Guidelines & Tools to Organize Data for Reporting Methods

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Presenter Disclosures

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The following personal, professional, or financial relationships with commercial interests relevant to this presentation existed during the past 12 months:

No relationships to disclose
Objectives

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

- Describe the primary reporting guidelines for SRs
- List citation management software for use in SRs
- List tools to organize data created through searches
- Describe the workflow for capturing data from searches
What is the purpose of this presentation?

- Every search you do that locates studies must be documented
  - Whether a database search, non-database search, Google, etc.
- Every potential item you found has to be traceable
  - What did you find?
  - How did you find it?
  - What happened to it?
    - Excluded or included?
      - If excluded, at what step and why?
- This presentation focuses on how to manage all of the above without going (too) crazy!
Reporting Guidelines
What are reporting guidelines?

- "...tools developed to aid accurate and complete reporting of key aspects of research studies."\(^1\)
- Frequently used guidelines to the right

<table>
<thead>
<tr>
<th>Study Design</th>
<th>Guideline</th>
</tr>
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<tbody>
<tr>
<td>Randomised trials</td>
<td>CONSORT</td>
</tr>
<tr>
<td>Observational studies</td>
<td>STROBE</td>
</tr>
<tr>
<td>Systematic reviews</td>
<td>PRISMA</td>
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<td>Case reports</td>
<td>CARE</td>
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<tr>
<td>Qualitative research</td>
<td>SRQR</td>
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<td>Diagnostic / prognostic studies</td>
<td>STARD</td>
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<td>Quality improvement studies</td>
<td>SQUIRE</td>
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<tr>
<td>Economic evaluations</td>
<td>CHEERS</td>
</tr>
<tr>
<td>Animal pre-clinical studies</td>
<td>ARRIVE</td>
</tr>
<tr>
<td>Study protocols</td>
<td>SPIRIT</td>
</tr>
</tbody>
</table>
Why use reporting guidelines?

- Ensure elements appear in the correct order
  - Results don't appear in methods and vice versa
- Ensures all necessary data gets reported
- Could impact your ability to publish
  - Publishers frequently refer to standards for reporting
- Could impact ability for lit searches to find your article
  - Many guidelines specify study type included in the title
    - "Paracetamol and opioid pathways: a pilot randomized clinical trial" vs. "Anti-diabetic treatment regulates profibrotic TGF-beta serum levels in type 2 diabetics"

**Helpful hint: Don't reinvent the wheel!**
- Use study-specific guidelines to help develop your codebook/codesheet for the studies used in your SR
  - Data extraction tool
## STROBE Checklist

**STROBE Statement**—checklist of items that should be included in reports of observational studies


<table>
<thead>
<tr>
<th>Item No</th>
<th>Recommendation</th>
</tr>
</thead>
</table>
| **Title and abstract** | 1. Indicate the study’s design with a commonly used term in the title or the abstract.  
2. Provide in the abstract an informative and balanced summary of what was done and found. |
| **Introduction** | 2. Explain the scientific background and rationale for the investigation being reported. |
| **Objectives** | 3. State specific objectives, including any prespecified hypotheses. |
| **Methods** | 4. Present key elements of study design early in the paper. |
| **Study design** | 5. Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection. |
| **Setting** | 6. (a) **Cohort study**—Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up.  
(b) **Case-control study**—Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls.  
(c) **Cross-sectional study**—Give the eligibility criteria, and the sources and methods of selection of participants. |
| **Participants** | 7. (a) **Cohort study**—For matched studies, give matching criteria and number of exposed and unexposed.  
(b) **Case-control study**—For matched studies, give matching criteria and the number of controls per case. |
| **Variables** | Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable. |
Parasite study

- Every article for every study used should have data extracted using a coding worksheet.
Why use SR reporting guidelines?

- **Use to evaluate quality of prior systematic reviews**
  - For example, poor search methodology could result in studies not being included
  - The existence of a prior SR does not negate the need for you to do one!

