



Advancing Health Access & Outcomes

By employing responsible AI and data analytics tools, the **Lucy Family Institute for Data & Society** works to identify health disparities, develop focused interventions and create data-driven research that addresses the needs of those most impacted by barriers to health in the communities that we serve.



Our **strategy**

- 1.** Advance interdisciplinary innovation and translation in the fields of health, data science and AI research.
- 2.** Develop a comprehensive framework for co-creation and co-innovation with partners to address challenges in health access at the intersection of medicine and social care.
- 3.** Conduct data-driven research that tracks the impact of interventions and opportunities in the communities that we serve.

Areas of **research**

- Maternal health
- Substance use & abuse
- Rural health access & outcomes
- Climate & infectious diseases
- Health & housing
- Cancer prevention

By the **numbers**

44
Collaboration
Partners

9
POSTDOCTORAL
SCHOLARS

\$15.7M
2023 TOTAL
ECONOMIC
IMPACT

24
Health Equity
Working Group
Members

Research **spotlight**

Multiple Approaches to Addressing Lung Cancer in St. Joseph County | Researchers from the Institute's Health Data and Analytics Lab (HDAL) and the Department of Computer Science and Engineering are working with the St. Joseph County Department of Health to evaluate and design technology-based interventions that decrease the influence of e-cigarette use in young adults and improve health outcomes for residents who may be at risk of long-term complications due to a variety of factors including loss of livelihood, injuries or income instability.

Leveraging the power of geospatial analysis, literature reviews and community interviews, researchers evaluated the effectiveness of existing strategies to reduce e-cigarette use in middle and high school students and provided updated recommendations for prevention strategies specifically tailored to reach at-risk youth.



Maternal health

The Institute's Health Data and Analytics Lab (HDAL) works within the community to advance translational research to improve health outcomes for women in Indiana. Collaborations with payers, providers, and health organizations are building AI-driven tools that focus on social determinants of health and nutritional needs for mothers during the '4th trimester.'

Substance use & abuse

The Institute supports the University's efforts to combat substance abuse by creating data platforms and AI-driven solutions to track harmful substances, while working with public health stakeholders to develop prevention models for at-risk populations.

Rural health access & outcomes

Researchers at the Institute assess the impact of tele-nutrition visits and electronic food benefits on maternal and infant health, and develop programs and tools to evaluate the effectiveness of maternal and child health programs.

Research spotlight

ER Usage Study of Motels4Now Program | In collaboration with community partners from Memorial Hospital, the ER Usage Study evaluated the impact of the emergency low-barrier housing program, Motels4Now, on participant emergency room (ER) usage and hospitalization rates.

Institute data scientists used T-test statistical analysis to study the effectiveness of the Motels4Now program in improving participants' health and well-being, as well as its impact on reducing ER usage costs. Early results indicate a 36% ER visit reduction.

Climate & infectious diseases

By working with interdisciplinary teams, Institute researchers develop AI models to detect early signs of climate-related infectious disease outbreaks, improving public health decision-making.

Health & housing

The Institute partners with organizations to assess street medicine programs that reduce ER use, while using machine learning to evaluate housing risks like lead exposure and climate impacts, aiming to improve living conditions.

Cancer prevention

Institute researchers identify vulnerable populations with poor cancer outcomes and develop intervention and prevention systems tailored to their needs.

Research powered by:

The Institute's research is powered by the collaborative nexus of specialized labs:

- The Applied Analytics and Emerging Technology Lab (AETL)
- The Artificial Intelligence Trust and Reliability (AITAR) Lab
- The Data, Inference, Analytics, and Learning (DIAL) Lab
- The Civic-Geospatial Analysis and Learning Lab (C-GALL)
- The Health Data and Analytics Lab (HDAL)
- The Human-Centered Responsible Artificial Intelligence (HRAI) Lab

