HEALTH AND CARE
ANALYTICS
Conference 2023

11 – 12 July
University of Birmingham
Birmingham Medical School

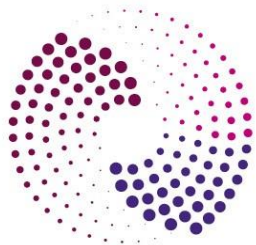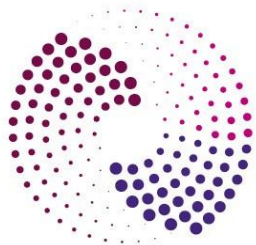| Wednesday 12th July |
|---|
| **Wolfson Common Room**
08:30 – 09:00
Welcome and Arrival Refreshments |
| **Leonard Deacon Lecture Theatre**
09:00 – 09:05
Introduction - Peter Spilsbury

09:05 – 09:35
Michael Blastland

09:35 – 10:05
Clare Griffiths & Pouria Hadjibagheri

10:05 – 10:35
John Newton |

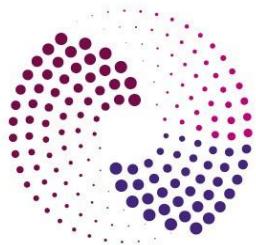| Leonard Deacon Lecture Theatre		Lecture Theatre 3	Lecture Theatre 4	WF15
10:35 – 10:50 Building a whole system model for a five year forward plan for Leicester, Leicestershire and Rutland (15 mins) *Janine Dellar, Leicester, Leicestershire and Rutland ICB* **10:50 – 11:05** Comparing need-adjusted supply of GP practice consultations over time and Integrated Care Boards in England (15 mins) *Steven Wyatt, Strategy Unit*		**10:35 – 11:05** Essex's first ever Oral Health Needs Assessment (30 mins) *Jyotsna Srinath, Essex County Council* *Paola De Pascali, Essex County Council*	**10:35 – 10:50** Participation in a community-based pre-natal programme helps pregnant women with a BMI over 25 to increase their physical activity levels (15 mins) *Sophie Hedges, National Children's Bureau* **10:50 – 11:05** Waste not, want not: promoting participation of UK clinical graduates in NHS services (15 mins) *Lucina Rolewicz, Nuffield Trust*	**10:35 – 10:50** Democratizing the Modelling of Population Ageing and its Impact on Demand for Healthcare (15 mins) *Paul Seamer, Strategy Unit*
Wolfson Common Room **11:05 – 11:25** Refreshment Break				

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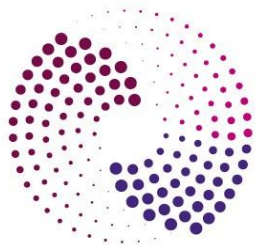| Leonard Deacon Lecture Theatre	Arthur Thompson Lecture Theatre	Lecture Theatre 3	Lecture Theatre 4	WF15
11:25 – 12:10 Expert by experience panel (45 mins) *Ellen Coughlan* *Rashmi Kumar* *Richard Stephens* *Sarah Markham*	**11:25 – 11:40** Impact of ambulance performance improvement strategies - estimation through discrete event simulation (15 mins) *Martina Bargeman Fonseca, NHS England* **11:55 – 12:10** Rapid growth of diagnostic testing in A&E has increased waiting times for patients (15 mins) *Andrew Jones, Strategy Unit*	**11:25 – 11:40** Who needs a Junior Doctor? Can artificial intelligence write discharge letters for elective tonsillectomy surgery (15 mins) *Chris Bodimeade, East Surrey Hospital* **11:40 – 11:55** Predicting exacerbations of COPD: a machine learning approach (15 mins) *Prasanth Peddaayyavarla, Arden & GEM CSU* *Kamil Barczak, Arden & GEM CSU*	**11:25 – 11:40** Harnessing routinely generated General Practice (GP) data to reduce the burden of cardiovascular diseases (CVDs) across Greater Manchester (GM) (15 mins) *Matthew Conroy, NHS Greater Manchester Integrated Care (ICB)* *Aseem Mishra, NHS Greater Manchester ICS* **11:40 – 11:55** Testing the application of a city-wide segmentation model for planning care and tracking population outcomes in Leeds (15 mins) *Nick Grudgings, NHS ICB in Leeds* *Alex Brownrigg, NHS ICB in Leeds* Benjamin Alcock, NHS Arden and GEM CSU	**11:25 – 11:55** The Cost of Living: Creating an interactive dashboard to drive action and reduce inequalities in Suffolk (30 mins) *Alexander Garwood, Suffolk County Council* **11:55 – 12:10** Towards developing a better data culture: starting a new journey at the Royal Free (15 mins) *Sean Hession, Royal Free London NHS Foundation Trust*

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| | | **Lecture Theatre 3**
11:55 – 12:10
Web application to discover SNOMED-mapped entities in unstructured clinical text using Named Entity Recognition and Linkage with MedCAT, Apache SOLR and Python (15 mins)

