

# Sara Murley

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## EDUCATION

GEORGETOWN UNIVERSITY, Washington, D.C.

*Expected Graduation May 2026*

- *Master of Science*: Data Science for Public Policy
- GPA: 4.00; Relevant Coursework: *Health Care Provider Economics, Tax Policy, Data Visualization*
- Teaching Assistant: *Accelerated Statistics for Public Policy*; Data Manager: *McCourt Policy in Practice*

UNIVERSITY OF WISCONSIN-MADISON, Madison, WI

September 2020 – May 2024

- *Bachelor of Arts*: Mathematics and Spanish | *Certificates*: Public Policy (Health Specialization) and Data Science
- GPA: 4.00; Relevant Coursework: *Analytic Tools for Public Policy, Graphs and Networks, Linear Optimization*
- Fall 2022 Recipient of merit-based Mary Ellen Rudin Award for women in mathematics
- Study Abroad: Spring 2023, *Seville, Spain*: CIEE *Advanced Liberal Arts*; Summer 2022, *London, United Kingdom*: FIE

## RELEVANT WORK EXPERIENCE

GEORGETOWN UNIVERSITY; *Graduate Research Assistant*

September 2024 – *Present*

- Led technical development of a sentiment analysis pipeline for law review articles in collaboration with legal scholars
- Implemented web scraping, natural language processing, and lexicon-based methods to analyze over 4,000 articles
- Delivered visualizations for academic publication and documentation for reproducibility and further legal research

CONGRESSIONAL BUDGET OFFICE, LABOR UNIT; *Summer Associate*

May 2025 – August 2025

- Enhanced legal status model to support analysis of workforce and demographic impacts of deportation policies
- Programmed raking model, automated input data generation, and updated documentation of mathematical methods
- Researched state-level Medicaid and education policies to ensure model validity and precise population estimates

UNITEDHEALTHCARE; *International Relations Intern*

June 2023 – August 2024

- Monitored health policy in 4 Latin American countries and sent weekly situational report to over 800 employees
- Guided market strategy through analysis of vertical integration restrictions and capitation payment formula changes
- Developed ML models using claims data to cluster similar patients and predict hospitalizations and spending
- Presented data-driven insights to leadership in Chile, supporting company efforts to connect patients to care

MUSCULAR DYSTROPHY UK, LONDON OFFICE; *Policy Intern*

May 2022 – July 2022

- Drafted advocacy materials and testimony talking points to highlight priorities of disabled patients before Parliament
- Translated complex NHS restructuring and its impact on care into accessible briefings for patient audiences

## DATA SCIENCE PROJECTS AND RESEARCH

ADMINISTRATIVE BURDEN IN HEALTH PROGRAMS

September 2025 – December 2025

- Conducted topic modeling of Reddit posts to reveal user burdens in plan selection, eligibility, and program complexity
- Built an interactive chatbot interface linking users to resources and similar posts using predicted topic probabilities

PREDICTING MEDICARE PRESCRIBING PATTERNS

January 2024 – May 2024

- Developed a machine learning pipeline using large-scale CMS data to predict high brand-name prescribing patterns
- Interpreted and validated model outputs using SHAP and feature importance to identify policy-relevant drivers

MODELING STIMULANT USE DISORDER; *Madison Experimental Mathematics Lab*

September 2022 – December 2022

- Applied epidemiology and differential equation theory to model substance use and inform prevention strategies
- Designed survey for data collection and calibrated MATLAB model with input from addiction experts and literature

## KEY SKILLS

- Technical: Advanced Python, R for Statistics, SQL, Stata, Git, Tableau, Cloud Computing, LaTeX
- Spanish Language: Fluent proficiency in written and verbal communication in academic and professional settings