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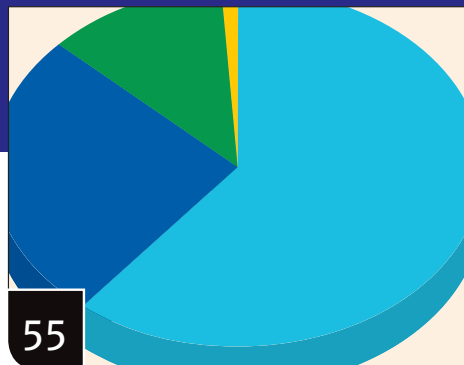
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Mobile Health Care Applications: Authorship, Regulatory Challenges, and the Role of Medical Writers

By Erin Trauth, PhD / Associate Director of Composition, University of South Florida, Tampa, FL

Mobile medical and health applications (apps) have revolutionized health care; consumers, patients, and health care practitioners use these smartphone and mobile communication device-enabled applications to manage their health in ways that can put health care, quite literally, in their own hands. From apps that can help track weight, caloric intake, and exercise to apps that provide important information about the effects of medications on breast milk, these programs have the potential to guide people to make improved health-based decisions in their lives. Other apps are designed for health care professionals to help them with such complex issues as treating radiation injuries or diagnosing cancer or heart rhythm abnormalities.¹ These are but a few of the thousands of uses described by developers in the mobile health app market.

Because of the diversity of app types and audiences and the need for credible health care communication, the expanding app market is of potential importance to a wide range of medical writers and editors, including those who work on medical-device regulatory documents, patient education resources, or continuing education materials designed for researchers or practicing health care professionals. This article provides an overview of the mobile health market, the regulatory environment, standards of review within the industry, and opportunities to improve mobile health apps by the inclusion of medical writers and editors in app development.

MEDICAL AND HEALTH APPS: AN EXPLODING MARKET

Research2guidance, a German market research firm, estimated in 2014 that the mobile health app market, which reached \$2.4 billion in revenue in 2013, would rocket forward to a whopping \$26 billion by the end of 2017.² Over the past several years, the number of applications has more than doubled; in 2014, the number of health apps published for the iPhone iOS system and Android reached more than 100,000 available apps. The firm also estimates that nearly 250 million people

downloaded a health app in 2012. This number was projected to double to 500 million users by 2015. By 2018, it is estimated that nearly 50% of the world's 3.4 billion smartphone and tablet users will download a mobile health app of some kind. Even though the public is seen as the main audience for many of these apps, a rather notable portion of the mobile health apps, at 43%, were designed primarily for health care professionals.³ It is apparent from these numbers that health apps are popular with the public and with health care specialists alike, but who is it that is creating these apps, and what concerns should we consider with such authorship as this market continues to explode?

AUTHORSHIP OF MOBILE HEALTH APPS: FACTS AND CONCERNS

According to the research2guidance report, traditional health care information gatekeepers, such as hospitals and insurers, surprisingly author just 3.4% of total mobile health app publications. The reach of the apps provided by these entities is even smaller: in downloads, such apps are often far below the average. In a 2013 article in *AAOS Now*, a news magazine from the American Academy of Orthopaedic Surgeons, Orrin I. Franko, MD, expressed concerns with the authorship of apps. He noted that developers often write app software without any formal medical training and that because many apps are not required to be reviewed by physicians or medical associations "involvement of professional oversight is purely voluntary."⁴ In 2012, O'Neill and Brady examined 68 apps focused on colorectal disease and found that only 32% had named medical professional involvement in their development or content.⁵ Furthermore, as Franko noted, many apps include a legal statement of some sort, but "they are not required to disclose their limitations or information sources. As a result, a legitimate concern regarding the development of harmful apps exists."³

Concern regarding health apps written and published by nonexperts extends from concerns about where the information is coming from as well as the safety and soundness of

some of the treatments some apps suggest to consumers. In a 2012 *Washington Post* article, Rochelle Sharpe of the New England Center for Investigative Reporting, noted: “Many of these apps do not follow established medical guidelines, and few have been tested through the sort of clinical research that is standard for less new-fangled treatments sold by other means.”⁶

Sharpe led an effort to examine health apps in 2012 and found, in an examination of 1,500 paid health apps, that more than 1 out of 5 apps asserts that it can treat or even cure medical problems and offered options such as lights from one’s cellphone or phone vibrations to aid in medical treatments. Deceptive practices can get app makers into trouble with the Federal Trade Commission (FTC). In 2015, as the result of FTC action, marketers of 2 apps agreed to settlements that bar them from continuing to make unsupported claims that their apps could detect early symptoms of melanoma.⁷

THE PROMISE OF MOBILE HEALTH APPS FOR PRACTITIONERS

Some health apps, of course, have great promise, especially the segment of the market designed for health care professionals. “To be sure, there are many outstanding health apps, particularly those intended for doctors and hospitals, that are helping to revolutionize medical care,” Sharpe noted.⁶

C. Lee Ventola wrote in the May 2014 issue of *Pharmacy and Therapeutics* that among medical school health care professionals (HCPs) and students, “the use of medical apps has become frequent and widespread; 70% of medical school HCPs and students reported using at least one medical app regularly, with 50% using their favorite app daily.”⁸ Apps assist health care practitioners with integral tasks such as reviewing and updating health records, information management, patient and internal communications, reference gathering, and research. Apps can even, according to Ventola, be helpful in clinical decision making and medical education and training—confirming the FDA’s assertion that practitioners may use apps to help diagnose major diseases. Most importantly, Ventola suggested, such apps benefit health care professionals by providing “increased access to point-of-care tools, which has been shown to support better clinical decision-making and improved patient outcomes.”

However, despite these benefits, many health care professionals have still shown hesitation towards the use of apps. Ventola posited this reluctance stems from a mistrust of the standards and validation practices: “Despite the benefits they offer, better standards and validation practices regarding mobile medical apps need to be established to ensure the proper use and integration of these increasingly sophisticated tools into medical practice.”⁷

FDA GUIDANCE ON MOBILE HEALTH APPS

The US Food and Drug Administration has made some attempt to guide mobile health apps with its “Mobile Medical Applications: Guidance for Industry and Food and Drug Administration Staff,” issued first in September 2013 and updated in February 2015.⁸ This document explains that the agency’s oversight relates to apps that can be considered to be *medical devices* and that the agency focuses “only on the apps that present a greater risk to patients if they don’t work as intended and on apps that cause smartphones or other mobile platforms to impact the functionality or performance of traditional medical devices.” However, these guidelines are simply that—guidelines or recommendations—which, in most cases, are not legally binding and merely represent the FDA’s “current thinking on this topic. It does not create or confer any rights for or on any person and does not operate to bind FDA or the public.”⁹

Furthermore, it is only a select group of the thousands of existing mobile health care apps that are wholly covered by these guidelines. The FDA states that it “intends to apply its regulatory oversight only to those mobile apps that *are* medical devices,” essentially covering apps that could be used as an accessory to a regulated medical device or that can turn a smartphone or computer into a regulated medical device. The FDA refers to these apps by the term *medical app*. The document also indicates that there are some apps that may meet the definition of a medical device but that will not be regulated because they are deemed to pose lower risk to the public (Box 1).

The FDA is clear in its intent to *not* fully regulate even these devices. Franko wrote of the FDA’s stance: “It is clear from the draft guidelines that, although mobile apps have the potential to pose risks to public health, the FDA recognizes it is not properly positioned to validate the content of mobile medical applications.”³

Thus, it is evident that while mobile health apps provide important information to consumers and health care practitioners alike, there is a potential for problems when one considers where the app’s information comes from (it is often unknown or potentially not credible) and the limited oversight by the FDA and FTC. In the absence of such oversight, how can users be sure of the quality of mobile health apps entering the market?

