

**Reading Scientific
Articles like
a Scientist**



By the end of today, you will have

- A system to better read and understand scientific articles
- A system to keep reading
- The tools to support staying up-to-date
 - With other benefits

Presenters

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PubTrawlr

Imagine a world where scientific knowledge is at your fingertips

What would you *know*?
What could you *do*?



Reading a Scientific Article

Five things that *should* be in EVERY Abstract

I. Context. The context is the background of the study. The context should tell you the underlying need for an article, what the previous research said, or whether there is a persistent, poorly-addressed problem. This part of the abstract sets the stage for your article and gives it purpose.

Five things that *should* be in EVERY Abstract

2. Question. This question is the foundation of any good paper. What are the authors trying to answer? Every scientific article should push knowledge *forward*. So, the research question tells you what the study is pushing towards and trying to uncover. Even opinion or commentary pieces should have a central issue that the authors are exploring.

Five things that *should* be in EVERY Abstract

3. Methods. The methods describe how the question was answered. This is generally the most technical part of an article, but it's also important to get it right and establish your credibility. While research questions can be approached in plenty of different ways, the methods should tell you *specifically* what this particular team did to answer their particular question.

Five things that *should* be in EVERY Abstract

4. Results. The results section is where the authors describe what they found. It may be in the form of relevant statistics or key synthesized statements.

Five things that *should* be in EVERY Abstract

5.Implications. Finally, what did the study mean? In the implications section, the authors should provide commentary on what their results suggest, either in terms of consequences or needs for future inquiry.

Abstract

Background The impact of a pandemic on unplanned hospital attendance has not been extensively examined. The aim of this study is to report the nationwide consequences of the COVID-19 pandemic on unplanned hospital attendances in Denmark for 7 weeks after a 'shelter at home' order was issued.

Methods We merged data from national registries (Civil Registration System and Patient Registry) to conduct a study of unplanned (excluding outpatient visits and elective surgery) hospital-based healthcare and mortality of all Danes. Using data for 7 weeks after the 'shelter at home' order, the incidence rate of unplanned hospital attendances per week in 2020 was compared with corresponding weeks in 2017–2019. The main outcome was hospital attendances per week as incidence rate ratios. Secondary outcomes were general population mortality and risk of death in-hospital, reported as weekly mortality rate ratios (MRRs).

Results From 2 438 286 attendances in the study period, overall unplanned attendances decreased by up to 21%; attendances excluding COVID-19 were reduced by 31%; non-psychiatric by 31% and psychiatric by 30%. Out of the five most common diagnoses expected to remain stable, only schizophrenia and myocardial infarction remained stable, while chronic obstructive pulmonary disease exacerbation, hip fracture and urinary tract infection fell significantly. The nationwide general population MRR rose in six of the recorded weeks, while MRR excluding patients who were COVID-19 positive only increased in two.

Conclusion The COVID-19 pandemic and a governmental national 'shelter at home' order was associated with a marked reduction in unplanned hospital attendances with an increase in MRR for the general population in two of 7 weeks, despite exclusion of patients with COVID-19. The findings should be taken into consideration when planning for public information campaigns.

Jon's Tips for Reading One Article

- Questions
 - What is the article trying to answer?
 - How do they try to answer that question?
 - What did they find?
 - What does it mean?
- Different patterns of reading
 - The whole thing
 - Introduction → Conclusion
 - Abstract → Methods → Results

THERE ARE NO SPOILERS IN SCIENTIFIC ARTICLES

Julia's 10 Tips for Reading Lots of Articles

1. I email myself articles that sound interesting or relevant.

Julia's 10 Tips for Reading Lots of Articles

2. I “snooze” the article so that one article a day shows up in my inbox at 6 AM. Your mileage may vary on this time.

Julia's 10 Tips for Reading Lots of Articles

3. Reading the article is the first thing I do in the morning. If I don't read it in the first 30 minutes of my day, I know I won't get to it.

Julia's 10 Tips for Reading Lots of Articles

4.1 skim through the abstract. This takes less than 30 seconds.

Julia's 10 Tips for Reading Lots of Articles

5. If the article doesn't look relevant or helpful, I reply to the email I sent myself saying, "Article does not seem relevant" and then copy & paste the abstract. That way I can search my emails for keywords in that abstract if I ever need to find it again.

Julia's 10 Tips for Reading Lots of Articles

- 6. If the article seems helpful, I actually read the abstract** and figure out which sections seem relevant for my work (often the results or discussion).

Julia's 10 Tips for Reading Lots of Articles

- 7. I skim the intro** (THANK YOU to authors who include good headings). That means I read the first sentence of every paragraph and skim for words I might be interested in. For example, if I'm looking for work on adaptations, I'll keep an eye out for that word.

Julia's 10 Tips for Reading Lots of Articles

- 7. I skim the intro** (THANK YOU to authors who include good headings). That means I read the first sentence of every paragraph and skim for words I might be interested in. For example, if I'm looking for work on adaptations, I'll keep an eye out for that word.

Julia's 10 Tips for Reading Lots of Articles

- 8. I jump to the section that seems most relevant to my work and skim through the entire section (by reading the first line of every paragraph).**

Julia's 10 Tips for Reading Lots of Articles

- 9. When something seems relevant, I pause, take a deep breath, and read it in detail, paying attention to every word.** This is honestly the hardest part, because it's easy to just keep skimming, so I really need to pause before I jump into focused reading.

Julia's 10 Tips for Reading Lots of Articles

10. To complete the process, **I email myself a one-sentence takeaway from the article, and then copy & paste the abstract below it.**

And now, the system to keep you up-to-date

- These slides & recording
- Week in Science Newsletter
- PubTrawlr referral program (for the newsletter)
 - Referrals = people who sign up with your code
 - Stickers, swag, and more
- The ability to shape more specialized issues

Referral Contest

By October 31, 2022, the people with the greatest number of referrals will receive.

First Prize: \$1,000 USD

Second Prize: \$500 USD

But there are milestones for referrals

**Because
Science is a
Public Good**



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