- **Systematic reviews are scientific studies**
  - Scientific studies must be replicable
  - Methodology for "enrollment", i.e. finding and excluding citations/studies, must be clearly explained
  - Guidelines help ensure this happens

- **This presentation is designed to help you exceed standards for reporting methods & results**
Cochrane Handbook

- Manual on **how** to do systematic reviews for the Cochrane Collaboration
- Key points
  - List all database/non-database sources searched
  - Indicate dates of last search for each db
  - Full search strategies should appear in the appendix
  - Create a flowchart

Find guidelines at EQUATOR Network

- **Enhancing the QUALity and Transparency Of health Research**
- Links to hundreds of reporting guidelines on darn near all study types!
- Lists guidelines for main study types
- Regardless of your study type
  - Get your publication guideline here

http://www.equator-network.org/
SR/MA Guidelines: PRISMA

- Preferred Reporting Items for Systematic Reviews and Meta-Analyses
  - Has 21 extensions as well as primary guideline
#4: Guidelines/tools to organize search data

**PRISMA**

- Published in 2009
  - Preceded by QUORUM
    - Quality of Reporting of Meta-analyses
- Lists elements and the order in which they should appear
  - Descriptive, not prescriptive
  - See the [PRISMA E&E](http://www.prisma-statement.org/Endorsement/PRISMAEndorsers.aspx) publication for greater detail
- Endorsed by editorial organizations and hundreds of journals including:

**Read more**

- [PRISMA Statement](http://www.prisma-statement.org/Endorsement/PRISMAEndorsers.aspx)
- [Checklist](http://www.prisma-statement.org/Endorsement/PRISMAEndorsers.aspx) (Word document)
- [The PRISMA Explanation and Elaboration](http://www.prisma-statement.org/Endorsement/PRISMAEndorsers.aspx)
# PRISMA Sections/Topics

<table>
<thead>
<tr>
<th>TITLE</th>
<th>METHODS</th>
</tr>
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<tbody>
<tr>
<td>1 Title</td>
<td>5 Protocol and registration</td>
</tr>
<tr>
<td></td>
<td>6 Eligibility criteria</td>
</tr>
<tr>
<td></td>
<td>7 Information sources</td>
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<tr>
<td></td>
<td>8 Search</td>
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<tr>
<td></td>
<td>9 Study selection</td>
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<td></td>
<td>10 Data collection process</td>
</tr>
<tr>
<td></td>
<td>11 Data items</td>
</tr>
<tr>
<td></td>
<td>12 Risk of bias in individual studies</td>
</tr>
<tr>
<td></td>
<td>13 Summary measures</td>
</tr>
<tr>
<td></td>
<td>14 Synthesis of results</td>
</tr>
<tr>
<td></td>
<td>15 Risk of bias across studies</td>
</tr>
<tr>
<td></td>
<td>16 Additional analyses</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>RESULTS</td>
</tr>
<tr>
<td>2 Structured summary</td>
<td>17 Study selection</td>
</tr>
<tr>
<td></td>
<td>18 Study characteristics</td>
</tr>
<tr>
<td></td>
<td>19 Risk of bias within studies</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>20 Results of individual studies</td>
</tr>
<tr>
<td>3 Rationale</td>
<td>21 Synthesis of results</td>
</tr>
<tr>
<td>4 Objectives</td>
<td>22 Risk of bias across studies</td>
</tr>
</tbody>
</table>

## ABSTRACT

SR Methods: What Should Be Reported?

5. Protocol registration information
   • PROSPERO:
     • [http://www.crd.york.ac.uk/PROSPERO/](http://www.crd.york.ac.uk/PROSPERO/)

6. Eligibility criteria
   • Inclusion/exclusion criteria
     • Ex: study types, populations, exposure, intervention, theory, geography, setting, etc.
     • Limits such as publication dates and language, publication status restrictions
     • i.e. published vs. unpublished documents
SR Methods: What Should Be Reported?

7. Information sources
   • Databases used
     • i.e. Medline (Ovid), PubMed (NLM), EMBASE (Ovid), CINAHL (Ebsco)
   • Qualifications of the searcher
     • ex: Health sciences librarian experienced in conducting SR/MA searches

8. Search
   • Statement of the search concepts used
   • Location of full search strategies
   • Non-database methods used
     • ex: Bibliographies; handsearched journals; tracked citations using Scopus or Web of Science; researchers contacted; clinical trials databases searched
   • Additional statement on software used to track data
SR Methods: What Should Be Reported?

9. Study selection
   • Screening titles & abstracts
     • Indicate if interrater reliability tested for screeners
       • Cohen's kappa generally used
     • Indicate number of screeners
       • Did they screen independently?
       • Were they blinded to article author(s) and/or journal?
       • How was consensus reached?
       • **DON'T:** "We reviewed the full article if either screener indicated the full article should be reviewed."
         • **WHY?**
     • Review of full text of articles
       • Indicate number of reviewers
         • Did they screen independently?
         • Were they blinded to article author(s) and/or journal?
         • How was consensus reached?
Methods Section: Additional Comments

- Indicate in the text the date the last db searched
  - "Medline (Ovid), PubMed (NLM), Embase (Ovid), and PsycINFO (Ovid) were searched with the assistance of a health sciences librarian experienced in developing search strategies for systematic reviews. The last search was conducted on January 12, 2015."
  - Cochrane requirement, but we like it!

