

Getting from knowing to doing: The importance of data storage and preservation practices in research translation

Michelle Krahe¹, Malcolm Wolski², Julie Toohey³, Paul Scuffham^{4, 5} & Sheena Reilly^{1, 5}

1. Health Executive, Griffith University, Gold Coast, QLD, Australia; 2. eResearch Services, Griffith University, Nathan, QLD, Australia; 3. Library, Griffith University, Logan, QLD, Australia; 4. Centre for Applied Health Economics, Griffith University, Nathan, QLD, Australia; 5. Menzies Health Institute Queensland, Griffith University, Gold Coast, QLD, Australia;

BACKGROUND

- Researchers find themselves confronting larger sets of data than ever before, yet, in its most basic standalone format, data does not provide any meaning.
- Only when it is combined or is manipulated in some way, a value is derived in the form of information; which can then be converted into knowledge and put into action (Figure 1).
- This is commonly referred to as knowledge translation; a dynamic and iterative process that includes the synthesis, dissemination, exchange and sound application of knowledge to improve health, provide more effective health services and products, and strengthen the healthcare system [1-4].

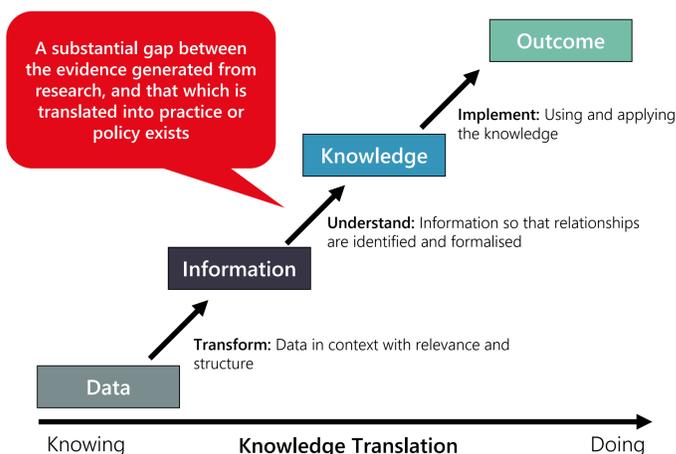


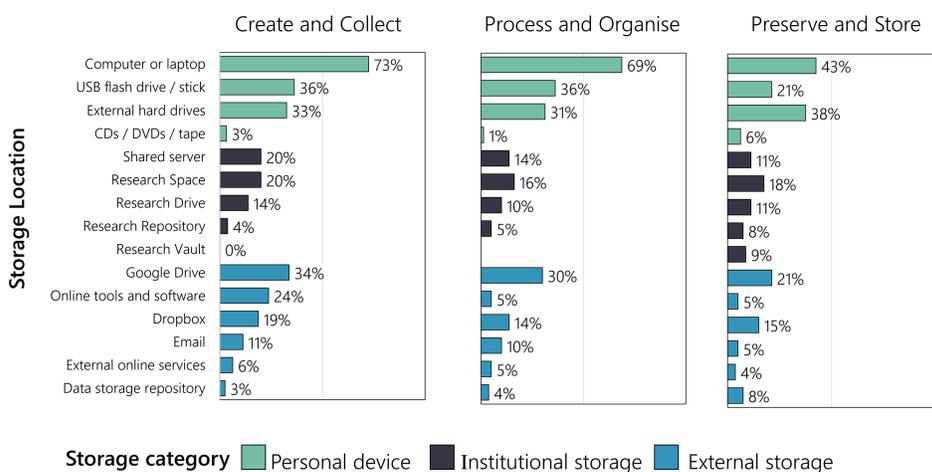
Figure 1. The relationship between knowledge translation and the transition of data, information, and knowledge. Adapted from [5].

Since the ability to translate knowledge is dependent upon access to and integrity of quality data and information, the importance and role of RDM warrants further consideration.

OBJECTIVE

- This study sought to provide an overview of the state of digital storage and preservation practices of health and biomedical researchers and to consider the implication these have on the application of knowledge.

