

Manchester Digital Epidemiology Summer School

A 3-day course that explores opportunities, challenges and methods for capturing and using a range of digital health data types to support high-quality epidemiological research



The Studio, Lever Street, Manchester, 17-19th July 2019

Course goal: To explore and understand the opportunities, challenges and methods for capturing and using digital data to support high-quality epidemiological research

Day 1: Electronic health records and data linkage



0900-0930 **Welcome, introductions and course overview** Will Dixon, UoM

- + Show and tell: delegates' experiences of EHR and linkage projects

0930-1030 **Analysing EHR data: entry point/ state of the art**

- Exposures and outcomes and confounders Ian Douglas, LSHTM

1030-1100 **Drug preparation algorithm practical** Mark Lunt, UoM

Coffee

1130-1300 **Analysing EHR data: text mining** Goran Nenadic + team, UoM

- Theory and practical

Lunch

1400-1445 **Analysing EHR data: machine learning**

- Machine learning and EHRs John Rigg, IQVIA

1445-1530 **More data from one region: data linkage**

- Experience from SAIL David Ford, Swansea

Coffee

1600-1700 **More data from more regions: federated analyses**

- Federated analyses and EHDEN Dani Prieto-Alhambra, UoOxford & Nigel Hughes, Janssen

(P) = practical session

Day 2: Patient-generated data: smartphones



0900-0930 **Epidemiology using digital patient-generated data**

- Introduction John McBeth, UoM
- Show and tell: delegates' experience of patient-generated data projects

0930-1030 **Lessons learned from Manchester mobile health studies, including *Cloudy with a Chance of Pain*** Will Dixon & team

Coffee break

1100-1300 **Public involvement and designing systems for collecting patient-generated data**

- Co-design, patient and public involvement Caroline Sanders, UoM
- Test your public involvement design (P) Patient partners

Lunch

1400-1530 **Options for running an mHealth study**

- Working with an SME Ben James and Jonathan Moshinsky, uMotif
- Using ResearchKit Rachel Williams, GSK
- Using RedCap Yama Farooq, University of Oxford
- Partnership with University groups Amos Folarin, Kings (tbc)
- + Panel discussion

Coffee break

1545-1630 **Analysis of temporally-rich patient data** Thomas House, UoM

1630-1715 **Keynote: The Future of a Digital NHS** Rachel Dunscombe



Day 3: Patient-generated data: sensors and social media

0900-0930 **Epidemiology using sensor data and digital traces**

- Introduction Sabine van der Veer, UoM
- Show and tell: delegates' projects with sensor data

0930-1015 **How to collect data passively**

- What's available in wearable devices, and what might you get from them
Justin Phillips, Google

Coffee

1040-1125 **Using accelerometers in epidemiological research**

- Evaluating physical activity in epidemiology studies Tessa Strain, University of Cambridge

1125-1245 **Using GPS in research studies**

- Opportunities, challenges and governance (P) Niels Peek, UoM

Lunch

1345-1445 **Digital endpoints/ outcomes/ biomarkers**

- Validating and qualifying digital biomarkers for regulatory approvals
Elin Haf Davies, Aparito

Coffee

1515-1645 **Title tbc**

- *Title* *tbc*