STRiDE GUIDE TO CONDUCTING LITERATURE SEARCHES

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INTRODUCTION

This guide was originally developed to support researchers working on the Strengthening Responses to Dementia in Developing Countries (STRiDE) project, in particular to support the in-depth situational analysis on the dementia care situation in seven middle-income countries.

As part of the situational analysis, STRiDE researchers carried out a desk review following a 'topic guide'[1] to gather published information relevant to understanding the reality and context of dementia care, treatment and support in their countries.

While this document refers frequently to the topic guide – and its coverage is in response to specific queries which emerged as the topic guide was compiled ¬– it may also be helpful to researchers working on other projects and topics.

The guide is organised in three sections: identifying resources using internet search engines and online databases; managing and presenting your references; and reading critically.

A companion paper from the STRiDE project[2] provides advice and information on good practice in academic writing, style and referencing, and on making the process of writing up academic papers more effective.

1 IDENTIFYING RESOURCES

When you are starting to look for information to respond to the many different questions in the topic guide document, there two key ways of finding relevant information: internet searches and academic literature databases.

1.1 SEARCHING THE INTERNET FOR RELEVANT MATERIAL USING THE GOOGLE SEARCH ENGINE

The internet is a great source of material such as reports by government bodies and international organisations. However, most search engines have not been designed specifically for academic searches, so they may not lead directly to the most useful sources. This section provides guidance on how to use search engines such as Google effectively for research purposes.

The following tips may help you get the best out of Google searches for academic work:

1. Google's Chrome browser is recommended for making Google searches, although other browsers can be used.

2. Prevent Google from personalising your results: in your browser, look under the menu options and select 'private browsing' or 'New incognito window'.
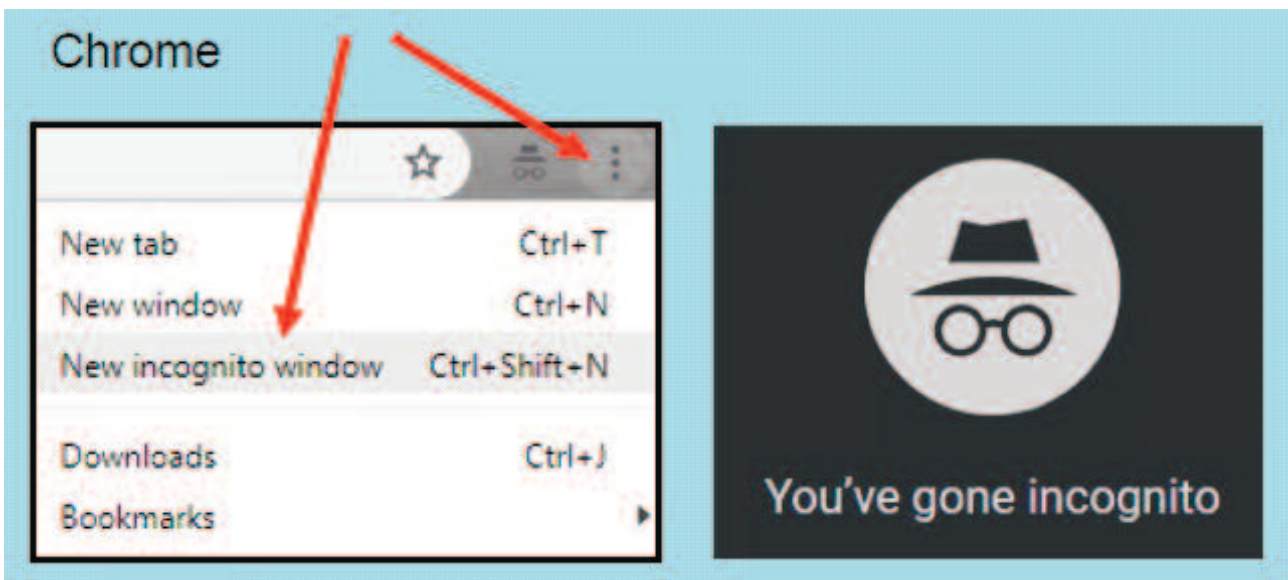
3. Use your local Google domain, such as www.google.co.id for Indonesia, and search in the local language for more relevant regional results. You may want to use English language in addition.

4. The Search settings option allows you to adjust the number of results per page (30–50 is recommended). Only scan the first page of results – if the results are not useful change your search terms instead of looking further.

