If you have a strong interest in science and a talent for writing, medical communication offers many career opportunities. A broad overview of the field was presented at the Scope of Medical Communication open session at the 2006 AMWA Annual Conference, where panelists representing various settings graciously shared their knowledge and experience. Lois J. Baker, MS, Senior Health Sciences Editor at the State University of New York at Buffalo, served as the moderator. Melissa L. Bogen, ELS, Bogen Editorial Services, shared insights from her experiences as a freelance editor. Lori De Milto, MJ, Writer for Rent, spoke about opportunities in freelance medical writing. Jane D. Stephenson, PhD, MBA, Bristol-Myers Squibb Company, provided a snapshot of the writing department at a pharmaceutical company, and Lili Fox Velez, PhD, Associate Professor, Towson University, spoke of her experiences working for medical communication companies. This article is based on the information presented during this session as well as on additional research and my own experience.

The demand for skilled writers and editors is high, as is the earning potential, and the work can be both interesting and challenging. Medical writers translate medical and scientific information into prose, tables, and figures to produce documents and presentations for a target audience. Medical editors enhance the clarity and quality of material produced by medical writers and others.

Some medical writers may have advanced scientific or medical degrees and have worked as clinicians, pharmacists, or researchers; others may have degrees in English or journalism and have worked as technical writers, journalists, or editors. My current coworkers include a physician, former bench scientists, nurses, clinical trials monitors, and recent graduates from postdoctoral programs, as well as medical writers with advanced degrees and years of writing experience. Before becoming a medical writer, I worked in the computer industry as a technical writer for 12 years.

What job opportunities are available in medical communication? The career opportunities in medical communication are as diverse as the individuals: medical writer, science writer, video scriptwriter, medical editor, author’s editor, copyeditor, editorial assistant, managing editor, publications manager, and public relations specialist, among others.

What do medical communicators produce? The products created or edited by professionals in medical communication include the following:

- **Medical journalism**—articles for newspapers and consumer magazines, documentaries, and health segments for news shows
- **Publications medical writing**—manuscripts for scientific journals as well as abstracts and posters for scientific meetings
- **Regulatory medical writing**—research protocols, clinical study reports, investigational new drug applications, and investigator brochures for submission to regulatory agencies
- **Marketing writing**—press releases and advertisements for pharmaceutical companies or health care institutions
- **Academic medical writing**—grants and proposals for researchers at medical centers and academic institutions
- **Continuing medical education**—educational slide kits, print courses, lecture notes, symposia materials, and Web site content to maintain or increase the knowledge and skills of medical professionals
- **Patient education**—brochures, newsletters, and handouts for patients explaining medical procedures, conditions, or treatment options

Who hires medical writers and editors? Employment opportunities include positions at pharmaceutical companies, contract research organizations (CROs), academic institutions, medical centers, journals, newspapers, and medical communication companies. Additionally, many medical writers and editors work as freelancers, providing services to several different companies and working on a variety of projects. Most freelance medical writers and editors work for pharmaceutical companies, CROs, or medical communication companies first to gain experience, network with colleagues, and build a list of potential clients before becoming consultants.

What skills are needed to be successful in medical communication? Qualified candidates should have excellent writing skills and a strong background or interest in science. The ideal medical writer or editor is detail-oriented, proactive, well

**Career Pathways in Medical Communication**

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organized, able to gather and synthesize data, knowledgeable about at least one therapeutic area, or interested in learning about new therapeutic areas or indications, familiar with relevant style guides or guidelines, and able to write appropriately for the target audience. For jobs in the pharmaceutical industry, candidates must understand the drug development process. Project management skills are essential, because most jobs in medical communication involve setting schedules, orchestrating review cycles, and soliciting feedback from busy reviewers and authors.

