Plan Overview

A Data Management Plan created using DMPonline

Title: Developing a Patient Safety Curriculum Tailored for Medical Practitioners in Taiwan

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Template: Postgraduate Research DMP (The University of Sheffield)

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Project abstract:

Patient safety is a critical concern in healthcare, requiring prioritization in both clinical practice and educational settings. Despite the implementation of various policies aimed at enhancing safety within healthcare institutions, globally, significant gaps remain between patient safety theory knowledge and implementation in clinical practice. This issue is particularly evident in Taiwan, where a comprehensive patient safety curriculum for healthcare professionals is notably lacking. To address this gap, this research proposes the development of a tailored patient safety curriculum specifically designed for graduate medical education and junior doctors, particularly postgraduate year doctors (PGY1, PGY2) and residents, in Taiwan.

Grounded in theory of planned behaviour (TPB), the curriculum will integrate patient safety principles and error prevention strategies, and included a continuing professional development course underpinned by the curriculum and leveraged by technology to enhance learning. The research will involve a literature review, document analysis, a Delphi survey of experts in patient safety, and 1:1 or focus groups with junior doctors that will inform the core curriculum. Insights from these methods will guide the refinement and development of a patient safety curriculum for doctors in Taiwan, which will then inform the development of a continuing professional development course. Throughout the progress of the project and its work packages an advisory group of public who have experience as patients in Taiwan of will be consulted at key milestones of the project for their views and this will be taken into account in refining the subsequent steps and work packages. The Continuing Professional Development course will be evaluated, and recommendations will be made for further refinement and implementation. The outcomes will advance the understanding and clinical practice of patient safety, ultimately contributing to improved healthcare outcomes in Taiwan.

ID: 170952

Start date: 21-10-2024

End date: 30-09-2028

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Developing a Patient Safety Curriculum Tailored for Medical Practitioners in Taiwan

Defining your data

- What digital data (and physical data if applicable) will you collect or create during the project?
- How will the data be collected or created, and over what time period?
- What formats will your digital data be in? (E.g. .docx, .txt, .jpeg)
- Approximately how much digital data (in GB, MB, etc) will be generated during the project?
- Are you using pre-existing datasets? Give details if possible, including conditions of use.

This research will involve three main components that involves data from human participants: 1. Delphi rounds with experts (Medical educators in Taiwan) 2. Interviews with Taiwanese postgraduate year doctors. 3. The continuing professional development course will be evaluated with potential users. Data will be collected from September 2025 to September 2027. Google Meet and Google Docs will automatically save data in Google Drive; however, all data will be transferred to the University's X Drive as soon as possible to ensure compliance with data protection policies and deleted from the google drive. Details of Personal Data Collection & Storage 1.1 Delphi rounds: Approximately 30 medical educators in Taiwan 1.2 Method: Conducted via Qualtrics 1.3 Data Storage: Data will be saved as: Delphi_001.docx, Delphi_001.pdf. 1.4 Estimated Data Size: ~500KB per file. 1.5 Storage Location: Transferred to University's X Drive. 2.1 Interviews with Students Participants: Approximately 10-18 postgraduate year (PGY) doctors from Taiwan. 2.2 Method: Conducted online via Google Meet. 2.3 Data Storage: Transcriptions will be recorded as: PGY_001.docx, PGY_001.pdf. 2.4 Estimated Data Size: ~500KB per file. 2.5 Storage Location: Transferred to University's X Drive. Data Security: All responses, including interview transcripts, will be securely stored on the University's X Drive. No local copies will be stored on personal devices, unless temporary backup is needed. Interview transcripts will be fully anonymized and will not contain any identifiable information linking contributors to specific comments or data. Personal identifiable data (names and emails) will be collected only for subsequent Delphi rounds and interview scheduling and will be deleted immediately after data collection rounds including interviews are completed. Access is strictly limited to the researcher and supervisory team. Since data is collected from Taiwan and stored in the UK, compliance with both Taiwanese and UK data protection laws is required. A Data Protection Impact Assessment (DPIA) will be conducted, as per University of Sheffield's guidelines. Data Formats: Voice recordings: .mp3 Video recordings: .mp4 Interview transcripts: .docx, .pdf, .xlsx

Looking after data during your research

- Where will you store digital data during the project to ensure it is secure and backed up regularly? (University research storage)
- How will you name and organise your data files? (An example filename can help to illustrate this)
- If you collect or create physical data, where will you store these securely?
- How will you make data easier to understand and use? (E.g. include file structure and methodology in a README file)
- Will you use extra security precautions for any of your digital or physical data? (E.g. for sensitive and/or personal data)

Secure Storage & Backup

Primary Storage: All digital data, including recordings, transcripts, and contact details, will be securely stored in the University of Sheffield’s X Drive, which is encrypted and backed up regularly.

Secondary Storage:

Data will be transferred to X Drive as soon as possible after collection. But if needed, de-identified transcripts may be kept in the University Google Drive for convenience after redaction.