5. Use the Advanced search option for more focused results.

6. Knowing how to use search terms, as well as Google search operators and commands can help you to create a targeted search (see below).
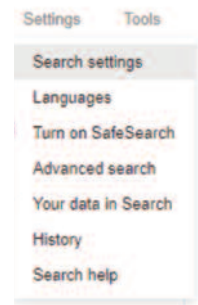
Search terms

The table below gives you some ideas of how you can explore relevant material for the research question you would like to answer by using different search terms.

Phrase marks	"health system"
Focused terms	"health system" Indonesia not "what is the health system in Indonesia?"
Variations	health, healthcare, health care, public health (?)
Language level	"women issues" "gender equality"
Order of terms	dementia "health system" Indonesia Indonesia "health system" dementia

Source: LSE Library presentation

Search commands

Search commands entered manually in the main search field can help you to identify specific file types (e.g. pdf, ppt) or domains (e.g. South Africa government resource – .gov.za). The table below shows some examples – note there should be no space after the colon.

intext:	Finds terms in the text on the page.
	intext:"health system" Brazil
filetype:	Finds certain file types (pdf, doc, docx, ppt, pptx, xls).
	"gender equality" India filetype:pdf
site:	Searches a particular domain (.un.org, .gov.in, etc.).
	cultural values "South Africa" site:.org
related:	Looks for pages with similar content.
	related:www.un.org
cache:	Finds stored versions of websites.
	cache:www.un.org/en/index.html

Source: LSE Library presentation

Search operators

Search operators can help you narrow down your search further, for example by excluding terms that you are not interested in or by including several alternative terms in one search.

-	Use a dash immediately before a term or command to exclude it.
	gender equality" -violence
OR	For alternative terms, use OR between words.
	girls OR women OR female
*	The asterisk can stand in for one or more words.
	"gender * * * equality"
..	Two full stops between numbers will search for a range.
	"health system" Jamaica 2012..2018

Source: LSE Library presentation

Search tools

To filter your results by date, you can make use of Google Search Tools.

Google and government domains

The table below shows the Google and government website domains for the seven STRiDE countries

Brazil	Google domain	Government domain
Brazil	google.com.br	.gov.br
India	google.co.in	.gov.in
Indonesia	google.co.id	.go.id
Jamaica	google.com.jm	.gov.jm
Kenya	google.co.ke	.go.ke
Mexico	google.com.mx	.gob.mx
South Africa	google.co.za	.gov.za

1.2 SEARCHING ACADEMIC LITERATURE DATABASES

As well as information found through internet searches, there are likely to be academic articles that are relevant to your research question. The best way to find these is to search academic databases for publications. Examples of databases that may contain useful information on dementia care, treatment and support are:

• CINAHL (nursing and allied health)

• SocINDEX (sociology)

• Medline (biomedical and health care)

• Embase (biomedical, health care and pharmacology)

• Global Health (health care in developing countries).

Many academic institutions offer access to a variety of databases. Check your library website for what is available and how to access it. If in doubt, contact your librarian.

Below we provide an overview of how to target searches for specific research questions. Some of you may be familiar with systematic reviews. For STRiDE's situational analysis it is not necessary to follow a full systematic review search protocol, but it is good practice to follow some of the steps that you would use in such a protocol.

USING KEYWORDS

First, it is important to think about the question you want to answer. Start by identifying the **key concepts** that come together in your research question. The example below identifies three key concepts, which is a good number to start with. As with searching on Google, you may then want to think of alternative **search terms** for each concept to include in your search. At this stage you are looking for words used by different authors in titles and abstracts, so try to find as many alternatives as you can, including regional spellings and terminology, abbreviations and different word endings.

Alternative search terms

Below is an example showing the use of key concepts for a search about 'the role of Vitamin C in preventing and treating the common cold in children'

	Alternative search terms		
Concept 1	Common cold	Rhinovirus	Coryza
Concept 2	Vitamin C	Ascorbic acid	Sodium ascorbate
Concept 3	Children	Paediatrics	

Source: LSE Library presentation

Search operators

Next, like internet searches, academic databases can also have search operators that can be used to make searching for the terms you are interested in more effective. The table below shows some examples.

truncation (*) alternative endings	cardio* finds 'cardiology', 'cardiovascular', 'cardiologist', 'cardiologists'
wildcard[1] alternative spellings	minimi?ation finds 'minimization', 'minimisation' colo#r finds 'color', 'colour'
phrase searching (" ")	"infant mortality" only finds 'infant mortality'
proximity searching[1] words near each other	infant N3 mortality finds 'infant mortality', 'mortality in infants', 'mortality amongst infants', 'infant and child mortality'

Source: LSE Library presentation
[1] Database specific; check the Help page

Every academic database has a help page, usually linked in the top right-hand corner, which you can use to identify exactly how the search operators work for that specific database. It is important to check this as there may be subtle differences that could affect your results if you do not use the correct search operators for the database.

