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## EDUCATION

### **Postgraduate Certificate (PgCert) in Academic Practice (2022-present)**

Electives: 'Working with Postgraduate Students' and 'Accessible and Inclusive Learning'  
On track to complete in January 2023. The qualification promotes me to Higher Education Academy Fellow.

### **PhD Medical Informatics, Usher Institute, Medical School, University of Edinburgh (2018-2021)**

Thesis title: "Data-driven approaches for predicting asthma attacks in adults in primary care".  
Supervisors: A. Sheikh, A. Tsanas  
My PhD work focused on predicting clinical events in messy administrative data using machine learning classification algorithms.

### **MPhil Epidemiology, Darwin College, Cambridge University (2015-2016)**

Dissertation Title: "The association between age at menopause and coronary heart disease: a comparison of approaches to handle missing data in EPIC-CHD".  
Supervisor: A. White  
Specialising in advanced statistics and programming in STATA, as well as broadening my medical knowledge.

### **BSc (Hons) Mathematics, Operational Research and Statistics, Cardiff University (2011–2015)**

Specialising in medical statistics and game theory, with statistical industrial placement at Roche Pharmaceuticals (Welwyn Garden City) conducting statistical analysis in phase III and IV clinical trials.

## EMPLOYMENT

### **Honorary Researcher**

(Public Health Scotland: 2022-present)

Analyst and contributor to the EAVE II Covid-19 Surveillance project, including project lead for the NIHR funded Monoclonal Antibody and antiviral therapy project, known as ROTH-COV (Rapid Outcomes for Therapies for COVID).

### **Research Fellow – Statistics**

(Asthma UK Centre for Applied Research and University of Edinburgh's Usher Institute: 2021-present)

Machine learning, statistical analysis, data visualisation, administrative data processing.

Validating and refining a primary care tool for asthma patient risk stratification, and researching frameworks for overcoming identified barriers to implementation.

**Self-Employed Statistical Consultant (2018-present)**

Statistical analysis and study design assistance on projects with clients in academia and industry, including clinical trials, medical device validation, and cost-benefit evaluation.

**Research Fellow – Statistics**

(Melbourne School of Population and Global Health, Murdoch Children’s Research Institute: 2016-2018)

Statistical analysis, data visualisation, administrative data processing

**Biometrics Data Analyst**

(Total Loyalty Company Hong Kong: 2014)

Cost-benefit analysis of employee health interventions and building automated analytical reports for clients and stakeholders.

## COMMITTEES

- Usher Community Group (2018 – present, Leader 2019-2021)
- Usher Impact Committee (2022 – present)
- Usher Health, Safety and Wellbeing committee (2021 – present)
- University of Edinburgh Central Campus Wellbeing Group (2022 – present)
- Asthma UK Centre for Applied Research Annual Scientific Meeting Committee (2020 – present)
- Asthma UK Centre for Applied Research Steering Group (Early Career Researcher representative; 2021 – present)

## AWARDS AND PRIZES

- Best Oral Presentation – Asthma UK Centre for Applied Research Annual Meeting 2022
- First Place – Product Forge Health Hackathon 2022

## RESEARCH FUNDING

**Co-Investigator**

- GlaxoSmithKline. *Characteristics and outcomes of COVID-19 patients treated with Sotrovimab, oral anti-virals, or no treatment in Scotland*. Reference: GSK4182136. Principal Investigator Prof. Sir Aziz Sheikh. £198,350 (2022)
- Asthma and Lung UK. *Exogenous sex steroid hormones and asthma phenotypes: a population-based prospective cohort study using UK-wide primary care databases*. Reference: WAPG22\100019. Principal Investigator Dr. (Syed) Ahmar Shah. £228,493.55 (2022)
- Health Research Council of New Zealand. *Predicting acute asthma events using machine learning*. Reference: 21/867. Principal Investigator Dr. Amy Chan. NZD \$29,498 (2021)

## Individual

- The Alan Turing Institute Post-Doctoral Enrichment Award: £2000 (2022)
- University of Edinburgh College of Medicine and Veterinary Medicine PhD (eHERC/Farr Institute) Studentship: £63,114 (2018)
- Asthma UK Centre for Applied Research Student Travel Bursary: £300 (2019)
- Funded by University of Cambridge and Medical Research Council (MRC) Advanced Course Studentship: £18,109 (2015)

## PEER-REVIEWED PUBLICATIONS

**Tibble H**, Mueller T, Proud E, Hall E, Kurdi A, Marra F, Robertson C, Bennie M, Woolford L, Sheikh A. (2022) Uptake of monoclonal antibodies and anti-viral therapies for COVID-19 in Scotland. *The Lancet*. [https://doi.org/10.1016/S0140-6736\(22\)02398-4](https://doi.org/10.1016/S0140-6736(22)02398-4).