How much can you earn as a medical writer or editor?
According to the 2004 AMWA salary survey, the average annual income for jobs in medical communication ranges from $50,000 to well over $100,000. How much you can earn depends on several factors: your level of education, years of experience, and the type of company you work for (eg, pharmaceutical company compared with CRO). Typically, the highest salaries are earned by those with advanced degrees and many years of experience who work for pharmaceutical, communication, or advertising firms. (AMWA conducts a salary survey every 2 to 3 years, and one will be conducted this April, with the findings reported later in the year.)

How can you find the right job?
The opportunities in medical communication are almost limitless. For those new to the field or looking for a change, the key is finding the right fit. The answers to some specific questions may help you narrow down the choices:

- Which area of medical communication and which type of company are the best fits for your education, experience, background, and interests?
- Would you rather be writing for a lay audience or a scientific audience?
- Do you want to be involved in reporting the results of current research on new drugs?
- Is your interest in medical devices, biologic agents, or pharmacotherapy?
- Do you want to be part of an established medical writing department with clearly defined policies and procedures and experienced colleagues, or do you want the independence and responsibility of working for yourself?

To find your answers to these questions, start by networking with colleagues already working in the field. However, the answers to some questions may only become clear with experience.

My own transition to medical writing involved a series of steps over several years. After following the advice of a colleague and joining AMWA, I attended the local chapter conference, where I learned about medical writing and started networking with experienced medical writers and editors. I took an entry-level position at an academic research organization editing research protocols, manuscripts, abstracts, and Web site content. After gaining some experience, I worked on more challenging projects—writing abstracts, creating newsletters for clinical trial investigators, writing a patient education manual, and eventually editing an entire textbook. During this time, I obtained my AMWA core curriculum certificate and completed college courses in biology, chemistry, anatomy and physiology, pharmacology, statistics, ethics, medical terminology, clinical trials research and regulations, and protocol design. Then, a position that seemed like a great fit for me became available—editing manuscripts for a mid-size pharmaceutical company. After editing manuscripts for 6 months, I transitioned to publications writing. Now, I work with investigators and clinical development staff to prepare manuscripts based on the results of clinical trials.

To learn more about medical writing
- Read the essays on the scope of medical communication in AMWA's Essays for Biomedical Communicators
- Take courses in medical writing at a local university or an online course offered by a remote university
- Join AMWA, attend chapter meetings, attend the national conference, and get involved
- Read relevant journals or magazines
- Take college courses in anatomy and physiology, pharmacology, and statistics
- Earn AMWA core and advanced curriculum certificates
- Review style guides and books on medical writing

To break into the medical communication field
- Seek internship opportunities within pharmaceutical companies or CROs, directly or through your university
- Apply for entry-level positions at CROs and academic institutions, which may be more likely to hire writers with less experience
- Apply for copyediting or proofreading positions at publishing companies or journal offices, which may be willing to hire less experienced editors with English or journalism degrees
- If you have a degree or background in English, apply for a copyediting position
- If you have a degree in journalism, try writing an article for a consumer magazine
- Volunteer to write a newsletter or Web site article or a patient education brochure for a hospital, university, or nonprofit institution (this will provide you with a writing sample, which is quite helpful)
- Take an AMWA workshop focused on the type of writing that you are interested in, such as writing articles for consumer publications, writing a clinical study report, or grant writing, to gain more knowledge and experience

References
1. Baker LJ, Bogen ML, De Milto L, Stephenson JD, Velez LF. Scope of medical communication. Presented at: the 66th Annual American Medical Writers Association Conference; October 26, 2006; Albuquerque, NM.
As regulatory bodies that govern the life sciences come under increasing public pressure to enforce the safe development and production of therapeutic products that improve quality of life, the burden on firms to meet these standards becomes greater and penalties for noncompliance become ever more stiff. Companies must develop procedures that describe all their processes, such as initiating a clinical trial site, writing a clinical study report, putting together a Common Technical Document, or writing a journal manuscript. The documents a company produces, based on its procedural infrastructure, offer "proof" of compliant operations.