Applying search operators to keywords

The table below shows how search operators could be applied to the different search terms identified for our earlier example.

	Alternative search terms with operators			
Concept 1	"Common cold*"	Rhinovir*	Coryza	(viral or virus*) N2 rhinit*
Concept 2	ascorb*	vitamin* N5 c	"vit c"	
Concept 3	child*	pediatric#	paediatric#	

Source: LSE Library presentation
Note: This example uses EBSCO search operators

USING SUBJECT HEADINGS AND BOOLEAN OPERATORS

Academic databases further allow you to search for **subject headings**. These work in a similar fashion to #hashtags on social media, grouping together papers on the same topic. Identifying relevant subject headings allows you to search the database for articles that cover the concepts you are looking for without knowing the exact words used by the author. Every article is read by an expert indexer who assigns it the most relevant subject headings. Bear in mind however that because of the volume of papers published it can take a year or more for an article to have subject headings assigned. The help page for each database will give guidance for identifying relevant subject headings for your search terms – these will differ between different databases.

More advanced searches can be conducted in academic databases using **Boolean operators** (OR, AND, NOT) (see Figure below). These allow you to search for variations of a concept at the same time (OR), enable you to combine different concepts (AND) and to exclude concepts that you do not want to appear in your results (NOT).

Boolean Operators

OR operator: broaden your search
by finding any of the search terms

"child*" OR "pediatric*"

AND operator: narrow your search
by only finding results which have
all the search terms

"vitamin C" AND "common cold"
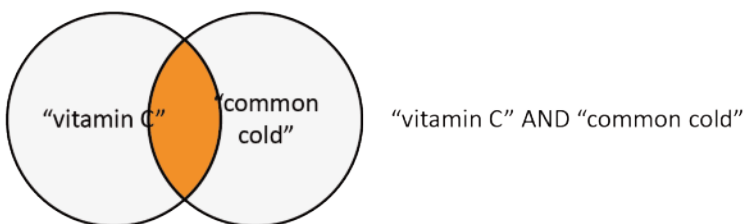
NOT operator: find the first search
term but exclude the second
(use with care)

"humans" NOT "animals"
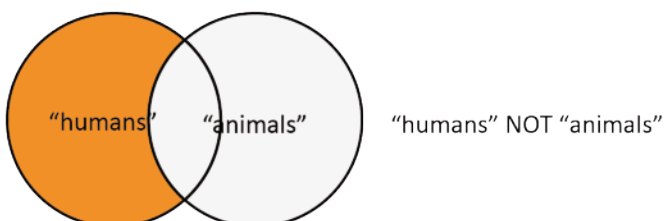
In addition, as with internet searches, academic databases allow you to filter your results by publication type, date, geography/location, language and other criteria. Some databases allow you to set different 'limiters' to narrow your search. When you write up your literature search, you should record the filters or limiters you applied along with the search terms used.

1.3 SUPPLEMENTARY SEARCHES

Finally, it can be worth making supplementary searches to identify resources that may not have been captured by your internet and database searches. A good start is 'snowballing': identifying other relevant work by checking through the reference lists in articles you found useful ('backwards reference searching'), searching for articles which cite the ones you have found ('forwards reference searching') or browsing the websites of journals that include articles you have identified as relevant. Websites such as ResearchGate or Google Scholar can be useful for finding more work which authors of relevant articles have conducted. Supplementary searches could also include searches of trial registers or unpublished work, or contacting the authors themselves or experts in the field. Again, these extra searches should be documented in your write-up.

2 REFERENCING, QUOTING AND REFERENCE MANAGEMENT

Some of you may be very experienced in writing in an academic style, but for others it may be relatively new. As you start to work your way through your own document, it is important to keep some academic conventions in mind that enable us to develop credible and high-quality evidence.

In this section we provide a brief overview of some of these important conventions.