MAKING MOBILE HEALTH APPS BETTER

Some have suggested that publication information about mobile health apps should be made full and transparent. Boulos and colleagues suggest that apps should readily:

- (1) provide authorship information, including detailed information about authors’ affiliations and credentials and about any medical professional involvement in

Box 1. Types of Apps That Do or Do Not Qualify as Regulated Medical Apps

General Health App (Not Regulated)	Low-Risk Medical Apps	Regulated Medical Apps
Medical dictionaries	Apps that help patients with diagnosed psychiatric conditions (eg, post-traumatic stress disorder [PTSD], depression, anxiety, obsessive compulsive disorder) maintain their behavioral coping skills by providing a “Skill of the Day” behavioral technique or audio messages that the user can access when experiencing increased anxiety	Apps that use a sensor or lead that is connected to a mobile platform to measure and display the electrical signal produced by the heart (electrocardiograph or ECG)
Interactive anatomy diagrams or videos	Apps that help people with asthma to track inhaler usage, asthma episodes experienced, location of user at the time of an attack, or environmental triggers of asthma attacks	Apps that alter the function or settings of an infusion pump
Medical flash cards and quizzes	Apps that keep track of medications and provide user-configured reminders for improved medication adherence	Apps that calibrate, control, or change settings of a cochlear implant
General patient education materials		Apps that connect to a nursing central station and display medical device data to a physician’s mobile platform for review

The text and examples here are excerpted from the US Food and Drug Administration’s Mobile Medical Applications: Guidance for Industry and Food and Drug Administration Staff.⁹

content preparation; (2) list all references or sources of content (attribution); (3) fully disclose any app sponsorship or other commercial funding arrangements, and any potential conflicts of interest; and (4) ensure a balanced, non-biased coverage of facts and information currency (up-to-datedness).¹⁰

Boulos and colleagues also discussed the Health Apps Library project of the National Health Service (NHS) in England. In the apps library, the organization recommended various apps that have been reviewed by the service itself. These authors suggested that app reviews of this kind could cover factors such as an app’s purpose, effectiveness, and value. Finally, they suggested that “these factors should be routinely considered by app developers and publishers, perhaps in the form of a checklist to be added to their existing quality assurance (QA) procedures as a kind of industry self-regulation and/or voluntary certification.”⁹

While this model of review was promising, the NHS’s pilot program of the Health Apps Library was shut down in late 2015 after concerns that the screening process had led to the inclusion of apps with lenient security standards and questionable effectiveness.¹¹ In the online publication

iMedicalApps, Satish Misra, MD, wrote that “a fundamental problem with...the NHS approach...was that they applied a one-size-fits-all solution to the problem of finding good health apps.”

Misra noted that many players may join the efforts to evaluate apps, including public and private health care systems, sites such as PatientsLikeMe that could offer consumer reviews, and websites such as iMedicalApps.

Certainly many apps will warrant a very high level of scrutiny through some centralized evaluation model administered by well-resourced organizations. But it would be impractical to say that all health apps will get that degree of scrutiny. So in many cases, it will be left to the end-users, patients & clinicians, to assess an app themselves and make an informed decision.¹⁰

In 2015, Stoyvanov et al. suggested a new Mobile App Rating Scale that would provide “a reliable, multidimensional measure for trialling, classifying, and rating the quality of mobile health apps.”¹² Stoyvanov et al. indicated that although future research would be needed to determine the scale’s long-term suitability, the methodology shows promise as a reliable measure of health app quality.

PATIENT PRIVACY

In addition to potential issues regarding the content of mobile health apps, there are also issues such as patient privacy and app compliance with the Health Insurance Portability and Accountability Act (HIPAA) to consider. Mobile health apps that share patient data with physicians, hospitals, or insurance companies should be compliant with HIPAA. In February, the Department of Health and Human Services published a document online to help app developers understand how HIPAA might apply to their industry.¹³

The document addresses 2 main questions: 1) How does HIPAA apply to health information that a patient creates, manages or organizes through the use of a health app? 2) When might an app developer need to comply with the HIPAA Rules?

The document notes that even if the developer's work is not affected by HIPAA, the privacy of consumer information is still important. The FTC has developed another aid for app developers—an online tool to help them understand what federal laws and regulations might apply to their apps.¹⁴

INVOLVING MEDICAL WRITERS

When we combine the various ways apps can potentially fail their users, whether from lack of oversight, ethics, compliance, transparency, or accurate and effective communication of medical information, the potential role of a qualified medical writer in the development of mobile health apps becomes apparent. While app developers often focus on technical usability, evaluating the nature of the language provided in these apps is not always made a priority. Boulos et al noted: “presenting correct, unbiased information but in a way that is hard to understand by the intended audience not only renders this information useless, but also makes misunderstanding a likely possibility, which can have serious negative health consequences.”⁹ As such, mobile health app developers should consider consulting with qualified medical writers to help ensure the information and language provided in their apps are understandable and useful for their intended audience. Furthermore, in consultation with medical writers with HIPAA training, apps can become compliant in this area as well. Ventola encourages collaboration and stronger authorial standards: such measures “will raise the barrier for entry into the medical app market, increasing the quality and safety of the apps currently available for use by health care practitioners.”⁷

In building any strong mobile health app, developers should work in consultation with a qualified medical professional and a medical writer. Then, app publishers can

exert a stronger ethos by publishing authorship information and perhaps be subject to vetting through models such as the Mobile App Rating Scale. Until regulators exert stronger guidance in the area of mobile health apps, it is industry self-regulation and collaboration with qualified health professionals and medical writers that will enable the creation of apps that truly help people and practitioners manage health care for the better.

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Select Results of the 2015 AMWA Salary Survey

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ABSTRACT

Beginning in 1989, AMWA has periodically conducted surveys to obtain up-to-date information from medical writers and editors about their income and various factors that may be associated with compensation levels, such as years of experience, highest level of education, type of degree, geographic location, type of work performed, work setting (freelance or employee; type of company for employees). The most recent survey, conducted in 2015, queried participants about their income from 2014.

An online survey instrument was used to collect responses. All AMWA members (N=4,421) were invited to participate, as were former members of AMWA and members of related organizations. Data were analyzed to determine salary levels for employees and freelancers. The data for full-time employees were analyzed using multivariate regression models to identify factors associated with varying income levels.

Overall, 1,292 medical communicators (841 employees and 451 freelancers) participated in the survey. For full-time employees, the mean salary was \$90,200, which was lower than the 2011 mean of \$92,867. For freelancers, the mean gross full-time income was \$131,400, which was higher than the reported figure of \$116,000 in 2011. For full-time employees, the factors that were associated with differences in salary levels included type of work performed (writing, editing), primary employer, years of experience, education level, and geographic region. The survey findings are discussed within the context of current employment trends in medical communications, such as a decrease in the number of medical writers and editors employed by pharmaceutical companies.

Medical communication (writing and editing) is a well-established profession in the United States, yet in-depth analyses of salaries and professional characteristics have been scarce. Salaries documented on typical career websites are unreliable because of low numbers of respondents and a lack of clarity regarding the professional setting. The first AMWA Salary Survey was conducted in 1989 to address this lack of reliable salary information, and AMWA continues to conduct a salary survey periodically to ensure that salary data for medical communicators remain current.¹⁻⁶ The AMWA survey has been referenced by medical communication professionals as the largest salary survey regarding its number of respondents and the most comprehensive analysis of demographic and professional characteristics and salary. The survey offers an important service to AMWA members and other medical communicators, providing dependable salary information for employers of medical communicators to set salary ranges, for employees to discuss income perspectives, and for freelance/consultants to negotiate contract fees.

