

## **GUIDANCE ON WRITING AN ABSTRACT**

### **Writing a research abstract: structure, style and content**

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The communication of ideas is fundamental to the development of all professions. Producing an abstract is an essential part of this process and it requires careful planning if it is to fulfil its purpose correctly.

THE FUNCTION of an abstract is twofold. It summarises content and acts as an advertisement. An abstract is often the only permanent and public record of your research and must therefore be able to stand alone. It is likely to include the following elements: background, materials and methods, results and conclusions. Increasingly, journals and conferences specify that a 'structured abstract' should include headings such as these. Other abstracts may be more informal but should still be informative, complete, clear, precise and well structured.

### **WHEN TO WRITE THE ABSTRACT**

Although the abstract appears at the beginning of a published paper, it is generally the last section to be written, when the study findings are completely understood.

But sometimes an abstract must be written before the paper is completed. For example, if the paper is to be given at a conference the presentation will be accepted on the strength of the abstract alone. Even in other circumstances, it may be helpful to produce a draft of the abstract at an early stage. The paper will be easier to write if it is built on the foundation of a well constructed abstract. The abstract will almost certainly require substantial revision following completion of the paper, but in writing the draft of abstract, ideas will be clarified, substantial editing of the paper will take place and the paper will then be based upon a clear structure.

### **THE FUNCTION OF THE ABSTRACT**

The abstract is a summary of the paper's contents and conveys the main points to readers and colleagues who may not have time to read the full paper or attend the meeting. It is also important that it is an advertisement for the writer, because it is on the strength of the abstract that the presentation will be accepted – or rejected – by the organiser of a conference.

It is the abstract which will create that all-important first impression in the mind of a journal editor or conference organiser and which will catch the eye of those reading the journal or attending the meeting. The abstract will encourage readers to read on or to book a conference ticket to hear the author speak.

A paper in a journal is likely to be read in its entirety by only a very small number of people, but many more will read the abstract. The abstract of a published paper may appear in a database such as CINAHL or MEDLINE and be accessible to thousands of people, very few of whom will ever see the journal. Conference abstracts are likely to be seen by many more people than attended the conference. The abstract will be the most permanent and public record of the study. It is very important that the abstract is accurate and honestly reflects the content of the paper.

A good abstract communicates the essential ideas in the work. It covers all the key points, is precise and accurate, logical and to the point. It is clearly and concisely written, and interesting. All this in the allocated 200 or 250 words is not easy. The most efficient way to deal with this problem is to adopt a systematic approach. The discipline imposed by a strict word limit, at first sight a source of difficulty, will probably help to clarify and communicate ideas accurately.

## STRUCTURE OF THE ABSTRACT

An abstract may be informal or structured. The 'structured abstract' was first proposed in 1987 by the Ad Hoc Working Group for Critical Appraisal of the Medical Literature, which suggested that authors should 'structure their abstracts so that key aspects of purpose, methods and results are reported in a partly controlled vocabulary and in a standardised format'. The guidance was originally intended to apply to abstracts written for articles reporting original clinical research but it has since been extended to cover review articles and other types of publication (Haynes et al 1990). Many medical journals, including the BMJ (BMJ 1997, Lock 1988), now stipulate that abstracts for certain types of article must follow the structured abstract format set out in Box 1.

Other journals have their own (generally shorter) structures or may not specify any particular structure. A common variation, followed by many including the New England Journal of Medicine and (since January 1997) the British Journal of Surgery (Murie et al 1997), is a simple four-part abstract with the headings Background, Methods, Results and Conclusion.

Few nursing journals yet insist on structured abstracts but it is likely that this will change in the near future. In 1992, the Journal of Obstetric, Gynaecologic and Neonatal Nursing (JOGNN) became the first nursing journal to introduce the format (Haller 1992) and since 1994, the journal Midwifery has specified an eight-part structure (Box 2).

In many other journals, some papers are preceded by a structured abstract. These include Heart & Lung, Infection Control & Hospital Epidemiology, Journal of Emergency Nursing and Journal of Nursing Administration.