As you collect information, keep track of where you get the information from

It is good practice to import information about a source through reference/citation management software to help you keep track of all the information you collect. Reference management software providers usually have helpful guides on how to use the software (for example, for Mendeley: www.mendeley.com/guides).

Citation management software can help you to easily add citations and maintain and customise the reference list in your Word document and we would strongly encourage you to use it; it will save many hours of editing in the long run.

However, if you decide to copy information into a document and not to use reference management software, create a manual citation and place it after the information (see Examples 1 and 2).

Example 1: Material from website

'The project will examine current practice, both at a national level and for individual families, both to help people living with dementia to live well, and to ensure that family and other carers do not face excessive costs that could impoverish them or compromise their own health.' (STRiDE 2018)

You will find that carefully keeping track of your references even in your first draft helps to ensure the quality of your work, facilitates collaboration with colleagues (as they will be able to see the resources you have already covered) and saves you time that otherwise might be spent looking for reference information at a later stage.

In the STRiDE project we agreed to use the widely used citation and reference style format developed by the American Psychological Association (referred to as APA 6th style), unless a journal specifies a different style. (The sixth version of the APA style was published in 2010 and will remain widely used, although the seventh edition was published in October 20193.) If you use reference management software, you can just indicate APA as your preferred referencing style and the software will format the citations and list entries appropriately. Should you choose to format references manually you can find some examples in this document, and the box below shows some of the many referencing resources available online and in print.

Box 1: Reference management resources

SOFTWARE

You may have access to reference management software and support for using it through an academic institution. There are several very capable programmes including Mendeley and Zotero (free) and EndNote and RefWorks (paid for). It is simpler if writers collaborating on a paper all have access to the same software.

GUIDES TO REFERENCING

A short guide to APA 6th style for referencing (LSE Library 2016) www.lse.ac.uk/gender/assets/documents/APA-6th-style-for-referencing.pdf

The APA website provides authoritative advice including a very brief summary of APA style at https://apastyle.apa.org/instructional-aids/reference-guide.pdf

The Purdue University site is also good for more detail: https://owl.purdue.edu/owl/research_and_citation/apa_style/apa_style_introduction.html

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If you copy information directly, show this by placing it in quotation marks

It is good practice to place quotation marks around information that you have directly taken from another source (even if you plan to rephrase it later, as you may forget you had originally copied the text). When you quote material from journals, reports or books it is important to also record the page number(s) where you copied the material from (see Example 2).

The quotation marks show the reader (and yourself) that someone else thought of these words originally and you acknowledge this by following with a citation.

Direct quotation in publications is generally used when no better wording can be thought of or when you want to emphasise a point (use it sparingly!).

It is fine to have direct quotations in working documents to highlight that sections need to be paraphrased – presenting the information or argument from another source in your own words. You then acknowledge that someone else initially thought or developed this by placing a citation at the end of the sentence or paragraph. Example 3 shows two ways of paraphrasing the information in Example 2 above.