Timothy Howcroft, Lancashire Teaching Hospitals NHS Foundation Trust | **Lecture Theatre 4**
11:55 – 12:10
Development and practical use in delivering pro-active care and modelling future population health need of a population segmentation in which segments halve in size and double in per person spend (15 mins)

Nick Hassey, Bristol, N Somerset S Gloucestershire ICB | |

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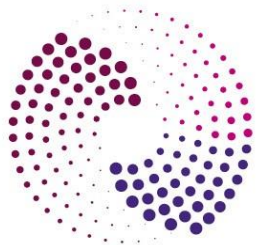|	**Arthur Thompson Lecture Theatre**	**Lecture Theatre 3**	**Lecture Theatre 4**	**WF15**
	12:10 – 12:25 Forecasting emergency department admissions for operational decision support in the NHS (15 mins) *Elizabeth Johnstone, NHS England* *Jane Kirkpatrick, NHS England* **12:25 – 12:40** A review of the impact of the Covid pandemic on the provision of urgent and emergency care across hospitals in the Northwest of England (15 mins) *Kelly Bishop, NHS Midlands and Lancashire CSU* *Andy McCann, NHS Midlands and Lancashire CSU*	**12:10 – 12:25** Semi-Automating the Clinical Coding Process: Improving Efficiency, Accuracy and Support for Clinical Coders (15 mins) *Prajwal Khairnar, Northern Care Alliance NHS Foundation Trust* **12:25 – 12:40** Linking of diverse intra institutional and government raw data sources to monitor the impact of COVID-19 on hospital health care resources in a major district general hospital NHS Trust during the pandemic (15 mins) *Arun Sahni, Mid & South Essex NHS Trust*	**12:10 – 12:25** Modelling NHS Acute Trust Catchment Populations (15 mins) *Steven Knuckey, Office for Health Improvement and Disparities* *Antoinette Woodhouse, Office for Health Improvement and Disparities* **12:25 – 12:40** The Health Index for England: understanding the nation's health and its determinants (15 mins) *Greg Ceely, Office for National Statistics*	**12:10 – 12:25** Unleashing the Influence of Data: How a Mental Health Nurse is Driving Improvements in Learning Disability Services (15 mins) *Nadine Rooney, West Yorkshire and Barnsley Learning Disability Services ICS* **12:25 – 12:40** Case study of visualising vaccination uptake by geographical area (15 mins) *Catriona Scott, NHS Lothian* *Bethany Hitchen, NHS Lothian*

Wolfson Common Room
12:40 – 13:40
Lunch

Leonard Deacon Lecture Theatre	**Arthur Thomas Lecture Theatre**	**Lecture Theatre 3**	**Lecture Theatre 4**	**WF15**
13:40 – 13:55	**13:40 – 14:10**	**13:40 – 14:10**	**13:40 – 14:10**	**13:40 – 14:10**
Building capability in System Dynamics within Health and Care; the experience of an applied learning programme in the Midlands (15 mins)	Exploring the uses and benefits of NHS England's privacy-enhancing artificial data (30 mins)	Evaluating Outcomes and Healthcare Resource Utilization in Critical Limb Threatening Ischaemia (CLTI) Patients: A Data-Driven Analysis of Revascularisation versus Primary Amputation (30 mins)	The limitations of pulse oximeters in measuring blood oxygen saturation: An analysis using routinely collected data from a large UK teaching hospital (30 mins)	The Suffolk Office of Data and Analytics - providing the compelling reason to act (30 mins)
Stacey Croft, Strategy Unit	*Alistair Jones, NHS England*		*Andrew Fogarty, University of Nottingham*	*Michaela Breilmann, Suffolk Office of Data & Analytics (SODA)*
	Scarlett Kynoch, NHS England	*Santosh Kumar, Health Economics Unit (MLCSU)*		
13:55 – 14:10				
How to introduce self-service Statistical Process Control at an industrial scale in an NHS Trust (15 mins)		*Maria Paraskevopoulou, Health Economics Unit (MLCSU)*		
Thomas Nicholas, East London NHS Foundation Trust		*Rayne Wang, Health Economics Unit (MLCSU)*		

Wednesday 12th July 2023

Leonard Deacon Lecture Theatre	Arthur Thompson Lecture Theatre	Lecture Theatre 3	Lecture Theatre 4	WF15
14:10 – 14:55 What do leaders want from analysts? (45 mins) *Fraser Battye* *Amanda Sullivan* *Sarah Jane Marsh* *Clara Day*	**14:10 – 14:40** Splink: Data Linkage at Scale (30 mins) *Ross Kennedy, Ministry of Justice* **14:40 – 14:55** Implementing the OMOP common data model in an NHS Trust using data build tool (DBT) (15 mins) *Quinta Ashcroft, Lancashire Teaching Hospitals NHS Foundation Trust*	**14:10 – 14:25** Improving Hospital Mortality Benchmark Measures (the Summary Hospital-level Mortality Indicator, SHMI) using Machine Learning and Feature Engineering (15 mins) *Adam Hollings, NHS England* **14:25 – 14:40** Transformation of 100,000K registry and programme-collected data for observational cancer research (15 mins) *Georgia Chan, Genomics England Ltd*	**14:10 – 14:25** Developing a targeted, partnership-driven approach to the measurement and monitoring of inequality in Manchester (15 mins) *Amanda Dixon, Manchester City Council* *Neil Bendel, Manchester City Council* **14:25 – 14:40** East Kent Hospitals - Analysing Inequalities and Unwarranted Variation. Designing an analysis framework that is simple to use, but has statistical rigour (15 mins) *Marc Farr, East Kent Hospitals University NHS Foundation Trust*	**14:10 – 14:40** A look into multimorbidity: the burden of multiple, co-occurring, long-term conditions in the population of England (30 mins) *Alex Owens, NHS Arden and Gem CSU* **14:40 - 14:55** Exploration of preferences among people with COPD for to inform resource allocation: a discrete choice experiment study (15 mins) *Jack Ettinger, Health Economics Unit*

