

Lyn Thomas Impact Medal – Previous Winners

2021

Professor Paul Harper (OR Group, School of Mathematics, Cardiff University)
Dr Izabela Spernaes (Aneurin Bevan University Health Board (ABUHB))
Dr Daniel Gartner (OR Group, School of Mathematics, Cardiff University)
Dr Tracey England (OR Group, School of Mathematics, Cardiff University)
Dr Doris Behrens (OR Group, School of Mathematics, Cardiff University, Aneurin Bevan University Health Board (ABUHB))
Dr Vincent Knight (OR Group, School of Mathematics, Cardiff University)
Dr Geraint Palmer (OR Group, School of Mathematics, Cardiff University)
Dr Mark Tuson (OR Group, School of Mathematics, Cardiff University)
Professor Sue Bale (Aneurin Bevan University Health Board (ABUHB))

Since 2014 a group of OR academics at Cardiff, led by Professor Paul Harper, has worked closely with the Aneurin Bevan University Health Board. Under a 'researchers in residence' scheme, staff, PhD students and post-docs are embedded within the hospital's Continuous Improvement Department, giving them direct access to financial planners, senior managers and clinicians. Moreover the team are seen by NHS staff as colleagues rather than outsiders, and this relationship has provided opportunities to pioneer novel modelling techniques within the NHS.

Many OR techniques have been used to approach problems such as forecasting, demand and capacity planning, simulation, optimisation, and scheduling. The team have also trained NHS staff in modelling skills. To date the modelling team has a portfolio of over 150 completed projects and their work has directly led to evidenced cost savings of at least £12.1M.

The examples listed in their application include informing the design of a new hospital, leading to ongoing savings of £900,000 a year over the original design; and supporting mental health outreach teams, leading to a reduction of 79% in avoidable hospital admissions.

They were also involved in designing and launching the NHS 111 Service and in advising the Welsh Government about the response to COVID-19, in particular initial demand and capacity planning and logistics.

It has been said for many years that the NHS lags behind other organisations in its use of OR. The Cardiff team have demonstrated how to change this. I am sure Lyn would agree that they are worthy winners of the award that bears his name.

2019

Sonya Crowe, University College London, Christina Pagel, University College London and Martin Utley, University College London

Paper: "Improving services for children with congenital heart disease"

CORU has had an international reputation for impactful research in health OR for over 35 years. The Unit's ground-breaking work in paediatric cardiac surgery in the 1990s led to the creation of Variable Life Adjusted Display or VLAD charts, now widely used for monitoring risk-adjusted health outcomes.

This award is made for a programme of research related to congenital heart disease. These three projects are typical of CORU's work. They all involved rigorous, innovative OR; close collaboration with clinicians; and the effective use of data visualisation and user-friendly software tools to support NHS decision-makers.

In the first project, the team developed an Excel-based tool called PRAiS for monitoring 30-day outcomes after heart surgery. This is now used by all UK hospitals and is mandated by the Care Quality Commission.

In the second, they used a combination of 'soft' and 'hard' OR methods to monitor longer-term outcomes, which informed NHS England's priorities in providing services for these children.

In the third, most recent project, they developed a tool to select and monitor complications after surgery that takes into account the views of both clinicians and parents.

This research has had significant impact on the lives of children with congenital heart disease, as well on their families and the growing population of adults with the condition, now that more children are surviving into adulthood. It is hard to imagine more worthy inaugural winners of this award, named in honour of Professor Lyn Thomas, whose own research was so hugely impactful.