METHODS

An online survey (SurveyMonkey.com LLC, Portland, Oregon) was used to collect responses and was available from April 7 to May 20, 2015. The survey was announced and described to all AMWA members at that time (4,421 members), although not all members are actively working (ie, some are retirees, students, or recruiters). Several methods were used to encourage survey participation, including an announcement in the *AMWA Journal*, reminder email messages, and a traditional postcard announcement. To expand the number of potential respondents, AMWA solicited survey respondents from lapsed members as well as respondents outside its membership through invitations to members of sister organizations and announcements on LinkedIn writing groups.

The first survey question provided a specific definition of *medical communicator* and was designed to exclude

respondents who did not meet the criteria in the definition. Respondents had to be actively working either part-time or full-time as a medical communicator to be counted as a respondent. Respondents were instructed to answer every question that applied to them according to their status as an employee or a freelance. The survey requested demographic and professional details and income earned during the 2014 tax year. The 2015 AMWA salary survey retained questions from previous years (to demonstrate trends over time); these questions addressed such attributes as sex, age, educational level, years of medical communication experience, work status (full-time or part-time), type of primary employer, type of work performed (eg, writing, editing, or both), and career level (entry level to supervisor). Predefined assumptions were adopted to facilitate analysis of comparisons (Table 1). Some questions were rephrased in an effort to obtain more accurate responses, and some questions were presented in a different order than in previous surveys.

Table 1. Definitions and Assumptions for Group Comparison Analyses

Employed Writer	Freelance Writer/Editor
Taxes	
Filed by the employer	Filed by the writer/editor for performed “work for hire”
Income	
Gross Income (income before deducting taxes)	Gross Income (all income collected from clients); Net income (expenses subtracted)
Full-time/Part-time Status	
Full-time: works ≥ 32 hours/week	
Part-time: works < 32 hours/week	

New questions in the 2015 survey were designed to capture data on employee benefits, which help to identify the additional value offered to full-time employees. Although not a benefit, working remotely has become an option for many employees, and a question was added to learn about this trend. For freelances, new questions were added to gather data on professional characteristics and expenses. Questions were refined and added to provide a better distinction between the salaries and hourly rates for writers and editors (Box 1).

Data Handling

The survey data were exported from SurveyMonkey to Microsoft Excel to preserve all raw data. Raw data were then imported to SAS software (SAS Institute, Cary, North Carolina). Data were

Box 1. New Questions in the 2015 AMWA Survey

New questions for employees and freelances

What percentage of your work is done remotely? (None, 20%, 40%, 60%, 80%, All)

New questions for employees

Choose the number of employees in company or organization (Fewer than 50; 50–100; 101–499; 500–1,000; 1,001–4,999; 5,000–10,000; More than 10,000)

How many years have you worked in your current position? (Fill in whole number)

Specify other employee benefits you receive (check all that apply; 20 options, None, Other)

New questions for employees/freelances and freelances

Choose the level of editing you primarily do (for editors). (Macroediting, Microediting, Macroediting and microediting, Copyediting)

What is the structure of your freelance business? (LLC, Partnership, S corporation, Sole proprietor, Other)

What recurring operating expenses did you incur through your freelance business in 2014? (check all that apply; 10 options, Other)

New questions for freelances

How many years did you work as a medical communicator, as defined in the Introduction, before becoming a full-time freelance? (None, Less than 1 year, 1–2 years, More than 2 years but less than 5 years, More than 5 years but less than 10 years, 10 years or more)

Of the 3 top areas of medical communication services you provide, what percentage of your total working time did you spend providing services in each of these areas in 2014? (Fill in percentage.)

Do you subcontract work to writers, editors, research assistants, or others? (Often, Sometimes, Never)

What percentage of your work time do you spend marketing your freelance business (defined as creating, updating, and distributing promotional media [hard copy and electronic] and active solicitation of work)? (Less than 10%, 11–19%, 20–30%, More than 30%)

What percentage of your total annual revenue is spent on marketing your freelance business? (Fill in whole number.)

Did you contribute to a retirement account in 2014? (No; Yes, I contributed the maximum amount allowed by law; Yes, I contributed less than the maximum allowed by law)

cleaned programmatically for entry anomalies and errors; in addition, raw data for approximately 100 entries were adjudicated (by S.B.) when programmatic correction was not possible.

Statistical Analyses

Statistical analyses consisted of descriptive statistics for all survey questions (ie, percentages, means, standard deviations, medians, interquartile ranges, and ranges). After review of the results for possible trends, additional analyses were performed. Some questions (or variables) with limited responses were grouped with other variables to further analyze as notable categories. Salary data from full-time employees were analyzed using multivariate regression models for variables suspected of being possible predictors (ie, contributing factors) of salaries. The initial predictors in the regression models were identified based on experience gained during previous surveys. These predictors were sex, age, educational level, years of experience in medical communication, and employment according to the following 3 groups (grouped according to approximating mean salaries):

- Pharmaceutical or biotechnology company
- Medical device, communication, or advertising company
- All other employers

After review of the initial regressions, results were optimized for statistical significance and correlation. The optimized regression models were followed with exploratory regressions. Geographic region was included as an additional potential predictor of employee salaries. As with the salary survey conducted in 2007, geographic regions associated with cost-of-living differences were a statistically significant predictor in the regression model conducted for this survey.⁵ Geographic regions of the United States were organized into 3 groups according to whether their composite consumer price index (cCPI) was low, medium, or high. In addition to the CPI⁶ that is commonly calculated and reported by the US Department of Labor, the cCPI incorporates those items routinely omitted by the CPI, such as food, housing, various goods and services, and energy-based commodities (eg, the cost of utilities and transportation).⁷

Statistical analysis for freelances/consultants comprised descriptive statistics for incomes and contract fees. For these analyses, 2 designations were adopted: “freelance” (respondents who work solely on a freelance basis) and “part-time freelance” (respondents who work part-time as a freelance). Within the full-time and part-time designations, these groups were further separated into writers and editors. The following categories were compared.

- Full-time freelances vs *all* part-time freelances (part-time freelances plus part-time freelances who are also employed)

- Groups according to work they performed (eg, writers vs editors)
- Groups according to the marketed area of writing (regulatory writing, scientific publications, continuing education, marketing/advertising, or consumer writing)

For descriptive statistics, the standard deviations for some salary means and the corresponding ranges for the medians often reflected large variances and skews of the distribution about the mean. Additionally, data often exhibit a larger variance when samples with a “small n” are considered. For this reason, the means in this survey are generally reported along with the corresponding “n,” standard deviations, and medians. This presentation of the data enables readers to consider 2 measures of central tendency. The range is sometimes also reported.

RESULTS

Demographic Data and Professional Qualities

Overall, 1,292 medical communicators answered the survey; the method of data collection did not allow us to categorize respondents as AMWA members or nonmembers. Approximately two-thirds of respondents were employees and one-third were freelances. Most respondents were women. Freelances were slightly older than employees and had more (self-identified) professional experience. Overall, about half of respondents had more than 10 years of experience. Approximately 59% had a degree in science (including medicine and pharmacy) (Table 2).

Employees

Approximately 30% of employee respondents were primarily writers, 18% were primarily editors, and 18% said they did an equal mix of writing and editing. Other work categories included writing and supervising; supervising and administration; research and writing; and project management. Full-time employees had been in their current position for a mean of 3.9 years (3.6 years for writers and 4.4 years for editors). The 3 leading employers were the pharmaceutical/biotechnology industry (pharma/biotech), contract research organizations (CROs), and communications/advertising companies (Figure 1).

