statistical issues in investigation of suspected medical misconduct

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Abstract

Justice systems are sometimes called upon to evaluate cases in which healthcare professionals are suspected of killing their patients illegally. These cases are difficult to evaluate since investigators need to consider whether the deaths that prompted the investigation could plausibly have occurred for reasons other than homicide, in addition to considering whether, if homicide had been indeed the cause, the person under suspicion is responsible.

Suspicions about medical murder sometimes arise due to a surprising or unexpected series of events, such as an apparently unusual number of deaths among patients under the care of a particular healthcare worker. There is a statistical challenge of distinguishing event clusters that arise from criminal acts from those that arise coincidentally from other causes.

This talk will be based on the RSS report *Healthcare serial killer or coincidence? Statistical issues in investigation of suspected medical misconduct* and the article by Dotto, Gill & Mortera (2022).

About the speaker

Julia Mortera is professor of Statistics at the Università Roma Tre and honorary professor at the University of Bristol. She is editor of "Law, Probability and Risk" (Oxford University Press), a member of the American Statistical Association (ASA) Forensic Science Committee and a former member of the Royal Statistical Society "Statistics and the Law Section Committee". She also serves on the Technical Advisory Committee of the Centre for Statistics and Applications in Forensic Evidence (CSAFE), operated by Iowa State University, Carnegie Mellon University, University of California Irvine and University of Virginia.

References

- F. Dotto, R. D. Gill, J. Mortera, Statistical analyses in the case of an Italian nurse accused of murdering patients, *Law, Probability & Risk*, Vol. 20, No. 3, 2022, 169–193 https://doi.org/10.1093/lpr/mgac007
- Royal Statistical Society 'Statistics and the Law Section', Healthcare serial killer or coincidence? Statistical issues in investigation of suspected medical misconduct, September 2022, available at: https://rss.org.uk.