- Depending on where this is published
  - “Contact the author for copies of search strategies for each database.” OR
  - “Strategies for each database searched can be found in the supplemental files”.
  - “Strategies for each database searched can be found in Appendix A”.

- Did you use citation management software (CMS) to track citations?
  - Be sure to cite it!
Methods Section: Additional Comments

- Avoid using the phrase “from inception” when referring to online databases
  - Ex: “We searched 11 electronic information sources for trials from their inception.”
  - PsycINFO goes back to 1806
  - Medline now goes back to 1946 and years are added regularly
Questions?
Tools to Organize Your Data: Citation Management Software
Why use Citation Management Software (CMS)?

- Good way to track everything you find
- Use it to eliminate duplicates found during searches
- Create in-text citations and list of references used
- Permanent record of citations
  - Easily generate lists of eligible and ineligible citations
Commonly Used CMS

- **Mendeley**
  - "Mendeley is a free reference manager and academic social network. Make your own fully-searchable library in seconds, cite as you write, and read and annotate your PDFs on any device."

- **Zotero**
  - "Zotero [zoh-TAIR-oh] is a free, easy-to-use tool to help you collect, organize, cite, and share your research sources."

- **EndNote**
  - Institutional license or individual purchase

- **RefWorks**
  - Institutional subscription
Other CMS products

- What does your institution support?
  - Ask your librarians!
  - Does your institution use RefWorks? Take a look at the [handout](http://en.wikipedia.org/wiki/Comparison_of_reference_management_software) to prepare RW for a systematic review

- Wikipedia has comprehensive list
Tools to Organize Your Data: Screening/Reviewing Software
Screening/Reviewing Software

- **Abstrackr and Open Meta-Analyst**
  - "Open-source, web-based software for (semi-automated?!) abstract-screening"

- **DistillerSR**
  - Each user requires a monthly or annual subscription to access the system; the more users you have, the less it costs per user

- **Systematic Review Database SRDB.PRO™**
  - SRDB.PRO is a comprehensive enterprise level, client based software tool for managing and aiding systematic review and data analysis processes. It allows teams of analysts to easily cooperate and share results through a service database, either hosted by SRDB.PRO or the company.

- **Excel Workbooks for Systematic Reviews**
  - Free, non-cloud based workbooks for SRs
  - Best practice: Your project manager should be somewhat facile with Excel
Why use the Excel workbooks for SRs?

- Designed to capture all data
  - Database (db) searching
  - Non-database searching
  - Interrater reliability test
  - Screen titles/abstracts
  - Capture full text review data
  - Create a PRISMA flowchart

- Allows for independent screening
  - Blinded to authors and journal titles

- Allows for independent full text review

- Developed using Microsoft Excel
  - Widely available

- Available for free
  - Creative Commons license

- Extensive guides on Excel workbooks

- Additional guidance available from the developer

- Strictly adhere to, and even exceed, the reporting standards
## Naming Conventions
### PRIMARY Excel Workbook

<table>
<thead>
<tr>
<th>Website label</th>
<th>PRIMARY Excel Workbook for Systematic Reviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default filename</td>
<td>Project-name-PRIMARY-Excel-workbook</td>
</tr>
<tr>
<td>Your filename</td>
<td>Project_name_PRIMARY_Excel_workbook Ex: Ebola_mechanisms_PRIMARY_Excel_workbook</td>
</tr>
<tr>
<td>What it is called in the handouts</td>
<td>PRIMARY workbook</td>
</tr>
</tbody>
</table>
### Naming Conventions

#### Cohen's Kappa Workbook (Interrater reliability)

<table>
<thead>
<tr>
<th>Website label</th>
<th>Excel Workbook to Calculate Cohen’s kappa</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Default filename</strong></td>
<td>Cohens-kappa-Project-name-Compiled</td>
</tr>
</tbody>
</table>
| **Your filenames** | Cohens-kappa-Project-name-Compiled  
Cohens-kappa-Project-name-Lastname(1)  
Cohens-kappa-Project-name-Lastname(2)  
**Ex:**  
Cohens_kappa_Ebola_mechanisms_Compiled  
Cohens_kappa_Ebola_mechanisms_Basler  
Cohens_kappa_Ebola_mechanisms_Feng |
| **What it is called in the handouts** | Cohen's kappa workbook |
## Naming Conventions
### Screening Workbook (Assumes 2 screeners)

