

SCIT

School of Computing and Information Technology

ISIT 430 / ISIT 930

Introduction to Health Informatics

Autumn Session 2023

Assignment 1

Due date: Soft copy to be submitted to Moodle at 17:30pm on March 29, 2023

Weight: 20%

Length: 3000 words excluding references

The graduate attributes of University of Wollongong include (1) informed; (2) independent learners; (3) problem solvers; (4) effective communicators; and (5) responsible.

This individual assignment is designed to introduce you to the latest advancement in the field of health informatics. It will provide you with hands-on exercises to develop skills in critical thinking, information retrieval, qualitative data analysis, research evidence synthesis and reporting. It requires you to independently judge the relevance of the qualitative text data to the topic of the report, structure and organize the content of the report to clearly and effectively communicate your ideals to the readers and be responsible to meet the deadline.

Topic: A Scoping Review of the Application of Machine Learning for Predictive Modelling using Electronic Health Records.

Please follow the following suggestions in preparing your reports.

1. Structure of Your Report as a scientific literature review article

To ensure a readable, coherent, and comprehensive appearance, please adhere to the following structural suggestions to clearly frame and organize your content:

Abstract (organized into the following headings. Total 200 words)

Background

Aim

Methods

Results

Conclusion

Keywords

Body of text

Introduction
Methods
Results
Discussion (Discuss the following aspects).

- Main findings
- Key points
- Limitations
- Future Directions of Research

Conclusion
References (up to 10 articles)

2. Headings and Heading Levels

The headings are **unnumbered**. Heading levels should be clearly identified and each level should be uniquely and consistently formatted. Do not use more than 3 heading levels in your article and do not skip a heading level. The only exceptions are run-in headings which can be used at any hierarchical level.

3. Databases to be searched

Ten interdisciplinary databases: PubMed, Web of Science, Scopus, Google Scholar

4. Sample search strategies for searching in PubMed:

Search	Actions	Details	Query	Results	Time
#4	...	>	Search: #1 and #2 and #3	44	00:58:04
#3	...	>	Search: (method) AND (outcomes)	1,614,497	00:57:13
#2	...	>	Search: ("electronic health record" or "electronic health records" or "electronic document*") AND ("secondary use" or "information retrieval")	397	00:56:04
#1	...	>	Search: electronic health record	59,268	00:54:39

Showing 1 to 4 of 4 entries

5. Citations and References

In-text citations should follow **American Sociological Association (ASA) 6th edition** in Zotero.

6. Further specifications for the information in methods and results section:

Methods section include the following sub-components:

The inclusion and Exclusion Criteria

The inclusion and exclusion criteria are defined based on types of studies, languages, participants, interventions, and outcome measurements, etc.

Types of languages

Articles were acceptable if they were published in English After December 2015.

Example to present the literature identification and selection process.

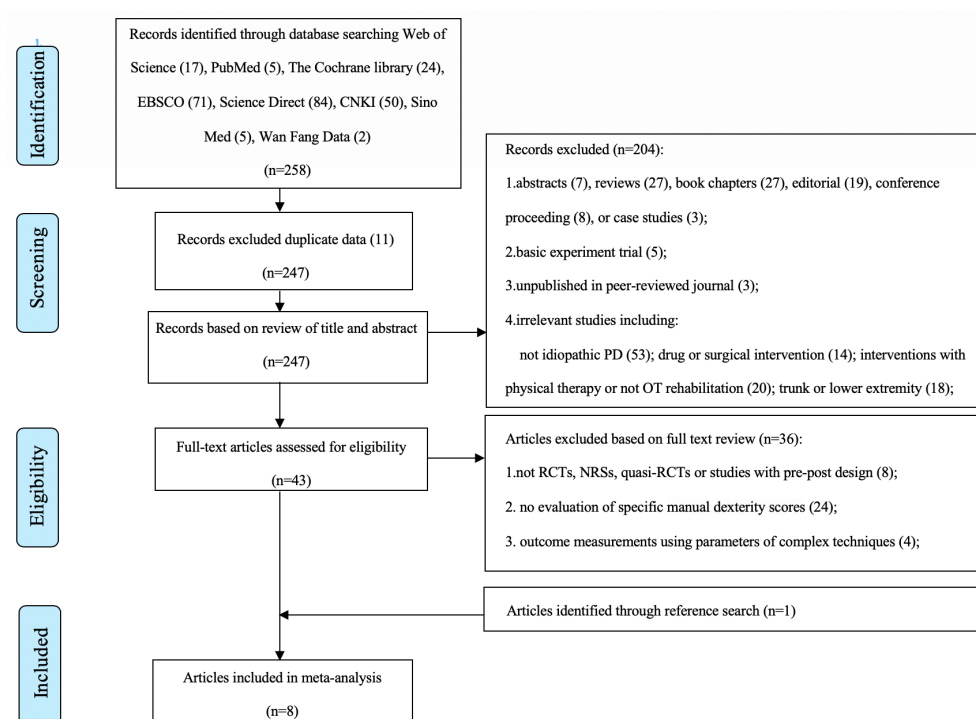


Figure 1. A sample flow diagram of study selection and identification

Results

Results section reports the results of your literature research. This section is structured by the PICO strategy (the population, intervention, comparison and outcomes).

Data analysis table: first author, publication year, methods, major findings, etc.