Increasingly, conference organisers ask for structured abstracts. Whether the abstract is for a journal article or a conference presentation, and whether or not a structure is specified, it is worth adopting the general style. Even if the headings are not retained in the finished abstract, the draft should be prepared in this way to ensure that no important elements are omitted. The structured abstract is intended to make it easier for the reader to select the important details of the paper and to assess the validity and applicability of the study. It also helps the author to identify and summarise the key features of the work.

## CONTENT AND STYLE OF THE ABSTRACT

In the absence of any specific instructions, the simplified four-part structure outlined above is recommended, whether the abstract is intended for a scientific meeting or for a journal.

**Title** In addition to the four sections of the abstract itself, the title also plays an important part. If the abstract acts as an advertisement, the title is even more important. Many more people will read the title than will read the abstract, just as more people read the abstract than read the whole paper. Fewer and simpler words are more likely to convey the meaning of the paper. Of course, the meaning of the entire article cannot be expressed in the title but the main points should be included. If the subject is suitable, the cause, setting and result of the study should be described. Any statement made in the title must be supported by data within the text.

**Background** The abstract should start with a statement about the importance or purpose of the study (with perhaps a brief comment on previous work in the field). The hypothesis and benefits of the study should also be described, although if space is short these could be included in the main text.

**Methods** The setting, study population, selection of subjects for the study and research design should also be included. How were cases (patients or other sources of data) selected? What intervention was used? How were data collected? Over what period of time? If space allows, the analytical techniques and statistical tests can also be described sufficiently to allow the reader to assess the rigour of the methods.

**Results** This is likely to be the longest section. Give the number and type of observations made during the study and summarise the key findings, including details of any statistical test results. Precision is important. For example, rather than stating that 'the two groups differed significantly', say by how much they differed and how significant the result was. If necessary, prune the methods and expand the results.

**Conclusion** This section may be expendable if space is very short. In any case, it should be kept brief. State whether the hypothesis was proven, and highlight the importance of the work. The conclusions should consist of a generalisation from the specific results to the wider world and must follow directly from the results presented.

### **KEY POINTS**

The abstract should be written for the purpose, not as an extract from the main paper, a technique which inevitably results in inadequate information on some aspects of the work and excessive detail elsewhere. The abstract should be written from scratch, as a summary of the work described in the paper, not as a series of extracts from the paper.

For both title and abstract, words should be chosen carefully. Where a paper is to be published in a journal, the text should be considered from the point of view of someone trying to retrieve information from a bibliographic database. Modern computerised databases such as CINAHL and MEDLINE are powerful retrieval tools and every word in the title and abstract is available as a search key. If it is not there it cannot be found. Ensure that the words most likely to be searched are present in your abstract.

After writing the abstract, it is often a good idea to leave it aside for a few days and then subject it to further review and editing. Even if the abstract complies with the specified word limit, the text may well benefit from editing. Every sentence should be critically examined, each word analysed for its value to the meaning. It is astonishing how many of the sentences which have been agonised over can be drastically shortened or even cut out altogether.

### **PITFALLS, PROBLEMS AND GOLDEN RULES**

The most important rule is to follow the rules. If the conference or journal asks for abstracts not exceeding 200 words it is unacceptable to submit 250 words or even 201. If the rules specify a structure with particular headings, the style should be followed exactly. If there is a special format, it should be used. If the width of the margin, the type size or the font are specified these should be used. If the abstract for a conference has to be submitted by a particular date, the date should be honoured. There is no point in an author producing a beautifully written abstract only for it to be rejected because it fails to meet some apparently trivial criterion.

Perhaps the most common failing in an abstract is to be imprecise. The statement that 'results will be presented' merely creates the suspicion that the study is unfinished, as does 'the implications will be discussed'. It is inexcusable to write such phrases in an abstract submitted to a journal alongside the full paper and they should also be avoided in conference abstracts. When the abstract is written the results and their implications should be clear.

### **CONCLUSION**

Authors should remember how many people may read the abstract and how few will read the full text or hear the presentation. Readers deserve to receive information in a clear and interesting way. Nurses should be more confident about writing and presenting papers and producing a good abstract is an important part of the process. It is not as easy as it seems at first sight, but it is an art that can be perfected with practice and attention to detail.

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