



University
of Victoria

School of Health Information Science

Seminar Series



Dr. John Chelsom Presents: Structured Health Records as the Foundation for Artificial Intelligence in Medicine

Wednesday, March 2nd, 2022

10:00 am – 11:00 am Pacific

Online via [Zoom](#)

Abstract:

The most recent trends in Artificial Intelligence have been focussed on deriving meaning from largely unstructured data, using machine learning algorithms. Conversely, in healthcare there has been a trend towards creating more structured information in the Electronic Health Record (EHR), starting with the ISO 13606 and HL7 CDA standards.

This seminar explores the use of structured information in the health record as the foundation for artificial intelligence reasoning, in both patient centred and cross-patient cohort scenarios.

We start with a review of ISO 13606 and HL7 CDA for structured health records and show how the structured record can be created using an ontology-driven architecture. The ontology-based record then forms the foundation for linking knowledge using the Resource Description Framework, creating Linked Open Data for research, and driving reasoning using Description Logic, Rule Based Inference, Bayesian Belief Networks or Artificial Neural Networks.

Dr. John Chelsom has a degree in Engineering Science from the University of Oxford and a PhD from City University, London for his thesis on artificial intelligence in medicine. He has been a Visiting Professor in Health Informatics at City University, London and is an Adjunct Assistant Professor at the University of Victoria, Canada. John is Program Director of the MSc in Applied Health Informatics at Fordham University and a consultant for the World Bank, where he is an invited expert on Telemedicine.

As Managing Director of CSW Group from 1993 to 2008, Dr. Chelsom brought the web-based Case Notes EHR system to the UK market in 1999 and developed knowledge management systems for organisations such as the British Medical Journal and the Royal Pharmaceutical Society. As part of the UK Government's NPfIT project which started in 2003, Case Notes was the primary clinical system in the national architecture for a shared electronic health record for the population of England. Cases Notes was also used for a proof of concept of health records for the UK armed forces, the single health record across Wales and for the management of long term conditions in England's Whole System Demonstrator - largest randomised control trial of telehealth and telecare in the world.

Since 2010 John has been the lead architect of the open source cityEHR product – a standards-based health records system used in a number of hospitals in England.

Join LIVE online: <https://uvic.zoom.us/j/86014433976?pwd=NG5wTGJqcXNhOWpvcFd2TDhTb1lwUT09>

Meeting ID: 860 1443 3976

Password: 212940