



Current issues and status of mis- disinformation in the health library context: A scoping review

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Austin
HEALTH

Acknowledgement of Country

We are presenting today from the traditional lands of the Wurundjeri people of the Kulin nation.

We pay our respects to Elders past and present and extend that respect to Aboriginal and Torres Strait Islander peoples here today.



Introduction

Healthcare providers have an important role in:

- Presenting patients and the public with relevant knowledge
- Quashing misinformation (Epstein, 2022)

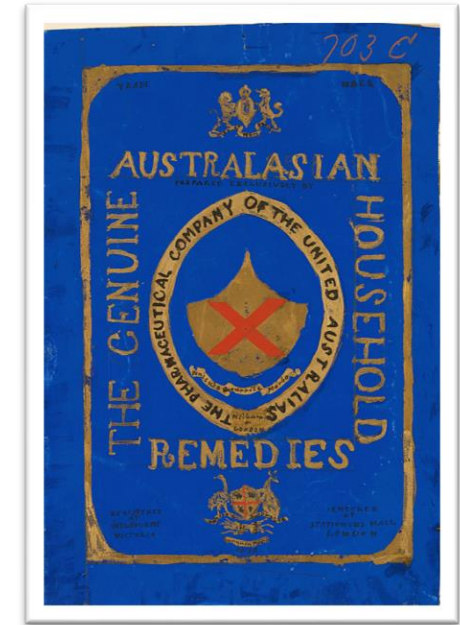
Health librarians have a responsibility to dispel this misinformation via providing:

- Accurate resources
- Health information literacy

A wealth of research on mis/disinformation in public and academic libraries (Auberry, 2018; Revez & Corujo, 2021; Young et al., 2021)

However, less on

- Mis/disinformation in health library context
- What health libraries are doing, or can do, to address mis/disinformation



Research question and objectives

Question

- What are the current issues and status of mis/disinformation in the health library context?

Objectives

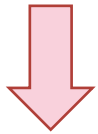
- Librarians' professional experiences with misinformation
- Service provision in this space (e.g., programs specifically tailored to mis/disinformation)
- Engaging and effective approaches to teach their patrons about misinformation



Methods

- Population (P) - health librarians/libraries
- Concept (C) - mis/disinformation
- Context (C) - infodemic, publishing, social media/internet, news feeds, socio-political context/setting

Eligibility criteria

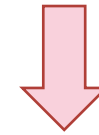


- ❖ **Inclusion:**
 - Health libraries [including academic health libraries]
 - Roles, services, resources relating to mis/disinformation
 - All types of publications
 - Any date
- ❖ **Exclusion:**
 - Non health related libraries

Search strategy (next slide)



Study selection process



- ❖ **Covidence software**
- ❖ **Screening:**
 - Level 1: titles and abstracts (both reviewers independently)
 - Level 2: full text (half for each reviewer)
- ❖ **Extraction:**
 - Extraction 2 tool
 - Half for each reviewer
 - Export to csv



Search strategy

Collaborative approach used to develop the search strategy:

