

How to Write a Successful Abstract for a Public Health Conference



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Webinar Overview/Objectives

In this webinar, we will describe the steps in writing a scientific abstract for submission to a public health conference and will discuss specific ways to improve abstract quality and chances for acceptance.

After the webinar, participants will be able to:

- Understand the purpose of a scientific abstract;
- Describe the structure of a scientific abstract and the writing approaches for each section;
- Discuss “tricks of the trade” to improve chances for abstract acceptance
- **Write an abstract for submission to an upcoming public health conference!**



Call for Abstracts: Nov. 1, 2019 – Jan. 10, 2020

Our Overarching



To write a strong abstract that is accepted for presentation at a public health conference

Ultimately, so that your great epi work is seen, heard, incorporated, discussed, modeled...USED—as part of the body of scientific knowledge!

What is a Scientific Abstract?

An abstract is a “**snapshot**” of a scientific or research study

Designed to **ENGAGE** (readers, attendees, etc.)

So that your scientific work is **consumed** and **used**

As such, the “snapshot” should be polished, clear, professional.

Snapshot Analogy...



Vs



Two Types of Scientific Abstracts

1. Scientific Papers
 - Appear at beginning of manuscript
 - Included in PubMed and other abstract services
 - Often the only part of a paper that many people read
2. **Abstracts for Presentation at Scientific Meetings***
 - Submitted in response to a call for abstracts
 - Required formats and specified word counts

Abstracts are a means of conveying what was done and why, what was found, and the implications

How Do We Reach Our Goal of Getting an Abstract Accepted?

- The “science” itself isn’t enough
- Requires careful planning and concise execution
- First and most important step: read and adhere to conference guidelines for submission **(FOLLOW DIRECTIONS, they mean it!)**
 - Submission deadline and mechanism
 - Abstract format
 - Word count (CSTE--400 words)
 - Selection of presentation format (e.g. for CSTE--Quick, Lightning, Poster, etc.)
- Takes more time than you think (build in time for review/clearance)
- Sort out authorship early

Strong Abstracts Should Be ("4 C's"):

Complete —covers the major parts of the project, study, or analysis

Concise —no excess wordiness or unnecessary information

Clear —readable, well organized, and not jargon-laden

Cohesive —flows smoothly between parts; coherent story overall

5th C is that this can be Challenging—**but practice makes perfect!**

Scientific Abstract Structure (Typically)

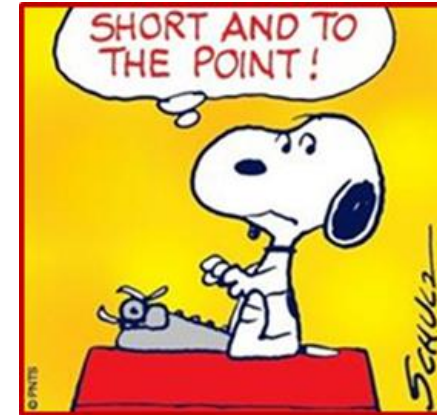
Title

Background

Methods

Results

Conclusion



Scientific Abstracts: General Characteristics

All 4 Cs are important, but **CLEAR is #1** -- **AIM FOR CLARITY!**

Should be understandable as a **stand-alone** story (chronological if possible)

Sections **relate/tie back to each other** (all results have a corresponding method, results support conclusion, conclusion ties back to why the study was important to do, etc.)

Avoid wordiness, jargon, and excessive acronyms

Use **past** tense (mostly)

First person (I, we) now most accepted

The word data is PLURAL

Use **active** voice (“We investigated an outbreak of...”)

Do not include references, citations, tables, charts, illustrations, or figures

Title: Characteristics and Advice

Clearly describes what the study is about (but doesn't give results away— encourages readers to want to read the rest of the abstract)

Usually includes location and timeframe of study

- **“Injuries Among High School Football Players, Nebraska, 2013”**

Grabs your attention (note: some reviewers either like/don't like “plays on words” as part of title, so caution)

- **“Is the Juice Worth the Squeeze? Analyzing *Rickettsia rickettsii* Case Classifications – Georgia, 2016-2017”**

Usually capitalize first letter of each word

Check conference guidelines—title might/might not be included in word count

Title: DON'TS

Unclear

Don't state results or conclusions

Don't include phrases like “a study of”, “an investigation of”, “analysis of”--implied

Don't include jargon or unfamiliar acronyms

Don't be too long

Example for you to think about:

- **“State Public Health Laboratory-NIH-Funded Research Laboratory Collaboration for Carbapenem-Resistant Enterobacteriaceae Surveillance: A Model for Maximizing the Public Health Potential of Taxpayer Money”**

Background: Characteristics and Advice

Why did you perform the study?

Should be 2-3 sentences total

1st sentence: Provide the context and/or motivation for doing the study (What is already known about the subject? What is not known, and hence what do you intend to examine?)

2nd sentence: Simple, clear statement of the aim of the study (What are you hoping to find out or what is your hypothesis?)