<table>
<thead>
<tr>
<th>Website label</th>
<th>Excel Workbook for Screening Titles and Abstracts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default filename</td>
<td>Screening-workbook-Project-name-Compiled</td>
</tr>
</tbody>
</table>
| Your filenames | Screening-workbook-Project-name-Compiled  
                 Screening-workbook-Project-name-Lastname(1)  
                 Screening-workbook-Project-name-Lastname(2) |
| Ex: | Screening-workbook-Ebola-mechanisms-Compiled  
     Screening-workbook-Ebola-mechanisms-Basler  
     Screening-workbook-Ebola-mechanisms-Feng |
| What it is called in the handouts | Screening workbook |

**Modifications underway for 3 screeners**
## Naming Conventions

### FT Review Workbook (Assumes 2 reviewers)

<table>
<thead>
<tr>
<th>Website label</th>
<th>Excel Workbook for Reviewing Full Text Articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default filename</td>
<td>Reviewing-workbook-Project-name-Compiled</td>
</tr>
</tbody>
</table>
| Your filenames | Reviewing-workbook-Project-name-Compiled  
Reviewing-workbook-Project-name-Lastname(1)  
Reviewing-workbook-Project-name-Lastname(2)  
**Ex:**  
Reviewing-workbook-Ebola-mechanisms-Compiled  
Reviewing-workbook-Ebola-mechanisms-Basler  
Reviewing-workbook-Ebola-mechanisms-Feng |
| What it is called in the handouts | Reviewing workbook OR FT review workbook |

### Modifications underway for 3 reviewers
4 Excel workbooks

- **Filenames**
  - **Project-name**: replace with your project name
  - **Lastname(1)**: replace with last name of the primary researcher
  - **Lastname(2)**: replace with last name of the secondary researcher
- **1-person review?**
  - Download only the PRIMARY workbook
4 Excel Workbooks

- All supporting documentation can be found at:
  - [http://libguides.sph.uth.tmc.edu/APHA_LI_SR_handouts](http://libguides.sph.uth.tmc.edu/APHA_LI_SR_handouts)
  - Review **ALL** guides prior to starting a project

At the start of the project

At the end of the project, assuming two screeners and two reviewers
Detailed work flow

- Search online databases (dbs)
  - Add data to PRIMARY workbook
  - Add citations/abstracts to your CMS
  - Add Citation ID’s, article titles, abstracts to PRIMARY workbook
  - Develop exclusion criteria and add to PRIMARY workbook
- Run Cohen’s kappa if two+ screeners
  - Copy exclusion reasons, Citation ID’s, article titles, and abstracts from PRIMARY workbook to Cohen’s kappa compiled
  - Use Save as to create Cohen’s kappa individual workbooks and distribute
  - Copy individual data into Cohen’s kappa compiled
  - Was the level of agreement strong enough?
- Screen article titles and abstracts
  - Copy exclusion reasons, Citation ID’s, article titles, and abstracts from PRIMARY workbook to 2 Screeners compiled
  - Use Save as to create 2 Screeners individual workbooks and distribute
  - Copy individual data into 2 Screeners compiled
    - Reconcile any differences
    - Copy decision data into PRIMARY workbook
Detailed work flow

- **Review full text**
  - Copy exclusion reasons, Citation ID’s, article titles, abstracts, and Review the full text? from PRIMARY workbook to FT reviewed compiled workbook
  - Use Save as to create FT reviewed individual workbooks and distribute
  - Copy individual data into FT reviewed compiled workbook
    - Reconcile any differences
    - Copy decision data into PRIMARY workbook

- **Search non-database (other) sources**
  - Happens ad hoc, i.e. after database searches but potentially throughout full text review process
  - Add citations/abstracts of newly found unique items to your CMS
  - Add Citation ID’s, article titles, abstracts to PRIMARY workbook
  - Mark as “maybe” in the Title Abst Screening worksheet in the PRIMARY workbook

- **When finished with coding all included studies**
  - In the PRIMARY workbook
    - Record studies with multiple articles associated with them
    - Create a PRISMA flowchart
Questions?
Prepare Your Citation Management Software (CMS) for a Systematic Review
In the CMS