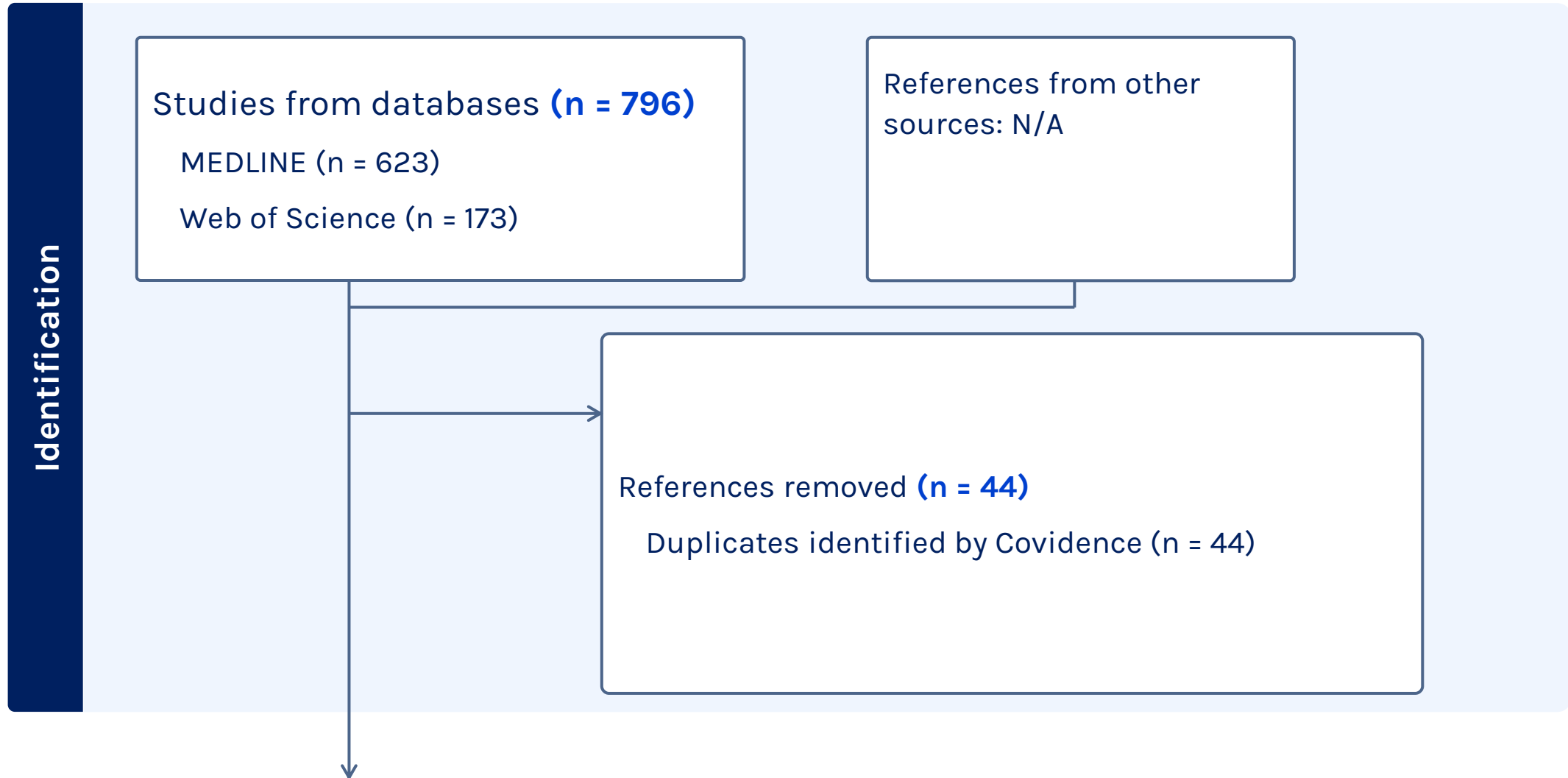
- Ovid Medline
- Web of Science Core Collection

