


Dr. HOLLY MARISSA TIBBLE
htibble@ed.ac.uk
+44 (0)7449 053 411
Usher Institute,
Bioquarter Gate 3,
3 Little France Rd, Edinburgh,
EH16 4UX



 @hollytibble

 github.com/hollytibble

 Tinyurl.com/hollytibble

EMPLOYMENT

Chancellor's Fellow

(University of Edinburgh's Usher Institute: 2023-present)

Validating a primary care tool for asthma patient risk stratification, and developing an intervention trial.

Honorary Researcher

(Public Health Scotland: 2022-2023)

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: 2021-2023)

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.

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.

EDUCATION

Postgraduate Certificate (PgCert) in Academic Practice (2022-2023)

Electives: 'Working with Postgraduate Students' and 'Accessible and Inclusive Learning'.
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.

COMMITTEES

- Usher Community Group (2018 – present, President: 2019 - present)
- Asthma UK Centre for Applied Research Steering Group (Early Career Researcher representative; 2021 – present)
- Usher Impact Committee (2022 – 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

Principal Investigator

- University of Edinburgh's Wellcome Trust Institutional Translational Partnership Award (iTPA). *Clinician Co-Design of an Asthma Clinical Decision Support Tool*. Reference: WT-iTPA-PIII077-SF. £5000 (2024)

Co-Investigator

- NIHR. Improving Equity in Respiratory Disease Outcomes in Africa using Data-Driven Tools: EQUI-RESP-AFRICA. Principal Investigator Prof. Igor Rudan. £3,300,000 (2023)
- 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

- Usher Institute Small Grants Award: £250 (2023)
- 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)

Named Collaborator

- NIHR School for Primary Care Research. *Development and external validation of a risk prediction model for asthma attacks in primary care: a retrospective cohort study*. Principal Investigator Dr. Matthew Martin. £49,908 (2024)

PEER-REVIEWED PUBLICATIONS

Tibble H & Chung A. (2024). Prevalence and Predictors of Annual Asthma Reviews in Scottish Primary Care Data. *British Journal of General Practice Open*. (In press).

Drysdale M, **Tibble H**, Patel V, Gibbons DC, Lloyd EJ, Kerr W, Macdonald C, Birch HJ, Sheikh A. (2024). Characteristics and outcomes of patients with COVID-19 at high risk of disease progression receiving sotrovimab, oral antivirals or no treatment in Scotland. *BMC Infectious Diseases*. 24(670).

Tibble H, Mueller T, Proud E, Hall E, Kurdi A, Roberston C, Bennie M, Woolford L, Laidlaw L, Sterniczuk K, Sheikh A. (2024). Real-world severe COVID-19 outcomes associated with use of antivirals and neutralising monoclonal antibodies: A population-based retrospective cohort study in Scotland. *Npj Primary Care Respiratory Medicine*. 34(17).

Chung A, Opoku-Pare GA, **Tibble H**. (2024) Cause of Death Coding in Asthma. *BMC medical research methodology*. 24(129).

Macdonald C, Palmateer N, McAuley A, Lindsay L, Hasan T, Hameed SS, Hall E, Jeffrey K, Grange Z, Gousias P, Mavin S, Jarvis L, Cameron C, Daines L, **Tibble H**, Simpson CR, McCowan C, Katikireddi SV, Rudan I, Fagbamigbe AF, Ritchie L, Swallow B, Moss P, Robertson C, Sheikh A, Murray J. (2024) Association between antibody responses post-vaccination and severe COVID-19 outcomes: national population-based cohort study in Scotland. *npj Vaccines*. 14;9(1):107.

Ali M, **Tibble H**, Brady MC, Quinn TJ, Sunnerhagen KS, Venketasubramanian N, Shuaib A, Pandyan A, Mead G. (2024) Validation of General Pain Scores from Multidomain Assessment Tools in Stroke. *Frontiers in Neurology*. 15:1328832.

