AIMED [[website](#)]
- Artificial Intelligence in Medicine: AI Med [[website](#)]
- Booz Allen [[website](#)]
- Deloitte AI in Pharma and Life Sciences [[website](#)]
- IEEE: The Professional Home for the Engineering and Technology Community Worldwide [[website](#)]
- Health Catalyst Transform Your Data Into Measurable Value [[website](#)]
- Health IT Analytics [[website](#)]
- IBM: What is artificial intelligence in medicine? [[website](#)]
- ICON: AI and Clinical Trials [[website](#)]
- Integra [[website](#)]
- IQVIA AI & Machine Learning with a healthcare IQ [[website](#)]
- ITIF: Information Technology and Innovation Foundation [[website](#)]
- LeanTaas Maximize healthcare capacity with AI and prescriptive analytics [[website](#)]
- Lirio [[website](#)]
- Microsoft AI for Health [[website](#)]
- Mobella Health [[website](#)]
- Open AI [[website](#)]
- Siemens [[website](#)]
- The Internet of Things: Lot [[website](#)]
- Vizient [[website](#)]





# organizations

## Organizations

- American Nursing Informatics Association (ANIA) [[website](#)]
- American Medical Informatics Association (AMIA) [[website](#)]
- Health Information Management System Society (HIMSS) [[website](#)]
- Nurses Improving Care for Healthsystem Elders (NICHE) [[website](#)]



# conferences

## Conferences

- AMIA Annual Symposium [[website](#)]
- HIMSS Global Health Conference & Exhibition [[website](#)]
- Nursing Knowledge: Big Data Science Conference [[website](#)]
- Women in Data Science [[website](#)]



# education + books

## Education + Training

- Bootcamp: AI for Healthcare [[website](#)]
- Data Science Bootcamp: Launch Your Data Science Career [[website](#)]
- Education—General Assembly [[website](#)]
- 2021 NINR AI Boot Camp - Innovations and Improvements in Health Outcomes [[video](#)]
- Data Science Specialization [[website](#)]
- Regex Tester [website](#)
- NimbleMiner [[website](#)] [[video](#)]
- Brat [[website](#)]

## Books

- Emerging Technologies for Nurses [[book](#)]
- Nursing Informatics: Scope & Standards of Practice, 3<sup>rd</sup> Edition [[book](#)]
- Healthcare Informatics: Strategies for the Digital Era [[book](#)]
- Nursing and Informatics for the 21st Century - Embracing a Digital World, Book 1 [[book](#)]
- Introduction to Nursing Informatics [[book](#)]
- Health Informatics: Multidisciplinary Approaches for Current and Future Professionals [[book](#)]
- Big Data-Enabled Nursing: Education, Research and Practice [[book](#)]
- Role of the Chief Nursing Informatics Officer (CNIO) ANIA [[e book](#)]
- Every Nurse an E-nurse [[e book](#)]
- The Book of OHDSI [[book](#)]
- The Visual Display of Quantitative Information [[book](#)]
- Visual Thinking For Design [[book](#)]



# jedi

## **JEDI (Justice, Equity, Diversity, Inclusion)**

- AHIMA White Paper Identifies Opportunities and Challenges with Collecting, Integrating, and Using Social Determinants of Data Health [\[white paper\]](#)
- Diversity Innovation Hub [\[website\]](#)
- General Assembly Cultivating Diverse Tech Talent [\[website\]](#)
- Health Care AI Systems Are Biased [\[article\]](#)
- How Health Care Leaders Can Build Effective, Bias free AI [\[article\]](#)
- How to leverage innovation models to achieve health equity: Build. Measure. Share [\[article\]](#)
- Leveraging AI to Examine Disparities and Bias in Health Care [\[website\]](#)
- Local climate risk data could enable better decision making by households and policymakers [\[blog\]](#)
- Women in Data Science [\[website\]](#)



# journals

## Journals

- Catalyst [\[website\]](#)
- Computer Informatics and Nursing [\[website\]](#)
- Creative Nursing [\[journal\]](#)
- Implementation Science [\[website\]](#)
- International Journal of Medical Informatics [\[website\]](#)
- MIT Technology Review [\[website\]](#)
- Online Journal of Nursing Informatics [\[website\]](#)
- The New England Journal of Medicine [\[website\]](#)



# articles + research

## Articles + Research

### AI In Healthcare

- Artificial Intelligence for Health and Health Care [\[report\]](#)
- AMIA Position Paper Details Policy Framework For AI/ML-Driven Decision Support [\[website\]](#)
- Artificial intelligence: Optimizing patient care in acute and post-acute settings [\[article\]](#)
- How blockchain can improve nursing [\[article\]](#)
- Integral Futures Questions [\[website\]](#)
- Implementation of a novel postoperative monitoring system using automated Modified Early Warning Scores (MEWS) incorporating end-tidal capnography [\[website\]](#)
- Leveraging NLP to Improve Quality and Patient Safety at a Large Academic Health System [\[article\]](#)
- Reimagining Patient Care with AI [\[video\]](#)
- Moving Past the Promise of AI to Real Uses in Health Care Delivery [\[article\]](#)

### AI In Nursing

- Artificial intelligence: Essentials for Nursing [\[article\]](#)
- Artificial intelligence, nurses and the Quadruple Aim [\[article\]](#)
- Artificial intelligence in nursing [\[article\]](#)
- Artificial Intelligence in Nursing: Priorities and opportunities from an international invitational think-tank of the Nursing and Artificial Intelligence Leadership Collaborative [\[website\]](#)
- Augmented Intelligence and Nursing [\[article\]](#)
- How artificial intelligence is changing nursing [\[website\]](#)
- Precision Nursing [\[article\]](#)
- Toward an Augmented Nursing-Artificial Intelligence Future [\[article\]](#)



# transdisciplinary

## Transdisciplinary

- 35 Innovators In Biotech Break New Ground [[article](#)]
- Accelerating Therapeutics for Opportunities in Medicine (ATOM) [[website](#)]
- AI and Clinical Trials [[website](#)]
- AI & Machine Learning with Healthcare IQ [[website](#)]
- AI for Healthcare and Life Sciences [[website](#)]
- AI In Pharma and Life Sciences [[article](#)]
- Climate Change: Breakthrough Climate Technologies [[website](#)]
- Computing and AI For Health, Medicine, Surgery [[website](#)]
- Information Technology & Innovation Foundation [[website](#)]
- Lirio—Behavioral Science With AI [[website](#)]
- Microsoft AI for Health [[website](#)]
- Partnership on AI [[website](#)]
- Stanford Partnership in AI Assisted Care [[website](#)]
- UF Health AI [[website](#)]
- What Is Artificial Intelligence In Medicine—IBM [[website](#)]





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*The views and opinions expressed within these resources may not reflect the positions or policies of the American Nurses Association. The resources are provided for the sole purpose of highlighting innovative work across the nursing profession. Listing of links to organizations or groups shall not be construed as an endorsement of said organizations or groups. If you have any questions or concerns, please contact us [here](#).*

