

Responsible Conduct of Research (RCR) – Data Management Practices

The collection of validated data is central to research, to provide scientific evidence to confirm hypotheses, identify new areas of investigation and/or develop new investigative techniques. Good data management practices are essential in the responsible conduct of research. For ongoing studies, collected research data should be verified from time to time. Data files stored on the computer should be adequately backed up. It is important that research data is properly stored and maintained for the purposes of audits, traceability and/or use in future research.

Case Study

Dr Plugs is a physician and a researcher at Pink Pen Hospital, a renowned research institution. He has received research funding for his research project to study the long term effects of diabetes.

He has been reviewing and collecting data from the medical records of diabetic patients.

He has no other study team members and he records the required data on slips of paper or on his “smart phone”. A year later, he decides to move his career to Pen Purple Hospital, and wants to bring all his research data from the study with him.

(1) Is Dr Plugs allowed to bring all the research data with him?

- Yes. As Dr Plugs is the only researcher for his study, he may bring all the data when he moves to Pen Purple Hospital.
- No, Dr Plugs cannot assume that he can take his data with him when he moves to Pen Purple Hospital. Instead, he should consult Pink Pen Hospital’s guidelines or policies on ownership of research data, before determining if he can take the data with him to another institution.

(2) Dr Plugs records the required data on slips of paper or stores them on his “smart phone”. Is this the proper way of storing data? How should data be stored?

- Yes. Recording data on slips of paper or storing them on his “smart phone” is the most convenient way of recording data as he is the only researcher in his study.
- No. Dr Plugs should maintain proper data records to document what was actually done and the results that were achieved. He should ensure that the research study information is recorded and stored in a way that allows its

accurate reporting, interpretation and verification. Therefore it is important to maintain an audit trail and ensure that all information collected is attributable. Electronic evidence should be validated to ensure that it was actually recorded on a particular date and not changed at some later date.

References

- Shamoo, A.E. and Resnik, D.B (2009). *Responsible Conduct of Research 2nd Edition*. Oxford University Press
- Nicholas H. Steneck, Revised Edition 2007. *ORI Introduction to the Responsible Conduct of Research Chapter 6: Data Management Practices*.
- NHG Proper Conduct of Research Standard Operating Procedures 501-B05: Documentation
- NHG Proper Conduct of Research Standard Operating Procedures 501-B08: Data Collection and Handling

To find out more about RCR, please visit the NHG research website at:

<https://www.research.nhg.com.sg/wps/wcm/connect/romp/hgromp/hsp/responsibleconductofresearch/corecomponentsofrcr>



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**Correct Answers for
Case Studies**

1. b, 2. b