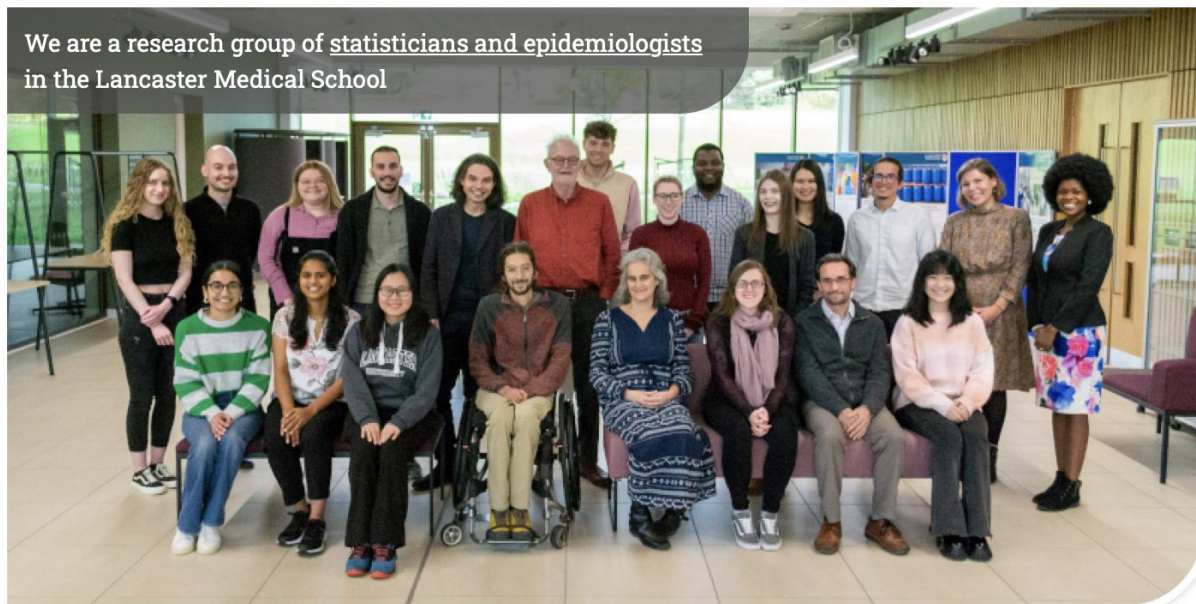


Research with routinely collected health data

Jo Knight and Anastasia Ushakova and many more



We are a research group of [statisticians and epidemiologists](#) in the Lancaster Medical School



About CHICAS

The Centre for Health Informatics, Computing, and Statistics (CHICAS) is a group of staff, research associates, and postgraduate students in the Lancaster Medical School, part of the Faculty of Health and Medicine at Lancaster University.

MSc and PhD Studies

CHICAS supervises PhD students and runs the MSc in Health Data Science. See our [Study with CHICAS](#) pages for more details.

Work with CHICAS

We are open to collaborations with individuals and organisations. See our [Partners](#) page for a list of past and current organisations we have worked with. Feel free to contact any of our staff with relevant interests to start a discussion.



CHICAS
**World Health Organisation
Collaborating Centre**
On Geostatistical Methods For
Neglected Tropical Disease Research

Data

- What is routine data?
- Primary and secondary care data
- Common routes of access: NHS Digital & NHS Trusts

Neurology I

- **Data:** Structured data from secondary care - Diagnosis from one consultant lead clinic, additional data from the electronic health record & NHS Digital open access repositories
- **Question:** Are there outliers in referrals from specific GP surgeries?
- **Outcome:** Yes! Influential factors are other neurology appointments and distance to surgery
- **Access:** IRAS = tough, direct relationship with NHS :)

Identifying variation in GP referral rates: an observational study of outpatient headache referrals

 Fran Biggin,  Quinta Davies,  Timothy Howcroft,  Hedley Emsley,  Jo Knight

doi: <https://doi.org/10.1101/2022.02.07.22270572>



Prof Hedley Emsley



Dr Fran Biggin

Neurology II



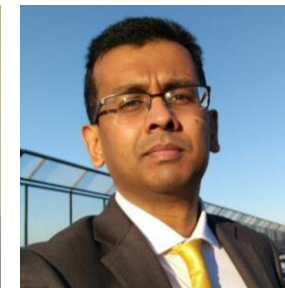
- **Data:** Unstructured data - Clinic letters
- **Question:** Can we draw accurate clinical codes from clinic letters?
- **Outcome:** Jury is still out
- **Access Notes:** NHS TRE - fabulous

NHS England Data Science PhD Internships

Enriching Neurology Patient Information using MedCAT

Keywords: NLP, CogStack, Text

Need: Clinical Letters contain a wealth of information that may not be available elsewhere within structured data fields, but are challenging to systematically extract information and structure from, to enable tasks such as filtering and linkage to reference data, especially at scale.



