Preparing an Abstract for a Scientific Conference

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Points to consider:

Audience: Specialist (significant clinical/scientific experience in the area); generalist (clinical/scientific experience but not in your specific area); patients, family members of patients, or members of the public. Type of Abstract components – Scientific orLay abstracts

Common mistakes Resources and Tools

Scientific vs. Lay Abstract

Scientific Abstract – A comprehensive version aimed at the research and clinical audience, providing technical details, methodology, and in-depth results.

Lay Abstract – A shorter, simplified version tailored specifically for patients, parents, and the general public, using clear, non-technical language.

Key components of the Scientific Abstract

- A scientific abstract typically includes several key components that summarise the essential aspects of a study providing the reader with a clear understanding of the study. Title
- Introduction (
- Materials and methods
- Results
- Conclusions

Title: The title of the abstract should accurately reflect the content of the study. It should be descriptive, highlighting the main focus or findings of the research [be mindful of specific formatting and word count]

Introduction: The introduction provides background information on the topic of the study, outlines the research question or objective, and explains the significance of the research and the purpose of the study.

Background: explain what the topic is about, why it is important, and what is already known about it.

Research Question: state the main research question - a clear, focused, and answerable question that serves as the foundation for your research study. The Research question should consider:

- Population: Specify the population or group of interest that your research will focus on. This could be a specific demographic group, patient population, or community.
- Intervention or Exposure: If your study involves an intervention or exposure, clearly define what it is and how it will be implemented or measured.
- Comparison (if applicable): If your study involves comparing different groups or interventions, specify the comparison group or condition.
- Outcome: Identify the outcome or outcomes that you will measure or evaluate in your study. These could be changes in behaviour, health status, knowledge, attitudes, or other relevant outcomes.
- Time Frame (if applicable): If your study involves a specific time frame or duration, specify the time frame over which your outcomes will be measured or observed.

Research Objective: a specific, measurable, and achievable goal that guides a research study. The objective should be relevant to the overall research topic and align with the research questions or hypotheses. Objectives are usually time sensitive, as a project will have a key timeframe within which the work must be completed/ funding is available.

Significance of the Research: The introduction explains why the research is important and its potential impact society, health, or scientific knowledge.

Purpose of the Study: The introduction outlines the purpose of the study, or what the researchers hoped to accomplish by conducting the research. This might include explaining the specific goals or aims of the study and why they are important.

Materials and Methods: The methods section describes the research design, participants or subjects, materials or equipment used, and procedures followed in the study. It should provide enough detail to allow readers to understand how the study was conducted and to assess the validity and reliability of the findings.

Results: The results section presents the key findings of the study. It may include quantitative data, qualitative observations, or both, depending on the nature of the research. Important considerations:

Organising Data: data is systematically organised and should reflect the structure of the methodology. For example, if the study involved different experimental conditions or data collection methods, the results for each condition or method may be presented separately. For clinical data, this may involve categorising results based on patient demographics, intervention types, treatment outcomes, or other relevant clinical variables.

Presenting Findings: use familiar metrics such as patient demographics, clinical scores, diagnostic test results, or treatment response rates.

Objective Reporting: adhere strictly to the data collected and analysed. Interpretations are kept to a minimum with a focus on factual reporting of observed outcomes without subjective bias.

Discussion: The discussion section interprets the results of the study, analyses their significance, and relates them to previous research in the field. It may discuss implications for theory, practice, or future research and address any limitations or unanswered questions.

Interpretation: Remember - interpretation should be kept separate from the Results section and reserved for the Discussion section.

Relevance to the Hypotheses/ Research Question: revisit the hypotheses or research questions posed by the study and evaluate the extent to which the experimental results support or refute these hypotheses. Discuss any unexpected findings and consider alternative explanations in the context of the study objectives.

Further Research: identify opportunities for further investigation arising from the findings. Suggest future research aimed at addressing unresolved issues or expanding upon current findings.

