

A PhD and medical writing: A good match

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Abstract

The transition out of academia can involve a good deal of change. For PhDs who enjoy writing, a career in medical communications is a viable option. The field of medical writing is broad, encompassing everything from regulatory affairs, to writing and editing manuscripts, to medical education and promotion. Despite numerous novel experiences offered by medical writing, several skills typically acquired during the course of a PhD programme align nicely with the new

requirements and responsibilities. From the perspective of a medical communications agency, PhDs form an important bridge between the need for deep and thorough biomedical knowledge and the daily responsibilities of writing, editing, educating and promoting. Should one choose to apply these skills to medical writing, the result can be an interesting and enjoyable work for the PhD, and a benefit to the employing agency.

writing at a much greater frequency than once every 5-7 years. From assisting in the preparation of manuscripts for pharmaceutical-funded research to writing lengthy summaries of clinical trial results for physicians, medical writers produce documents which are at least as lengthy as an average PhD dissertation.

2. The ability to examine large amounts of data and think critically. A PhD candidate has to read and synthesise large amounts of scientific literature and to explain primary points and conclusions. Instead of focusing on the narrow speciality of a dissertation subject, however, a medical writer will often touch on numerous subjects in the course of preparing an educational module or promotional material. While not always going as deeply into a subject as during the dissertation research, acquiring a moderate level of familiarity in multiple subjects is often required. For example, a medical writer may have to write promotional material for an oncology product. In so doing, he or she would not only consult the publications detailing clinical trial results, but also those of the main competitors. Additional literature on diagnostics and the history of treatment are also necessary to put this new treatment in context. Summaries of product characteristics for approved products also contain a wealth of detailed information for comparing different treatments and explaining approved uses. Finally, clinical guidelines are additional resources to convey the opinions of

Introduction

As opportunities in academia become fewer and far between, an increasing majority of PhD recipients select careers in other areas.^{1,2} Hopefully, the multitude of skills acquired in the five or more years needed to obtain the PhD degree will be put to good use afterwards. While many pursue a career in research and development in the pharmaceutical industry and others leave biomedical research altogether, a suitable career path that capitalises on the skills obtained during PhD training is medical writing.

Medical writing spans multiple areas, from regulatory affairs to manuscript writing and editing, to medical education and promotion.³ Such jobs can be done in pharmaceutical or biotech companies, government agencies, or with healthcare communications agencies.

The following summarises the author's experience in transitioning from postdoctoral research to a career in medical writing, written with the intention of highlighting certain skills acquired in a PhD programme that transition well to medical writing.

Skills acquired during a PhD

PhDs often make successful medical writers. Among the reasons for this are the parallels between medical writing and the intense research experience in a typical PhD programme, which are not always easy to discern. These are:

1. The amount of writing involved in a PhD programme and medical writing. Most dissertations in biomedical fields are between 100 and 200 pages.⁴ This lengthy bit of writing is great training for a career in medical writing, which often requires similar volumes of technical

experts on appropriate treatment use. All these may be needed simply to promote a new medication. The structured and logical thinking involved in processing such data are important skills for a medical writer.

3. Finding creative ways to solve problems. Often, a PhD candidate will have to answer research questions by seeking novel ways of experimentation or analysis. By applying new assays or techniques from other fields, or even inventing completely new procedures, a PhD has ideally practised finding solutions from multiple sources. In meeting clients' demands to look for the most compelling way to position and discuss a product, a medical writer often has to utilise methods and information from sources outside the 'hard sciences' (see point 3 in the next section).
4. Communication skills. A definite prerequisite in medical writing is the ability to communicate with others, which has likely been honed during PhD training. For example, PhDs are often asked to submit research proposals, which are evaluated by non-experts. The competence to turn expert knowledge into understandable communications is quite valuable in medical writing where materials have to be prepared for a wide range of recipients including other leading experts, general physicians, nurses and other healthcare professionals, and even the general population. Tailoring the information to each group is something at which a PhD can excel.
5. Ability to liaison with experts. Medical communications often require the input of academic leaders and there are few other people in a typical agency who can speak their language. A PhD should have plenty of experience in drawing out the knowledge of an academic researcher and can assist both in eliciting the expert's information and in making the expert feel more comfortable in a 'marketing' environment. Consider an advisory board composed of a dozen academic researchers discussing the role a pharmaceutical company's new

product plays in the clinical care of the condition for which they are experts. Even capturing the contents of such a discussion requires a high level of competence in the subject. Medical writers in this situation are key in preparing notes, assembling references, and even formulating presentations.

Therefore, PhDs are well-positioned to apply the skills gained in conducting research and writing dissertations to medical communications, no matter their speciality.

New skills to gain

Although not every facet of medical writing is commonly experienced in a typical PhD programme, versatile candidates can broadly adapt their skills and greatly enhance their overall competence.

Areas such as promotion in particular, take on a completely different flavour. Instead of the dry, fact and data-based presentations following the 'Introduction, Methods, Results, Discussion' format, promotional materials come in many different formats, styles, and tones. It may at times be difficult to change the tone from simple data presentation to outright promotion. However, medical writing provides a new set of experiences and new skills have to be acquired:

1. As PhD candidates have had multiple opportunities to promote their own work, especially after acquiring exciting results, similar enthusiasm can be passed on when promoting a product. If a writer is convinced of a given product's value and the patient's need for such medication, it is not difficult to convey the data and evidence supporting its use in a promotional way.
2. The makeup of a healthcare communications agency presents an opportunity to further enhance communication skills. In a research environment, one usually takes basic knowledge for granted, as this is a prerequisite for entering a PhD programme. Not so in a healthcare communications agency. Among interns, account managers, and creative designers, one realises that this knowledge is no

longer universal. Thus, medical writers will have to explain highly specialised knowledge to an account manager, a designer, or even a client. In so doing, they can not only demonstrate their expertise but also practise putting complex biomedical facts into easily understandable language.

