Systematic Review Tools

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Session Outline

- Systematic Review Overview
- Tools for each steps of the systematic review process

Objectives

By the end of this session, you will be able to:

- Identify three systematic review tools
- Access two (freely available or from UNMC) tools to use with your systematic review

What is a Systematic Review?

"attempts to collate all empirical evidence that fits pre-specified eligibility criteria in order to answer a specific research question"

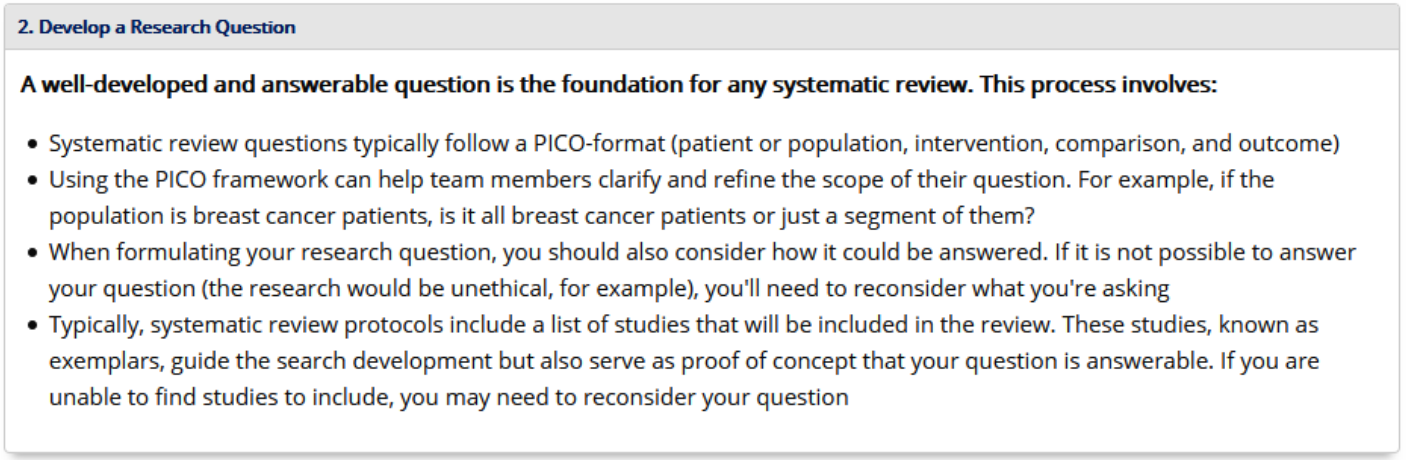
Higgins JPT, Green S (editors). *Cochrane Handbook for Systematic Reviews of Interventions* Version 5.1.0 [updated March 2011]. The Cochrane Collaboration, 2011. Available from handbook.cochrane.org

Characteristics of Systematic Review

- Clearly stated set of objectives
- Explicit, reproducible methodology
- Attempts to identify all studies that meets eligibility criteria
- Assessment on validity of findings of included studies
- Systematic presentation and synthesis of characteristics of findings of included studies

Higgins JPT, Green S (editors). *Cochrane Handbook for Systematic Reviews of Interventions* Version 5.1.0 [updated March 2011]. The Cochrane Collaboration, 2011. Available from handbook.cochrane.org

Question Frameworks



2. Develop a Research Question

A well-developed and answerable question is the foundation for any systematic review. This process involves:

- Systematic review questions typically follow a PICO-format (patient or population, intervention, comparison, and outcome)
- Using the PICO framework can help team members clarify and refine the scope of their question. For example, if the population is breast cancer patients, is it all breast cancer patients or just a segment of them?
- When formulating your research question, you should also consider how it could be answered. If it is not possible to answer your question (the research would be unethical, for example), you'll need to reconsider what you're asking
- Typically, systematic review protocols include a list of studies that will be included in the review. These studies, known as exemplars, guide the search development but also serve as proof of concept that your question is answerable. If you are unable to find studies to include, you may need to reconsider your question

- PICO (Patient, Intervention, Comparison, Outcome)
- SPIDER (Sample, Phenomenon of Interest, Design, Evaluation, Research type)
- SPICE (Setting, Perspective, Intervention, Comparison, Evaluation)
- ECLIPSE (Expectation, Client group, Location, Impact, Professionals, Service)

https://guides.mclibrary.duke.edu/sysreview/question

PICO(TT)(S) Framework

- Patient, population, problem
- Intervention
- Comparison
- Outcome
- (Timeframe)
- (Type of study)
- (Setting)

In school-aged children, what is the effect of at-school dental clinic visits on a reduction of dental caries compared with no at-school dental clinic visits?

https://unmc.libguides.com/ebm/ask

Previously known as "What Review is Right for You?"