- Create holding spaces (folders, groups, etc.) for each of the following categories
- Excel workbooks
  - 0 Excel workbooks
    - Excel workbooks and other documents
    - Cloud-based or network-based systems let you share resources
    - Attach workbook/document to citation
- Step 1: Search individual databases
  - Begin with 1a for the results of first db searched, work through the alphabet
    - 1a Ovid Medline
    - 1b PubMed
    - 1c Embase
    - 1d CINAHL, etc.
In the CMS

- **Step 2: Screening titles/abstracts**
  - 2a abstracts maybe
  - 2b abstracts no

- **Step 3: Full text (FT) review**
  - 3a FT yes
  - 3b FT no
  - 3c FT ILL
    - Interlibrary loan
  - 3d FT unavailable
    - It's not unavailable until your librarian says so!
In the CMS

- Step 4: Search non-database (other) sources
  - 4a Bibliographies
  - 4b Authors
  - 4c Citation tracking
  - 4d Clinical trial databases?
- Articles used for other purposes
  - Background
  - Discussion
  - For next paper
In the CMS

- **Background** folder
  - Use this folder to save items that address gaps in background/rationale

- **Discussion** folder
  - Opportunity to think about salient issues that will go into your discussion
  - We tend to focus on beginning of paper!

- **For next paper** folder
  - For those articles that you fall in love with and want to use but aren’t eligible
  - Put them someplace safe to review LATER
If you use the Excel workbooks

- Need output style that gives you:
  - Citation ID
  - Article title
  - Article abstract

- Output styles available for RefWorks & EndNote
  - [http://libguides.sph.uth.tmc.edu/APHA_SR_LI_Excel_workbooks](http://libguides.sph.uth.tmc.edu/APHA_SR_LI_Excel_workbooks)
RefWorks example

- 0 excel workbooks (0)
- 1a ovid medline (617)
- 1b pubmed (27)
- 1c embase (102)
- 2a abstracts no (0)
- 2b abstracts maybe (0)
- 3a FT no (0)
- 3b FT yes (0)
- 3C FT ILL (0)
- 3d FT unavailable (0)
- 4a author search (0)
- 4b bibliographies (0)
- 4c citation tracking--scopus (0)
Questions?
Tracking & Organizing Search Data for Methods Reporting
Search Online Databases

You'll need:

- PRIMARY Excel Workbook for Systematic Reviews
- Citation management software
Search Online Databases

- **After EVERY search:**
  - Record your search data in the PRIMARY Excel workbook in the appropriate database worksheet
  - DOCUMENT as you go
    - You might forget what you did
  - Add citations/abstracts to your CMS
    - IF CMS allows, save citations in named database folder

- **When finished with all database searching**
  - Add Citation ID’s, article titles, abstracts to PRIMARY workbook
  - Develop exclusion criteria and add to PRIMARY workbook
Search Databases & Import into CMS

Open the PRIMARY workbook.

Perform search in online database.

PRIMARY workbook
Record the # of results & search strategy.

Import all citations into CMS; save into appropriate database folder if possible.

In the CMS
Check for duplicate citations.

PRIMARY workbook
Record internal/external duplicates.

PRIMARY workbook
Export all Citation ID’s, titles, & abstracts
Put titles&absts here worksheet
Develop your exclusion criteria.

Do the Cohen's kappa interrater reliability test

Are you done searching?

YES

Do you have 2+ screeners?

YES

NO

Use the PRIMARY Excel workbook to screen.
Database worksheets

- 5 named database worksheets
- 11 worksheets for databases not listed
- Worksheet that compiles the results
  - DB Results Table
Database worksheets

- Detailed information on
  - Data source
  - Limiters used
  - Number of items found

- The search strategy

- Duplicates
  - Internal—same item found in a single database
  - External—same item found in 2 different databases
<table>
<thead>
<tr>
<th>Data Source</th>
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<tbody>
<tr>
<td>Provider/Interface</td>
<td>Ovid</td>
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</tr>
<tr>
<td>Database</td>
<td>Medline®</td>
<td></td>
</tr>
<tr>
<td>Date searched</td>
<td>10/8/2015</td>
<td></td>
</tr>
<tr>
<td>Database update</td>
<td>In-Process &amp; Other Non-Indexed Citations October 08, 2015</td>
<td></td>
</tr>
<tr>
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<td>Helena M. VonVille</td>
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<tr>
<td>Other such as source of search filters</td>
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<td>Items found</td>
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<tr>
<td>External duplicates (between databases)</td>
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</tr>
<tr>
<td>Unique items found</td>
<td>784</td>
<td></td>
</tr>
</tbody>
</table>

