Improving Data Stewardship in DNP Projects

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Introduction

Data stewardship is an ethical responsibility and legal obligation of individuals involved in DNP Projects, intended to protect all involved entities.[1]

- **Data stewardship** refers to methods to acquire, store, aggregate, deidentify, release, and use data
- As **data stewards**, faculty and students are expected to manage DNP Project data in a manner that meets this fiduciary duty

Faculty at the University of Maryland sought to change the approach to DNP Project data management
"Pencil-paper" methods were formerly utilized to collect project data, with storage on personal devices

The purpose of this project was to further **data stewardship** with the use of Research Electronic Data Capture (REDCap)
- REDCap is a HIPAA compliant web-based application created by Vanderbilt University
- REDCap enables secure tool design, data collection, storage, and processing for any project or research

Goal: Provide 100% of DNP students access to REDCap to meet ethical data responsibilities and to allow faculty and stakeholders to monitor data collection throughout the projects.

Methods

Access
- Faculty and students provided no-cost access by the university, via VPN
- 146 students and 25 faculty established REDCap accounts using guided instructions

Training
- Training provided by faculty during first project course
- Clinical and Translational Research Informatics Center
- Pseudo project set-up for practice

Support
- Weekly REDCap Help Sessions led by faculty
- Clinical and Translational Research Informatics Center
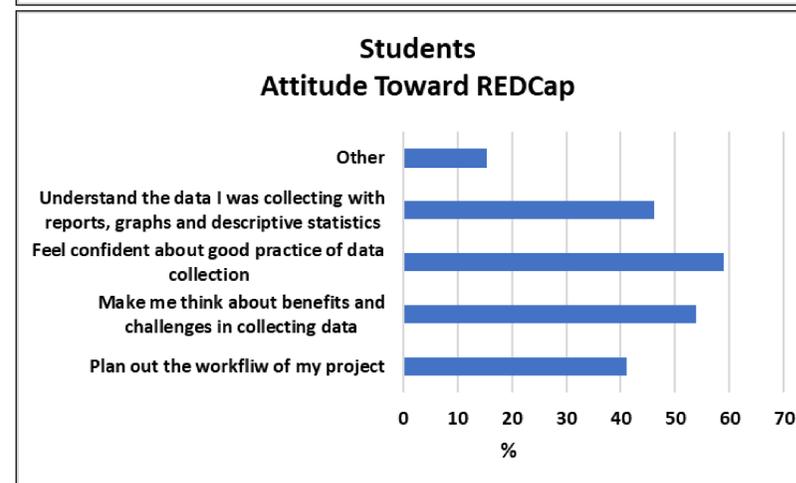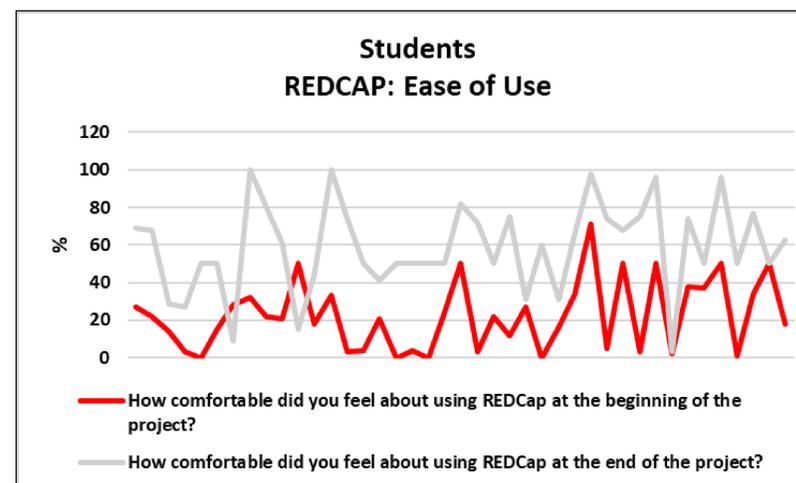- Referred to REDCap tutorials

Results

146 DNP projects were created in REDCap

Post-project survey : response rate 28% students; 15% faculty

Mean student ease of REDCAp use
- Pre-project 22.3   Post-project 58.7

Data entry directly into the REDCap was preferred method

Students REDCAP: Ease of Use

How comfortable did you feel about using REDCap at the beginning of the project?
How comfortable did you feel about using REDCap at the end of the project?

Students Attitude Toward REDCap

Other
Understand the data I was collecting with reports, graphs and descriptive statistics
Feel confident about good practice of data collection
Make me think about benefits and challenges in collecting data
Plan out the workfliw of my project

Other – Student Comments
- I learned the lesson to always check the data collecting tool with pseudo data thoroughly before implementation.

- Redcap was very helpful in the collection of my survey data, keeps track of the date and time and able to create a visual graph to help in understanding the data that I have collected.

- The videos were especially helpful

Conclusions

The use of REDCap was successful in:
- Collecting data, most used direct entry into (87.5%).
- Understanding data protection.
- Helping students think about the needed metrics as they were testing the collection tool with pseudo data.
- Creating reports from to answer specific questions.
- Automatically providing access to bar graphs and descriptive statistics on data.

Time and resource intensive to scale from concept to end-user literacy. Some issues identified included:
- Allowing students to use REDCap at another university site, instead of the home institution's REDCap site.
- Targeted help through the application was available as well as emailing to the REDCap help desk for questions.

Lessons Learned:
- Some sites did not allow the use of QR codes which would have required the staff to use their personal smartphone to access the survey.
- Need for more practice time when entering practice data during the building of the collection tool.
- Choices of data entry can be different - URL or QR code. Each choice requires different workflow.

Faculty concerns regarding the location and saving of protected data were addressed using REDCap.
- Faculty reported being able to observe the data being collected throughout the project.

Summary

Measurement practices must protect the entities from whom project data is obtained and processed.

This initiative showed that cost-free software, stakeholder buy-in, planning, and ongoing support are key drivers to a technology solution to improve **data stewardship**.

Attaining data management competencies in the academic setting promotes DNP students' **data stewardship** for integration into future nursing practice.

References

1. Rosenbaum S. (2010). Data governance and stewardship: designing data stewardship entities and advancing data access. *Health services research*, *45*(5 Pt 2), 1442–1455. https://doi.org/10.1111/j.1475-6773.2010.01140.x