MICHAEL ROYCE TAN, MPH, BSN, RN

tmroyce@umich.edu — 857-209-8355 — linkedin.com/in/tmroyce — github.com/tmroyce

PROFESSIONAL SUMMARY

Healthcare professional with seven years of nursing experience and developing expertise in clinical research and health data analytics, combining direct patient care background in care coordination, clinical assessment, and multidisciplinary collaboration with MPH training in epidemiology, biostatistics, and health data science. Currently building capabilities in R, SAS, and research methodologies while maintaining active nursing licensure. Demonstrated ability to translate complex health data into actionable insights by bridging clinical knowledge with analytical methods, ensuring patient-centered care remains central to data-driven decisions. Focused on contributing to evidence-based healthcare improvement through clinical research, data analytics, and population health insights.

CLINICAL RESEARCH & DATA ANALYSIS PROJECTS

Longitudinal Cohort Study Analysis using SAS. California Teachers Study. City of Hope *(2025)*

Project Portfolio | CTS Blog

- Analyzed 20+ years of longitudinal data (2000-2022) from 130,000-participant cohort using SAS statistical methods
- Implemented reproducible statistical methods to examine age distribution patterns over time
- Discovered potential increased life expectancy among study participants with implications for healty aging
- Produced comprehensive clinical research reports with statistical analysis and data visualizations
- Collaborated with senior clinical researchers to refine study methodology and ensure data integrity

Healthcare Operations Analysis Visualizations using R. *(2025)*

Project Portfolio

- Conducted retrospective analysis of 16,000+ patient encounters to evaluate clinical outcomes and operational metrics
- Analyzed 16,000+ patient encounters using ggplot2 and advanced data visualization, uncovering critical profitability gaps (-5.8% vs +9.1% margins)
- Applied statistical programming and data visualization to identify patterns in patient demographics, treatment protocols, and clinical effectiveness
- Created executive-ready visualizations and strategic recommendations for healthcare operations improvement

Implementation Science Project: AI Preoperative Care Companion *(2025)*

Project Portfolio

- Developed implementation strategy for AI companion supporting knee replacement surgery patients
- Applied Consolidated Framework for Implementation Research (CFIR) to identify system barriers and facilitators
- Designed multi-level evaluation framework using Proctor's model across implementation, service, and patient outcomes
- Created actionable implementation proposal utilizing Expert Recommendations for Implementing Change (ERIC) strategies

GIS-Based Public Health Dashboard—Alaska Department of Health *(2024)*

Project Portfolio

- Built interactive ArcGIS dashboard integrating 4+ public health datasets mapping (Oral Health) fluoridation status, provider availability, and geographic access barriers across Alaska
- Conducted spatial analysis correlating demographic and geographic factors with healthcare access patterns
- Delivered visualization tools that streamlined stakeholder access to regional health information

TECHNICAL & RESEARCH SKILLS

Statistical Programming: R (intermediate), SAS (intermediate), Python (developing), SQL

Data Visualization: ggplot2, Base R, SAS Viya

Clinical Research: Protocol development, GCP compliance, data management, regulatory documentation, clinical trial methodology, epidemiological study design, implementation science frameworks, systematic review processes, quality assurance, evidence-based practice

Statistical Methods: Descriptive, regression modeling (linear, logistic), survival, hypothesis testing

Healthcare Systems: Epic, Allscripts, Electronic Data Capture (EDC) systems, clinical documentation systems

Research Tools: Markdown, LaTeX, GitHub, Excel, Access, Obsidian, Trello

CLINICAL SKILLS

Patient Care: Clinical assessment, medication administration, patient education, discharge planning

Specialization: Cardiac monitoring, ECG interpretation, stress testing procedures, arrhythmia recognition, stroke protocols, emergency response

Workflows: Epic, EMR, electronic documentation, clinical protocols

Leadership: Care coordination, multidisciplinary collaboration, quality improvement, risk identification, infection prevention, mentoring

LICENSES

- Registered Nurse, BSN, Nurse Licensure Compact
- Advanced Cardiac Life Support, American Heart Association
- Basic Life Support, American Heart Association

EDUCATION

Master of Public Health (MPH) | Population & Health Science
University of Michigan–Ann Arbor, MI | 2025

Focus: Applied Epidemiology, Health Policy, Biostatistics, Population Health Management, Healthcare Systems

Bachelor of Science in Nursing (BSN)
University of Central Florida | Orlando, FL

SPECIALIZED TRAINING

- SAS Programming & SAS Viya Visual Statistic | SAS, 2025 (in-progress)
- Data Science Professional | Harvard University, 2023
- Statistical Analysis with R for Public Health | Imperial College London, 2024

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Professional Experience

Student Coordinator | **University of Michigan School of Public Health** *(2024 – Present)*

- Optimize learning management systems (Canvas) for 200+ users, applying data-driven approaches to improve course navigation and user experience
- Collaborate with faculty to implement evidence-based instructional design principles

Clinical Device Training & Operations Specialist | **Inovio Pharmaceuticals** *(2021 – 2022)*

- Analyzed device performance data across clinical trial sites to ensure protocol compliance and optimize study operations
- Developed training materials and standard operating procedures ensuring clinician comprehension, quality, and patient safety
- Collaborated with cross-functional teams including clinical operations, regulatory affairs, and data management to optimize Electronic Data Capture (EDC) systems, study procedures, and data collection for DNA medicine clinical trials
- Conducted training sessions to ensure consistent protocol implementation and GCP compliance
- Monitored adverse events and safety data reporting across multiple clinical sites
- Applied clinical judgment to identify potential safety issues and protocol improvements

Registered Nurse | **Orlando Health** *(2012 – 2019)*

RN–Cardiac Stress Lab *(2017 – 2019)*

- Coordinated care for 15-20 high-risk cardiac patients daily
- Performed clinical assessments, ECG interpretation, and continuous vital sign monitoring
- Assisted cardiologists with nuclear, exercise, and pharmacological stress testing procedures
- Educated patients and families on cardiac conditions, procedures, and post-procedure care
- Maintained detailed clinical documentation and ensured patient safety protocols

RN–Cardiac Evaluation *(2013 – 2017)*

- Managed complex cases requiring comprehensive cardiac assessments and monitoring
- Coordinated care across multiple specialists including cardiology, radiology, and primary care
- Facilitated care transitions between emergency, inpatient, and outpatient settings
- Performed comprehensive cardiac assessments, cardiac monitoring protocols, and identifying critical patterns
- Mentored new nurses and nursing students in cardiac care protocols

RN–Neuroscience *(2012 – 2013)*

- Conducted comprehensive neurological assessments for stroke and traumatic brain injury patients
- Participated in multidisciplinary rounds addressing medical, functional, and psychosocial care needs
- Implemented evidence-based stroke protocols and monitored for clinical changes
- Provided patient and family education regarding neurological conditions and recovery expectations
- Collaborated with physical therapy, occupational therapy, and speech therapy teams

ASSOCIATIONS

American Nurses Association, American Public Health Association