Training is always a critical component of compliant operations. People who produce documentation must understand the requirements—thus, training in both the "why" as well as the "how to" is equally important. A look at the warning letters from the US Food and Drug Administration (http://www.fda.gov/foi/foia2.htm) confirms just how necessary training is, as companies are often cited for failing to produce proof of employee education. Warning letters indicate that, for some companies, employees have not demonstrated the "skills, education, and training" to perform their jobs. Failure to produce adequate documentation is also a common citation, and 60% of warning letters point to faulty, incomplete, or missing documentation.

To help meet the training needs of industry, The Center for Professional Innovation & Education (CfPIE) offers a full suite of programs specifically for life sciences professionals. CfPIE's faculty members are industry experts who direct courses that address the toughest compliance challenges. Among CfPIE's extensive list of training programs are 5 courses that specifically address how to develop sound writing skills for the full range of documentation the industry requires, from the procedural "how to" documents companies must put in place, to correspondence, study reports, and publications:

- Writing Effective Standard Operating Procedures and other Process Documents
- Introduction to Effective Medical Writing
- Technical Writing for the Pharmaceutical, Medical Device, and Biotech Industries
- Writing in the Regulated Environment When English Is Your Second Language
- Effective Document Management for the Pharmaceutical, Biotech & Medical Device Industries

Janet Gough, a member of AMWA, is the Course Director for these offerings. She has more than 20 years of experience teaching writing at the university level and as a consultant helping firms develop document systems, prepare documentation, and conduct training. She also does a fair share of writing herself. She has 10 books to her credit, including Write It Down: Guidance for Preparing Effective and Compliant Documentation, now in its 2nd edition (Taylor and Francis Books). She fully understands how crucial good writing is in this industry. “Companies may have the best science and technology, but their primary proof resides in the written word,” says Gough.

Mark Mazzie, Managing Director of CfPIE, with 15 years of experience in training and development within industry, concurs. “Clearly the need for documentation skills is enormous in this industry. CfPIE offers a comprehensive writing curriculum for life science professionals. As firms recognize the importance of trained writers, our classes are usually full, with waiting lists. They are very popular and support the writing requirements of the industry.”

CfPIE delivers more than 250 public courses annually in Malvern, PA, Costa Mesa, CA, and Dublin, Ireland. The Center offers an equal number of customized, client-site programs in the United States and internationally. CfPIE's strength is that classes are small, with typically no more than 20 participants, ensuring that individual needs are addressed.

For course schedules, onsite program questions, or general inquiries, contact CfPIE directly by phone at (610) 688-1708 or e-mail at info@cfpie.com. Or, visit the Center online at www.cfpie.com to see how it can provide education for your staff, keep your firm compliant, and improve your bottom line.
Call for Short Stories for the Prose for Papa Contest

If you write short stories, consider submitting them to the Prose for Papa competition, part of the third annual Ernest Hemingway Festival. The winner of the competition receives the following:

- Award of $500
- Recognition during the festival
- Publication of the story in the festival magazine

Submitted work must be original, unpublished short fiction (no longer than 2,600 words or 10 pages double-spaced). The deadline for submission is June 1, 2007. The stories will be judged by Daniel Orozco, featured writer on National Public Radio.

The festival will be held September 20-23 in Sun Valley, Idaho, where the legendary author hunted and wrote on and off for 22 years and where he is laid to rest. Designed to be a well-rounded celebration of the author’s life in the Wood River Valley, the festival features include lectures and panel discussions by national scholars, a tour of Hemingway sites, museum displays, a film festival, and a “Hemingway in Idaho” slide presentation.

Send your entry, along with a nonrefundable $10 entry fee (made payable to SVKCVB), to

Prose for Papa
ATTN: Sue Bailey
PO Box 2420
Sun Valley, ID 83353

For more details on the competition and the festival, visit
www.ernesthemingwayfestival.org or send an e-mail to proseforpapa@visitsunvalley.com.