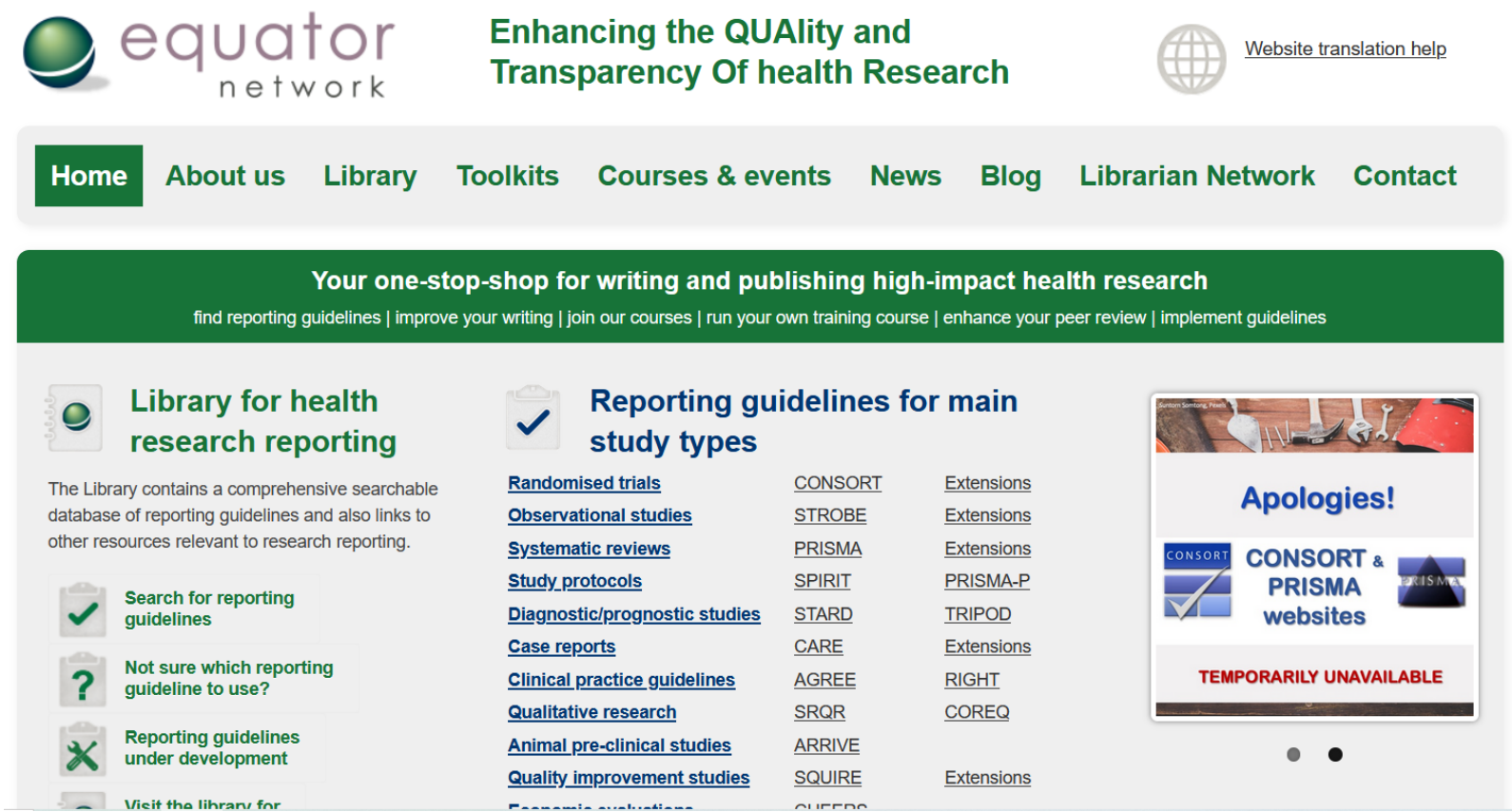
This tool is designed to provide guidance and supporting material to reviewers on methods for the conduct and reporting of knowledge synthesis.

Select the type of review:

Quantitative | Qualitative

https://whatreviewisrightforyou.knowledgetranslation.net/

Equator Network



https://www.equator-network.org/

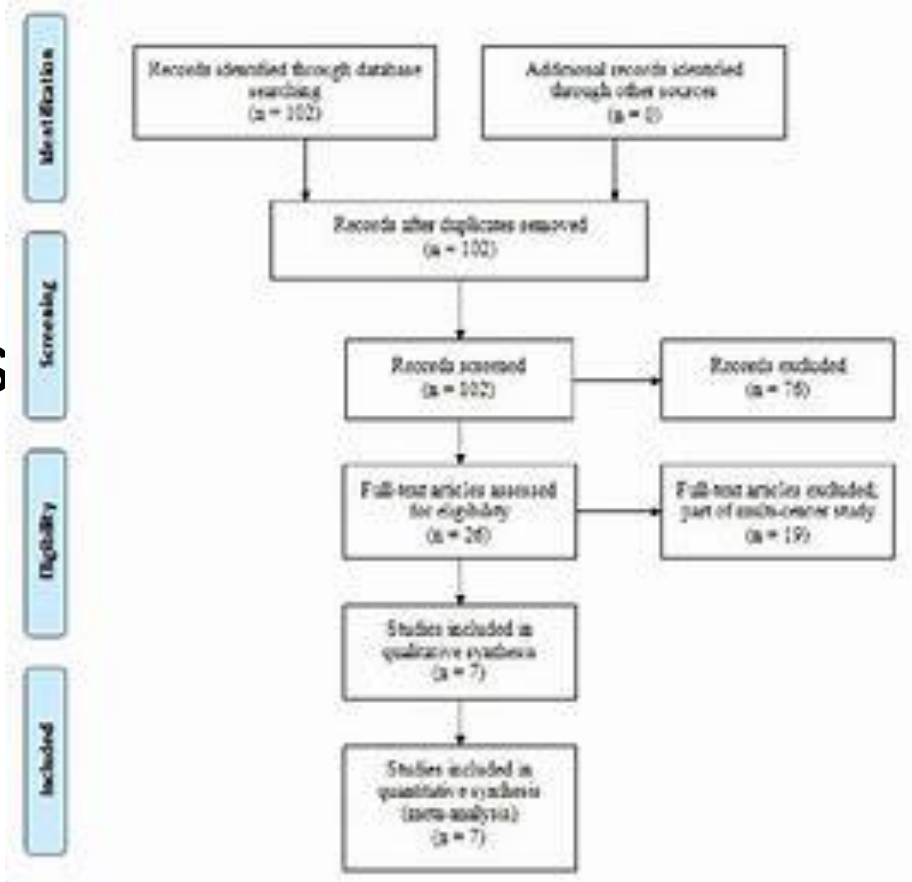
Protocols

Why create a Protocol?

- 1st thing your team completes
  - "Blueprint" of your systematic review
  - Describes rationale, hypothesis, and planned methods for review
  - Prepared before beginning systematic review
  - Protocols made publicly and registered

PRISMA

- Rationale and objectives
- Eligibility criteria
- Information sources
- Draft on a search strategy
- Data management
- Outcomes and prioritization
- Data synthesis



https://www.equator-network.org/reporting-guidelines/prisma/

Systematic Review Registries

- Prospero
  - International prospective register of systematic reviews
  - Review protocol recorded and maintained
  - Reviews available on open access database
  - Transparency in review process
- Open Science Framework (use the pre-registration template)

PROSPERO

Registering a review is easy. Please read the guidance notes for registering a **systematic review of human studies** or a **systematic review of animal studies relevant to human health**, then just follow the five step process below.

Step 1 Check the **inclusion criteria** to make sure that your review is eligible for inclusion in PROSPERO

Step 2 Ensure that your review protocol is in its (near) final form and that no major changes are anticipated at this stage - e.g. if your protocol will be peer reviewed it will usually be sensible to wait until this is complete before registering.

Step 3 Search PROSPERO to ensure that your review has not already been registered by another member of your team

Step 4 Search PROSPERO to ensure that you are not unnecessarily duplicating a review that is being done by another team or has been registered previously

Step 5 Start registering your review

Register a systematic review of health research studies **(study participants are people)**

Register a systematic review of animal research studies **(study subjects are animals)** that is of direct relevance to human health

NIHR | National Institute for Health Research

PROSPERO
International prospective register of systematic reviews

United States health inequities in disaster health planning and response

Sara Donovan, Abigail Lowe, David Brett-Major, Claire Figi, Danielle Westmark, Shelly Schwedhelm, James Lawler, Nellie Darling

Citation

Sara Donovan, Abigail Lowe, David Brett-Major, Claire Figi, Danielle Westmark, Shelly Schwedhelm, James Lawler, Nellie Darling. United States health inequities in disaster health planning and response. PROSPERO 2022 CRD42022363610 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42022363610