The mean salary was \$90,200 for full-time employees and \$55,700 for part-time employees. Men earned approximately \$4,200 more than women, a 4.4% difference that was not statistically significant ($P > .05$). Respondents who were primarily writers earned a mean of \$10,300 more than respondents who were primarily editors; the salary was higher for respondents who were writers and supervisors (Table 3). Mean salaries for writers ranged from \$68,100 for an entry-level position to

Table 2. Demographic Data/Professional Qualities: Comparison of AMWA Surveys

Parameter	Year of Survey		
	2007	2011	2015
Respondents, n (%)	1,704 (32)	1,193 (26)	1,292 (--) ^a
Employee, n (%)	1,183 (69)	819 (69)	841 (65)
Freelance, n (%) ^b	521 (31)	374 (31)	451 (35)
Employee/freelance, n (%)			104 (14)
Sex			
Women, n (%)	1,383 (83)	963 (84)	1,042 (84)
Men, n (%)	281 (17)	181 (16)	185 (15)
Age (mean years)			
Women	45	46	46
Men	47	48	47
Employee	44	45	45
Freelance ^b	48	50	50
Years of experience (%)			
<2	14	11	8
2–5	20	20	25
6–10	28	25	25
>10	38	43	42
Years of experience (mean years)			
Employee	9	11	11
Freelance ^b	13	15	17
Education level (%)			
Bachelor's degree	36	28	21
Master's degree	34	34	32
Advanced degree	30	38	40
Degree field (%)			
Science ^c	40	44	50
English	N/A	N/A	9
Medicine	4	4	5
Pharmacy	5	5	4
Journalism	5	5	4
Medical writing	N/A	N/A	4
Communications	4	4	4
Liberal arts	11	11	4

N/A = not applicable or not available

^aThe percentage is unknown, as the total number of solicited medical communicators is unknown.

^bFreelance respondents, as a comparison to employees, include only those who freelance and are not also otherwise employed.

^cScience includes biology, medical technology, health sciences, and nutrition.

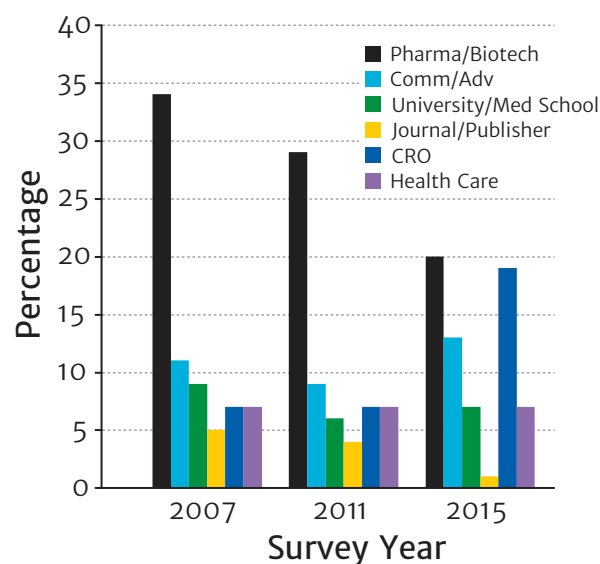


Figure 1. Comparison of the percentage of primary employers of respondents who are full-time employees in the current and the 2 most recent salary surveys.

\$131,400 for a senior-level position with management responsibilities; the corresponding mean salaries for editors were \$54,000 and \$104,000, respectively. Company size was also a factor, with the highest salaries among respondents who worked in a company of more than 10,000 employees and the lowest salaries among respondents who worked in a company with fewer than 100 employees (Table 3).

Salary for full-time employee respondents was positively correlated with several factors. Salary varied according to type of employer, ranging from a mean of \$70,500 for government agencies to a mean of \$125,200 for biotechnology companies (Table 4). Salaries were higher in geographic regions of the United States with a high cost of living compared with regions with a low cost of living (Figure 2).

Factors that had been previously tested for contributions to salary were considered for use in the regression analyses: educational level, sex, years of experience in medical communication, region (based on cCPI), type of work performed (writing, editing, etc), working position level (management/no management), and company category. A model including education level, years of experience, sex, company category, and working position was tested in the initial regression. Sex was found to not reach significance and was removed from the model. The regression was modeled with the following factors: education level, years of experience, company category, and working position. These factors accounted for approximately 46% of the variance in salaries ($R^2=0.46$, $P<.001$). Next, a further stepwise regression yielded a model with $R^2=0.50$ and included all the factors formerly found to exhibit significance, as well as the additional factor of a cost of living indicator as applied to various geographic regions. This model was used to

Table 3. Employee Salary by Job Category, Employment Level, and Company Size

Parameter	Salary (US \$)	
	Mean (SD)	Median (Min; Max)
Job Category		
Writing/supervision (n=90)	117,600 (62,000)	116,000 (48,000; 450,000)
Writing (primarily) (n=219)	91,600 (41,000)	88,000 (45,000; 243,000)
Editing (primarily) (n=90)	81,300 (33,000)	78,500 (35,000; 185,000)
Research and writing (n=63)	80,800 (39,000)	80,000 (38,000; 175,000)
Employment Level		
Writers		
Entry level (n=37)	68,100 (27,000)	67,000 (38,000; 130,000)
Midlevel, no supervision (n=192)	84,600 (36,000)	81,000 (40,000; 175,000)
Midlevel, with supervision (n=69)	106,700 (42,000)	105,000 (45,000; 200,000)
Senior, no management (n=111)	105,900 (47,000)	107,000 (43,000; 243,000)
Senior, management (n=53)	131,400 (55,000)	135,000 (65,000; 220,000)
Editors		
Entry level (n=19)	54,000 (22,000)	49,000 (38,000; 90,000)
Midlevel, no supervision (n=111)	71,400 (22,000)	70,000 (34,000; 136,000)
Midlevel, with supervision (n=24)	90,300 (40,000)	85,000 (52,000; 175,000)
Senior, no management (n=55)	82,100 (31,000)	78,000 (41,000; 140,000)
Senior, management (n=12)	104,000 (54,000)	103,000 (59,000; 185,000)
Company size (no. of employees)		
>10,000 (n=189)	97,700 (46,000)	99,000 (34,000; 243,000)
5,000–10,000 (n=82)	92,200 (39,000)	89,000 (35,000; 216,000)
1,001–4,999 (n=87)	87,500 (42,000)	82,000 (39,000; 235,000)
500–1,000 (n=65)	95,100 (64,000)	83,000 (30,000; 454,000)
101–499 (n=161)	88,800 (40,000)	85,000 (42,000; 192,000)
50–100 (n=77)	78,100 (35,000)	75,000 (35,000; 175,000)
<50 (n=103)	78,800 (44,000)	75,000 (25,000; 240,000)

Table 4. Full-time Employee Salary According to Type of Employer

Factors	Salary (US \$)		
	Mean (SD)	Median (Min; Max)	Mean % Difference 2011–2015
Primary Employer			
Biotechnology company (n=66)	125,200 (62,000)	118,000 (60,000; 220,000)	+7
Pharmaceutical company (n=146)	113,000 (49,000)	108,500 (38,000; 243,000)	0
Medical device company (n=36)	88,400 (32,000)	83,000 (40,000; 172,000)	–5
Communication and advertising (n=97)	85,900 (41,000)	82,000 (40,000; 220,000)	–8
Medical education company (n=48)	81,300 (33,000)	80,000 (39,000; 185,000)	+2
Clinical research organization (n=121)	81,100 (33,000)	80,000 (50,000; 170,000)	–9
Government (n=18)	70,500 (33,000)	75,000 (40,000; 117,000)	–20
Other (n=44)	80,500 (31,000)	79,000 (48,000; 190,000)	–16