**Saved Searches**
- Ebola, ti, ab, kw
- 1 or 2
- Toxins, biological, or virulence factors
- Virus Internalization
- Peptides
- Protein Conformation
- Surface-Active Agents
- Micelles
- Viral Envelope Proteins
- Protein, peptides, or micelle or viral envelope, ti, ab, kw
- 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12
- 3 and 13

**Search**
Go to Saved Searches and click on the eye icon of your SR saved search to View your search. Copy and paste your search into Notepad; put tabs between the line number and text. Copy all. In the worksheet, click on cell B16 and paste.
More on "Database update"

- Sometimes difficult to find update information
- PubMed updated in real time
- Ovid database files indicate update
- Not sure?
  - Visit vendor’s site to see if information provided
  - EBSCO Academic Search Complete
    - [http://www.ebscohost.com/academic/academic-search-complete](http://www.ebscohost.com/academic/academic-search-complete)
<table>
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<th>Database</th>
<th>Date searched</th>
<th>Database update</th>
<th>Search developer(s)</th>
<th>English only? (default is “y”)</th>
<th>Dates: Use dates of entire database if you did not limit years</th>
<th>Publications type</th>
<th>Other such as source of search filters</th>
<th>Items found</th>
<th>Internal duplicates (within a single database)</th>
<th>External duplicates</th>
<th>Internal duplicates (Total in C11)</th>
<th>External duplicates (Total in C11)</th>
</tr>
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<tr>
<td></td>
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<td>Medline</td>
<td>10/8/2015</td>
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<td>784</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Paste text of search strategy below:**

1. Hemorrhagic Fever, Ebola/
2. ebola ti.ab.kw
3. 1 or 2
4. toxins, biological/ or virulence factors/
5. (vulner* or toxin*).ti.ab.kw
6. Virus, Internalization/
7. Peptides/
8. Protein Conformation/
9. Surface-Active Agents/
10. Micelles/
11. Viral Envelope Proteins/
12. (protein* or peptides or micelle* or viral envelope*).ti.ab.kw.
13. 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12
14. 3 and 13
<table>
<thead>
<tr>
<th>Data Source</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Database</td>
<td>PubMed</td>
</tr>
<tr>
<td>Date searched</td>
<td>10/13/2014</td>
</tr>
<tr>
<td>Database update</td>
<td>10/13/2014</td>
</tr>
<tr>
<td>Search developer(s)</td>
<td>Helena M. VonVille</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Limiters &amp; other information</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>English only? (default is &quot;y&quot;)</td>
<td>-</td>
</tr>
<tr>
<td>Dates: Use dates of entire database if you did not limit years.</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Results</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Publications types</td>
<td>Other such as source of search filters</td>
</tr>
<tr>
<td>Items found</td>
<td>384</td>
</tr>
<tr>
<td>Internal duplicates (within a single database)</td>
<td>0</td>
</tr>
<tr>
<td>External duplicates (between databases)</td>
<td>366</td>
</tr>
<tr>
<td>New</td>
<td>18</td>
</tr>
</tbody>
</table>

Paste text of search strategy:

1. Hemorrhagic Fever, Ebola[mesh:noexp]
2. ebola[tis]
3. #1 OR #2
4. toxins, biological[mesh:noexp] OR virulence factors[mesh:noexp]
5. (virus[ti] OR toxin[ti])
6. Virus internalization[mesh:noexp]
7. Peptides[mesh:noexp]
8. Protein Conformation[mesh:noexp]
9. Surface-Active Agents[mesh:noexp]
10. Micelles[mesh:noexp]
11. Viral Envelope Proteins[mesh:noexp]
12. viral[ti] envelope[ti]
13. #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12
14. #3 AND #13
Search non-database (other) sources

✔ Search online databases
✔ Run Cohen’s kappa if two+ screeners
✔ Screen article titles and abstracts
✔ Review full text

分开搜索非数据库 (其他) 源

✔ 搜索在线数据库
✔ 运行 Cohen 的 kappa 如果两个或多个筛选器
✔ 屏幕文章标题和摘要
✔ 审阅全文

分开搜索非数据库 (其他) 源

✔ 你需要
   ✔ PRIMARY Excel Workbook for Systematic Reviews
   ✔ Excel Workbook for Reviewing Full Text Articles
   ✔ CMS

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Search non-database (other) sources