Review question

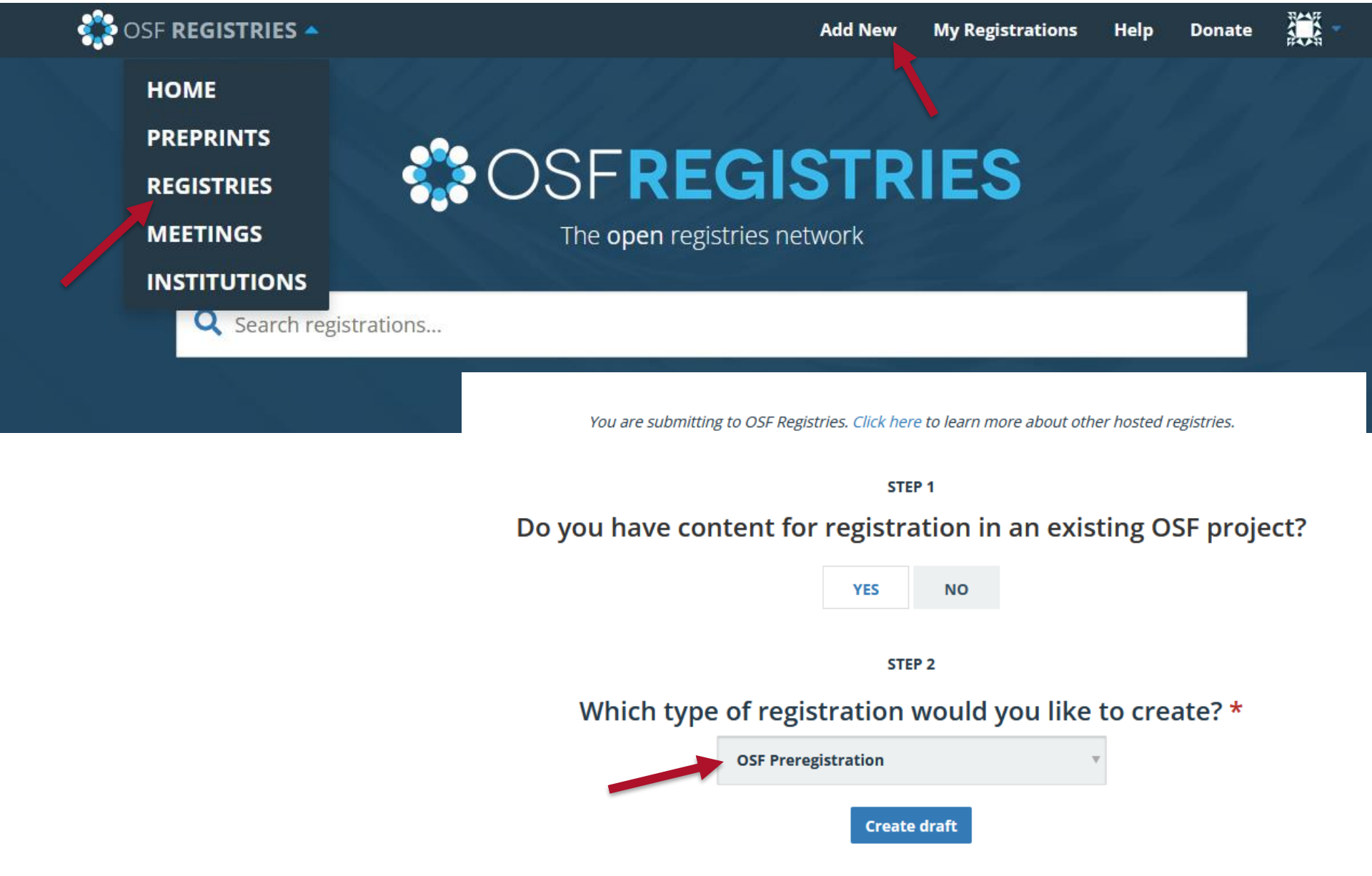
The objective of this study is to identify and elaborate on health equity issues in disaster preparedness and response through systematic review of literature.

We will examine how health inequities in disasters have been highlighted; extents to which the disaster exacerbated such health inequity; and reported strategies adopted to prevent or mitigate impact from the disaster through pursuing improved health equity.

Searches

Search strategies will be designed and conducted by an experienced systematic review librarian. Studies will be identified via the following databases: MEDLINE, Embase, Cochrane Library, CINAHL, and Scopus. The search will include controlled vocabulary terms and free text words related to disasters and health inequities, incorporating MESH terms. The search will be limited to articles published in English from 2007 to 2022 and limited to the United States. If the full text of a study that may meet inclusion criteria is unavailable, the corresponding author will be contacted. Bibliographies of relevant articles will be reviewed to identify relevant articles not returned by the search.

