Curriculum Vitae

Mr Sebastian Bate, MMath

June 2024

Section A: Personal Information

Full Name: Sebastian George Bate

Education

- 2015-2019 University of Manchester, School of Mathematics
- 2008-2015 Howard of Effingham School, Effingham, Surrey

Qualifications

- 2019 MMath Mathematics and Statistics First Class (Hons.)
- 2015 A-levels: Mathematics (grade A*), Further Mathematics (grade A), Physics (grade A)
- 2014 AS-Levels: Chemistry (grade B)
- 2013 GCSEs: 14 GCSE passes (grade A*- B)

Current Appointments

- Mar 2021- **Junior Medical Statistician** Research and Innovation, Manchester University NHS Foundation Trust (MFT)

- Mar 2021- **Hon. Research Assistant** Centre for Biostatistics, The University of Manchester; Manchester Academic Health Science Centre

Previous Appointments

- Sep 2019 – Feb 2021 **Statistician** IQVIA

Section B: Research Contributions

Peer Reviewed Publications

1. Bate S, Stokes V, Greenlee H, et al. External validation of prognostic models in critical care: A cautionary tale from COVID-19 pneumonitis. *Critical Care Explorations.* 2024;6(4):e1067. doi:10.1097/CCE.0000000000001067

2. Bate S. Will the ANCA kidney risk score become the gold standard for prognostication in ANCA-associated GN? *Kidney360.* 2024;5(6):789-790. doi:10.34067/KID.0000000000000455

3. Sivabalah K, Crane D, Neville S, et al. Treating tobacco dependency in NHS workers in greater manchester: An evaluation of a bespoke digital service. *JTO Clinical and Research Reports.* Published online 2024:100674. doi:10.1016/j.jtocrr.2024.100674

4. Bate S, McGovern D, Costigliolo F, et al. The improved kidney risk score in ANCA-associated vasculitis for clinical practice and trials. *Journal of the American Society of Nephrology.* 2023;35(3):335-346. doi:10.1681/ASN.0000000000000274

5. Bate S, Brix SR. From prediction tools to precision medicine in antineutrophil cytoplasmic antibody–associated vasculitis. *The Journal of Rheumatology.* 2023;50(5):583-585. doi:10.3899/jrheum.230115

6. Ragy O, Bate S, Bukhari S, et al. PLA2R antibody does not outperform conventional clinical markers in predicting outcomes in membranous nephropathy. *Kidney International Reports.* 2023;8(8):1605-1615. doi:10.1016/j.ekir.2023.05.019

7. Floyd L, Bate S, Kafagi A, et al. Risk stratification to predict renal survival in anti-GBM disease. *Journal of the American Society of Nephrology.* 2023;34(3):505-514. doi:10.1681/asn.2022050581

8. Vasant DH, Nigam GB, Bate S, Hamdy S, Limdi JK. The prevalence and burden of rome IV faecal incontinence in ulcerative colitis: A cross-sectional study. *Alimentary Pharmacology & Therapeutics.* 2023;58(1):26-34. doi:10.1111/apt.17502

9. Oremule B, Abbas J, Saunders G, et al. Mobile audiometry for hearing threshold assessment: A systematic review and meta-analysis. *Clinical Otolaryngology.* 2023;(1):74-86. doi:10.1111/coa.14107

10. Heward E, Saeed H, Bate S, et al. Risk factors associated with the development of chronic suppurative otitis media in children: Systematic review and meta-analysis. *Clinical Otolaryngology.* 2023;(1):62-73. doi:10.1111/coa.14102

11. Stokes V, Goh KY, Whiting G, et al. External validation of a prediction model for CPAP failure in COVID-19 patients with severe pneumonitis. *Critical Care.* 2022;26(1):293. doi:10.1186/s13054-022-04144-4

12. Doyle R, Bate S, Devenney J, et al. Evaluating the impact of an enhanced triage process on the performance and diagnostic yield of oesophageal physiology studies post COVID-19. *BMJ Open Gastroenterology.* 2021;8(1):e000810. doi:10.1136/bmjgast-2021-000810

