Michael Andrew Barrowman

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Biography

Michael Barrowman is a Data Scientist working for Mirador Analytics providing disclosure risk analysis and Expert Determinations to ensure client data is viable under HIPAA regulations, and maintains an internal R package for the quantification of risk.

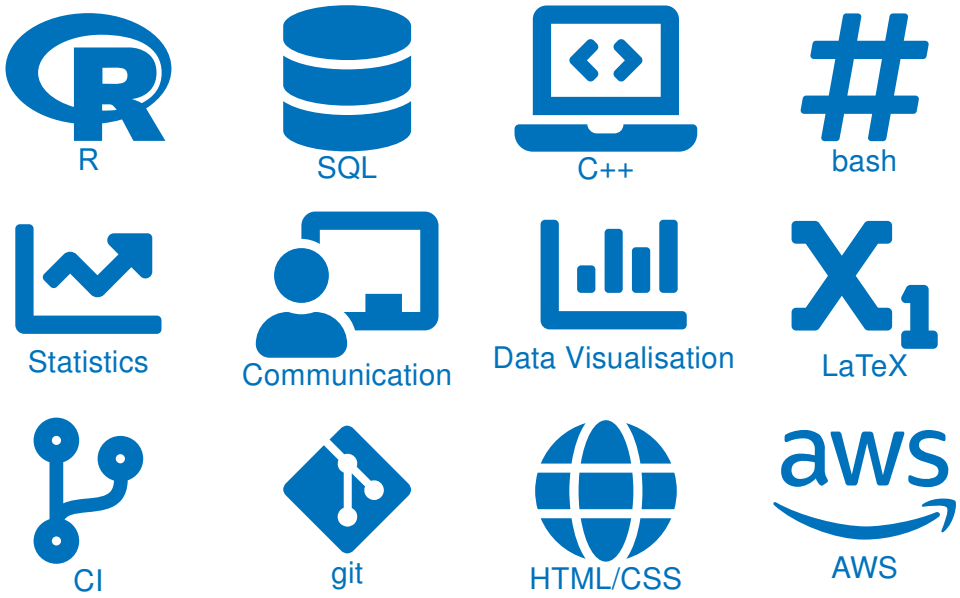
He is currently finalising his Thesis on Multi-State Clinical Prediction Models in Renal Replacement Therapy as a PhD Candidate within the University of Manchester. His PhD project encompasses the development and validation of a multi-state clinical predication model, as well as the methodological advancements to produce such a model. This has led to multiple publications and the creation of software as a by-product.

He has previously worked within both the public and private sector providing data analysis to many industries, particularly education and health. During this time, he has contributed to SAPs and SOPs for a pioneering pragmatic clinical trial and improved the efficiency of examination marking by over 10

He is interested in Data Science, particularly using R and RStudio to their fullest potential, encouraging others to do the same and is an advocate for neat and reproducible coding practices. He also enjoys learning new programming languages including C++, JavaScript and bash.

He lives in Merseyside, UK with his two children and he enjoy walks down by the local canal, through nearby forested areas and trips to the park as often as possible as his daughter's favourite outdoor activity is "going on adventures".

Skills



Experience

Data Scientist, Mirador Analytics **Jan 2021 - Present**

Focusing on health data compliance to ensure the privacy of individuals within the larger healthcare scope. Reporting on data risk of reidentification with expert determinations of disclosure risk and maintaining internal R packages, documentation and data sources.

PhD Candidate, University of Manchester **Oct 2016 - Present**

The goal of this PhD is to improve the academic knowledge surrounding Multi-State Clinical Prediction Models (MSCPMs). To accomplish this, I am writing articles to solve methodological issues that are yet to be addressed and applying these novel techniques (along with the present literature) to develop and validate an MSCPM to predict outcomes for Chronic Kidney Disease patients.

Maths, Stats & IT Tutor, LJMU **Dec 2019 - Dec 2020**

Assisting undergraduate and postgraduate students with Mathematics, Statistics and IT issues relating to their university course, and extending this support to teaching and research staff. Writing and providing tutorial sessions on a variety of subjects and softwares including Microsoft Word, R for Statistics, nVivo for Qualitative Research and SPSS.

Lead Statistician, University of Manchester **Jan 2017 - Feb 2019**

Working within the University of Manchester, we formed a team of statistical consultants to assist researchers from all levels of the university with their statistical needs, this included help on specific projects and tutorials on various statistical topics. Our efforts helped educate undergraduate students on basic methods to improve their coursework results and provided lecturers and professors with advice and mentoring to focus their research questions and process their results to produce viable academic outputs.

Research Assistant, University of Manchester **Nov 2015 - Sep 2016**

As part of the GetReal consortium, I worked within a multi-national team producing methodological techniques to assist in bridging the gap between efficacy and effectiveness in pragmatic clinical trials. Alongside this methodological work, I was involved in an applied study to assess the generalisability and the risk of a Hawthorn Effect in the Salford Lung Study (SLS), a real-world, pragmatic randomised controlled trial.

Data Project Analyst, Brammer UK **Sep 2015 - Nov 2015**

Within our team of Data Project Analysts, we were tasked with mass data migration and re-unification. I created a system to automate many processes and accelerate the progress of the migration.

Data Analyst, AQA **May 2015 – Sep 2015**

Producing business insights and progress reports for examinations results. Coordinated with principal and senior examiners to set grade boundaries based on subject-level knowledge and data derived results. Reprised previous administrative responsibilities to assist other teams within the logistics and production group.

Assistant Statistician, University of Manchester **Aug 2014 – Apr 2015**

Primarily focused on the deliverables for the SLS. I produced standardised datasets for our pharmaceutical client, ad hoc data analyses and standard operating procedures for the clinical research group. I developed an algorithm utilising a probabilistic model for the merging of pharmacy data with electronic health records sourced from local primary and secondary care data and electronic case report forms provided by the on-site research nurses.

Publications

Toward a Framework for the Design, Implementation, and Reporting of Methodology Scoping Reviews (2020), *Glen Philip Martin, David A Jenkins, Lucy Bull, Rose Sisk, Lijing Lin, William Hulme, Anthony Wilson, Wenjuan Wang, Michael Barrowman, Camilla Sammut-Powell, Alexander Pate, Matthew Sperrin, Niels Peek, Predictive Healthcare Analtics Group*

How Unmeasured Confounding in a Competing Risks Setting Can Affect Treatment Effect Estimates in Observational Studies (2019), *Michael Barrowman, Niels Peek, Mark Lambie, Glen Philip Martin, Matthew Sperrin*

Study Investigating the Generalisability of a COPD Trial Based in Primary Care (Salford Lung Study) and the Presence of a Hawthorne Effect (2018), *Alexander Pate, Michael Barrowman, David Webb, Jeanne M Pimenta, Kourtney J Davies, Rachael Williams, Tjeerd Van Staa, Matthew Sperrin*

R Packages

rando The goal of rando is to provide easier generating of random numbers in a manner that is context aware, and reproducible

mutils The goal of mutils is to provide useful functions to make data processing smoother. Most functions contained here are 'nifty', rather than 'innovative'

mpipe The mpipe package is designed to add extra functionality to the pipeline process in tidyverse style R usage

typos The goal of typos is to provide a flexible warning when commonly mis-typed functions are called. Functions with typing errors will still be evaluated and a warning will be output. It also provides the user with a convenient function to define their own typos