- Why wait so long?
  - Dbs should find 95-99% of all citations
    - Non-database searching not as productive
  - You are conducting a **systematic** review
    - Non-databases searching can spin out of control if you are not careful
    - You have to monitor what you are tracking very closely
Search non-database (other) sources

- Be sure you count only *unique* items found
  - Items not found through the earlier database searching
- Every time you find a *UNIQUE* item
  - Add the citation of the unique item to your CMS
  - Put the citation of the article that led you to the new item(s) into the appropriate non-database worksheet
  - Indicate the number of items found using that article
Search non-database (other) sources

- Import **Citation ID's, article titles, abstracts** to Put titles & absts here worksheet in PRIMARY workbook
  - Mark as "Maybe" for both screeners

- Add **Citation ID's, article titles, abstracts, and Review the Full Text?** to Put titles & absts here worksheet in FT Review workbooks: Compiled and individual reviewers
  - Reviewers may have to add new items if they have begun the review process
Non-database methods: Bibliographies

Review the bibliography of a prior review or highly relevant article to search for **UNIQUE** articles not found during database searches. Check the list of titles in the **PRIMARY workbook** or CMS to make certain the item is UNIQUE.

Are you done searching?

**YES**

- Go directly to FT review.

**NO**

- Add to CMS if unique. Put in the **Bibliography** folder.

**PRIMARY workbook**

Add citation to **Bibliographies worksheet** indicating the article used to locate the new item(s). Record the # of items found.

- Export Ref ID’s, titles, & abstracts of new items from the **CMS Bibliography folder** to the **Put titles&abst here** worksheet of **PRIMARY workbook**. Mark all items as **Maybe** in **PRIMARY workbook**.

Add Ref ID's, titles, abstracts, and Review the full text? to the **FT review workbook**.
Non-database methods: Citation tracking

Use citation tracking tool to determine who has CITED prior reviews/highly relevant articles to look for UNIQUE articles that may have been missed. Check the list of titles in the PRIMARY workbook or CMS to make certain the item is UNIQUE.

Add to CMS if unique. Put in the Citation tracking folder.

Are you done searching?

Yes

Go directly to FT review.

Add Ref ID’s, titles, abstracts, and Review the full text? to the FT review workbook.

No

PRIMARY workbook
Add citation to Scopus or WoS worksheet indicating the article used to locate the new item(s).
Record the # of items found.

Export Ref ID’s, titles, & abstracts of new items from the CMS citation tracking folder to the Put titles & abst here worksheet of PRIMARY workbook. Mark all items as Maybe in PRIMARY workbook.
Non-database methods: Author searches

Using the database which was most productive for you, search key authors to look for UNIQUE articles that may been missed. Check the list of titles in the PRIMARY workbook or CMS to make certain the item is UNIQUE.

Add to CMS if unique. Put in the Author folder.

Are you done searching?

YES

Go directly to FT review.

Add Ref ID’s, titles, abstracts, and Review the full text? to the FT review workbook.

NO

PRIMARY workbook
Add citation to the Author worksheet indicating the article used to locate the new item(s).
Record the # of items found.

Export Ref ID’s, titles, & abstracts of new items from the CMS Author folder to the Put titles&abst here worksheet of PRIMARY workbook, and the FT review workbook.
Non-database (other) worksheets

- 6 non-database worksheets
- Worksheet that compiles the results
- Do this step later in the process
  - This process not as linear as database searching
  - You’ll most likely use background articles, prior reviews, other relevant articles to search for unique articles
#4: Guidelines/tools to organize search data

Be sure to add the NEW citations to the Put title&absts here worksheet as well.
Assign a "maybo" to the screening decision; these go straight to FT review.
Indicate below the full citation of each item which led you to FIND a unique citation, i.e. a citation not found in prior search.
Don't put the found item, only the SOURCE of the found item.