If you copy a graphic, cite the source

Diagrams, tables or images do not need to be put in quotation marks. However, it is important to place a citation underneath or in the title to show where you took the material from. This does not just show that you recognise the work of others, it also allows the reader to check the quality of the information you provide.
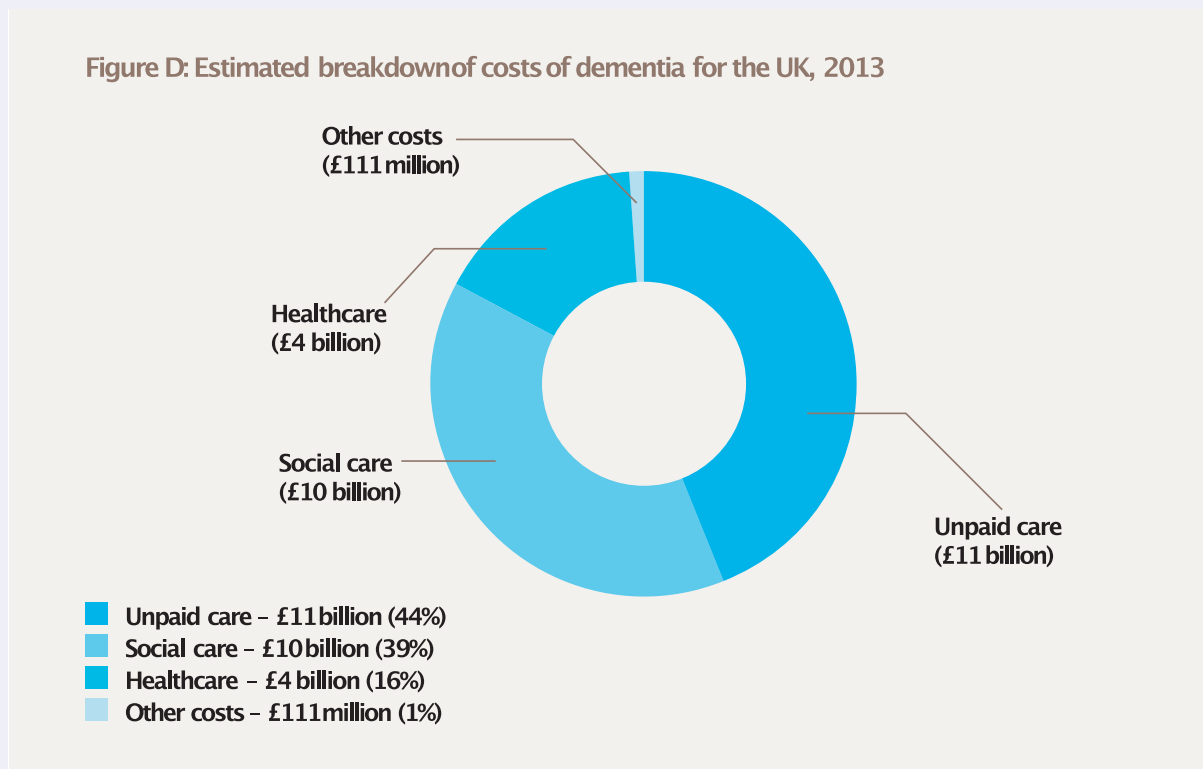
Cite your own previous work

If you use information that you previously have written for another project, take pride in your own work and cite it as you would cite the work of others.

Citing social media resources

You may come across very useful statements on Twitter or other social media but cannot find corresponding published sources. Below are some examples of how to cite such material. For more information, see https://blog.apastyle.org/apastyle/2013/10/how-to-cite-social-media-in-apa-style.html (accessed 1 February 2019).

Example 5: Tweet, with a group or organisation as author

In text citation:
STRiDE Dementia Project (2018) expressed their excitement about working with the seven countries that are part of the project following their kick-off meeting.

Corresponding entry in references list:
STRiDE Dementia Project [STRiDEDementia]. (2018, 11 March). Just finished four very enjoyable days with STRiDE team across seven countries. Very excited for the next four years working with an e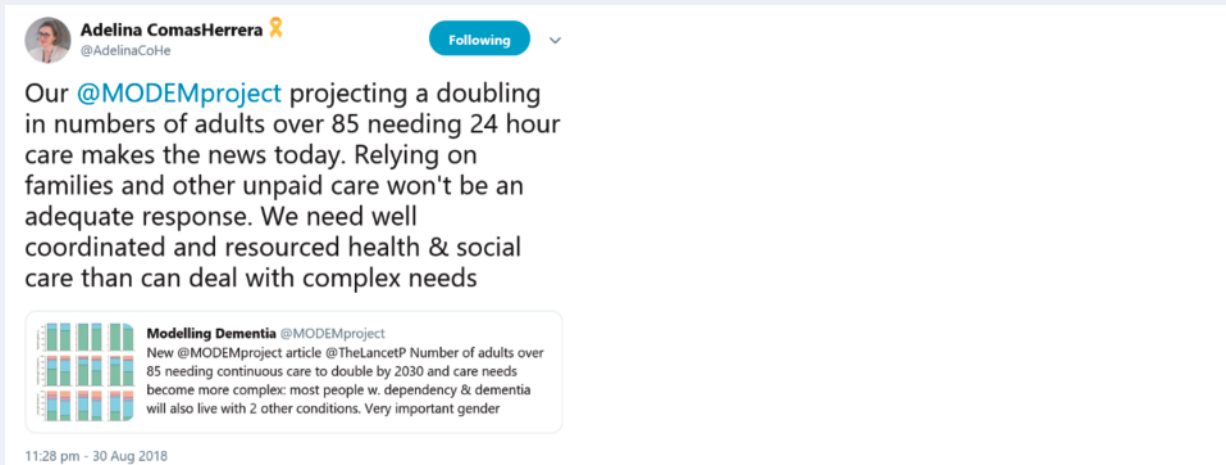xcellent team on such an important #dementia project. [Tweet]. Retrieved from https://twitter.com/STRiDEDementia/status/972879881989185536 (Accessed 1 February 2019).

