only 18% of information sharing occurring through the electronic record keeping system. The most surprising finding was the skills and confidence gap. Despite 60% reporting good confidence to use systems, only 14% of occupational therapists felt confident to capture the impact of occupational therapy. Analysis of the survey findings identified that there was no significant difference in self-reported data knowledge confidence in different contexts of practice or at different points in an occupational therapists career. Those that rated themselves as having proficient data knowledge skills were employed in roles that were closer to data e.g. quality improvement and fellowships.

**Conclusion** Occupational therapists are high users of multiple electronic record keeping systems and the most frequently accessed professional development activity was system specific training. 60% of occupational therapists feel confident to use different systems in practice, however it is concerning that confidence drops to 14% when asked how this data is used to evidence the impact of occupational therapy. Occupational therapy information has three components, information that relates directly to the person e.g. ability or impairment and information that relates to a persons occupations and the environments in which these are carried out. As a profession, we need to increase our data literacy knowledge and skills in relation to knowing when it is appropriate to format our information in a structured, unstructured or semi structured way. Occupational therapists need to grow in confidence around how information needs to be structured to aid information sharing and if other formats are required for secondary purposes e.g. extracting and analysing information that relates to participation in occupations. The survey findings could be useful insights for pre and post registration providers of occupational therapy education, system developers, professional bodies and organisations who employ occupational therapists.

## 16 A FRIENDLY ACCESSIBLE DESCRIPTION OF THE 'L-TEST' – MEASURING (DIS)INFORMATION IN INCOMPLETE INCIDENT REPORTING

Keith Reid. *CNTW NHS Foundation Trust; Northumbria University*

10.1136/bmjhci-2022-FCIASC.16

**Objective** Incomplete incident reporting is concerning. England's Mental Health Units Use of Force Act 2018 (Seni's Law), responding to deaths and incomplete reporting, will mandate central restraint reporting per-person including ethnicity. 'L' is a proposed test for disinformation, i.e. 'false surprise' regarding true reports. Information, or 'surprise', is measurable as H = -log(p) 'bits', as defined by Shannon (1948).

The author explains his conjectured 'L-test', in a friendly accessible way. It is generalisable from incomplete restraint reports to other incomplete centralised safety reports. L is increased if complete reports seem falsely surprising consequent to noise from incomplete reports.

**Methods** Incident registers and minimum data sets are ubiquitous. Each hospital reports diverse incidents alongside measures of size or need. Notionally then data may include a) restraints; b) detentions … m) bed days n) injuries.

L postulates that each hospitals' report of {a, b, ... m, n}, implies signals of ratios (log a/log b), (log a/log m)… which each can be received from the set of reports and combined to estimate e.g. a typical ratio of safety events per-patient per-month. Omissions are noise.

Procedure:

1. Split the ordered list of complete report estimates into alternate halves E 'even' and O 'odd'.
2. Derive a probability p(E~O) that E and O are similar using Mann-Whitney U test, approaching p(E~O) =1.0 for large similar E and O. The test tolerates non-normally distributed estimates.
3. Calculate h(E~O) information as -log(p(E~O)), approaching zero as O and E seem unsurprisingly similar.
4. Construct a noisy odd group 'NO' made of O mixed with estimates from incomplete reporters.
5. Calculate h(E~NO) information, approaching high values as incomplete reporters make E seem falsely surprising.

L is the proportional increase in h(E~O) due to noise:

$$L = \frac{h(E\sim NO) - h(E\sim O)}{h(E\sim O)}$$

**Results** Estimate signals support funnel plotting, scatter plotting, and coefficients of determination (R^2) as a measure of correlation.

The author will show that omissions (allowing for size and Poisson distribution) can be obvious on visual inspection of funnel and scatter plots and aid categorisation.

Where the estimates follow a normal distribution among reasonably complete reporters, this can be used to plot a typical ratio and infer incidents, with confidence intervals, even in null reporters, from measures of size and need.

Funnel plots from safety reports may have interesting properties such as innate asymmetry; they may reflect institutional-social processes such as regulation and closure as much as academic processes such as purported 'publication' bias.

H varies with the effect of incomplete reports and has other desirable features such as being zero when there are no omissions.

**Conclusion** Omitted reports have a measurable effect upon the standing of complete reports.

The author responds to this observation quantitatively, showing the roots and reasoning behind their conjectured 'L-test', in a friendly accessible way, with reference to papers under submission, other public data, and toy data sets.

In summary, L can tell investigators which incomplete reports skew the overall picture most.

In a context of restricted resource, regulatory efforts could concentrate on the omissions which have the most distorting effect – the biggest L score.

## 17 ELECTRONIC RECORDING OF PATIENT OBSERVATIONS WITH SAFETY FUNCTIONALITY IN THE ELECTRONIC HEALTH RECORD (EHR) FOR THE CHILDREN'S HOSPITAL AT IN LEEDS

Michelle Sykes. *Leeds Teaching Hospitals Trust, Project Support Officer, Leeds Teaching Hospitals Trust*

10.1136/bmjhci-2022-FCIASC.17

**Objective** Electronic observations incorporating ePAWS (Paediatric Advanced Warning Score) was developed as a bespoke functionality within the EHR for implementation across the Children's Hospital. ePAWS supports the identification of patients at risk of deterioration using a graded



BMJ Health Care Inform: first published as 10.1136/bmjhci-2022-FCIASC.16 on 10 November 2022. Downloaded from http://informatics.bmj.com/ on April 19, 2024 by guest. Protected by copyright.