Other Publications

1. Bate S, Stokes V, Goh KY, et al. External validation of prognostic models in critical care: a cautionary tale from covid-19 pneumonitis. 2023. [Rapid fire talk; Poster; e-Poster]. NIHR Statistics Group Conference 2023, Sheffield, UK. **Winner of best e-Poster**.
2. Bate S & Brix SR. Validating time-to-event clinical prediction models: a case study in ANCA-associated glomerulonephritis. 2022. [Presentation]. NHS R Community Conference 2022, Birmingham, UK.
3. Bate S & Brix SR. Modification of the Renal Risk Score in ANCA Associated Glomerulonephritis improves prediction further. 2022. [Poster]. Translation Manchester Conference, Manchester, UK. **Winner of 'People's choice' award**.

Grants Awarded

1. NIHR Health Technology Assessment 2023, ICS-RECODE: Predictors of treatment REsponse to inhaled corticosteroids (ICS) in COPD: randomised COntrolled trials individual participant Data re-Evaluation. NIHR152516, Mathioudakis, et al. £206,143.34. Role: Co-Applicant and lead statistician; Manchester University NHS Foundation Trust
2. Wellcome Trust Institutional Translational Partnership Award Access to Expertise 2021, Prediction Tools to personalise medicine in ANCA-associated vasculitis. Brix S. et al. £4,760. Role: Junior Statistician; University of Manchester

Evidence of Research Achievements

- Since March 2021, I have been responsible for providing support to research-based studies where MFT collaborates, sponsors or provides participants. During this period, I have been involved in multiple studies providing assistance from concept and study design, through to analysis and dissemination. I support all levels of researchers from undergraduate and postgraduate students, through to clinical academics and consultants.

- I have been responsible for reviewing the design, statistical accuracy and overall viability of all trust sponsored research protocols prior to ethics submission in collaboration with senior statisticians
- I have multiple collaborations with clinicians across the whole of MFT and The University of Manchester, including Renal, Critical Care, Gastroenterology, Cardiovascular, Cystic Fibrosis, Respiratory, Oncogeriatrics, Dermatology, Oncoplastic Surgery, Physiotherapy, Maternity, Trauma Care, ENT.
- During my 18 months at IQVIA, I worked on multiple studies with a global team as a CRO working for large pharmaceutical clients.
  - I worked with senior biostatistics staff on the evaluation, interpretation, and reporting of study results, including writing the analysis data reviewer's guide for one study.
  - I quality controlled regulatory documents including CSRs, summaries of clinical efficacy and safety, prescribing information, and FDA briefing documents for large pivotal studies.
  - assisted in developing study analysis plans, including sample size calculations, and mock TFLs across multiple studies.
  - I programmed TFLs for use in CSRs across multiple studies.
  - I provided guidance and interpretation on statistical matters to medical writers and statistical programmers.
  - I gained experience in applying the principles in ICH E6 (GCP), E9 (Statistics), E9R1 (Estimands)

Section C: Teaching and other student-related activities

Roles in assessment and feedback to students

- I was responsible for aggregating results for the UKFPO OSCE Medical Exams and contributed to the development of the Pass/Fail criteria (2022-24)
- I currently provide support to undergraduate, MSc, MD and PhD students affiliated with MFT, critiquing their proposals and methods.

Student support roles

- I provide support in concept, design, analysis and dissemination for projects for students who are associated with MFT, predominately The University of Manchester students. These include 3rd / 4th year medical undergraduates, MSc, MD and PhD students.
- I have provided statistical supervision for 3rd year medical students on APEP projects (2022 & 23)

Evidence of teaching and student support achievements

- I have collaborated on publications with University of Manchester students.

Section E: Knowledge Transfer and External Engagement

- I was the statistical expert for Wythenshawe Respiratory Medicine Journal Club providing lay summaries of the statistical aspects of papers and critical appraisal of the methodology (AY 21/22)
- I have taught on the Specialist Foundation Program (AY 21/22; 22/23) on critical appraisal and statistical methodology
- I have taught in collaboration with the MFT library service critical appraisal for junior doctors and Level 7+ clinical practitioners.
- I have guest lectured at Manchester Metropolitan University on data visualisation and best practice for final year Marketing students and Digital Marketing Degree Apprentices