**Tibble H**, Sheikh A, Tsanas A. (2022) Derivation of asthma severity from electronic prescription records using British thoracic society treatment steps. *BMC Pulm Med* 22, 397.

Sheikh A, Anderson M, Albala S, Casadei B, Dean Franklin B, Richards M, Taylor D, **Tibble H**, Mossialios E. (2021) Health information technology and digital innovation for national learning health and care systems. *Lancet Digital Health*. 3(6). p.e383–e396.

Nwaru BI, Shah SA, **Tibble H**, Pillinger R, McLean S, Ryan D, Critchley H, Hawrylowicz CM, Simpson CR, Soyiri IN, Appiagyei F, Price D, Sheikh A. (2021) Hormone replacement therapy and risk of severe asthma exacerbation in peri-menopausal and post-menopausal women: 17-year national cohort study. *Journal of Allergy and Clinical Immunology in Practice*. 9(7). p.2751–2760.e1.

Stage Baxter M, **Tibble H**, Bush A, Sheikh A, Schwarze J. (2021) Efficacy of mobile health interventions to improve nasal corticosteroid adherence in allergic rhinitis: a systematic review. *Clinical and Translational Allergy*. 11(9). e12075.

Nwaru BI, **Tibble H**, Shah SA, Pillinger R, McLean S, Ryan D, Critchley HOD, Price D, Hawrylowicz CM, Simpson CR, Soyiri IN, Appiagyei F, Sheikh A. (2021) Hormonal contraception and the risk of severe asthma exacerbation: 17-year population-based cohort study. *Thorax*. 76(2). p.109-115.

Willoughby M, Spittal MJ, Borschman R, **Tibble H**, Kinner SA. (2021) Violence-related deaths among people released from prison: a data linkage study. *Journal of Interpersonal Violence*. 36(23-24). p.NP13229–NP13253.

Farhall J, Brophy L, Reece J, **Tibble H**, Le LK-D, Mihalopoulos C, Fletcher J, Harvey C, Morrisroe E, Newton R, Sutherland G, Spittal MJ, Meadows G, Vine R, Pirkis J. (2021) Outcomes of Victorian Prevention and Recovery Care Services (PARCS): A matched pairs comparison. *Australian and New Zealand Journal of Psychiatry*. 55(12). p.1178-1190.

**Tibbles H**, Flook M, Sheikh A, Tsanas A, Horne R, Vrijens B, De Geest S, Stagg HR. (2020) Measuring and reporting treatment adherence: what can we learn by comparing two respiratory conditions? *British Journal of Clinical Pharmacology*. 87(3). p.825-836.

Shah SA, **Tibbles H**, Pillinger R, McLean S, Ryan D, Critchley H, Price D, Hawrylowicz CM, Simpson CR, Soyiri IN, Appiagyei F, Sheikh A, Nwaru BI. (2020) Hormone Replacement Therapy and Asthma Onset in Menopausal Women: National Cohort Study. *Journal of Allergy and Clinical Immunology*. 147(5). p.1662-1670.

Nwaru BI, Pillinger R, **Tibbles H**, Shah SA, Ryan D, Critchley H, Price D, Hawrylowicz CM, Simpson CR, Soyiri IN, Appiagyei F, Sheikh A. (2020) Hormonal contraceptives and onset of asthma in reproductive-age women: population-based cohort study. *Journal of Allergy and Clinical Immunology*. 146(2). p.438-446.

**Tibbles H**, Chan AHY, Mitchell EA, Horne E, Doudesis D, Horne R, Mizani MA, Sheikh A, Tsanas A. (2020) A Data-Driven Typology of Asthma Medication Adherence using Cluster Analysis. *Scientific Reports*. 10(1). 14999.

**Tibbles H**, Lay-Flurrie J, Sheikh A, Horne R, Mizani MA, Tsanas A, The Salford Lung Study Team. (2020) Linkage of Primary Care Prescribing Records and Pharmacy Dispensing Records in the Salford Lung Study: Application in Asthma. *BMC Medical Research Methodology*. 20(1). 303.