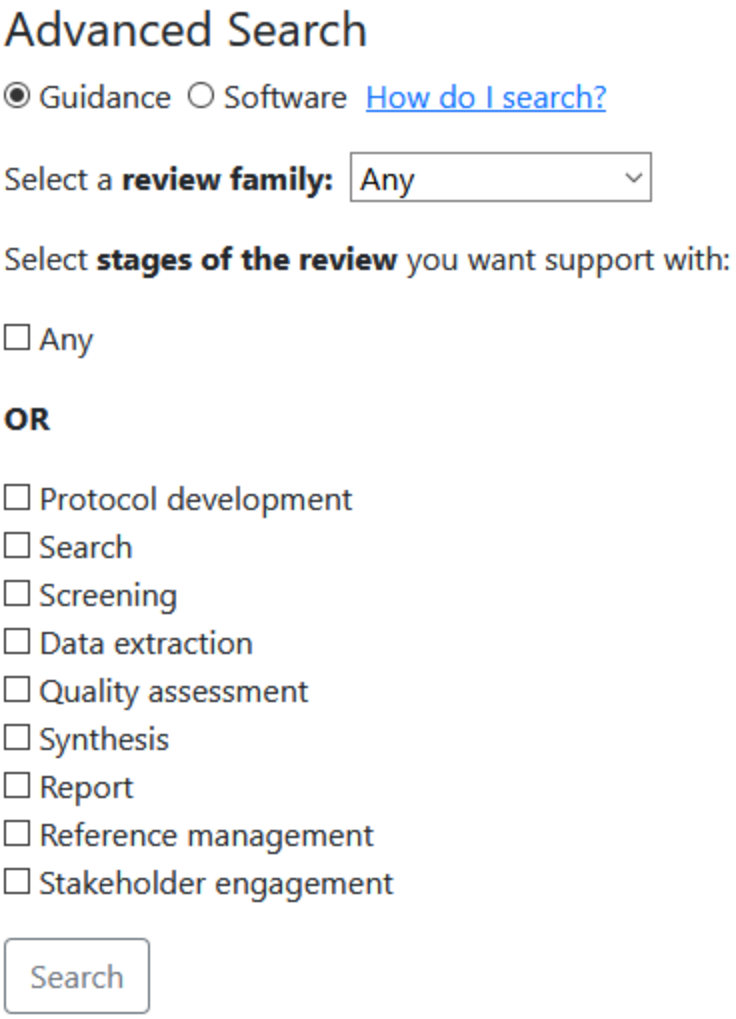
Open Science Framework



Searching

Systematic Review Toolkit

http://systematicreviewtools.com/



Systematic Review LibGuide

Resources & Tools for conducting an exhaustive literature search

https://unmc.libguides.com/systematicreview

PRESS

Peer Review of Electronic Search Strategies

McGowan J, Sampson M, Salzwedel DM, Cogo E, Foerster V, Lefebvre C. PRESS Peer Review of Electronic Search Strategies: 2015 guideline statement. J Clin Epidemiol. 2016 Jul;75:40-6. http://www.sciencedirect.com/science/article/pii/S0895435616000585

PRESS

- Evidence-based checklist
  - Boolean/Proximity operators
  - Appropriate subject headings/keywords
  - Database limiters
- Methods section of paper
- Quality and comprehensiveness of search