Ma L & **Tibble H**. (2024) Primary Care Asthma Attack Prediction Models for Adults: A Systematic Review and Clinical Usability Evaluation. *Journal of Allergy and Asthma*. 2024(17). 181-194.

Amele S, McCabe R, Kibuchi E, Pearce A, Hainey K, Demou E, Irizar P, Kapadia D, Taylor H, Nazroo J, Bécares L, Buchanan D, Henery P, Jayacodi S, Woolford L, Simpson CR, Sheikh A, Jeffrey K, Shi T, Daines L, **Tibble H**, Almaghrabi F, Fagbamigbe AF, Kurdi A, Robertson C, Pattaro S, Katikireddi SV. (2024) Quality of ethnicity data within Scottish health records and implications of misclassification for ethnic inequalities in severe COVID-19: A national linked data study. *Journal of Public Health*. 46(1), 116-122.

Ali M, **Tibble H**, Brady MC, Quinn TJ, Sunnerhagen K, Venketasubramaniam N, Shuaib A, Pandyan A, Mead G. (2023) Prevalence, Trajectory and Predictors of Post Stroke Pain. *Stroke*. 54(12). 3107-3116.

Kerr S, Millington T, Rudan I, McCowan C, **Tibble H**, Jeffrey K, Fagbamigbe AF, Simpson CR, Hippisley-Cox J, Sheikh A. (2023) External validation of the QCovid 2 and 3 risk prediction algorithms for risk of COVID-19 hospitalisation and mortality in adults: national cohort study in Scotland. *BMJ Open*. 13(12):e075958.

Amele S, Kibuchi E, McCabe R, Pearce A, Henery P, Hainey K, Fagbamigbe AF, Kurdi A, McCowan C, Simpson CR, Dibben C, Buchanan D, Demou E, Almaghrabi F, Angheliescu G, Taylor H, **Tibble H**, Rudan I, Nazroo J, Bécares L, Daines L, Irizar P, Jayacodi S, Pattaro S, Sheikh A, Katikireddi SV. (2023) Ethnic inequalities in positive SARS-CoV-2 tests, infection prognosis, COVID-19 hospitalisations and deaths: analysis of 2 years of a record linked national cohort study in Scotland. *J Epidemiol Community Health*. 77(10). p.641-648.

Tibble H, Sheikh A, Tsanas A. (2023) Estimating medication adherence from Electronic Health Records: comparing methods for mining and processing asthma treatment prescriptions. *BMC Medical Research Methodology*. 23(1). p.167.

Daines L, Bonnett LJ, **Tibble H**, Boyd A, Thomas R, Price D, Turner SW, Lewis SC, Sheikh A, Pinnock H. (2023) Derivation and validation of an asthma diagnosis prediction model for children and young people in primary care. *Wellcome Open Research*. 8(195).

Tibble H, Mueller T, Proud E, Hall E, Kurdi A, Robertson C, Bennie M, Woolford L, Sheikh A. (2022) Uptake of monoclonal antibodies and anti-viral therapies for COVID-19 in Scotland. *The Lancet*. 401(10371). p.101-102.

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.

Tibble 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, **Tibble 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, **Tibble 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.

Tibble 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.

Tibble 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, **Tibble 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, **Tibble 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, **Tibble 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, **Tibble 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, **Tibble 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.

Tibble 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, **Tibble 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, **Tibble 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, **Tibble 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.

Tibble 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, **Tibble 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, **Tibble 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, **Tibble 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.

Tibble 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, **Tibble 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, **Tibble 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.

BOOK CHAPTERS

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

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

Mueller T, Proud E, **Tibble H**, Hall E, Kurdi A, Bennie M. (2022) Rapid surveillance on the use of neutralising monoclonal antibodies and antivirals in patients with COVID-19 in Scotland using administrative and purposely collected data. *The 38th International Conference on Pharmacoepidemiology and Risk Management: Advancing Pharmacoepidemiology and Real-World Evidence for the Global Community*.