Experimental Limitations and Considerations: The Discussion section acknowledges and addresses any limitations or challenges encountered during the research process. Critically evaluate the validity and reliability of the findings, discussing sources of bias, or technical constraints that may have influenced the results.

CONCLUSION: The conclusion summarises the main findings of the study and highlights their importance. It may also suggest directions for future research or practical applications of the findings. It should contain the following:

Summary of Key Findings: Summarise the main findings and highlight the most significant outcomes or discoveries that emerged from the research.

Reflection on Significance: Discuss the significance of findings within the context of the broader research field. Detail how the study contributes to advancing scientific knowledge and addresses gaps in understanding.

Implications for Practice or Policy: Consider the practical implications of the findings for real-world applications, such as clinical practice, public health policy, industry practices, or community interventions. Discuss how the research outcomes can inform decision-making or lead to positive changes in practice.

Concluding Statement: End with a strong and conclusive statement that summarizes the overall significance of the research and leaves a lasting impression on the reader. This statement should underscore the importance of the study and its potential impact on the field.

Key Components of the Lay Abstract

A lay abstract is a vital tool for communicating the significance of your research to a non-specialist audience, including patients, parents, and the public. It must be written in plain language, avoiding technical terms or jargon while maintaining accuracy and relevance. For the Research & Innovation Day, lay abstracts should be concise and structured according to the following components:

Lay Project Title

Use clear, non-technical language to describe the focus of the study, remembering the title should be inviting and reflect the main outcome or area of investigation.

Example:

Instead of: "A Randomised Controlled Trial on Immunomodulatory Agents in Paediatric Crohn's Disease" Use: "Exploring New Treatments to Improve Outcomes for Children with Crohn's Disease"

Introduction

Background

Provide context for your research by explaining the following in simple terms:

- What condition or issue does your research address? Include a brief description of the condition or topic.
- Why is it important? Highlight its impact on children and families (e.g., how many children it affects, common challenges).
- What is already known? Briefly describe existing knowledge or gaps that led to your research.

Research Problem

Define the specific problem or question your research seeks to address and clearly state the issue you aim to solve or understand. Remember to emphasise how the problem impacts children and families.

Example:

Instead of: "This study examines the molecular pathways underlying paediatric glioblastoma." Use: "Brain tumours in children can be aggressive and difficult to treat. This research looks for better ways to understand and treat these tumours."

Research Plan

Describe how your research is solving the problem:

- What are you trying to do? Explain the aims of your study.
- How are you doing it? Outline your approach or methods without technical details (e.g., testing a treatment, collecting patient data, or conducting surveys).

Example:

Instead of: "We employed a cohort-based longitudinal design to assess the efficacy of intervention X." Use: "We are testing whether a new therapy can help children recover faster after surgery."

Results

Summarise key findings or progress made so far:

- Focus on outcomes relevant to children, families, or clinical practice.
- Avoid technical metrics; use relatable language to describe the impact of your findings.

Example:

Instead of: "Our findings revealed a 15% reduction in inflammatory markers." Use: "We found that this treatment helped reduce inflammation and improved symptoms for most children."

Conclusions and Future Plans:

Conclude with a summary of the main takeaways:

- Reflect on the significance of your findings for patients and families.
- Emphasise how the research addresses the original problem and its potential impact.

Example:

Instead of: "Our data suggest significant implications for cytokine-targeted therapies." Use: "This research provides new hope for better treatments that can reduce hospital stays and improve the quality of life for children with chronic conditions."

Future Plans

Briefly outline what comes next for your research:

- Highlight planned steps, such as further studies or clinical trials.
- Mention potential applications, like new treatments, improved care, or policy changes.

Common Mistakes:

Scientific Abstract

Excessive Detail: Avoid including too much detail in the abstract. Stick to the most important aspects of your research, such as the research question, methods, key findings, and conclusions, without overwhelming the reader with unnecessary information.