Figure 3. The storage location of data by researchers at three RDM steps



METHOD

- This study is part of a larger evaluation of the RDM best-practice of health and biomedical researchers from one Australian academic institution, which have been published in detail [6,7].
- Survey questions were predominantly multiple choice and designed to ensure completion of each question before moving to the next, so that a full set of data was received from each survey unless terminated early. Skip logic was utilised to ensure that participants only answered questions relevant to preceding responses.

Study Setting and Participation

- Eighty-one members of the Menzies Health Institute Queensland, Griffith University participated in this study. Members who were actively involved in research that produced digital data were invited to complete an online survey about RDM practices.

Data Analysis

- Data were exported and analysed using SPSS statistics software package (IBM, version 24). Responses to multiple choice questions were analysed using descriptive statistics, represented as counts and percentages of the total.

RESULTS

- Where research data is stored and how it is secured during the research process is very important to the accessibility and integrity of the data.
- A selection of results are presented below.

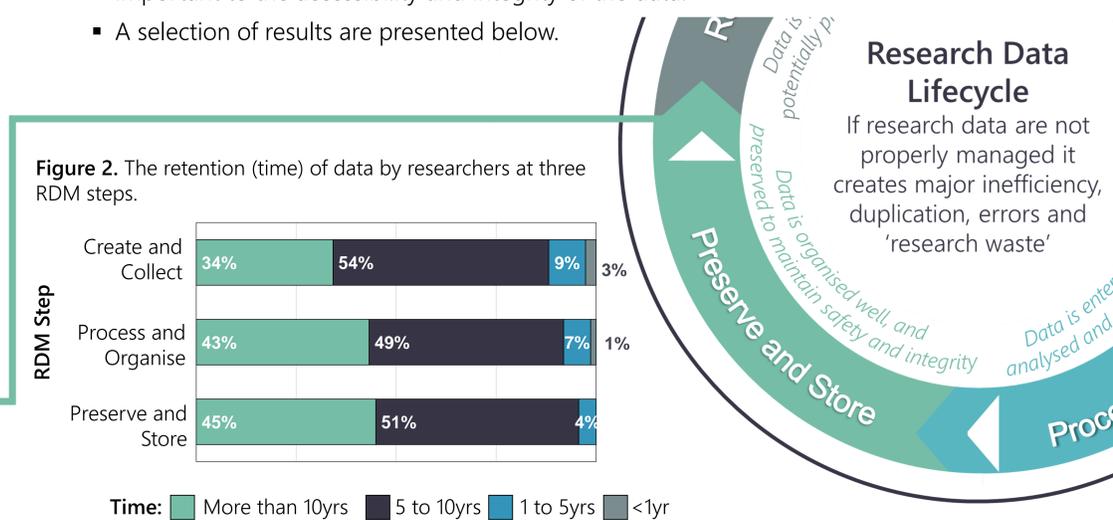
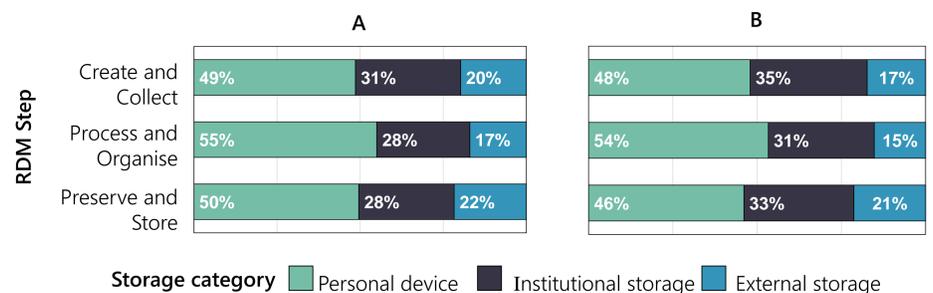


Figure 4 A-B: The storage location of data by researchers (categorised as: personal, institutional and external) at three RDM steps, where: (A) All types of research data; (B) Identifiable and/or re-identifiable research data.



CONCLUSION

- The findings highlight that researchers are primarily using storage devices and employing preservation techniques that are limiting the ability to translate knowledge into action.
- If data cannot be meaningfully and contextually interpreted, then its potential may not be realised and opportunities for translating knowledge and open science will be lost.
- This research will help to inform institutional RDM and information governance strategy, which ultimately have consequences on progress in scientific endeavor, open sciences and the translation of knowledge into practice and policy.