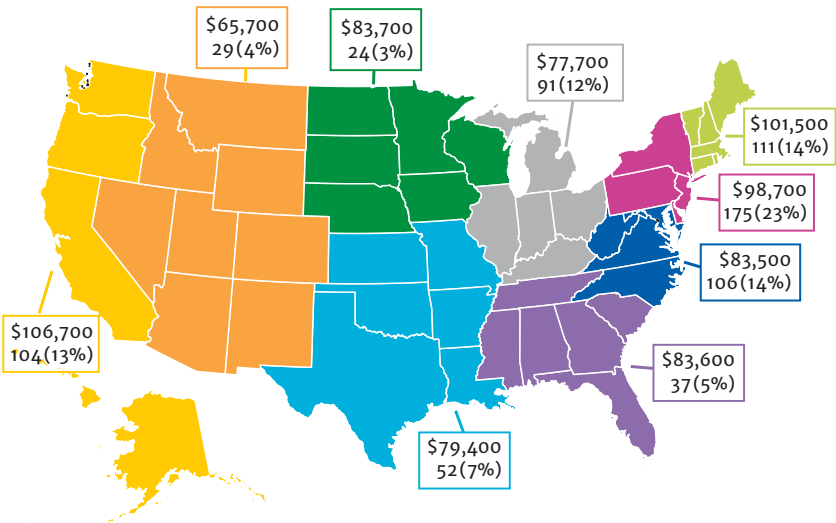


Figure 2. Salary according to region of the United States for full-time employees. Data are presented as means, with the number (percentage) of respondents who are employees. Data from respondents outside the United States not shown. Map outline ©Freevectormaps.com.

generate a predictive algorithm for salaries (Figure 3). This algorithm starts with a base salary of \$29,400 for an employee with a bachelor's degree. According to the algorithm, the most highly paid employee would be a writer with an advanced degree employed in a senior management position at a pharmaceutical or biotechnology company in a region with a high cCPI.

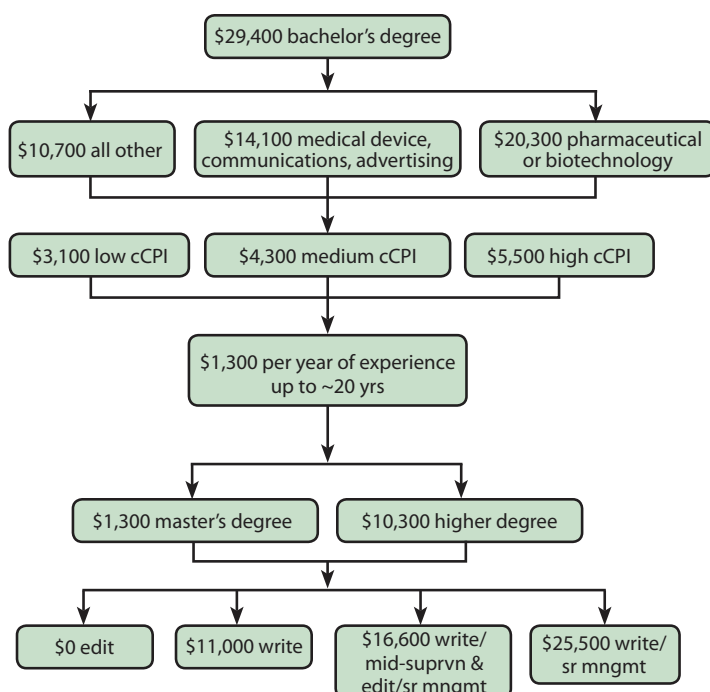


Figure 3. Employee salary estimated by regression modeling.

With regard to benefits considered to be part of an employment package, the most common benefit was health insurance, which was offered to 86% of full-time employee respondents; approximately 4% of employee respondents reported that they received no benefits (Table 5). An annual cash bonus was a benefit for 53% of employee respondents. Stock options/grants were a benefit for nearly one-quarter of full-time employee respondents, with a value of 1% to 10% of the annual salary as the most common range.

Approximately 27% of employee respondents worked remotely 20% of the time (ie, the equivalent of 1 day per week) and 21% worked remotely all of the time; 39% worked entirely onsite.

Freelances

Freelances most commonly worked in the areas of scientific publications (54%), continuing medical education (41%), and regulatory writing (34%). (The question permitted respondents to choose more than 1 category.) Full-time freelances had a mean of 12 years of experience; part-time freelances had a mean of 10 years. Full-time freelances worked a mean of 44 hours per week, and part-time freelances worked a mean of 22 hours.

The mean gross income for full-time freelances was \$131,400 (Table 6). The mean hourly rate for *all* freelances was \$111 (median, \$105) for writing and \$73 (median, \$67) for editing. Most freelances (61%) reported primarily billing by the

Table 5. Most Common Benefits for Full-time Employees

Benefit	Percentage of Respondents (n=747)
Health insurance	86
Dental insurance	78
Life and/or disability insurance	75
Retirement savings plan, with matching contribution	75
Flexible medical spending account	57
Professional development (membership dues, educational events)	55
Annual cash bonus	53
Performance bonus	30
Long-term care insurance	30
Tuition reimbursement	28
Stock options	25
None	4

Table 6. Gross Income for Freelances by Working Status

Status	Gross Income (US \$)	
	Mean (SD)	Median (Min; Max)
Full-time freelances (n=153)	131,400 (79,000)	114,000 (20,000; 450,000)
All freelances (n=345)	103,100 (71,000)	88,000 (16,000; 450,000)
Part-time freelances (not otherwise employed) (n=191)	82,400 (61,000)	69,000 (16,000; 400,000)
Part-time freelances/employees (n=78)	7,000 (9,000)	9,000 (500; 44,000)

Excluded entries adjudicated as outliers $>5 \times SD$.

hour, and 65% reported that 80% or more of their work time was billable (Figures 4 and 5). The proportion of freelances who said that their business profitability was better in 2014 than in 2013 was 41%; only 17% said that their business profitability had worsened over that time period.

For both freelance writers and editors, the top 3 areas generating the most income were (in order) regulatory writing, continuing education materials, and scientific publications; incomes for writers and editors were confounded by skewed results in each medical communication area (means of \$168,600 to \$116,300 but medians of \$175,000 to \$116,000, respectively).

Additional data obtained from freelance respondents related to business structure, billing processes, and time spent marketing will be the focus of an article in an upcoming issue of the *AMWA Journal*.

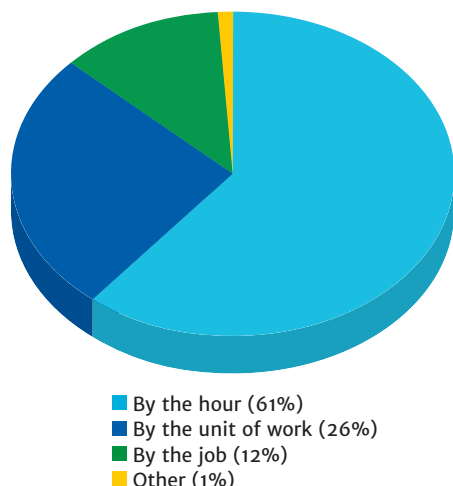


Figure 4. Freelancers' primary billing method.

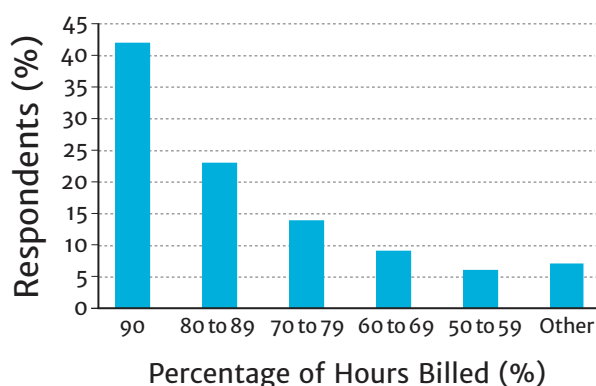


Figure 5. Freelancers' percentage of billable work time.

