

# School of Health Information Science Seminar Series: **Beyond Accuracy: Evaluating Real-World Impact of Healthcare AI**



Speaker:

**Niels Peek**

*Professor of Data Science and Healthcare Improvement,  
THIS Institute, University of Cambridge*

**Oct 29 on Zoom**

**10:00am PT**

## **Beyond Accuracy: Evaluating Real-World Impact of Healthcare AI**

This presentation explores the complex challenges of evaluating the real-world impact of AI in healthcare, which differ fundamentally from traditional medical intervention assessments. Using Enrico Coiera's information value chain framework, we examine why technical performance metrics (such as algorithm accuracy) do not automatically translate to improved clinical outcomes, as algorithm accuracy represents only one component of complex healthcare delivery systems. Further challenges relate to fact that many AI applications create entirely new capabilities with no comparable predecessors, making it difficult to establish appropriate control conditions, and the rapid evolution of AI technology, rendering traditional randomised controlled trials too slow to be valuable for policymakers. Context dependency represents perhaps the most significant challenge, as AI performance varies dramatically across different healthcare systems and clinical settings.

### **Niels Peek**

Niels Peek is Professor of Data Science and Healthcare Improvement at THIS Institute (The Healthcare Improvement Studies Institute), University of Cambridge, where he leads a programme of research to develop and evaluate digital interventions to support improvement in healthcare. Professor Peek has a global reputation for his work on data-driven informatics for healthcare improvement, health data science, clinical prediction models, and computerised decision support tools. With a background in computer science and artificial intelligence, he was President of the Society for Artificial Intelligence in Medicine until 2017. He also led the Greater Manchester Connected Health City, part of a £20 million government investment to establish a learning health system in the north of England.

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