In text citation if individual's tweet is accessible to the reader:
Comas-Herrera (2018) described important findings of a research project on dementia.

Corresponding entry in references list:
Comas-Herrera, A. [AdelinaCoHe]. (2018, 30 August). Our @MODEMproject projecting a doubling in numbers of adults over 85 needing 24 hour care makes the news today. Relying on families and other unpaid care won't be an adequate response. We need well coordinated and resourced health & social care than can deal with complex needs. [Tweet]. Retrieved from https://twitter.com/AdelinaCoHe/status/1035413985435234306 (Accessed 1 February 2019).

Keep a list of complete references with the documents you are working on

For each citation in the text, you should have a full reference in a list at the end of the document. Keeping a list of complete references helps you to keep track of where exactly the information came from without visual disruption in the text. Using the Mendeley citation plugin in Word (or other reference management software such as EndNote, RefWorks or Zotero) will easily do this for you. References are usually listed in alphabetical order of the first author's surname or organisation as in the example list in Box 2.

The ability to identify sources of information is very important to good quality research. Failing to acknowledge the work that others have done leaves you open to the serious accusation of plagiarism – passing off work or arguments as your own. The simple steps outlined above will avoid this.

The use of citations shows that you worked diligently to find and assess good quality information on which to base your argument, a sign of good quality academic work.

Box 2: Example reference list

REFERENCES

Comas-Herrera, A., Knapp, M., Wittenberg, R., Banerjee, S., Bowling, A., Grundy, E., ... & McDaid, D. (2017) MODEM: a comprehensive approach to modelling outcome and costs impacts of interventions for dementia. Protocol paper. *BMC Health Services Research*, 17(1), 1-8. doi:10.1186/s12913-016-1945-x

Comas-Herrera, A. [AdelinaCoHe]. (2018, 30 August). Our MODEM project projecting a doubling of numbers of adults over 85 needing 24 hour care makes the news today. Relying on families and other unpaid care won't be an adequate response. We need well coordinated and resourced health & social care than can deal with complex needs. [Tweet]. https://twitter.com/AdelinaCoHe/status/1035413985435234306 (Accessed 1 February 2019).

Prince, M., Knapp, M., Guerchet, M., McCrone, P., Prina, M., Comas-Herrera, A., … & Salimkumar, D. (2014) *Dementia UK: Update*. London: Alzheimer's Society. https://www.alzheimers.org.uk/sites/default/files/migrate/downloads/dementia_uk_update.pdf (Accessed 26 February 2019).

STRiDE (n) STRiDE Strengthening responses to dementia in developing countries. https://www.stride-dementia.org/about (Accessed 18 December 2018).

STRiDE Dementia Project [STRiDEDementia] (2018, 11 March). Just finished four very enjoyable days with STRiDE team across seven countries. Very excited for the next four years working with an excellent team on such an important #dementia project. [Tweet]. Retrieved from https://twitter.com/STRiDEDementia/status/972879881989185536 (Accessed 1 February 2019).

3 READING WITH A CRITICAL EYE

After searching the internet and academic databases and then adding material from 'snowballing' from items you initially found relevant, you are likely to have a large amount of reading, but it is important not to let it overwhelm you.

To identify which of the resources you found will be useful in answering your research question it is crucial to read information with a critical eye.

Initial assessment of an article[4]

