# Investigator Spotlight

Real World Data Scholars Program

**Gabrielle Gussin, PhD, MS**
Postdoctoral Fellow
University of California Irvine School of Medicine

*"This award will support my development as an investigator committed to improving nursing home care by building new expertise in analyzing large, linked electronic health and administrative datasets and strengthening my ability to evaluate how data-source selection influences facility-level benchmarking."*

Dr. Gussin is an infectious diseases epidemiologist and postdoctoral fellow in the Division of Infectious Diseases at the University of California, Irvine School of Medicine. Her research aims to improve care quality and outcomes for nursing home residents, with a focus on the epidemiology and prevention of antibiotic-resistant organisms and infections. Dr. Gussin has conducted infection prevention intervention studies in nursing homes. Her work integrates diverse data sources, including microbiologic surveillance, clinical data, and genomics, to understand transmission and outcomes from the microbe to the population level.

## Impact of Data Source for Benchmarking Antibiotic Usage in U.S. Nursing Homes

Antibiotic stewardship in U.S. nursing homes is a national priority, yet validated and comparable benchmarks for antibiotic use remain limited due to gaps in existing data sources. Administrative datasets such as the Minimum Data Set (MDS) provide limited episodic information, whereas electronic health records (EHRs) offer richer detail but require validation and harmonization for surveillance. This project evaluates the validity, completeness, and concordance of antibiotic use measures derived from MDS and EHR medication administration records and examines how data source choice affects resident-level estimates and facility-level benchmarking. This award will provide Dr. Gussin with the necessary training and experience using the Long-Term Care (LTC) Data Cooperative EHR data to: (1) Evaluate the validity, completeness, and concordance of antibiotic use measures derived from MDS and EHR medication administration records, (2) Quantify differences in antibiotic use estimates (e.g., prevalence, antibiotic course rates, and days of therapy), (3) Assess variation across resident subgroups (e.g., short vs. long-stay, residents with different chronic conditions or devices), and (4) Evaluate how data source choice affects facility-level benchmarking. This project will generate evidence to support public health surveillance by producing benchmarking-relevant measures for antibiotic use in U.S. nursing homes. Findings will clarify how data source choice influences facility-level benchmarking and support the development of reusable measures to guide future nursing home stewardship research and clinical trial planning. This work will lay the foundation for future pragmatic nursing home studies evaluating infections and antibiotic use, supporting research that improves care and outcomes for nursing home residents.