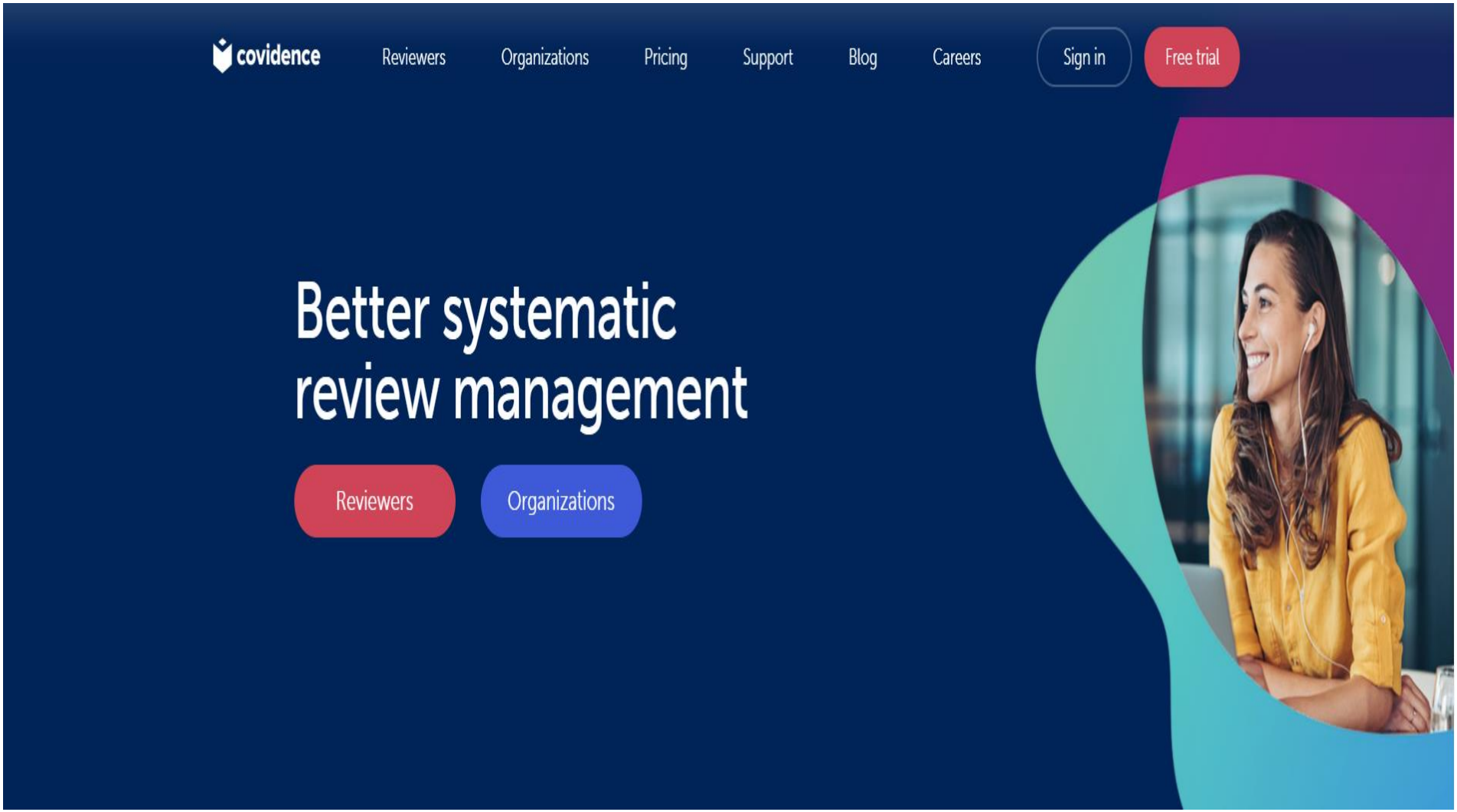
Screening Tools

Screening Tools

- Streamlines systematic reviews
- Import citations
- Screen titles/abstracts
- Upload references
- Screen full text
- Data extraction
- Risk of bias
- Export

https://unmc.libguides.com/systematicreview/tools

Covidence


covidence
Reviewers
Organizations
Pricing
Support
Blog
Careers
Sign in
Free trial
Better systematic review management
Reviewers
Organizations

