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Jeremy is Visiting Professor at UCL and Emeritus Professor of Digital Healthcare at University of Southampton and former Director of Wessex Institute of Health Research, advisor on validation methods to NHSX AI Lab, member of the Medicines & Healthcare Regulatory Authority's Devices Expert Advisory Committee and Clinical Adviser on New Technologies to Royal College of Physicians. He currently edits the Ethical Digital Health section of Frontiers in Digital Health, chairs the British Computer Society's Health & Care AI interest group and the £5M NIHR-funded DIGIPATHS programme's Executive Study Trial Steering Committee and co-convenes UK activity on Mobilising Computable Biomedical Knowledge (MCBK). He was previously Leadership Chair in eHealth Research in Leeds, setting up the £7M MRC Biomedical Informatics Centre in Leeds Institute of Data Analytics. His research uses empirical methods to uncover scientific principles guiding the design of clinical information and eHealth systems, studying interactive tools to change the behaviour of clinicians (eg. decision support), patients (eg. apps, telehealth) and the public (eg. SMS msgs to promote healthy lifestyle), and of digital tools to support health research.

Jeremy trained in medicine in Oxford and London and as a hospital physician in London and Glasgow (MRCP 1983). He then discovered medical informatics and health technology assessment, with doctoral training at the National Heart & Lung Institute and an MRC-funded postdoc at Stanford University. He was the UK's first elected Fellow of the American College of Medical Informatics in 1997, was ranked third in his discipline worldwide in 2009 and has given 40 invited overseas talks in the last decade, including the Amsterdam Spinoza lecture series. In his spare time he runs a local climate action group www.greatgreenbedwyn.org.uk and makes jewellery and commemorative objects in titanium: <https://acj.org.uk/index.php/cb-profile/jcwyatt>

Main achievements

Jeremy set up NICE's R&D programme 2003-5, the Dundee Health Informatics & eHealth Centre in 2005 and the Warwick Institute for Digital Healthcare in 2010. He was member of WHO mHealth Technical Advisory Group 2010-12 and developed and taught a WHO training course in Tehran in 2017. He has been visiting professor in Oxford, Amsterdam and Oporto universities and wrote the agenda for and minuted the June 1992 McMaster meeting which established the international Cochrane Collaboration. He also set up Cochrane's Effective Practice & Organisation of Care review group in 1994. He has co-authored three textbooks on evaluation methods and digital / eHealth, three series of tutorial articles for the Lancet, one for BMJ & one for JRSIM and over 220 articles with an H index of 67. He was a Founding Fellow of the Faculty of Clinical Informatics and the International Academy of Health Sciences Informatics.

Abstract for University of Victoria webinar 22-10-25

A clinical perspective on healthcare AI: where does it fit, and what traps to avoid ?

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Abstract

Despite huge investment in - and political support for - AI in healthcare, less than 10% of AI decision support tools are studied against a gold standard or outside the lab, meaning that 91% can have no impact on clinical practice [1]. Clinicians are part of the problem, often failing to verbalise their needs or what factors would help them trust an AI. When they do, the results are revealing [2, 3].

This talk will summarise how clinicians work, identifying the many niches where AI can provide support. It will then review some examples of knowledge-based and data-derived AI, identifying some of the challenges that can affect their performance or acceptability to clinicians. Some technical challenges include:

- Poor quality or misleading datasets
- Biased algorithms
- Algorithmic drift
- Poor linkage to EPR datasets [4]
- Poor calibration despite excellent discrimination

Psychological challenges include:

- False assumptions about the role of AI in decisions [5]
- Poorly formatted algorithm output [6]
- Alert fatigue
- Automation bias [7]

References

1. Global clinical AI dashboard. <https://aiforhealth.app/>
2. Petkus H, Hoogewerf J, Wyatt JC. What do senior physicians think about AI and clinical decision support systems: Quantitative and qualitative analysis of data from specialty societies. Clin Med (Lond). 2020 May;20(3):324-328. doi: 10.7861/clinmed.2019-0317.PMID: 32414724 Free PMC article.
3. Boag et al. The algorithm journey map: a tangible approach to implementing AI solutions in healthcare. NPJ Digit Med. 2024;7(1):87.
4. Statins alert over IT glitch in heart risk tool. 12 May 2016. <https://www.bbc.co.uk/news/health-36274791>
5. Enrico Coiera. The Last Mile: Where Artificial Intelligence Meets Reality. J Med Internet Res 2019;21(11):e16323 doi: 10.2196/16323
6. Gigerenzer G, Edwards A. Simple tools for understanding risks: from innumeracy to insight. BMJ 2003 Sep 27;327(7417):741-4. <https://pubmed.ncbi.nlm.nih.gov/14512488/>
7. Goddard K, Roudsari A, Wyatt JC. Automation bias: a systematic review of frequency, effect mediators, and mitigators. J Am Med Inform Assoc. 2012 Jan-Feb;19(1):121-7.