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)*.

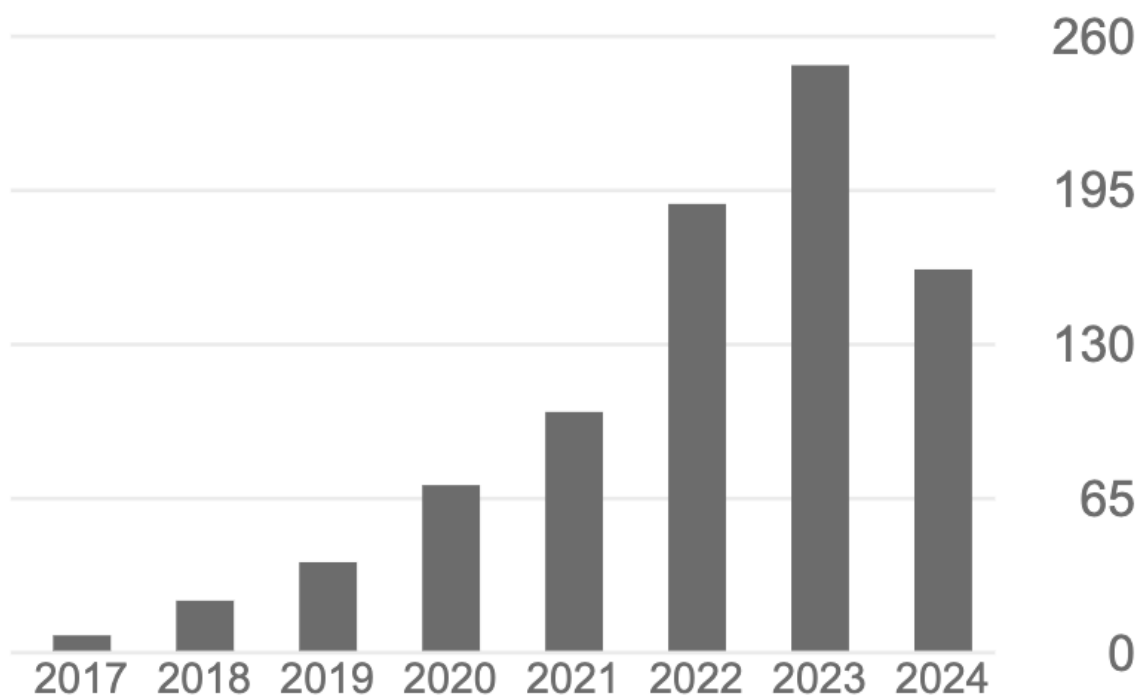


Figure 1: Google Scholar annual citations as of August 16th, 2024

SUMMARY OF TEACHING EXPERIENCE

- Awarded Postgraduate Certificate of Academic Practice in 2023, and became a Fellow of the Higher Education Academy.
- I developed areas of the syllabus and curriculum on MSc and Continuing Professional Development (CPD) courses for the University of Edinburgh on topics including data analytics, 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)
- I am a guest lecturer on the 'Clinical Research Methodology' CPD course provided by the Royal College of Surgeons of Edinburgh (2022-present)
- I have been a teaching assistant on Bachelor's of Medicine, Master's of Public Health (MPH), MSc and CPD courses on statistics and data science (2018-present), providing support to lecturers in physical and virtual classrooms.
- I have supervised Master's dissertation students on the MPH, Data Science for Technology and Innovation (DSTI), Master's of Epidemiology, and Data Science for Health and Social Care programs at Edinburgh University.
- I have graded MPH, MSc, and CPD examinations in statistics, medical informatics, and programming, as well as dissertation proposals, and dissertations (2019-present)
- I also moderated MPH and CPD course examinations (2020-present), including presenting results to the Board of Examiners.
- I am a personal tutor (later rebranded as cohort lead) for MPH students (2019-present), providing pastoral support and guidance on academic career development.