Review Summary

Settings | PRISMA | Export

Import references

3 total duplicates removed

Import

Title and abstract screening

6 irrelevant

1037 studies to screen

TEAM PROGRESS

9 DONE

0 CONFLICTS

13 ONE VOTE

1024 NO VOTES

Team settings

KIARA,
YOU CAN STILL

SCREEN

1037

Continue

You've screened **0** studies so far

Full text review

0 excluded

3 studies to screen

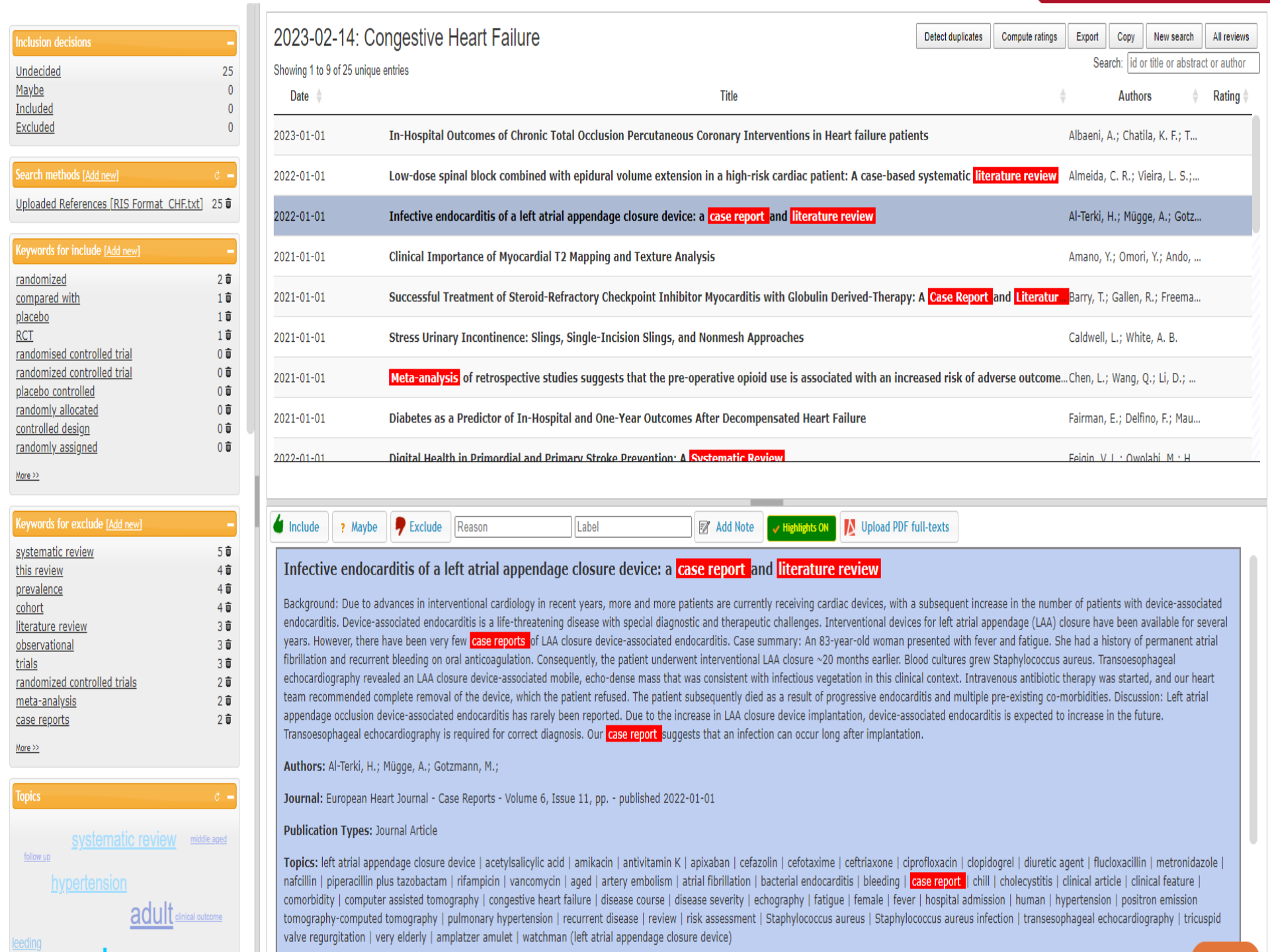
Extraction

0 extracted

0 studies to extract

Rayyan

- Up to 3 active reviews
- Unlimited reviewers
- De-duplication
- Filtration facets
- Mobile app
- Standard support


Inclusion decisions
Undecided 25
Maybe 0
Included 0
Excluded 0
Search methods [Add new]
Uploaded References [RIS Format_CHF.txt] 25
Keywords for include [Add new]
randomized 2
compared with 1
placebo 1
RCT 1
randomised controlled trial 0
randomized controlled trial 0
placebo controlled 0
randomly allocated 0
controlled design 0
randomly assigned 0
More >>
Keywords for exclude [Add new]
systematic review 5
this review 4
prevalence 4
cohort 4
literature review 3
observational 3
trials 3
randomized controlled trials 2
meta-analysis 2
case reports 2
More >>
Topics
systematic review
middle aged
follow up
hypertension
adult
clinical outcome
2023-02-14: Congestive Heart Failure
Detect duplicates
Compute ratings
Export
Copy
New search
All reviews
Showing 1 to 9 of 25 unique entries
Search: id or title or abstract or author
Date
Title
Authors
Rating
2023-01-01 In-Hospital Outcomes of Chronic Total Occlusion Percutaneous Coronary Interventions in Heart failure patients Albaeni, A.; Chatila, K. F.; T...
2022-01-01 Low-dose spinal block combined with epidural volume extension in a high-risk cardiac patient: A case-based systematic literature review Almeida, C. R.; Vieira, L. S.;...
2022-01-01 Infective endocarditis of a left atrial appendage closure device: a case report and literature review Al-Terki, H.; Mügge, A.; Gotz...
2021-01-01 Clinical Importance of Myocardial T2 Mapping and Texture Analysis Amano, Y.; Omori, Y.; Ando, ...
2021-01-01 Successful Treatment of Steroid-Refractory Checkpoint Inhibitor Myocarditis with Globulin Derived-Therapy: A Case Report and Literatur... Barry, T.; Gallen, R.; Freema...
2021-01-01 Stress Urinary Incontinence: Slings, Single-Incision Slings, and Nonmesh Approaches Caldwell, L.; White, A. B.
2021-01-01 Meta-analysis of retrospective studies suggests that the pre-operative opioid use is associated with an increased risk of adverse outcome... Chen, L.; Wang, Q.; Li, D.; ...
2021-01-01 Diabetes as a Predictor of In-Hospital and One-Year Outcomes After Decompensated Heart Failure Fairman, E.; Delfino, F.; Mau...
2022-01-01 Digital Health in Primordial and Primary Stroke Prevention: A Systematic Review Feigin, V. L.; Owolabi, M.; H...
Include
Maybe
Exclude
Reason
Label
Add Note
Highlights ON
Upload PDF full-texts
Infective endocarditis of a left atrial appendage closure device: a case report and literature review
Background: Due to advances in interventional cardiology in recent years, more and more patients are currently receiving cardiac devices, with a subsequent increase in the number of patients with device-associated endocarditis. Device-associated endocarditis is a life-threatening disease with special diagnostic and therapeutic challenges. Interventional devices for left atrial appendage (LAA) closure have been available for several years. However, there have been very few case reports of LAA closure device-associated endocarditis. Case summary: An 83-year-old woman presented with fever and fatigue. She had a history of permanent atrial fibrillation and recurrent bleeding on oral anticoagulation. Consequently, the patient underwent interventional LAA closure ~20 months earlier. Blood cultures grew Staphylococcus aureus. Transoesophageal echocardiography revealed an LAA closure device-associated mobile, echo-dense mass that was consistent with infectious vegetation in this clinical context. Intravenous antibiotic therapy was started, and our heart team recommended complete removal of the device, which the patient refused. The patient subsequently died as a result of progressive endocarditis and multiple pre-existing co-morbidities. Discussion: Left atrial appendage occlusion device-associated endocarditis has rarely been reported. Due to the increase in LAA closure device implantation, device-associated endocarditis is expected to increase in the future. Transoesophageal echocardiography is required for correct diagnosis. Our case report suggests that an infection can occur long after implantation.
Authors: Al-Terki, H.; Mügge, A.; Gotzmann, M.;
Journal: European Heart Journal - Case Reports - Volume 6, Issue 11, pp. - published 2022-01-01
Publication Types: Journal Article
Topics: left atrial appendage closure device | acetylsalicylic acid | amikacin | antivitamin K | apixaban | cefazolin | cefotaxime | ceftriaxone | ciprofloxacin | clopidogrel | diuretic agent | flucloxacillin | metronidazole | nafcillin | piperacillin plus tazobactam | rifampicin | vancomycin | aged | artery embolism | atrial fibrillation | bacterial endocarditis | bleeding | case report | chill | cholecystitis | clinical article | clinical feature | comorbidity | computer assisted tomography | congestive heart failure | disease course | disease severity | echography | fatigue | female | fever | hospital admission | human | hypertension | positron emission tomography-computed tomography | pulmonary hypertension | recurrent disease | review | risk assessment | Staphylococcus aureus | Staphylococcus aureus infection | transesophageal echocardiography | tricuspid valve regurgitation | very elderly | amplatzer amulet | watchman (left atrial appendage closure device)