<table>
<thead>
<tr>
<th># of unique items</th>
<th>Don't put the found item, only the SOURCE of the found item.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vendor/ Interface</td>
<td>Database</td>
</tr>
<tr>
<td>handsearching &amp; conferences</td>
<td>handsearching journals &amp; conferences</td>
</tr>
<tr>
<td>bibliographies</td>
<td>bibliographies</td>
</tr>
<tr>
<td>Elsevier</td>
<td>Scopus</td>
</tr>
<tr>
<td>ISI</td>
<td>Web of Science</td>
</tr>
<tr>
<td>Author Search</td>
<td>n/a</td>
</tr>
<tr>
<td>Google</td>
<td>Which google?</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
</tr>
</tbody>
</table>

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PRISMA Flowchart With Search Data

- Records found through database searching
  - Total number of items identified from database searches: 1568
  - 1569 records identified from all sources
  - 822 internal & external duplicate citations excluded

- Records found through other sources
  - # of additional items found outside of database searches to be screened for inclusion: 1
Questions?
Appendix A/Supplemental Files
Search strategies and results\textsuperscript{1}
Appendix A: Search strategies and results

Table 1: Summary of Databases Searched

<table>
<thead>
<tr>
<th>Table</th>
<th>Vendor/Interface</th>
<th>Database</th>
<th>Date searched</th>
<th>Database update</th>
<th>Searcher(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a</td>
<td>Ovid</td>
<td>Medline®</td>
<td>1/8/2015</td>
<td>without Revisions 1996 to January Week 1 2015; In-Process &amp; Other Non-Indexed</td>
<td>Helena M. VonVille</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Citations January 7, 2015</td>
<td></td>
</tr>
<tr>
<td>1b</td>
<td>National Library of Medicine</td>
<td>PubMed</td>
<td>1/12/2015</td>
<td>1/12/2015</td>
<td>Helena M. VonVille</td>
</tr>
<tr>
<td>1c</td>
<td>Ovid</td>
<td>Embase®</td>
<td>1/12/2015</td>
<td>1980 to 2015 Week 2</td>
<td>Helena M. VonVille</td>
</tr>
</tbody>
</table>
#4: Guidelines/tools to organize search data

Table 1a: Ovid Medline

<table>
<thead>
<tr>
<th>Database (Interface):</th>
<th>Medline (Ovid)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Database update:</td>
<td>without Revisions 1996 to January Week 1 2015; In-Process &amp; Other Non-Indexed Citations January 7, 2015</td>
</tr>
<tr>
<td>Date searched:</td>
<td>January 8, 2015</td>
</tr>
<tr>
<td>Time period:</td>
<td>No limit</td>
</tr>
<tr>
<td>Languages included:</td>
<td>No limit</td>
</tr>
<tr>
<td>Search developer:</td>
<td>Helena M. VonVille (OR Your name &amp; librarian)</td>
</tr>
<tr>
<td>Search filter:</td>
<td>This is optional; if you used a search filter in your search, list the URL.</td>
</tr>
</tbody>
</table>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hemorrhagic Fever, Ebola/</td>
</tr>
<tr>
<td>2</td>
<td>ebola.ti,ab,kw.</td>
</tr>
<tr>
<td>3</td>
<td>1 or 2</td>
</tr>
<tr>
<td>4</td>
<td>toxins, biological/ or virulence factors/</td>
</tr>
<tr>
<td>5</td>
<td>(virulen* or toxin*).ti,ab,kw.</td>
</tr>
<tr>
<td>6</td>
<td>Virus Internalization/</td>
</tr>
<tr>
<td>7</td>
<td>Peptides/</td>
</tr>
<tr>
<td>8</td>
<td>Protein Conformation/</td>
</tr>
<tr>
<td>9</td>
<td>Surface-Active Agents/</td>
</tr>
<tr>
<td>10</td>
<td>Micelles/</td>
</tr>
<tr>
<td>11</td>
<td>Viral Envelope Proteins/</td>
</tr>
<tr>
<td>12</td>
<td>(protein* or peptides or micelle* or viral envelope*).ti,ab,kw.</td>
</tr>
<tr>
<td>13</td>
<td>4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12</td>
</tr>
<tr>
<td>14</td>
<td>3 and 13</td>
</tr>
</tbody>
</table>
Table 2: Summary of Non-database sources

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<th>Table</th>
<th>Source</th>
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<tbody>
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<td>2a</td>
<td>Bibliographies</td>
</tr>
<tr>
<td>2b</td>
<td>Citation tracking (Scopus)</td>
</tr>
<tr>
<td>2c</td>
<td>Author searches</td>
</tr>
</tbody>
</table>
### Table 2a: Bibliographies

<table>
<thead>
<tr>
<th># of unique items</th>
<th>Source</th>
</tr>
</thead>
</table>

### Table 2b: Citation tracking (Scopus)

<table>
<thead>
<tr>
<th># of unique items</th>
<th>Source</th>
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</table>

### Table 2c: Author search

<table>
<thead>
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<th># of unique items</th>
<th>Source</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Alazard-Dany N.</td>
</tr>
</tbody>
</table>
References
