

## Health Innovation Ecosystem Seminar

Date: **Wednesday 29 May 2019, 12.30-13.30pm,**

Place: **Room 1.112, Clipstone Building, 115 New Cavendish Street, W1W 6UW**

Title: **Development of a care home quality index using a balanced scorecard approach and implementation using the Jupyter framework**

Speaker: **Philip Worrall**, PhD, Research Fellow, Health Innovation Ecosystem, University of Westminister

### Abstract:

The care home sector in the United Kingdom provides specialist support to more than 410,000 people. Despite evolutionary reforms, there continues to be concern about the ability of the UK social care system to provide publicly funded care as evidenced by signs of declining quality and access to care since 2009/10. Indeed, in its most recent annual state of adult social care report, the Care Quality Commission (CQC) – the regulator for health and social care services in England – rated 22% of adult social care services as either inadequate or requiring improvement. Local authorities, whom are ultimately responsible for the provision of social care services in their area, face the challenge of how best to target their limited resources into projects that support and improve the experience of care home residents. In contrast to other areas of the health service, it has been argued that the social care sector doesn't have access to the same mechanisms to support quality improvement. Through our investigation we identified the lack of a reliable, up-to-date and holistic measure of care home provider performance to be a key stumbling block. In this presentation we explore the shortcomings of the current CQC rating and discuss the development of an improved quality indicator using data supplied by a local authority in the south-west of England on 100 care homes. Our approach, based on the balanced scorecard methodology, consists of a prototype web-based decision support tool that is implemented in Python using the Jupyter data visualisation framework. In addition to demonstrating the use of Jupyter as a data aggregating and visual exploratory tool, we highlight the challenges encountered and the possibilities for further development in this area.

### Bio:

Philip Worrall obtained a BA (Econ) in Economics in 2008 from the University of Manchester, England, and completed his MSc in Operational Research & Management Science at LUMS (Lancaster University Management School) in 2009. As part of his MSc he spent three months as an operational research analyst at the NHS Derbyshire County Primary Care Trust to complete his MSc dissertation on the

challenges of building COPD strategic planning models to model long term future demand. Philip then undertook and completed a PhD at the University of Westminster in collaboration with the NHS London Procurement Program. His research interests include the application of machine learning algorithms to strategic health care planning as well as the development of web and social analytics tools. He is now Research Fellow with the Health and Social Care Modelling Group and has undertaken various projects including NHS activity forecasting for Monitor, developing statistical and machine learning algorithms to predict the risk of admission to hospital for a SBRI project, and a scoring tool for the quality of nursing homes. He also teaches the MSc module "Web and Social Media Analytics".