Other SR project management tools

Citation Tools

Citation Managers

EndNote Research Guide:
http://unmc.libguides.com/endnote

Zotero Research Guide: https://unmc.libguides.com/zotero

- Create Folders to Organize Key Articles/Findings
- Removes duplicates
- Use the note field to keep track of research notes
- Allows for highlighting and marking attached PDF's
- Export citations to Microsoft Excel
- Create work cited bibliographies

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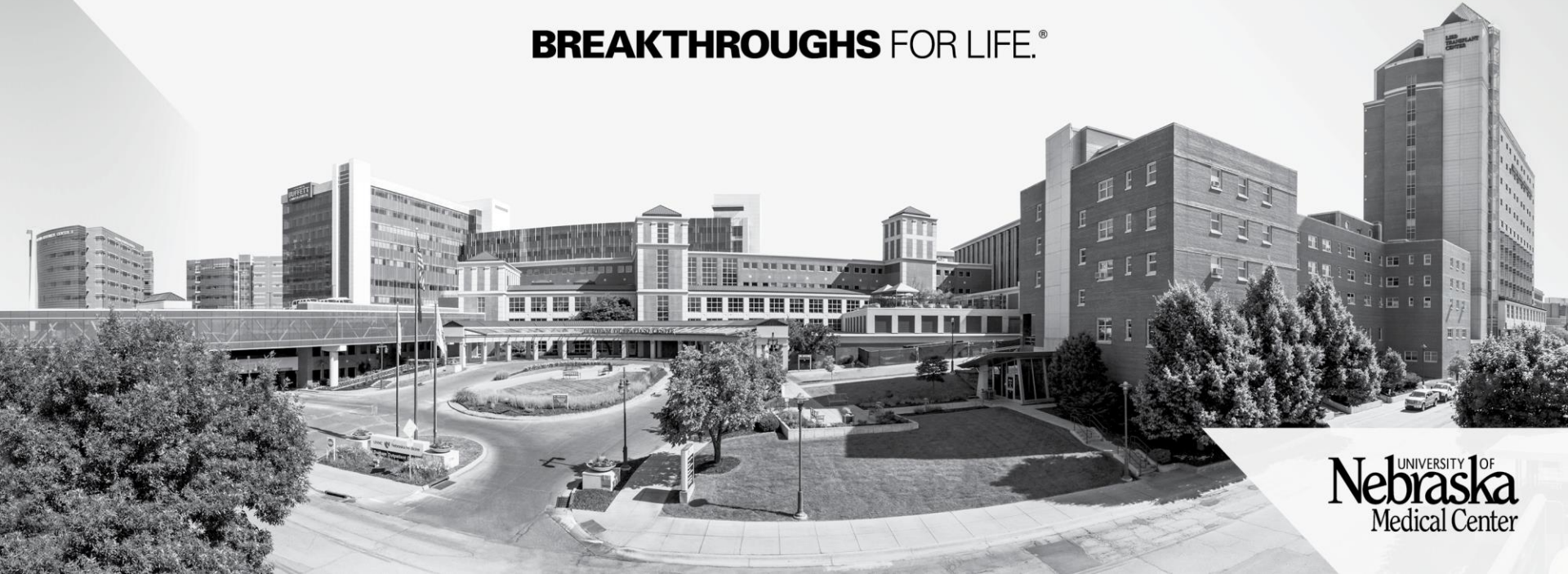

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