DISCUSSION

The 2015 AMWA Salary Survey represented the first year the survey was opened to nonmembers, and this strategy may have helped to increase the number of respondents, which was higher than in 2011 (by approximately 100). It is unclear, however, whether the addition of data from nonmembers affected the overall results or how it should affect comparisons of data from previous surveys. Still, the demographic profile for the survey was similar to that in previous surveys, continuing to reflect the demographics of the AMWA membership.

Survey results indicated a 4% difference in salary between men and women, which is the smallest gap since the salary survey began in 1989. Previous differences were reported as 30% in 1989, 18% in 2007, and 12% in 2011.^{1,5,6} The current gap reflects a similar percentage found among other industries (1% to 4%), with broad findings indicating that men do not earn substantially more money than women when they have similar experience and hold the same job.⁷

Pharma/biotech, CROs, and communications/advertising were the 3 primary employers of medical communicators. In 2015, a higher percentage of medical writers reported working for CROs (19%) than in 2011 (9.8%), and the percentage of medical communicators employed by pharma/biotech was lower (28% compared with 20%). This finding is consistent with the trend in recent years of increased outsourcing in the pharmaceutical industry. The finding also has an impact on the results for the mean salaries for employees, as salary tends to be lower in CROs than in pharma/biotech companies, as evidenced in both the 2011 and 2015 surveys. The mean income will therefore decrease as the proportion of medical communicators employed by CROs increases and the proportion of medical communicators employed by pharma/biotech companies decreases. The higher percentage of respondents working for communications/advertising may have also contributed to an overall lower mean salary for employees. The percentage of respondents employed in the communications and advertising companies sector was higher than that in previous surveys.

Other resources on salaries for medical writers are available, but most are not specific in their definition of a medical writer. For example, the *Occupational Outlook Handbook* by the Bureau of Labor Statistics, US Department of Labor, includes medical writers within the category of technical writers, whereas other resources seem to include only medical writers in the pharmaceutical industry. In addition, some resources base salaries on a low number of respondents or do not indicate the number of respondents. The average salary according to these resources is approximately \$72,000 to \$79,000, much lower than the mean salary for employees in our survey (\$90,200).⁸⁻¹⁰ In one resource, the median entry-level salary is noted to be \$59,405, which is also lower than in our survey (\$67,000).¹¹ These resources do acknowledge that many factors affect salary, including geographic location, years of experience, level of education, work setting, and company size, all factors that were found to influence salary in the AMWA survey.

The only resource on income with specific findings for medical writers and editors applies only to freelance income. The Editorial Freelancers Association (EFA) conducted a survey of its members a few years ago to gain insight into editorial rates; the exact year of the survey and number of respondents

is unknown (but was fewer than 700) (EFA, personal communication). According to the survey results, the rate for freelance medical writing was \$60 to \$70 per hour; this rate is higher than that for any other writing category in the survey (eg, fiction, grants, journalism, sales, tech, and trade) except for “nonspecified,” which is associated with an hourly rate of \$40 to \$100.¹² The rate in the EFA survey is \$35 to \$45 less than the median hourly rate reported by full-time freelance respondents in the AMWA survey (\$105). The EFA survey demonstrated a range in editing rates, from an hourly rate of \$30 to \$40 for basic copy-editing to \$40 to \$60 for substantive or line editing.¹² These editing rates are lower than the median hourly rate in the AMWA survey (\$67), but the EFA editing category is not specific to medical communication. The EFA also notes that the rates should be used only as a guideline because they “vary considerably depending on the nature of the work, the time frame of the assignment, the degree of special expertise required, and other factors.”¹²

Factors Associated with Employee Salary

In the 2015 AMWA Salary Survey, full-time employee respondents in the biotechnology and pharmaceutical companies earned the highest salaries, followed by communications/advertising, medical device companies, and CROs. Compared with the 2011 survey, the mean salary for full-time employees was \$2,667 lower: it was \$92,867 in 2011 and \$90,200 in 2015. The median salary remained unchanged at \$88,000.

The results of the current survey suggest that in recent years, full-time employee salaries have not kept pace with the inflation rate as calculated by the CPI. From 2007 to 2011, the inflation rate was 5.2%; the difference in salaries between the 2007 and 2011 surveys was +12.9%. From 2011 to 2015, the inflation rate was 7.0%, yet mean salaries were 2.9% lower in the 2015 survey than the 2011 survey (although median salaries were equal). The percentage of employees in CROs (+60%) and communications/advertising increased (+6%), and the lower salaries in these work settings compared with those in pharma/biotech, may explain the lower mean value. Additionally, a greater percentage of experienced employees may have transferred from employee to freelance status, which may partially explain the lower mean salaries.

Although the hiring demand for the pharmaceutical industry reached an all-time low in 2009, demand has gradually increased since then.¹³ Salary levels in the pharmaceutical industry appeared to remain flat between 2011 and 2015 (Table 4).

The greatest decreases in mean salary for full-time employees were associated with government agencies, CROs, and communications/advertising companies; the greatest increases were associated with biotechnology companies and medical education companies. However, given the small number of respondents who reported working for government agencies, it

is doubtful that the decrease in mean salaries would have been appreciably influenced by the respondents.

The regression model suggests that several factors contribute to the estimation of employee salaries, and the best model described about 50% of the variance of the model. In other words, the variables tested explained 50% of the variability in income. The factors for this survey (in order of importance) were type of work performed (writing, editing), primary employer, years of experience, education level, and geographic region according to cCPI.

The higher mean gross income for freelances (\$131,400) in comparison with employees (\$90,200) may give a first impression that it is more lucrative to be a freelance than a salaried employee. However, this first impression is quickly discounted when employee benefits and freelance expenses are considered. The US Bureau of Labor Statistics notes that benefits represent approximately 30% of the total compensation package for an employee in private industry.¹⁴ The 2015 Salary Survey marked the first time full-time employees were queried about benefits such as health insurance, bonuses, or stock options, and the results indicate that a high percentage of employee respondents received typical benefits packages. Thus, the total compensation value for full-time employee respondents with a standard benefits package would be \$117,260, not the salary of \$90,200. On the other hand, freelances in 2015 reported gross and net incomes demonstrating that they spend 30% to 35% of their gross income on expenses and overhead (data not shown), which reduces their mean income to a range of \$85,410 to \$91,980.

Although it is not a benefit per se nor related to salary, telecommuting is becoming more common, with 20% to 25% of the current US workforce working remotely at least some of the time.¹⁵ According to the 2015 survey results, the rate of telecommuting among medical communicators is much higher than that among the general workforce, with 48% of employees reporting that they worked remotely at least some of the time. Earlier AMWA surveys did not ask about telecommuting. Telecommuting is changing the way medical communicators work and is increasingly blurring the distinction between freelances and employees with regard to key job features.

Freelances

The mean gross income for full-time freelances was approximately 13% higher in the 2015 survey (\$131,400) than in the 2011 survey (\$116,000). Freelances in the 2015 survey did not report a higher number of working hours, as the mean number of hours was the same in both surveys for full-time freelances (44 hours) and was similar for part-time freelances (21 hours in 2011 and 22 hours in 2015). Since 2011, the hourly rate for full-time freelance writers increased by \$6, from a mean of \$105 to a mean of \$111 in 2015; however, the hourly rate for

full-time freelance editors was \$6 lower, decreasing from a mean of \$79 to a mean of \$73. Business profitability was similar in 2015 and 2011, with 41% reporting a better profit than in the previous year, compared with 37% reporting “better than average” in 2011.