Ovid MEDLINE(R) ALL <1946 to June 05, 2023>
Search done on 27 March 2023

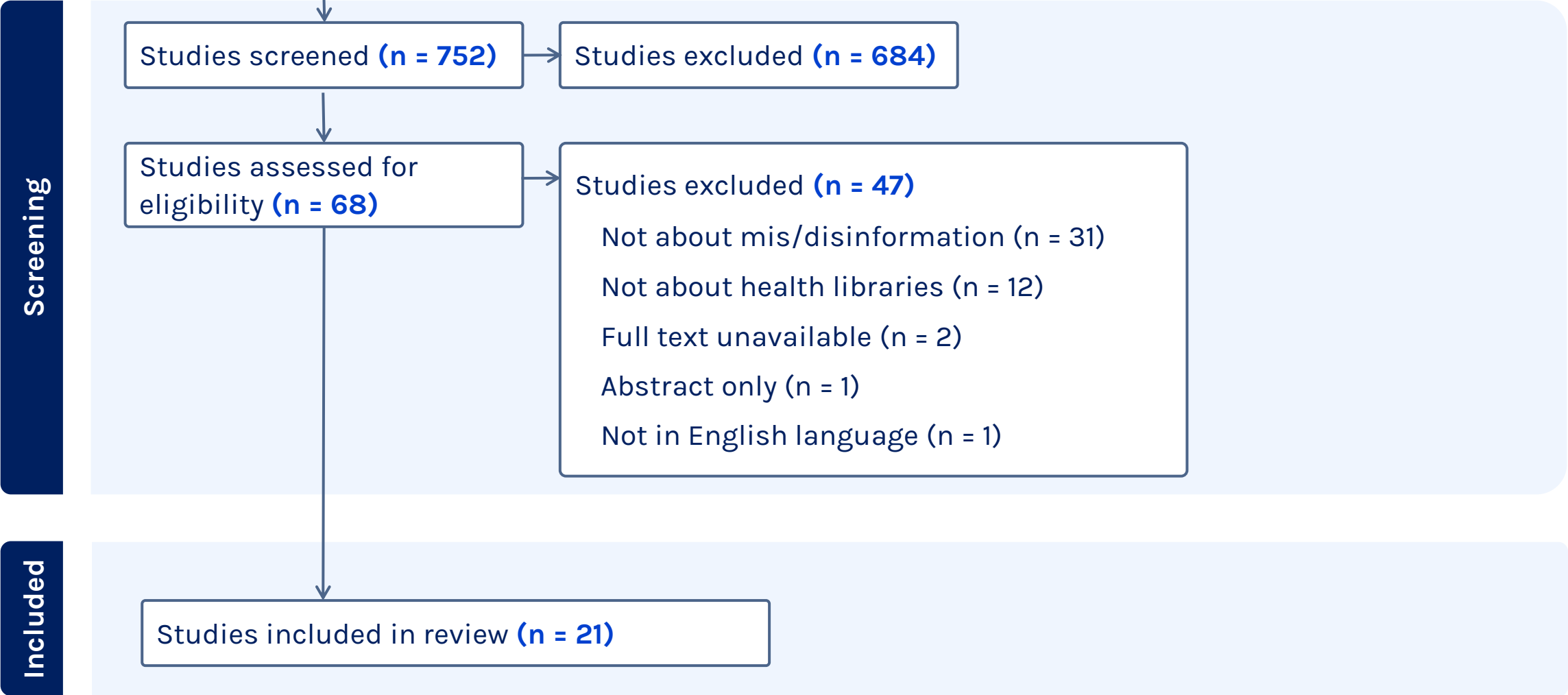
- 1 exp Libraries/
- 2 (health or medical or hospital or clinical or special).ti,ab.
- 3 (librar* or "information profession*" or "information scien*" or informationist*).ti,ab.
- 4 2 and 3
- 5 1 or 4
- 6 exp information dissemination/ or exp propaganda/
- 7 misinform*.mp.
- 8 disinform*.mp.
- 9 conspiracy theor*.mp.
- 10 ((fake or alternative) adj2 (news or fact or facts or information)).mp.
- 11 (information adj2 disseminat*).ti,ab.
- 12 propaganda.mp.
- 13 or/6-12
- 14 5 and 13