Horne E, **Tibbles H**, Sheikh A, Tsanas A. (2020) Challenges of clustering multimodal clinical data: a review of applications in asthma subtyping. *JMIR Medical Informatics*. 8(5). e16452.

Sutherland G, Harvey C, **Tibbles H**, Spittal MJ, Farhall J, Fletcher J, Meadows G, Newton JR, Vine R, Brophy L. (2020) Similarities and Differences in People Accessing Prevention and Recovery Care Services and Inpatient Units in Victoria, Australia. *BMC Health Services Research*. 20(1). 542.

Borschman R, **Tibbles H**, Spittal MJ, Preen D, Pirkis J, Larney S, Rosen DL, Young JT, Love AD, Altice FL, Binswanger IA, Bukten A, Butler T, Chang , Chen CY, Clausen T, Christensen PB, Culbert GJ, Degenhardt L, Dirkzwager AJE, Dolan K, Fazel S, Fischbacher C, Giles M, Graham L, Harding D, Huang YF, Huber F, Karaminia A, Keen C, Kouyoumdjian FG, Lim SW, Møller L, Moniruzzaman A, Morenoff J, O'Moore E, Pizzicato LN, Pratt D, Proescholdbell SK, Ranapurwala SI, Shanahan ME, Shaw J, Slaunwhite A, Somers JM, Spaulding AC, Stern MF, Viner KM, Wang N, Willoughby M, Zhao B, Kinner SA. (2020) The Mortality After Release from Incarceration Consortium (MARIC): Protocol for a multinational, individual participant data meta-analysis. *International Journal of Population Data Science*. 5(1). 1145.

Veness BG, **Tibbles H**, Grenyer BFS, Morris J, Spittal MJ, Nash L, Studdert DM, Bismark MM. (2019) Complaint risk among mental health practitioners compared with physical health practitioners: A retrospective cohort study of complaints to health regulators in Australia. *BMJ Open*. 9(12). e030525.

Vine R, **Tibbles H**, Pirkis J, Spittal MJ, Judd F. (2019) The impact of substance use on treatment as a compulsory patient. *Australasian Psychiatry*. 27(4). p.378-382.

**Tibbles H**, Horne E, Horne R, Mizani AM, Simpson CR, Sheikh A, Tsanas A. (2019) Predicting asthma attacks in primary care: protocol for developing a machine learning-based prediction model. *BMJ Open*. 9(7), e028375.

Harvey CA, Brophy LM, **Tibbles H**, Killaspy H, Spittal MJ, Hamilton B, Ennals P, Newton R, Cruickshank P, Hall T, Fletcher J. (2019) Prevention and Recovery Care Services in Australia: Developing a State-wide Typology of a Subacute Residential Mental Health Service Model. *Frontiers in Psychiatry*. 10(1). 383.

Vine R, **Tibbles H**, Pirkis J, Judd F, Spittal MJ. (2019) Does legislative change affect the use and duration of compulsory treatment orders? *Australia New Zealand Journal of Psychiatry*. 53(5), p.433-440.

Bismark MM, **Tibbles H**, Moore J, Morris JM, Paterson R, Fletcher M, Studdert DM. (2021). Eyes and ears on patient safety: Sources of complaints about the health, performance and conduct of health practitioners. *Journal of Patient Safety*. 17(8). p.E800–E805.

**Tibbles H**, Law HD, Spittal MJ, Karmel R, Borschman R, Hail-Jares K, Thomas LA, Kinner SA. (2018). The importance of including aliases in data linkage with vulnerable populations. *BMC Medical Research Methodology*. 18(1). 76.

Thomas LA, **Tibbles H**, Too LS, Hopcraft MS, Bismark MM. (2018). Complaints about dental practitioners: an analysis of 6 years of complaints about dentists, dental prosthetists, oral health therapists, dental therapists and dental hygienists in Australia. *Australian Dental Journal*. 63(3), p.285-293.

Thomas LA, Milligan E, **Tibbles H**, Too LS, Studdert DM, Spittal MJ, Bismark MM. (2018). Health, performance and conduct concerns among older doctors: a retrospective cohort study of notifications received by medical regulators in Australia. *Journal of Patient Safety and Risk Management*. 23(2), p.54-62.

Hettiarachchi VL, Kinner SA, **Tibbles H**, Borschmann R. (2018). Self-harm among young people detained in the youth justice system in Sri Lanka. *International Journal of Environmental Research and Public Health*. 15(2), 209.

