



Statistics and Actuarial Science Seminar

Title: Statistical issues in the case of Lucy Letby

Speaker: Richard Gill (Leiden University)

Date: Thu 12th November 2026 at 3:00PM

Location: N0.20 - Science North

Abstract: Presently in the UK, the case of Lucy Letby is increasingly being seen as a quite incredible miscarriage of justice. In 2015–2016 the then young nurse, working in the neonatal intensive care unit of the Countess of Chester Hospital, fell under suspicion when there was a peak in unexpected and inexplicable deaths and collapses on the unit. They seemed to always happen when Letby was in the unit. After two trials, the last concluded in 2024, Ms Letby is definitively in jail with 15 whole life sentences for the murder and attempted murder of infants who had been in her care. Yet nobody ever saw Letby do anything wrong. All the evidence is circumstantial.

A statutory inquiry (the Thirlwall Inquiry) has investigated why Letby could not have been stopped earlier, its recommendations have recently been published.

In the talk I will discuss the statistical evidence: the spike in deaths, and the association of events with Letby's presence; but also statistical evidence concerning the only forensic evidence of murder, namely two so-called immunoassay tests which showed high insulin but low C-peptide, said by medical experts to have only one possible

explanation: someone had attempted to poison the babies with insulin.

Background reading: "Healthcare serial killer or coincidence? Statistical issues in investigation of suspected medical misconduct". Published by the Royal Statistical Society, <https://zenodo.org/records/18554033>

This report, of which the speaker was a co-author, was prepared in the run-up to the trial and distributed in advance to all parties.