The figure below can help you in deciding whether it is worthwhile persisting with reading in detail the material you identified.
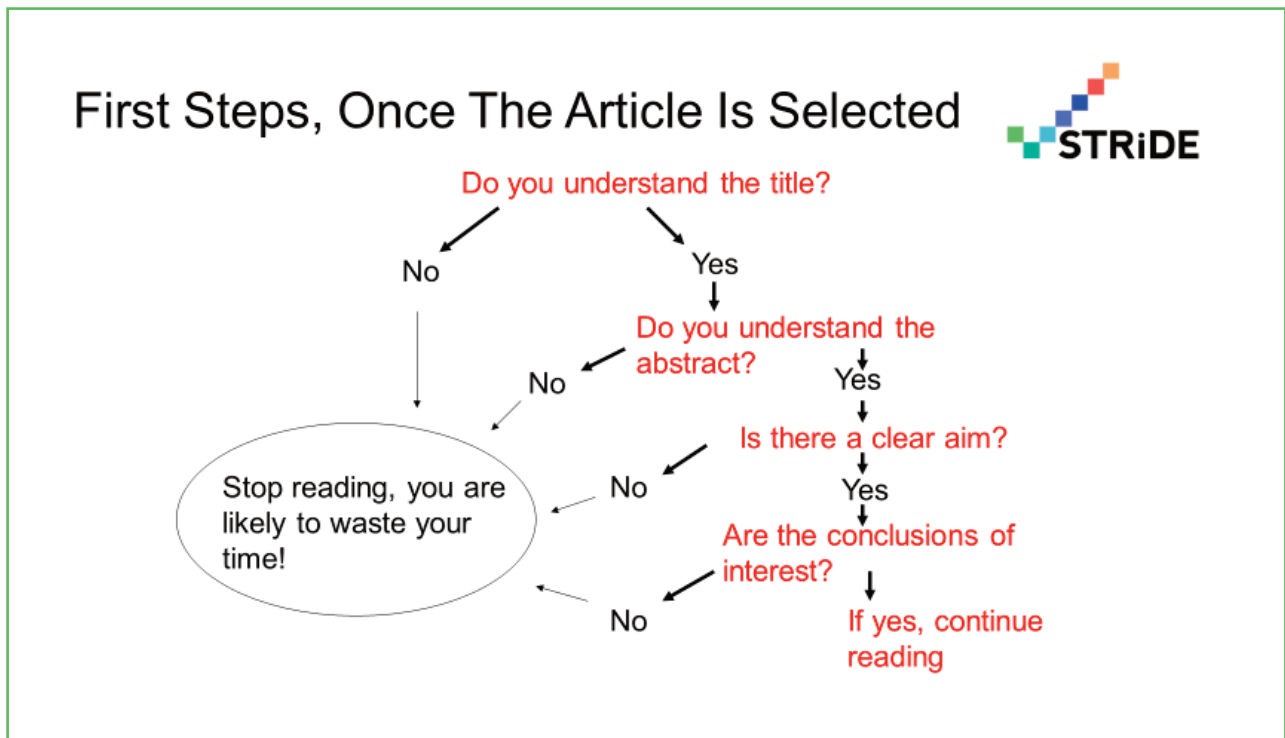
Choosing good quality sources

In addition, as you read material, you can judge whether what you read is of good quality. You might want to ask questions on the resource's credibility, accuracy and rationale and whether it is possible to verify the information, as outlined in the table below..

Credibility	Who is the author?
	What organisation is behind the content?
Accuracy	Is the information up-to-date?
	Does it tell the whole story?
	Who is the audience?
Rationality	Is the information balanced, objective, believable and consistent?
Verify	Where did this information come from?
	Can it be verified?

Source: LSE Library presentation

You can also always outline the limitations of information in your description of the material you found, if you think that is important for the reader. Critical but respectful engagement with resources you collected is good practice. For example, a study might overall be of good quality, but have some limitations (e.g. the quantitative data may not be representative of the population, the study may use a convenience sample, the sample may be very small or the data may be good but old).

Systematic literature searches following the guidelines suggested, careful record keeping for references, and a critical approach to the information found should provide a solid foundation for writing up your work. We give advice on presenting your findings and arguments in the companion STRiDE paper[2].

REFERENCES

See also the full references given in the text boxes

1 Comas-Herrera A, Docrat S, Lorenz-Dant K, Ilinca S, Hussein S, Schneider M, … the STRiDE team (2020) *Situational Analysis of the Dementia Care Landscape: Desk Review Topic Guide*. STRiDE Research Tool No. 3 (version 2), Care Policy and Evaluation Centre, LSE, London.

2 Docrat S, Lorenz-Dant K, Comas-Herrera A, Brawn N, Knapp M (2020) *STRiDE Guide to Academic Writing*. STRiDE Research Tool No. 4 (version 2), Care Policy and Evaluation Centre, LSE, London.

3 American Psychological Association (2019) *Publication Manual of the American Psychological Association* (Seventh ed.), American Psychological Association, Washington, DC.

4 Thornicroft G, Sartorius N (2015). How to read a paper. Seminar presented at Emerald Leadership Course, University of Cape Town, Cape Town.

www.stride-dementia.org