**Tibbles HM**, Broughton NS, Studdert DM, Spittal MJ, Hill N, Morris JM, Bismark MM. (2017). Why do surgeons receive more complaints than their physician peers? *ANZ Journal of Surgery*. 88(4), p.269-273.

Fletcher J, Spittal MJ, Brophy L, **Tibbles H**, Kinner S, Elsom S, Hamilton BE. (2017) Outcomes of the Victorian Safewards Trial in 13 wards: Impact on seclusion rates and fidelity measurement. *International Journal of Mental Health Nursing*. 26(5), p.461-471.

Pirkis J, Currier D, Butterworth P, Milner A, Kavanagh A, **Tibbles H**, Robinson J, Spittal MJ. (2017). Socio-Economic Position and Suicidal Ideation in Men. *International Journal of Environmental Research and Public Health*. 14(4), 365.

Knight V, Campbell O, Harper M, Langner K, Campbell J, Campbell T, Carney A, Chorley M, Davidson-Pilon C, Glass K, Glynatsi N, Ehrlich T, Jones M, Koutsovoulos G, **Tibble H**, Müller J, Palmer G, Petunov P, Slavin P, Standen T, Visintini L, Molden K, (2016). An Open Framework for the Reproducible Study of the Iterated Prisoner's Dilemma. *Journal of Open Research Software*. 4(1), e35.

## CONFERENCE PAPERS

**Tibble H**, Sheikh A, Tsanas A. (2022) Estimating Medication Adherence from Electronic Health Records Using Rolling Averages of Single Refill-based Estimates. *2022 IEEE International Engineering in Medicine and Biology Conference (EMBC)* pp. 3554-3557, Glasgow, UK, 11-15 July 2022

**Tibble H**, Sheikh A, Tsanas A. (2021) Estimation of Asthma Severity from Electronic Prescription Records using British Thoracic Society and Scottish Intercollegiate Guidelines Network Treatment Steps. *Proceedings - 2021 IEEE International Conference on Bioinformatics and Biomedicine, BIBM 2021*. pp. 3222–3223.

**Tibble H**, Chan A, Mitchell EA, Horne R, Mizani MA, Sheikh A, Tsanas A. (2019) Heterogeneity in Asthma Medication Adherence Measurement. *2019 IEEE 19th International Conference on Bioinformatics and Bioengineering (BIBE)*. p.899-903.

## PUBLISHED CONFERENCE ABSTRACTS

Borschmann R, **Tibble H**, Spittal MJ, Preen Dd, Pirkis J, Larney S, Rosen D, Young J, Kinner SA. (2021) 535 The epidemiology of all-cause and cause-specific mortality following release from prison in 11 countries. *International Journal of Epidemiology (From the IEA World Congress of Epidemiology 2021)*.

Daines L, Bonnett LJ, **Tibble H**, Boyd A, Turner SW, Lewis S, Sheikh A, Pinnock A. (2021) P73 A clinical prediction model to support the diagnosis of asthma in children and young people in primary care. *Thorax (From the 2020 British Thoracic Society Winter Meeting)*.

Young J, **Tibble H**, Borschmann R, Kinner SA.(2020) Drug-Related Deaths Among Young People Involved in The Criminal Justice System: A Whole-Population Multi-Sectoral Data Linkage Study. *International Journal of Population Health Science (From Conference Proceedings for International Population Data Linkage Conference 2020)*

Shah SA, **Tibble H**, Pillinger R, McLean S, Ryan D, Critchley H, Price D, Hawrylowicz CM, Simpson CR, Soyiri IN, Appiagyei D, Sheikh A, Nwaru B. (2020) Does use of hormonal contraceptives impact on exacerbations and control in reproductive-age women with asthma? A 17-year population-based cohort study. *European Respiratory Journal*.

Shah SA, **Tibble H**, Pillinger R, McLean S, Ryan D, Critchley H, Price D, Hawrylowicz CM, Simpson CR, Soyiri IN, Appiagyei D, Sheikh A, Nwaru B. (2020) HRT use is associated with a

decreased risk of asthma onset: 17-year cohort study of 353,173 peri-and post-menopausal women. *30th ERS International Congress*.

**Tibble H**, Sheikh A, Tsanas A, Horne R, Mizani M, Simpson C, Lay-Flurrie J. (2019) Linkage of Primary Care Prescribing Records and Pharmacy Dispensing Records in Asthma Controller Medications. *International Journal of Population Health Science (From Conference Proceedings for International Conference on Administrative Data Research 2019)*.