Prof Vishnu Chandrabalan Prof Hedley Emsley Dr Aizaan Anwar

Integrated Care



- **Data:** Structured data from primary and secondary care (Morecambe Bay Community Warehouse) & NHS Digital open access repositories
- **Question:** Does the Morecambe Bay Respiratory Network work?
- **Outcome:** Decrease in referral rate
- **Access Notes:** NHS community data warehouse

Spatio-temporal modelling of referrals to outpatient respiratory clinics in the integrated care system of the Morecambe Bay area, England

 Rachael Mountain,  Jo Knight, Kelly Heys,  Emanuele Giorgi,  Timothy Gatheral

doi: <https://doi.org/10.1101/2023.08.03.23293543>



Dr Kelly Heys



Rachael Mountain

App for Care Home Health Care

- **Data:** Secondary Care & Care Home Data
- **Question:** Does an app reduce emergency department attendance?
- **Outcome:** Yes!
- **Access Notes:** Durham Uni TRE + direct relationship with trust

The Impact of Digital Technology in Care Homes on Unplanned Secondary Care Usage and Associated Costs

 Alex Garner,  Jen Lewis,  Simon Dixon,  Nancy Jean Preston,  Camila C.C.S Caiado,  Barbara Hanratty,  Monica Jones,  Jo Knight,  Suzanne M Mason

doi: <https://doi.org/10.1101/2023.06.13.23291324>



Prof Nancy Preston



Alex Garner

Mental Health

- **Data:** LSCFT data and census data
- **Questions:** Access for the LGBTQ+ users during COVID-19
- **Outcome:** Mixed results – COVID changes & access by services. Part of a larger mixed method study.
- **Access notes:** IRAS + Research Passport at the trust



Mental Health

- **Data:** LSCFT data
- **Questions:** Patterns of non-attendance for children and young people & Predictors of overstay on the wards (MSc projects)
- **Outcome:** age is a predictor & the type of services used, among others
- **Access Notes:** MSc projects under service evaluation route.



Chukwononye Aneke



Ellie Johnston



Dr Nicola Rennie



Hayley Lowther-Payne

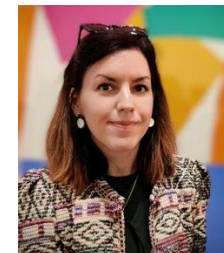
Mental Health



- **Data:** NHS Digital Data
- **Questions:** Healthcare use, interventions and longer-term outcomes in people with co-occurring bipolar and alcohol use disorders
- **Outcome: Yet to discover** 😊
- **Access notes:** application to NHS digital and internal REC.



Prof Steve Jones



Dr Laura Goodwin



Lauren Halsall

Palliative care and cancer



- **Data: Christie and LSCFT**
- **Questions:** Trajectories of quality of life as a function of various cancer treatments & links between mental and physical health care in relation to patient outcomes
- **Outcome: Yet to discover 😊**
- **Access notes:** close collaboration with Christie, IRAS.



Dr Margaret Sandars



Dr Maddy French



Prof Catherine
Walsche



Dr Amy Gadoud



Prof Sarah Brearley

Key Remarks

- Time is required at the start but once foundations laid – access gets easier
- **Diversity of partners → diversity of projects → diversity of access**
- MSc projects – suitable pilot work
- PhD projects – more substantial with other studies essential to be planned in during ethical and governance processes
- Targeted training helps us scaling the support to others – (e.g. via CHIC670 on MSc Health Data Science)
- Different relationship with partners – different flexibility (e.g. having honorary contract helps along the way)

Regional and National Engagement

- NW sub national NHS Secure Data Environment
- Clinical Practice Research datalink (CPRD)



CPRD

UK data driving real-world evidence

Secure Data Environments (SDEs)