The percentage of freelances who bill by the hour was lower in the current survey than in the 2011 survey (61% vs 78%). Whether to bill by the hour or charge a project-based fee has been debated for years, with most experts agreeing that each billing method has its advantages and disadvantages.¹⁶ The decrease in the percentage of freelances billing by the hour may indicate that more freelances are billing on a project-fee basis because of advantages associated with this billing method. This decrease also may be associated with level of experience, as freelances in the current survey had more cumulative years of experience than the freelance respondents in 2011. More experienced freelances may bill by the hour less often than do freelances with less experience; however, we did not analyze billing practices according to experience.

Approximately 42% of freelances reported that 90% of their time was billable. Interestingly, with 44 hours as the mean number of working hours, these freelances have approximately 40 hours of billable time per week. The percentage of freelances who reported that 80% or more of their time was billable (65%) was slightly lower in the current survey than in the 2011 survey (70%). The 3 areas of medical communication that drew the highest incomes for freelance writers in 2015 were the same in 2011 (regulatory writing, continuing education materials, and scientific publications), but continuing education materials was associated with the second highest income in 2015 and the third highest in 2011.

Survey Limitations

As with all surveys, these results were dependent on the number of respondents answering each question. Some respondents did not answer all questions pertaining to their group (eg, employee vs freelance, writer vs editor); some respondents answered only a few questions. Therefore, when an association for a given question was analyzed with a second question, the “n” will reflect only those respondents who answered both questions; likewise, a respondent had to have answered *all* of the individual questions to be counted for an analyzed group of associations. Consequently, because of missing data, the reported “n” in various analyses will differ. The extent of missing data is a well-known limitation of surveys and reiterating this phenomenon directly conveys the importance of full participation of survey members and completion of survey questions.

An additional limitation of the survey is the potential for selection bias. People who participate in a survey may differ in

important ways from the population of medical communicators as a whole, so the generalizability of the results is unclear.

The substance of key questions remained the same in the 2011 and 2015 surveys, but how questions were phrased and the order in which they appeared differed. These differences may have influenced how respondents answered the questions or how many questions they answered, thus affecting the interpretation and comparison of results.

Despite these limitations, the AMWA Salary Survey continues to be the best representation of the range of salaries in the field of medical communication.

Acknowledgment

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Mentoring New Medical Writers

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One Tuesday many years ago, I received an email from someone whose name I did not recognize. The subject line was “sad news about John Smith” (name changed). You never want to see “sad news about” in an email subject line. But “John Smith” had been my student. Not just a student I had had in classes; I had been his mentor. I went cold, broke out into a sweat, hovered over the email for a few seconds and finally clicked on it. It was a message from his mother, telling me that her son had died and that she had to tell me because we had been so close and I had had such a profound effect on his life.

This doesn't have a whole lot to do with medical writing, but it has a whole lot to do with true mentorship.

I've been teaching for over 30 years. Students die. It's the law of averages. It's always awful. But if you were a mentor to the student, the stakes are somehow a whole lot higher. In the case of a generational difference (as was this one), it's like acquiring another child, albeit an adult one. You always push and encourage your students to succeed. Some need more hand-holding than others. But the ones you're mentoring—you push them harder, admonish them with cheerfully unabashed and increased frequency, pick them up and dust them off when they hit walls (anyone who's done research knows that research consists primarily of hitting walls), and try hard to convince them that any and every setback is an important learning experience. You try to know when to micromanage and when to back off and say “figure it out yourself.” If they're planning on moving, getting married, or having a baby mid-semester, you cheerfully avoid Proper Academic Protocol and say “What, are you *high*?”

I finished my graduate degree over 25 years ago, but I still take a 12-hour, one-way drive each year to spend a week with my mentor and his wife. I get to his house, open the door, walk in, and say “Moouoom, Daaaad, I'm hooooooooooooome.”

The word *mentor* has a Greek etymologic origin, one of those nebulous “probably derived from” words with a number of suggested influences. Mind you, I had to look all this up. Mentor was a friend of Odysseus and the adviser to Telemachus in the *Odyssey*. Hence: “adviser.” I saw the *ment*-root and immediately thought “thinking,” and indeed that is cited as a possibility, as is *mentos*, an agent noun meaning “intent, purpose, spirit, and passion.” There is also a nod to the Sanskrit *mantar*- (one who thinks) and the Latin monitor (one who admonishes). The basic dictionary definition is “a wise and trusted counselor or teacher” and “an influential senior sponsor or supporter.” These all make sense. “Mentor” was my official title when I was working with graduate students in their final capstone research (2 semesters). It pleased me to see the wise characterization (loosely though that may have applied to me), and I particularly enjoyed seeing a justification of the admonishment angle, as that is one of my very favorite things. Many a time I have sent an email saying things like “Clip art? Seriously? Did you *seriously* use clip art in your PowerPoint? You fail,” and “Where is your next draft? Do not incur my wrath,” and “How dare you send me a manuscript in which *data* is used in the singular. You will never succeed as a writer. Give it up now and go into accounting.” These emails are typically met with abject, groveling apologies, which also tend to liven up one's afternoon.

A medical writing mentor—a true mentor, in the sense that you have that kind of bond—does not just beat you over the head for using AMA style 9th edition as opposed to the 10th edition (although I do that) or typos (although I do that too) or confusing “effect” and “affect” (seriously, don't do that). It's not just teaching. It's guiding, advising, coaxing, prodding, leading, counseling, consoling. And, of course, admonishing (a perk). I use “do not incur my wrath” in so many emails I'm pretty sure my students look at it as “warmest regards.”

At the time I was involved with our capstone program, you had to have 2 mentors. There was always me, on the academic/writing side, but a “content mentor” also had to be acquired. Let’s face it, if a student was doing a capstone on retraction or psychometrics or social media, or on a “research vehicle” such as oncology or diabetes or seizure disorders, I wasn’t an expert, and a student would only get a full experience if both content and mechanics were covered. Acquiring a content mentor was one of their first directives. “How do I do that” was typically the first question I got. My answer to that was typically “well, who’s doing that research?” Then my students toddled off into the mentor-seeking ether and came back with “is Dr X OK? She’s the director of the Federal Office of Y. She said she’s interested,” or “is Dr Z OK? He wrote the original algorithm for A. He said he’d do it.” I approved them as a matter of course, then went to my director, and say “OK, so Susie just asked Dr X to be her mentor and she said yes, and Johnny asked Dr Z to be his mentor and he said yes,” and my director was all like, *seriously? Really? How?* And the answer was simply “because I told them to go out and find an expert.” This is the caliber of our students. We tell them to “go out and be awesome,” and they’re all like “OK; I need to hit that awesomeness benchmark by Friday, right?”

Then they need to design their research.

STUDENT: What should I do it on?

ME: Beats me. What interests you?

STUDENT: Um, oncology?

ME: This is research in *medical writing*. What interests you in medical writing?

STUDENT: Writing about... oncology?

ME: [STERN SILENCE]

STUDENT [RETHINKING CAREER]: *I don't know.*

ME: You just took 10 classes in our program. Which one did you like most?

STUDENT: Ethics.

ME: [SIGNIFICANT SILENCE]

STUDENT: Oh.

ME: And?

STUDENT: Ethics of oncology trials?

ME: So what? What does that have to do with medical writing?

STUDENT [ARGUING]: Disclosure! Don't you realize that without adequate disclo—oh.

ME: And?

STUDENT: 45 CFR 46.

ME: Your final deliverable is a manuscript submitted to a journal for publication. You're going to write a manuscript on 45 CFR 46?

STUDENT: Ethics of disclosure in oncology clinical trials.

ME: No.



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STUDENT: Informed consent for oncology clinical trials.

ME: No.

STUDENT: Informed consent for pediatric oncology clinical trials.

ME: No.

STUDENT: Crafting target-specific informed consent documents for cytotoxic oncologic pharmaceuticals in phase 3 trials for pediatric cancers.

ME: I want an abstract by the end of the week.