Prisma flow chart

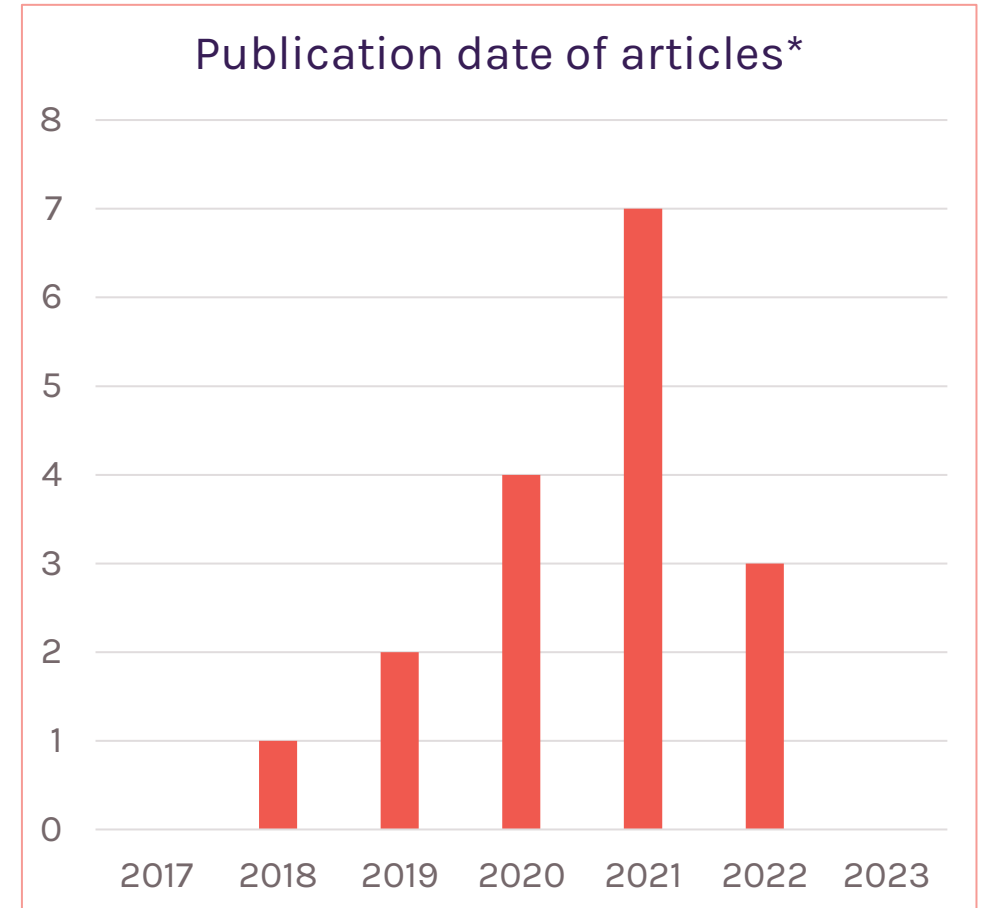


Prisma flow chart



Results

Study type	No.
Text and opinion	3
Review – general	3
Report	3
Exploratory study	2
Cross sectional study	2
Systematic review	1
Other	7
<ul style="list-style-type: none">• Document/content analysis (4)• case study with content analysis (2)• observations & semi-structured interview (1)	
Total	21



*plus 1 each year 2008-2011



Data extraction

We extracted information relating to

- Definitions of mis/disinformation
- Types of mis/disinformation
- Actions taken to combat mis/disinformation
- Suggestions and recommendations to combat misinformation



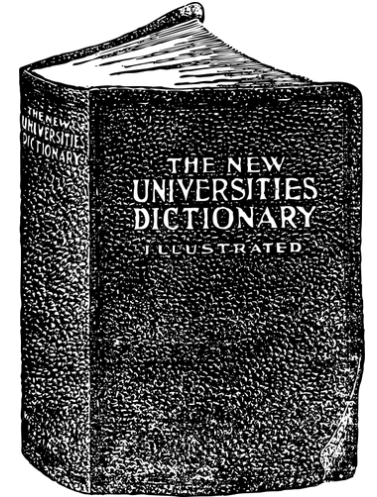
Definitions of mis/disinformation

Misinformation

“inaccurate or misleading information shared by people who do not recognize it as such” *Bianchini (2019)*

False evidence disseminated through ignorance and confusion

“unreliable information that is disseminated inadvertently”
Ashrafi-Rizi & Kazempour (2020) cited in Morgan-Daniel, et al, (2020).