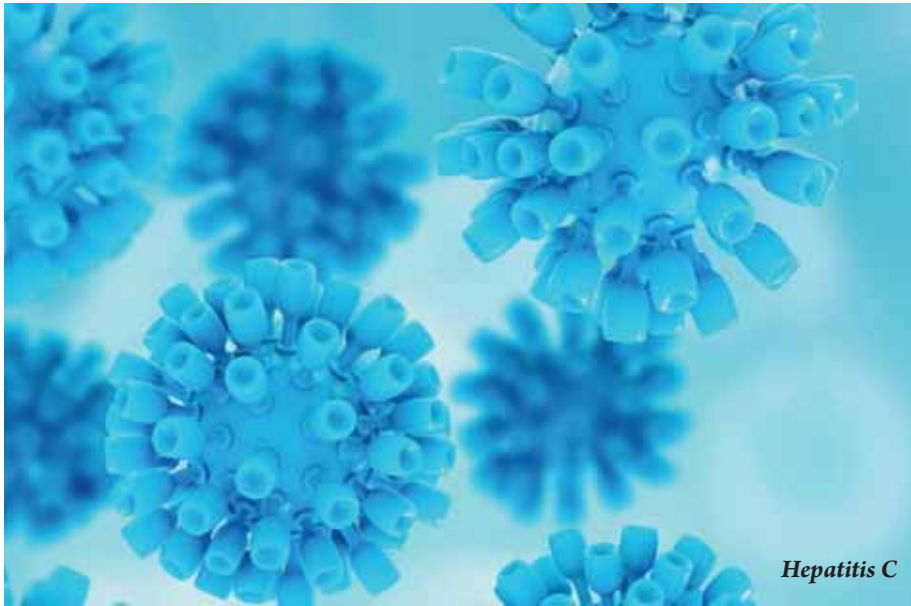
3. A PhD writer has to acquire new ways of handling information drawn from sources other than the natural sciences. In research, problems are commonly solved through formulating hypotheses and testing them. However, not all problems in medical communications are amenable to hypothesis testing and experimentation and solutions can often come from other sources, including market research and behavioural economics. Medical writers have to learn to apply these solutions and will have to blend their competence in the 'hard sciences' in presenting information. The opinions gleaned from qualitative market research may not always lend themselves to statistically significant results, but they still provide valuable insights into how customers will respond, and a medical writer can tailor communications accordingly.

Although a PhD has a lot of easily transferrable skills, medical writing may also require picking up new skills and may force a new PhD to learn new things. However, the versatility acquired in the multiple years it took to get a PhD will allow a smooth adaptation to new challenges.

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Considerations for a career in medical writing

For the aspiring medical writer, with or without a PhD, the following points are



meant to highlight attributes suggesting a good fit in this interesting career.

- If you enjoy research, but are also interested in other aspects of biomedical science (e.g., grant writing, publishing, reviewing manuscripts), medical writing may be a good outlet for your skills; but if you can't stand being away from the bench and think everything that takes you away from your experiments is a waste of time, the variety of projects in medical writing might put you off.
- If you are always on the lookout for opportunities to talk about your research, such as in conferences and meetings, medical communications would give you a wider platform both to generate and to present your ideas; but if you hesitate to discuss your research, particularly to non-experts, the need for constant communication for multiple levels of expertise might be overwhelming.
- If you are interested in everything and enjoy learning about subjects not directly related to your research topic, the varied areas of expertise you'll need to acquire as a medical writer would keep you interested and engaged; but if you focus only on your topic of research and avoid exposure to other fields, the rapidly changing needs of medical communications might be a bit frustrating.

The value of a medical writing career

Most people involved in biomedical research would say they do what they do for the benefit of others, amongst other reasons.

From basic research to clinical trials and drug development, the ultimate goal is to produce something that improves human health. It may be hard to conceive of the role of medical communications in such endeavours, but an important role exists.

An example: a patient with hepatitis C has just heard that an effective new oral drug had been released to treat her condition in less time and with greater chance of success than any of the other marketed options. Unfortunately, her doctor told her that the drug had not been indicated for the genotype of the virus with which she was infected. The doctor was under the impression that this new drug was approved for the most common genotype (genotype 1), but the patient had genotype 2. Disappointed, this patient planned to start a longer course of more burdensome and less effective injectable therapy.

Her doctor, however, was completely mistaken. Genotype 2 was actually the easiest genotype to treat with this new therapy and had the highest chance of success. The blame for this error should not rest on the doctor alone, but on those responsible for communicating the attributes of this new drug, both the pharmaceutical company which produced and sold it and the medical writers who promoted it.

In this case, fortunately, the patient was in touch with a medical writer working on hepatitis C, who quickly recognised that the doctor might have made a mistake. Having been provided with some simple and clear information from the European Medicines Agency on the approved indication for this

new drug, the patient returned to her doctor and was successfully treated.

So medical writing has an important role to play in putting the proper therapies into the hands and bodies of the patients who need them. And for those who have been on the basic research side of things in a PhD programme, it can be eye-opening to realise that biomedical research has multiple steps, all of which are important. The skills and experiences obtained doing such research are of great value in a career in medical writing.

Conflicts of Interest and Disclaimers

The author is employed by Ogilvy CommonHealth, a healthcare communications agency.

The views expressed in this article are the author's and do not necessarily represent those of his employer.

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Author information

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