The last sentence of the Background is one of the most important in the entire abstract-- should be a **“hook”**--the study’s practical significance/importance to public health/practice.

Background: DON'TS

Don't include too much historical background

Don't be too lengthy

Unclear why you did the study

Unclear why the study is important (no hook)

Don't include methods, results, or conclusions

Methods: Characteristics and Advice

What did you do? How did you do it?

Usually 3-5 sentences total; chronological if possible

Briefly describe study design (survey, cohort, etc.)

Where and when (timeframe of study)?

How and what data were collected?

Who were the subjects? How selected?

Case definition (if applicable), but often it is too long

Statistical analyses or tests performed

Balance between putting in not enough and too much

Methods: DON'TS

Unclear what you did and how you did it

Don't include only non-specific phrases such as:

- “We collected data”
- “We surveyed the population”
- “We performed statistical analyses”
- “Cases were identified”

No statistical methods provided

Methods missing for results presented later (**tie-back**)



Results: Characteristics and Advice

What did you find?

Usually the longest section, 3-8 sentences even

Describe your main findings with **data**

Don't include all study results, but highlight the findings that tie back to the primary study aim.

Logical flow from descriptive (frequencies, etc.) to analytic

Include measures of association, P-values, confidence intervals as appropriate

Statements such as “to be completed” or “to be presented” are not acceptable

Make sure to include the specific data that supports your conclusion(s)

Strike balance here between including not enough and too much

Results: DON'TS

Results lack numbers

****“Tie-back” issues:**

- Results do not pertain to the primary study aim
- Results missing for methods that you mentioned
- No results that tie to/support your primary conclusion

Don't include conclusions or interpretation in the Results (sometimes I see methods here too)

Conclusion: Characteristics and Advice

What does it mean? Why is it important?

The Conclusions section should explain your main findings and why they are important (2-3 sentences)

Should **tie back** to primary study aim(s)

You may have one primary conclusion, or several, depending on study aims (but not TOO many—reduces clarity and impact)

Must be supported by your presented results

******End with a strong **closer** sentence that is the practical take-home message (a practical application)

Conclusion: DON'TS

Don't present a conclusion not supported by the results of your study

Don't overstate (generalization beyond scope of study)

Unclear specifically why the study was important

Don't have a generic "closer" sentence— the closer sentence should have a practical application or statement about how this study can be "used" in public health practice or epi science...

Don't use "More research is needed" as your closer

Example for Review

Outstanding Poster Presentation at the 2018 CSTE Annual Conference in West Palm Beach, Florida:

“Some Glitter Is Gold: Validity of Congenital Anomaly Flags on Electronic Birth Certificates in Identifying Zika-Associated Birth Defects, Georgia, 2016–2017”; Jerusha E Barton *et al.* Georgia Department of Public Health.

<https://cste.confex.com/cste/2018/meetingapp.cgi/Paper/9883>

201: Some Glitter Is Gold: Validity of Congenital Anomaly Flags on Electronic Birth Certificates in Identifying Zika-Associated Birth Defects, Georgia, 2016–2017

Sunday, June 10, 2018 03:00 PM - 03:30 PM

📍 Palm Beach County Convention Center - Exhibit Hall A

Board Number: 201

<https://cste.confex.com/cste/2018/meetingapp.cgi/Paper/9883>

BACKGROUND: In April 2016, the Centers for Disease Control and Prevention (CDC) confirmed the association between congenital Zika infection and severe birth defects. Electronic birth certificates (eBCs) were explored as a statewide passive data source to identify Zika-related congenital anomalies. This study examined the validity of using congenital anomaly flags in eBCs to identify potential Zika-associated birth defects (ZBD) from January 2016 through June 2017.

METHODS: Suspected birth defect cases were identified through congenital anomaly flags reported on eBCs during 1 January 2016 through 30 June 2017. Flags were selected and ZBD cases were identified using CDC Zika Birth Defects Surveillance (CDC-ZBDS) Case Inclusion Guidance. Medical records were requested for any infant whose eBC noted ("flagged") at least one congenital anomaly. Diagnoses found in medical record review were considered the gold standard for birth defect case identification. Among cases whose medical records were reviewed, sensitivity and specificity were calculated for the overall sample and each defect flag by comparing eBC flags to medical records.

RESULTS: As of 15 December 2017, we identified 218 infants with 289 congenital anomaly flags potentially related to congenital Zika infection. We received and reviewed 173 (79%) records with 242 flags (84%) and found 153 diagnoses, of which 93 (61%) were confirmed. Fifty-three (31%) records met the CDC-ZBDS criteria and contained 65 (42%) diagnoses. Sixty additional ZBD diagnoses were found through record abstraction. Overall, the sensitivity and specificity of congenital anomaly flags was **59.6%** and **97.3%**, respectively. The most common flags ($n > 10$) included intraventricular hemorrhage, clubfoot, hydrocephaly, spina bifida, and craniofacial anomalies. Sensitivities for microcephaly, limb reduction, and clubfoot ranged from 67% to 78%. Hydrocephaly, microcephaly, and craniofacial anomalies had specificities $\geq 95\%$.