Disinformation

“inaccurate information that is intentionally produced and disseminated for political, economic, or cultural reasons” Ashrafi-Rizi & Kazempour (2020) cited in Morgan-Daniel, et al, (2020).

“false information that is intended to mislead” Herrero-Diz (2021)

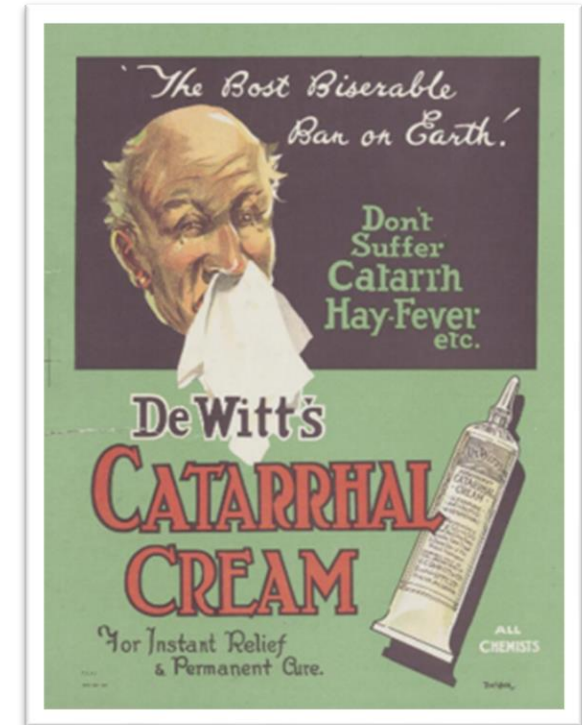
“Intentionally misleading information used to obfuscate legitimate resources” ref



Types of mis/disinformation

Definitions

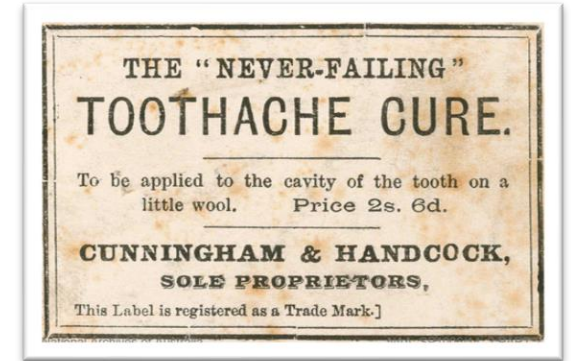
- Falsehoods
- Deceptive information
- Unfounded information
- False information online
- Fake news
- Deep fake and cheap fake videos
- Misinformation in social media
- Any type of content that is disinformative, pseudohistorical, and pseudoscientific



Types of mis/disinformation

COVID-19

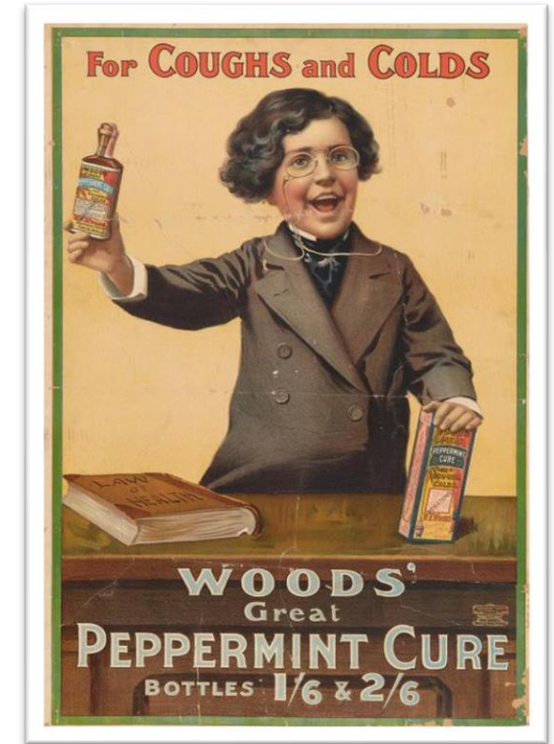
- Infodemic
- Harmful, false claims related to the virus
- False claims about transmission, treatment & prevention
- Pseudoscientific health therapies
- Conspiracy theories
- Algorithms reinforcing messages
- State and local politicians... asserted that the virus is a hoax or overhyped
- Secrecy around statistics (Brazil government)
- Disinformation campaigns from Russia
- Inadequate peer review



