

Essentials of Medical Writing

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Abstract

Medical writing involves communicating composite data and ideas in a clear, brief, plausible, absolute, and convincing manner. It's all about developing materials about medicine and health by collecting, organizing, interpreting, and presenting information in a manner appropriate for the target audience.

Life sciences graduates can deem medical writing as a valuable career choice as the demand for medical writing professionals is growing progressively in pharmaceutical and healthcare industries. In these days, there is a rapid addition of new information and knowledge related to the field of sciences and medicines in the form of research articles, clinical papers or studies or data.

Ayurveda, the oldest medical writing of Hindus, is a part of the least ancient Veda-Atharva Veda. Also, there are several other examples of ancient medical writing concepts, which include Hippocratic writings, Aristotle, Diocles, among others. They wrote about the definitions of the different diseases, their clinical symptoms, diagnosis and differential analysis. Firstly, these topics were described and then followed by a debate of the hypotheses on aetiology and pathogenesis.

Medical writing can be of several types like research writing, product related promotional writing, educational materials for patients or researchers or physicians, manuscripts, abstracts, health related news articles, regulatory, websites of healthcare or pharmaceutical companies and many others. These medical or scientific information documents should be written according to the type of target audiences like patients, doctors or physicians, general public or the regulatory officials.

What makes medical writing a challenging job is the need of a clear thinking about the content and the respective audience. The other problem includes the involvement of both science and art, and business and academic-related ethical issues like plagiarism and copy rights. Overall, requirements of being a good medical writer include having a clear understanding of scientific guidelines about the structure and format of content, medical terminologies, and good writing skills. Knowledge about the medical or scientific literature survey tools, presentation of research data, publishing, reviewing, and editing requirement is beneficial for medical writers.

Knowledge of other design-blended innovative learning solutions such as digital, print, learning modules and clinical case studies could be valuable for a medical writer.

Keywords: Medical writing; Skills requirements; Medical publication; Medical editing

These days, pharmaceutical companies, business/knowledge process outsourcing companies (BPOs/KPOs), consulting firms, healthcare industries, and media and publishing companies, all need qualified medical writers. Other examples of employers include academic medical institutions, medical/scientific societies, contract research organizations (CROs), scientific content and healthcare communication companies, and nonprofit organizations. Today, professionals with expertise in both science and writing are in demand more than ever.

Although, there are no approved programs available for the certification of medical writing, the information about the requirements and training can be collected at:

- American Medical Writers' Association website: <http://www.amwa.org/>
- National Center for Biotechnology Information, U.S. National Library of Medicine website: www.ncbi.nlm.nih.gov
- Science Careers website: sciencecareers.sciencemag.org

However, a certain level of skill and knowledge about the subject is enough to be a medical writer; a competent medical writer should have following qualities:

- Good understanding of scientific, pharmaceutical (including drug names and composition), and medical terminologies. Many

companies require the medical writers to have a bachelor or master degree in medical sciences or one of the following areas:

- ◆ Life sciences (Microbiology, Biochemistry, Biotechnology, Zoology, Botany, Environmental Biology, Ethiology etc.)
- ◆ Chemistry
- ◆ Medicine
- ◆ Pharmacy
- ◆ Nutrition and dietetics
- An excellent command over English language and grammar
- Awareness about modern literature survey tools, presentation methods of research data, publishing, reviewing, and editing requirements

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- A good interpretation of target audience needs and along with it a good communication and coordination with various people involved in the process
- Better understanding and perception of project's requirements and objectives along with ethical and legal issues
- A good sense of organizing thoughts and ideas
- Ability to deliver the projects within a stringent timeline.

The work of a medical writer starts with literature survey. To have an effective material and evidence based facts, initially, a medical writer needs to search the articles and papers related to the topic. This makes the write up very effective.

It is obvious that literature search brings out a pile of raw information, which should be compiled and constructed logically. To make the paper interesting and appealing, it is essential to shape the data and information very effectively, otherwise a reader may end up in a very confused state. A medical writer should take care of the sentence construction, its flow, correlation, understanding and readability without straying from the objective.

Understanding of assembling the facts and information, and a proper format is very important for a medical writer. The draft must be precise, clear and comprehensive. Medical writing steps also include a good deal of revising and rewriting to make the draft more revealing and communicative. The writer should keep the audience in his mind as the language and format totally depend upon the type of audience. Along with it, a medical writer should understand the difference between a research/original article, an editorial or a case report whenever he/she is writing a manuscript to be published in a reputed

journal. Understanding of other formats like promotional write ups, patient information materials, and marketing or sales team training materials is also desirable.

The other important aspect is the plagiarism, which is liable to be punished. Sometimes authors use the matter from different publications without giving their reference. They show the copied work as their own. Strict standard operating protocols (SOPs) should be followed in order to avoid any plagiarism or infringement issues. Writers should always avoid copying and using the exact sentences in their drafts as this shows their inability of producing new comprehensive ideas in the form of a new draft.

Medical editing is the other important step in the process of medical publication. Some organizations require a separate pool of medical editing individuals who are experts of English language and grammar. They revise the draft in to their honorary competence in order to have fewer errors in the article, simultaneously increasing the readability of the article. Editors also spend their valuable time to check the plagiarism issue and journal's standard. It is important for writers to write an original article so as to reduce the editors' work.

The final step is the approval process where the final draft gets approved for publishing. The specialized reviewers review the draft and give the sign-off if they find it right to get published otherwise they resend it for rewriting or further reviewing process.

If you believe in the power of communication and you have the base of science then certainly you can be a medical writer and certainly you can make a difference. You may not be very good in science but if you are a medical writer you can learn a lot about science.