File Naming & Organization

Each file will be named according to its corresponding task for clear organization. Examples:

PGY_001.xlsx (Qualitative needs analysis)
Feedback_001.xlsx (Program refinement surveys)

Pseudonymization: All files will be pseudonymized to ensure confidentiality.

No participant names or direct identifiers will be stored in transcripts. Instead, assigned pseudonyms will be used (e.g., PGY_ 001, Public_002).

ReadMe File for Consistency: A README file will be included to provide information.

Physical Data Storage: No physical data will be collected, as all data collection will take place online.

Security Precautions:
1) Contact details (names/emails) will only be collected if necessary for interview scheduling.
2) Once scheduling is complete, these details will be deleted immediately.
3) Data will be pseudonymized during transcription by replacing any identifiable information (e.g., names, institutions) with codes or general descriptors. The pseudonymization key will be stored securely in X Drive and not included in de-identified datasets.

All data will be stored in private, password-protected folders accessible only to the researcher and supervisory team.

Storing data after your research

- Which parts of your data will be stored on a long-term basis after the end of the project?
- Where will the data be stored after the project? (E.g. University of Sheffield repository ORDA, or a subject-specific repository)
- How long will the data be stored for? (E.g. standard TUoS retention period of minimum 10 years after the project)
- Who will place the data in a repository or other long-term storage? (E.g. you, or your supervisor)
- If you plan to use long-term data storage other than a repository, who will be responsible for the data?

1. Long-Term Data Storage

After the completion of the project, all survey responses, anonymized transcripts, and research findings will be compiled into a dataset titled "Patient_Safety_Education_Taiwan" for long-term access.

Only anonymized data will be stored. All direct and secondary identifiers will be removed before deposit. Contact details and any other identifiable information will be permanently deleted as soon as they are no longer needed for interview scheduling and data organization.

2. Storage:

The University of Sheffield’s ORDA repository will be used for long-term, secure storage. Since ORDA provides free, secure long-term storage, there are no financial costs associated with data retention.

3. Retention Period: The dataset will be stored for 5 years after project completion, in compliance with

the University of Sheffield’s research data policy. All personal and identifiable data will be deleted at the earliest possible point, ensuring adherence to data protection regulations.

3. Responsibility for Data Deposit

The Principal Investigator (Kun-Jen Yang) is responsible for depositing the anonymized dataset into ORDA.

Sharing data after your research

- How will you make data available outside of the research group after the project? (E.g. openly available through a repository, or on request through your department)
- Will you make all of your data available, or are there reasons you can’t do this? (E.g. personal data, commercial or legal restrictions, very large datasets)
- If there are reasons you can’t share all of your data, how might you make as much of it available as possible? (E.g. anonymisation, participant consent, sharing analysed data only)
- How will you make your data as widely accessible as possible? (E.g. include a data availability statement in publications, ensure published data has a DOI)
- What licence will you apply to your data to say how it can be reused and shared? (E.g. one of the Creative Commons licences)

1. Data Availability

All anonymized data will be made available through the University of Sheffield’s ORDA repository for access beyond the research group.

The dataset will be assigned a DOI upon deposit in ORDA, and this DOI will be included in the Data Availability Statement in relevant publications.

2. Scope of Data Sharing

The widest possible access to anonymized data will be provided, in accordance with ethical and legal guidelines.

For interview transcripts that originally contained personal data, any identifying details, such as names or indirect identifiers, will be removed before publication to ensure anonymity.

If a participant does not consent to data sharing, their questionnaire or interview will not be collected or included in the dataset.

3. Maximizing Accessibility

The dataset will be deposited in ORDA before the project concludes to ensure public access.

A Data Availability Statement will be included in any publications, directing readers to the dataset and its DOI.

Regarding the thesis:

The dissertation will be published in White Rose eTheses Online, where it will be assigned an OAI ID, rather than a DOI.

4. Data License & Reuse

The data will be shared under a Creative Commons CC BY 4.0 license, allowing others to reuse it with proper attribution.

This license ensures that data can be freely accessed, used, and cited while maintaining proper acknowledgment of the original research.

Putting your plan into practice

- Who is responsible for making sure your data management plan is followed? (E.g. you with the support of your supervisor)
- How often will your data management plan be reviewed and updated? (E.g. yearly and if the project changes)
- Are there any actions you need to take in order to put your data management plan into practice? (E.g. requesting University research storage via your supervisor.)

Responsibility for Implementation: I will be responsible for ensuring that the data management plan is followed throughout the project, with support from my supervisor. **Review and Updates:** The data management plan will be reviewed and updated annually or whenever significant changes occur within the project. **Implementation Actions:** To put the plan into practice, I will: 1. Request University research storage to securely store data. 2. Ensure all necessary permissions and tools for secure data handling are in place before data collection begins. 3. No additional resources are required, and there will be no financial costs associated with data management.