Failure to Follow Guidelines: Make sure to follow the specific guidelines provided for abstract submissions. Failure to adhere to formatting, word count, or other requirements could result in your abstract being rejected.

Including Unsubstantiated Claims: Avoid making unsubstantiated claims or generalising the significance of your findings. Stick to the facts. Provide evidence.

Omitting Key Information: Make sure to include all essential information in your abstract, such as the research question, methodology, results, and conclusions. Omitting important details could lead to misunderstandings or misinterpretations of your research.

Using Jargon or Acronyms Without Explanation: Avoid using expert jargon or acronyms without providing explanations for non-expert readers. Define terms or abbreviations that may not be familiar to all readers.

Inconsistency with the Main Text: Ensure that the information presented in the abstract is consistent with the main body of your oral or poster presentation.

Ignoring the Audience: Consider the audience for your abstract and tailor your language and level of detail accordingly. Make sure that your abstract is accessible to readers with varying levels of expertise in your field.

Neglecting Proofreading: PLEASE proofread your abstract before submission to catch grammatical errors, typos, or inconsistencies. A well-written abstract shows your level of professionalism and reflects positively on the quality of your research.

Lay Abstract

Using Technical Jargon: Including abbreviations, acronyms, or complex scientific terms without explanation can make the document inaccessible to anyone outside of your professional field. Do not assume readers have a baseline understanding of the topic.

Being Too Formal or Dry: Writing in a formal, academic tone may cause the audience to disengage. Its best to use a conversational and approachable tone that invites the audience in.

Overloading with Details: If the author includes too much information or focuses on minor technical details the main message can get lost. Remember to focus on the key points most relevant to the audience, such as the problem, the approach, and the impact.

Resources and Tools:

There are several online resources, templates, and guidelines available to assist with abstract writing across various disciplines. Here are some popular ones:

<u>APA Style Guide:</u> The American Psychological Association (APA) provides guidelines for writing abstracts in the social sciences. Their website offers resources and examples to help researchers adhere to APA style when writing abstracts.

<u>AMA Manual of Style</u>: The American Medical Association (AMA) provides guidelines for abstract writing in the medical and health sciences. The AMA Manual of Style offers guidance on formatting and content for abstracts in medical research.

<u>Elsevier Author Resources</u>: Elsevier offers a range of author resources and guidelines for writing abstracts in various disciplines, including science, technology, and medicine. Their website provides tips and templates for preparing abstracts for submission to Elsevier journals.

<u>PubMed Central (PMC)</u>: PMC offers resources and guidelines for writing abstracts in biomedical and life sciences research. Their website includes examples of well-written abstracts, as well as tips for structuring and formatting abstracts for submission to PMC-indexed journals.

<u>Google Scholar</u>: Google Scholar provides access to a wide range of academic publications, including abstracts. Researchers can use Google Scholar to search for examples of abstracts in their field and analyse how abstracts are structured and written in the literature.

Plain Language Action and Information Network (PLAIN): PLAIN provides guidelines and tools for writing clear, concise, and accessible content for non-specialist audiences. Their resources are particularly helpful for researchers who want to eliminate jargon, simplify technical content, and ensure their writing resonates with a lay audience. Examples and strategies for structuring abstracts in plain language are available.

INVOLVE (UK National Institute for Health Research): INVOLVE is a UK-based organisation that offers guidance on engaging the public in research. It provides practical resources for writing lay summaries, including examples tailored to patient and parent audiences. Their guidelines emphasise clarity, relevance, and the importance of making research findings accessible to non-experts.

<u>Health Research Board (HRB) Public Involvement Resources:</u> The HRB offers Ireland-specific resources to support researchers in creating lay abstracts. Their materials include templates and examples for writing accessible summaries, with a focus on involving patients and parents in the research process. These guidelines are particularly relevant for child health research conducted in Ireland.