

Mathematics and Statistics
for
Effective Regulation
INI Newton Gateway
with
the Royal Statistical Society

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A view from my ivory tower

multicentre, randomised, double-blinded, placebo-controlled study to evaluate efficacy & safety of new drug . . .

Protocol, Blind Data Review Plan, Statistical Analysis Plan

. . . including SAS program code . . .

A fairy story Once upon a time, there was a global business with assets of £20 billion which could not afford to employ staff who could write equations correctly, or staff who could use software for data-bases, mathematics or statistics.

. . . The **Fairy Queen Excel** came to the rescue.

“UK Government loses covid-19 data due to Excel mistake”

“Research suggests more than 90% of spreadsheets have errors, and half of spreadsheet models used in large businesses have ‘material defects’”.

Cue: complacent laughter.

What is the purpose of regulation and regulators?

- FCA review of RBS Global Restructuring Group
- TPR response to withholding information
- Gosport War Memorial Hospital. > 450 deaths 1989-2001; Criminal inquiry 2019

Regulators' role: provide post-mortems after a criminal inquiry?

“MP’s have experienced the frustration and the challenges of trying to access support from regulators who put up barriers to prevent what is simply someone trying to do the right thing.”

APPG Whistleblowing Report July 2019, page 2.

Role of mathematics and statistics: Ensure good quality data, reliable analysis, prevent or detect injury or fraud?