**Tibble H**, Kinner SA, Borschmann R. (2020) International Collaborations using Linked Administrative Data: Lessons from the MARIC Study. *Dealing with Data 2019*.

Kinner SA, **Tibble H**, Hail-Jares K, Borschmann R, Spittal MJ, Clough A, Sawyer S, Miller A, Cadet-James Y. (2018) Deaths in young people after contact with the youth justice system: a retrospective data linkage study. *International Journal of Population Health Science (From Conference Proceedings for International Population Data Linkage Conference 2018)*.

## MANUSCRIPTS UNDER REVIEW

**Tibble H**, Sheikh A, Tsanas A. Estimating Medication Adherence from Electronic Health Records: Comparing Methods for Mining and Processing Asthma Treatment Prescriptions. *BMC Medical Research Methodology*.

Patone M, Snelling A, **Tibble H**, Coupland C, Sheikh A, Hippisley-Cox J. Uptake of Sotrovimab for prevention of severe COVID-19 and its safety in the community in England. *Journal of the Royal Society of Medicine*.

## BOOK CHAPTERS UNDER REVIEW

**Tibble H**, Daines L, Sheikh A. Racial, ethnic, and migrant inequalities in respiratory health. *European Respiratory Society Monograph*.

## MANUSCRIPTS IN PREPARATION

Ali M, **Tibble H**, Brady MC, Quinn TJ, Sunnerhagen KS, Venketasubramanian N, Shuaib A, Pandyan A, Mead G. Prevalence, Trajectory and Predictors of Post Stroke Pain.  
Target Journal: Stroke

Ali M, **Tibble H**, Brady MC, Quinn TJ, Sunnerhagen KS, Venketasubramanian N, Shuaib A, Pandyan A, Mead G. Validation of Stroke Pain Measures from Multidomain Assessment Tools.  
Target Journal: Stroke

**Tibble H**, Sheikh A, Tsanas A. Predicting Near Future Asthma Attacks in Adults using Electronic Health Record Data in the Primary Care Setting.  
Target Journal: Thorax

Daines L, Bonnett LJ, **Tibble H**, Boyd A, Thomas R, Price D, Turner SW, Lewis S, Sheikh A, Pinnock H. Derivation and validation of an asthma diagnosis prediction model for children and young people in primary care.

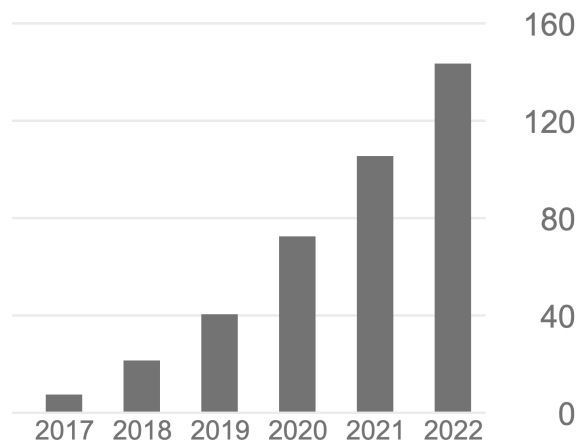


Figure 1: Google Scholar annual citations

## SUMMARY OF TEACHING EXPERIENCE

- I developed areas of the syllabus and curriculum on MSc and CPD courses for the University of Edinburgh on topics including data visualisation, programming in R, and good coding practice.
- I have also lectured on MSc and CPD courses within the University of Edinburgh on these topics (2021-present: approximately 20 hours of synchronous lectures)
- I was a guest lecturer on the 'Clinical Research Methodology' CPD course provided by the Royal College of Surgeons of Edinburgh (2022)
- I have been a teaching assistant on MBChB, MPH, MSc and CPD courses on statistics and data science (2018-present), providing support to lecturers in physical and virtual classrooms (approximately 60 hours of synchronous sessions) and asynchronous support via discussion boards (over 100 hours).
- I have graded MPH, MSc, and CPD examinations in statistics, medical informatics, and programming, as well as dissertation proposals, and dissertations (2019-present: over 100 hours)
- I also moderated MPH and CPD course examinations (2020-present), including presenting results to the Board of Examiners.
- I am a personal tutor for MPH students (2019-present), providing pastoral support and guidance on academic career development.