Hack Aotearoa

Article #3

WORDSHOP

JANUARY 18, 2020	2 PAGES	317 WORDS

Turn data into publications in 4 steps

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Monash University's Professor David Pilcher opened the Hack Aotearoa 2020 conference with advice on how to turn data projects into published papers.

Professor Pilcher is a Melbourne-based intensive care specialist who has given talks around the world on how to craft data into publishable scientific stories.

"There's often people that understand the clinical bits. There's often people that understand how to analyse data. Things fall down because it's not constructed in a way that makes sense and puts out a clear message in a manuscript that gets published," he says.

Professor Pilcher presents a simple four-step system to seamlessly bridge the gap between raw data and meaningful results.

Step 1

Identify your datasets, clarify exclusion and inclusion criteria, and define primary and secondary outcomes.

Step 2

Define the exposure and comparison group.

Step 3

Identify the analyses required and confounding factors. There are often four or five tables, in the following order:

- Table 1: Basic descriptives on the cohort in exposure group vs control
- Table 2: Total non-adjusted outcomes
- Table 3: Primary non-adjusted outcomes in exposure vs comparison
- Table 4: Adjusted primary outcomes in exposure vs comparison
- Table 5: Further sensitivity analyses or secondary outcomes reporting

Step 4

Build your discussion.

"There is a fairly standard format for discussions… every good discussion generally follows this format," says Professor Pilcher:

- Summarise the findings.
- Give us background information on the subject.
- Confirm or reject the hypothesis.
- What are the implications of the study?
- What are the strengths and limitations?
- How does this impact future research or care?
- What is the conclusion?

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"You can take this template on how to publish a scientific article and apply it to anything else," says Professor Pilcher.

"This has been put together through… years of trying to do this, but actually once you do it over and over again, you realise you can apply this same system."