MICHAEL ROYCE TAN, MPH, BSN, RN

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PROFESSIONAL SUMMARY

Healthcare professional with seven years of nursing experience and developing expertise in clinical research and health data analytics. Direct patient care experience including care coordination, clinical assessment, and multidisciplinary collaboration combined with MPH training in epidemiology, biostatistics, and health data science. Currently building capabilities in R, SAS, and clinical research methodologies while maintaining active nursing licensure. Demonstrated ability to translate complex health data into actionable insights by bridging clinical knowledge with analytical and research methods while maintaining patient-centered care. Focused on contributing to data-driven 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 for policy planning

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: Care coordination, clinical assessment, discharge planning, patient education

Clinical Operations: Multidisciplinary collaboration, quality improvement, risk identification, protocol

Specialized Experience: Cardiac monitoring, ECG interpretation, stress testing procedures

Healthcare Workflows: Electronic health records, care transitions, patient safety protocols

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

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

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 5+ clinical trial sites to ensure protocol compliance and optimize study operations
- Developed comprehensive training materials and standard operating procedures that improved clinician comprehension and data quality across multiple investigational sites
- 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

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

RN–Cardiac Stress Lab *(2017 – 2019)*

- Coordinated care for 15-20 high-risk cardiac patients daily, including ECG interpretation, assessments, and vital sign monitoring
- Assisted cardiologists with nuclear, exercise, and pharmacological stress testing procedures

RN–Cardiac Evaluation *(2013 – 2017)*

- Managed complex cases requiring comprehensive cardiac assessments, monitoring, and coordination across multiple specialists
- Facilitated care transitions between emergency, inpatient, and outpatient settings
- Performed comprehensive cardiac assessments, cardiac monitoring protocols, and identifying critical patterns

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

ASSOCIATIONS

American Nurses Association, American Public Health Association