Types of mis/disinformation

Broader perspectives

- Medical myths, urban myths
- Overproduction of digital content
- Lack of access to quality health information
- Complementary and alternative medicine – not supported by scientific evidence (MeSH definition)
- Difference among experts and layperson's assessments (CAM)
- State-mandated misinformation re abortion safety and risks
- AI, and bots that mimic academic writing
- Predatory publishing
- Use of unreliable sources in academic papers
- Preprints



Actions taken

Identifying misinformation

Identifying predatory journals

Creating blacklists & whitelists, e.g. Beall's list

Contributions to DOAJ

Librarians conducting research

Content analysis of websites related to CAM for cancer

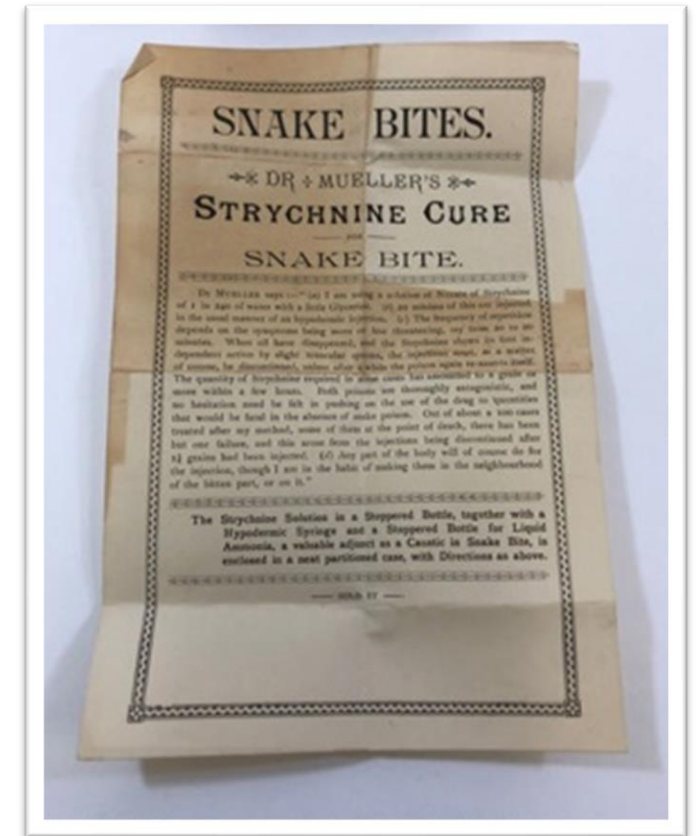
Systematic review to dispel medical myth

Training information literacy

Training staff/faculty on identifying predatory journals

Train students to use EBM resources to answer clinical questions

Teaching information literacy to high school students and general public



Actions taken

Collaboration with other entities

Italian librarians collaborated with the National Health Service Health Informatics Promotion Project to spread awareness of COVID-19

Reference services

32% of academic librarians provided information on COVID-19

Creating search strategies

Search strings on COVID-19

Banks of expert searches



Suggestions and recommendations

Curation

Curate and vet collections

Collate up-to-date, trustworthy, authoritative resources

Locate best COVID-19 evidence to provide during reference queries

Quality assessment of digital libraries to ensure retraction notices are prominent