References

Arksey, H., & O'Malley, L. (2005). Scoping studies: Towards a methodological framework. *International Journal of Social Research Methodology: Theory & Practice*, 8, 19-32.

Gilbert, J., Ward, L., & Gwinner, K. (2017). Quality nursing care in dementia specific care units: A scoping review. *Dementia*, 18(6), 2140-2157.

Wang, N., Hailey, D., & Yu, P. (2011). Quality of nursing documentation and approaches to its evaluation: a mixed-method systematic review. *Journal of Advanced Nursing*, 67(9), 1858-1875.

Marking criteria

MARKING CRITERIA	MARKS
ABSTRACT	2
Clear research background and aim	0.5
Brief description of the methods used in the study	0.5
Clear findings: main findings and significant results or trends	0.5
Clear conclusion: brief statement about the key message drawn from the study	0.5
INTRODUCTION	3
Relevant background and rationale for the study	1
Research aims and objectives defined, research questions or hypothesis stated	1
Significance of the research explained	1
METHODS	2
Literature search strategy	1
Description of literature analysis	1
RESULTS	4
Rigor of critical analysis of relevant literature	1
Effective synthesis of relevant literature	1
Results described clearly	1
Effective use of tables and figures	1
DISCUSSION	3
Discussion relates to aims, objectives and main findings	1
Significance of results relative to the gaps	1
Discussion of limitations and future research directions	1
CONCLUSION	1
Conclusion summarizes major findings and contributions	1
GENERAL QUALITY	5
The results are evidence-based	1
Quality of relevant references and consistent use of Harvard style referencing guide	1
The reasoning is logically sound and of high clarity	1
Professional presentation (e.g. layout, consistent fonts, headings, spelling and grammar)	1
Sentences and paragraphs well-structured and linked	1
Total	20

Recommendations on Assignment Presentation

1. Provide a cover sheet with your name and student number clearly presented.
2. Write on one side of the paper only. Your work must be typed. Text should be one and a half line spaced. Number your pages.
3. Always keep a copy of your work.
4. Present an evidence-based argument / case. You should discuss a problem and not simply narrate events. It may be necessary to devote some space to narrative or description, but the major task will be the weighing and the assessing of evidence and arguing from that evidence to a

solution of the problem. Have a clear idea of what the problem is and what it involves. Remember that there will seldom be a single clear-cut answer to it.

5. Read and take notes in your own words, taking care to acknowledge the source exactly (full citation including page numbers or URL).

6. Sources vary in quality and not all works on a topic will be relevant or suited to your purpose.

Wherever possible, work out your own solutions and interpretations. Do not accept without question the views and interpretations of any author. Part of your task is to assess and criticize the work of other writers. Do not rely on a single source of information or ideas; you should try to find a range of relevant writings. Where there is some disagreement among the experts, discuss this fact.

7 Plan your report carefully; spend time getting a logical organization. When you are taking notes from a book or an article, record the page numbers so that you can refer to them exactly when you are writing your paper. Write it in clear, simple and grammatical prose. Do not submit your first attempt; give yourself time to revise and improve your paper.

8. As far as possible, you should use your own words. It is a good idea when you have done your preliminary reading for the paper, to write your first draft without having your source material in front of you. Then you can decide what material to draw on to support your arguments and how to use it. Use quotations only to illustrate or back up a point in your argument – for example, if your purpose is to discuss the style or argument that author exemplifies. Do not use a quotation simply because you think the author is better at phrasing a point than you are. Try to avoid long quotes; they are seldom necessary.

9. Keep direct quotes to a minimum and only to make a point that cannot be made in your own words. It is preferable not to conclude with a quote. It's your argument, why use someone else's word?

It is important to understand what is, and is not, acceptable practice when using other people's material.

You should **avoid paraphrasing passages closely**. If you copy phrases or sentences word for word, you must make it clear that they are quotes, by enclosing the words in quotation marks, or, if you are using a passage of several lines, by separating it out as a block quote, indented for clarity. If you express an idea or argument that is neither your own nor an item of common knowledge, you must also attribute this. In both cases, acknowledge the source in the approved manner. The boundary between your words and ideas, and those borrowed from another person, must always be clear to the reader, otherwise you will be plagiarizing.

Plagiarism can lead to a grade of zero for the assignment.

10. *Optional*: On the first page of the text should appear an abstract of not more than 200 words in continuous prose (not note form) which outlines the arguments of the essay. An abstract is not an introduction to the report.

11. Check spelling and use the computerized "spell check" if it is available on the word processing package you are using. Also use a thesaurus to help in choice of words and to avoid too much repetition. An integral part of your essay structure is the construction of proper sentences and

writing good paragraphs. Good, logical argument construction is essential in making clear your point of view. You must provide evidence if you are to be convincing.

12. Use appropriate punctuation. Many common essay problems involve punctuation. Refer to this section of this guide, for the correct usage of punctuation.

13. If you use non-textual material (eg. tables, figures, etc.), you **MUST** refer to these in the assignment. The reader needs to understand why this material was built into the piece of work.

14. References should be made in the form of either numbered footnotes on each page or numbered notes at the end of the text. They should be numbered consecutively through the entire essay; numbering of footnotes should not start again from 1 on each page. References should appear in an accepted style (refer to earlier sections of this booklet).

15. Provide a reference.