		Lecture Theatre 3 **14:40 – 14:55** The methodology behind developing cancer-specific virtual cohorts to support the Edinburgh Cancer Informatics programme (15 mins) *Mahéva Vallet, University of Edinburgh*	**Lecture Theatre 4** **14:40 – 14:55** Is the cost-of-living crisis causing some people to reduce their use of essential medicines? (15 mins) *Michael Cheetham, North East London ICB*	

Wolfson Common Room
14:55 - 15:15
Refreshment Break

	Arthur Thompson Lecture Theatre	**Lecture Theatre 3**	**Lecture Theatre 4**	**WF15**
	15:15 – 15:30 Using linked data to understand inequalities in place of death (PoD) and inform the design of integrated PEoLC (Palliative and End of Life Care) (15 mins) *Kate Warren, The Royal Wolverhampton NHS Trust* **15:30 – 15:45** Identifying Health Inequalities in Elective Waiting Lists (15 mins) *Simon Wellesley-Miller, NHSE*	**15:15 – 15:45** Considering Data Hazards in health and care analytics through a shared vocabulary of risks (30 mins) *Natalie Zelenka, University of Bristol* *Nina Di Cara, University of Bristol* *Huw Day, University of Bristol*	**15:15 – 15:45** Quality Assurance Framework for Data Linkage – assuring population-scale data linkage to help tackle cardiovascular disease (30 mins) *Liliana Valles, NHS England* *Rupert Chaplin, NHS England*	**15:15 – 15:45** Blood collection in England - Understanding and optimising donor flow (30 mins) *Emily Baldwin, NHS Blood and Transplant*

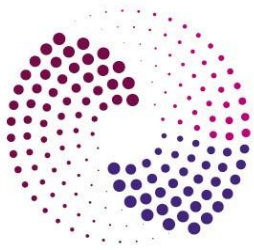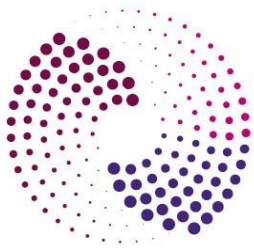| Leonard Deacon Lecture Theatre	Arthur Thompson Lecture Theatre	Lecture Theatre 3	Lecture Theatre 4	WF15
15:45 – 16:00 Cutting the production time of emergency care statistics from 3 days to 1 hour: a RAP success story (15 mins) *Andrew Berry, NHS England* *Amelia Noonan, NHS England* **16:00 – 16:15** Case study showing how R was used to automate production of a weekly report that helped reduce acute discharge delays across England (15 mins) *Dean Wales, NHS England*	**15:45 – 16:00** Evaluating the presence and magnitude of health inequalities in ICBs at PCN and Place-level using advanced analytics (15 mins) *Sonia Hayre, Arden and Gem CSU* **16:00 – 16:15** Equity of access to community services after hospital discharge (15 mins) *Steven Wyatt, Strategy Unit* **16:15 – 16:30** Deprivation: Its impact on how people access healthcare (15 mins) *Chris Morris, NHS South, Central and West CSU*	**15:45 – 16:00** Beyond checklists: critical thinking about data ethics, technology and AI (15 mins) *Harriet Sands, NHS England* *Michael Hodge, Ministry of Justice*	**15:45 – 16:15** Generating Synthetic Data for the NHS (30 mins) *Jonathan Pearson, NHS England* **16:15 – 16:30** Providing contextual metadata to data linkage – a case study for emergency hospital readmission rates (15 mins) *Kenneth Quan, NHS England*	**15:45 – 16:15** The years of life lost to common multimorbidity combinations: An application of Markov models to the NHS Bridges to Health National Segmentation Dataset (30 mins) *Adrian Pratt, NHS Arden & GEM CSU*

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		Lecture Theatre 3 **16:00 – 16:30** An embedded patient and public involvement and engagement approach leads to high-impact outcomes in health and social care analytics projects: learnings from the Networked Data Lab (30 mins) *Chamut Abebe & Zoe Ruziczka, The Health Foundation* *Helen Butters, West Yorkshire Integrated Care Board (Leeds)* *Sharon Gordon, University of Aberdeen*		

Leonard Deacon Lecture Theatre
16:30 – 16:45
Closing Remarks

Chris Beeley

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