Training

During reference services – help patrons build evaluation skills

Training and educating people to find quality information and identify fake news

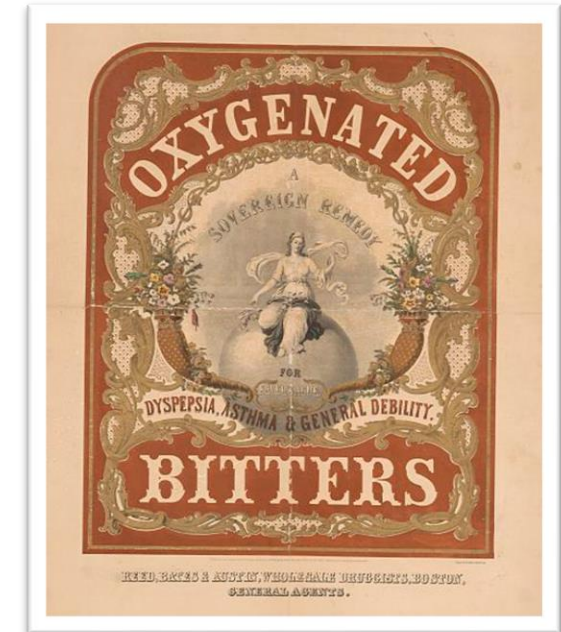
Model good information literacy behaviour



Suggestions and recommendations

Collaborations with

- Journalists/media
- Health/medical professionals
- Public health organisations
- Public libraries
- Clinics & community-based organisations
- Faculty & researchers



Purpose: Health information literacy, providing resources & training

Providing information externally

Resources, patient information, handouts for the public, accurate info on social media

Seminars and Q&A sessions (e.g., in public libraries)

Patients and general public



Suggestions and recommendations

Advocacy

Legislative change – abortion, transparency around AI

Advocates in the community

Self-education

Go beyond comfort zone to acquire new skills

Be aware of trends in AI, factors in machine learning assessment of misinformation

Observe how false information is arranged, cues to potential misinformation

Obligation

Obligation to help find/monitor predatory journals

Professional, moral or ethical obligation to provide reliable information

“should” and “must” language



Library practices	Representation	Examples from scoping review	Other sectors
Source evaluation	represents actions focused on the information source.	<ul style="list-style-type: none"> Identifying predatory journals Creating blacklists & whitelists, e.g. Beall’s list Contributions to DOAJ 	Checklist approach(Reves& Corujo, 2020) <ul style="list-style-type: none"> CRAAP (Currency, Relevance, Authority, Accuracy, and Purpose RADAR (Rationale, Authority, Date, Accuracy, Relevance)
Information literacy	represents actions/ training that provided to patrons/staff and focused on identifying, finding, evaluating, applying, and acknowledging sources of information)	<ul style="list-style-type: none"> Training staff/faculty on identifying predatory journals Train students to use EBM resources to answer clinical questions Teaching information literacy to high school students and general public 	library practices against fake news (Reves & Corujo, 2020; Agosto, 2018; Dalkir & Katz, 2020)
Research	represents actions focused on involving in research	<ul style="list-style-type: none"> Content analysis of websites related to CAM for cancer Systematic review to dispel medical myth Creating search strategies 	Research support in academic library (Bangani, 2021).
Collaboration	represents actions focused on collaboration with different stakeholders	<ul style="list-style-type: none"> Italian librarians collaborated with the National Health Service Health Informatics Promotion Project to spread awareness of COVID-19 	Coalitions/Collaborations (Critica - Scales & Gorman, 2023)

Conclusion

- A good range of ideas and activities relating to library roles
- Not enough evidence of the success of suggested strategies and methods
- Not assessing the impact of the libraries' efforts
- Not considering health library role within parent organisation goals



Included publications (n=21)