CONCLUSIONS: Overall, congenital anomaly flags performed well in screening out false positives, yet captured many false negatives; hence, eBC flags may be only one tool for Zika-associated birth defects surveillance. Additionally, eBCs are available for all live-born infants, suggesting they may be a useful data source for statewide surveillance of related birth defects. Leveraging linkage to other data sources, including fetal death certificates and direct case reports from healthcare providers, could be used in conjunction with eBCs to enhance Zika birth defects case ascertainment and improve validity. Despite known limitations, eBCs appear to provide valid data for birth defects surveillance. Future studies may evaluate the validity of other eBC birth defects flags to clarify the limitations of using eBCs for population-level general birth defects surveillance.

“Tricks of the Trade” in Abstract Writing (and Acceptance)

Science is KING: start with a study that has clear purpose

Abstracts about emerging PH issues are a plus!

FOLLOW Conference guidelines to the LETTER

Also look at Conference guidelines for what the Selection Committee is looking for, and cover it!

Example from 2019 CSTE Annual Conference:

- “The Program Planning Committee will evaluate abstracts based on a number of criteria, including timeliness, relevance, design, clarity, outcomes, and potential impact”

“Tricks of the Trade” in Abstract Writing (and Acceptance)

Find an abstract **“expert”** to guide and review your abstract throughout the process (ME!).

Your abstract will go through numerous review steps, including your coauthors, your supervisor, the abstract “expert”, your agency’s clearance process. Allow sufficient time.

Write a **first draft** with all of the Sections (as clear as possible) but don’t worry about word count exactly yet.

Some people use the technique of starting the first draft by narrow focus: writing **two** sentences for each Section that hits the **main** points, ensure these are the tie-backs, then add/fill in more after.



“Tricks of the Trade”: Word Cutting

Submit 1st draft to your expert or supervisor for review and editing—they can assist with word cutting (send to coauthors when closer to final)

Word cutting can be an art!

- If >30 words over, remove entire concepts
- If 15–30 words over, remove sentences
- If <15 words over, remove unnecessary phrases and adjectives

We don’t want too many acronyms, but strategic use can help with word counts (remember to spell out first time!)

Check for and eliminate wordy phrases like: “in close proximity to”, “in a large number of cases”, “with regard to”, “in order to”, “due to the fact that”, etc.

This is one of my secret talents!



Most Common Reasons ("Risk Factors") for Abstract Rejection

- Usually not because of the science itself
- Most commonly because it is **unclear**
 - Why you did study in the first place
 - Why the results are important (need good closer!)
- Poorly written; difficult to understand
- Data insufficient to support conclusions
- Low priority topic
- No new information gained
- Previously published



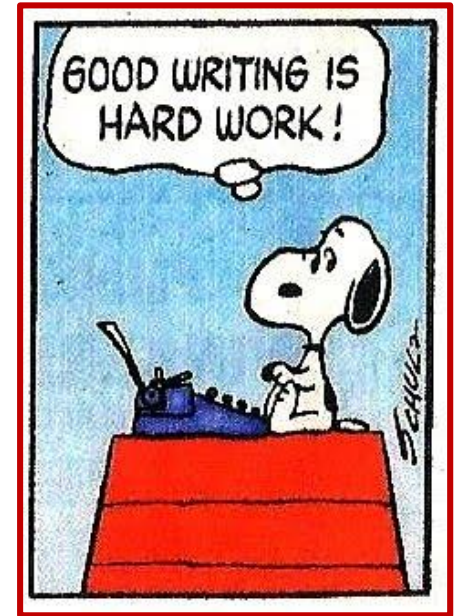
Successful Acceptance: Contributing Factors

Study topic is important and timely—an emerging problem, rising incidence, an area that we all want to learn more about

Abstract is **CLEAR (a readable story)**—this is most important

Follow directions exactly and submit on time

Have a great **closer**: sentence with a clear practical implication for public health practice or epi science (never “more study is needed”)



AIM FOR CLARITY!





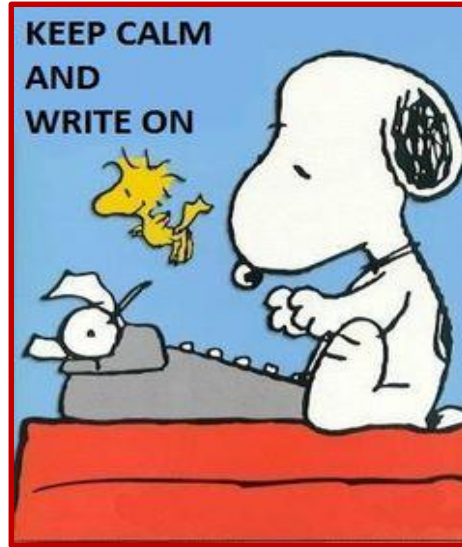
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Thank you!



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