Akers, K. G. (2018). Report from the Medical Library Association's InSight Initiative Summit I: Engaging Users in a Disruptive Era	Kanyengo, C. W. (2010). Information and communication: A library's local response to HIV/AIDS in Zambia
Allen, R. M. (2021). When peril responds to plague: predatory journal engagement with COVID-19	Kim, H., et al. (2011). Online health information search and evaluation: Observations and semi-structured interviews with college students and maternal health experts
Bianchini, C., et al. (2019). Avoiding misleading information: A study of complementary medicine online information for cancer patients	Kosciejew, M. (2021). The coronavirus pandemic, libraries and information: A thematic analysis of initial international responses to COVID-19
Barbaro, A., et al. (2022). Embedded librarians: An innovative experience in health and wellness communication	Miranda, G. F., et al. (2009). Improving health communication: Supporting the practice of health communication
Barr-Walker, J., et al. (2021). Countering misinformation about abortion: The role of health sciences librarians	Morgan-Daniel, J., et al. (2020). COVID-19 patient education and consumer health information resources and services
Brown, C. (2008). The information trail of the 'Freshman 15'--a systematic review of a health myth within the research and popular literature	Naeem, S. B., et al. (2020). The Covid-19 'infodemic': a new front for information professionals
Brown Epstein, H.-A. (2022). Dispelling Covid-19 misinformation	Naeem, S. B., et al. (2021). An exploration of how fake news is taking over social media and putting public health at risk
Chan, H., et al. (2022). Equipping students and beyond with sound COVID-19 knowledge to survive and thrive despite the pandemic	Pomputius, A. (2019). Putting misinformation under a microscope: Exploring technologies to address predatory false information online
Charbonneau, D. H., et al. (2022). The impact of COVID-19 on reference services: A national survey of academic health sciences librarians	Schneider, J., et al. (2020). Continued post-retraction citation of a fraudulent clinical trial report, 11 years after it was retracted for falsifying data
Herrero-Diz, P., et al. (2021). Libraries fight disinformation: An analysis of online practices to help users' generations in spotting fake news	Yuvaraj, M. (2020). Global responses of health science librarians to the COVID-19 (Corona virus) pandemic: a desktop analysis
Jaeger, P. T., et al. (2021). Arsenals of lifelong information literacy: Educating users to navigate political and current events information in world of ever-evolving misinformation	



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- Auberry, K. (2018). Increasing students' ability to identify fake news through information literacy education and content management systems. The Reference Librarian, 59(4), 179-187.
- Bangani, S. (2021). The fake news wave: Academic libraries' battle against misinformation during COVID-19. The Journal of Academic Librarianship, 47(5), 102390.
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- Dalkir, K., & Katz, R. (Eds.). (2020). Navigating fake news, alternative facts, and misinformation in a post-truth world. IGI Global.
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- Morgan-Daniel, J., Ansell, M., & Adkins, L. E. (2020). COVID-19 patient education and consumer health information resources and services. *Journal of Consumer Health on the Internet*, 24(3), 302-313.
- Revez, J., & Corujo, L. (2021). Librarians against fake news: A systematic literature review of library practices (Jan. 2018–Sept. 2020). *The journal of academic librarianship*, 47(2), 102304.
- Scales, D. & Gorman,S.(2023). Countering medical misinformation: A framework to support successful intervention. Report https://abimfoundation.org/wp-content/uploads/2023/05/050423_Critica_CounteringMedicalMisinformation-compressed.pdf
- Young, J. C., Boyd, B., & et al. (2021). The role of libraries in misinformation programming: A research agenda. *Journal of Librarianship and Information Science*, 53(4), 539-550.

Pictures

Downloaded from Trove <https://trove.nla.gov.au/search/advanced/category/images?keyword=remedy>



Questions for the audience

- **What are your prior experiences with misinformation in your library context?**
 - Personal or professional experiences with misinformation
 - Library programs on misinformation
 - Are your patrons interested?

- **What are your ideas on engaging and effective approaches to teaching misinformation?**

Share your thoughts and experience via email: library@austin.org.au



Questions?