It would be easier to tell a new medical writer what to do right out of the gate. It would save time and be a whole lot less frustrating for the student. But when the student enters the workforce, she must be prepared to not have things handed to her, so she is not going to have them handed to her in her capstone, either.

My student submits a fabulous abstract and then a draft proposal with a thorough and very educational background on pediatric cancers and informed consent. I send it back, saying “good start.” Student is demoralized.

STUDENT: What's *wrong* with it? You *approved* it.

ME: What's your research question? What's your rationale?

STUDENT: “Writers need to know this?”

ME: [STERN SILENCE]

STUDENT: Um. “How do you write one?”

ME: So? What's the big deal?

STUDENT: *Informed consent!* Don't you realize that without adequate infor—oh.

ME: And?

STUDENT: Federal guidelines for plain language, yeah, OK, I get it.

ME: How are you going to assess this?

STUDENT [*knowing this is the wrong answer*]: Um, read the literature...?

ME: So you're planning on writing a review paper? This is for your master's degree. It has to be original research.

STUDENT: Assessment of plain language standards, survey of IRBs.

ME: I want a revised draft by Friday.

The student learns that he not only has to ask “what” by himself, he also has to answer “how” by himself. Any professional medical writer will tell you that, while you’re often handed the “what” (eg, 30-slide presentation on epidemiology), you’re far less frequently told how to do it. You know how to do it because you’re a professional. That’s why they hired you.

But how do you *learn* how?

Weeks pass. Since this research requires a survey, it requires our own USciences IRB approval. IRB kicks it back with queries.

STUDENT: But I have to start *now*!

ME: Better fix it, then. Now you understand the vagaries of IRB behavior. Trust me, understanding this through experience will help you tremendously in any job you ever have that involves an IRB.

STUDENT: I hate everyone and everything.

ME: Sounds like you’re right on track.

The IRB approves the proposal. Student launches questionnaire, gets 3 responses, insufficient for research.

STUDENT [DESPAIRING]: What am I going to *do*?

ME: Congratulations, you’ve just learned how real research works. Honest. You’ve just learned more than students whose capstones go smoothly.

STUDENT: I want to graduate!

ME: You’re not going to. You need another semester. We can rework this. You’ve gone a long way. You do not have to start over.

STUDENT: HOW?!

This, obviously, is *not* the time to say “figure it out.” On the phone, we brainstorm. I have no idea what to do either, frankly. Mentoring is not a one-way street. You need a substrate so that you can be a catalyst. Nothing like a one-and-a-half hour phone call to work it out. Enthusiasm renewed, she gets back on it and makes serious progress. Might actually even graduate. Then:

STUDENT: Hurricane Sandy just flattened my house.

ME: Like I haven’t heard *that* excuse before.

STUDENT: I have delivered myself to God; He will provide.

ME: God is not going to help you with your capstone. If you need to, you can come stay with me. I have plenty of room.

STUDENT: No. I’ll have a draft to you by the end of next week.

Being a mentor does not just mean beating AMA style into one’s acolytes (although, of course, that’s necessary). It means helping to craft a thought process, working things out, developing soft skills such as time management, critical thinking, networking, and problem-solving.

ME: You are taking an incomplete.

STUDENT: *No I’m not.*

ME: This discussion is over. I am filling out the paperwork and forging your signature.

I actually had a Hurricane Sandy-crippled student. And one who was trying to hit deadlines before having a baby. Several who were already professional writers working with submission deadlines. Family tragedies and illnesses. Moving. New jobs. Professors may or may not know these things—but mentors almost always do. You need to push and prod and encourage to finish—but you also need to know when to say “No, you need to stop for a bit.”

Bottom line, a mentor is a catalyst—in the scientific sense. A catalyst works on a substrate. The person you’re mentoring is a substrate. No single catalyst works on all substrates—lock-and-key and all, if you remember your intro bio. A mentor-catalyst has to be malleable, has to adapt to multiple substrates. Has to understand the student, his or her personality and psychologic profile, to the extent possible. Understand strengths and weaknesses, when to push, when to concede, when to threaten (affectionately or not). When to joke around and when not to.

Being a mentor does not just mean beating AMA style into one’s acolytes (although, of course, that’s necessary). It means helping to craft a thought process, working things out, developing soft skills such as time management, critical thinking, networking, and problem-solving. There is much in the *AMA Manual of Style*, necessary desk reference that it is, that does not address how to deal with a client who simply wants to eliminate outliers when writing up a clinical study. Mentoring is guiding your gift—for a gift it surely is—to think things out and figure things out for him- or herself. When the “aha” moment hits, it is 10 times more satisfying to the mentor than it is to the “aha” recipient. It means you’ve done your job. It’s *exciting*. We go into teaching for those “aha” moments.

And really, when you get the postgraduation “I couldn’t have done this without you, you’re amazing” card from your

student, well, that's worth more than your salary. I hope passionately that any of my former students who read this understand their importance to me and how they've helped me learn how to be a better adviser (and admonisher).

(Academic) Mentor Guidelines

1. Provide general, concrete guidelines to a mentee. No details, just generalities.
2. *Never* tell your mentee what to do. Guide them to finding it out on their own.
3. Provide *structure without specifics*. If you edit excessively, they will not develop the critical thinking skills essential to being a good medical writer. Circle something and say "style," not "you need a comma here and this is a compound modifier that requires a hyphen." Use "clarity," "organization," and "grammar" as general prompts—do not provide corrections. Provide deadlines, guidelines, and examples, and let them fill in the blanks.
4. When your mentee hits a wall, *that's good*. There is no better learning experience. You must *convince your mentee* that it's good to have had that experience. This is not a platitude, it is a solid truth. Real science works this way, real life works this way, real jobs work this way. *Nothing* works perfectly. *Nothing*. Your survey doesn't always work. The editor of a journal doesn't always want to publish your manuscript. *Good! Get rejected! Now you know how to get rejected!* This person knows more about the industry than someone who has never hit a bump.
5. When a mentee hits a bump, assess your substrate. How do you assist the mentee over the bump? Different substrates require different assists. "Man up" works for some, "Step away from it for a few days and go camping" works for others, while still others might need a 2-hour you-can-do-it-I-have-faith-in-you phone call.
6. Understand your mentee's limitations. Some have some significant ones. Age, maybe, fear, mental challenges (attention deficit disorder, depression, bipolar disorder, autism spectrum, etc), physical disorders, or family issues. When you're a mentor, you're going to get more confes-
7. How do I get a job? That's a major fear with new medical writers—it's a major fear with *experienced* jobless medical writers. Counsel them in job-hunting, cold-calling, networking, working with recruiters, and listing themselves on job sites; review their writing tests if they get them, and review their résumés or CVs; write recommendations for them or otherwise serve as references.
8. Do not lie. If they have limitations, as a mentor, you are *ethically obliged* to make them aware of them. This is tough. There are always positives ("you really know your reg guidelines"), and you should start with those. If their organization, clarity, or grammar is compromised, you need to let them know. This does not mean they are unfit medical writers, only that they have limitations. With the structure of a particular job environment, you never know how they'll do.
9. Provide the basic mechanics of professional guidelines. How do you write emails? Answer job posts? Engage in professional organizational discussion boards? Create a Web page? Work on social media? Hook them up with the right professionals in the field for advice (and hook them up with AMWA as soon as they start their studies; I'm not shilling here, this is just a fact).
10. If you're a mentor, care deeply about your charges, and let it show. Let them know they can talk to you. Respect them. And of course, you should have every expectation that the respect is reciprocal.

Mentors keep our industry alive. If you're one of them, understand the contributions you make. And if you want to be one, it's as simple as saying "of course I'd be happy to help" when a new writer comes to you for advice. Recall the dictionary definition of *mentor*: "intent, purpose, spirit, and passion." These are the qualities of a good mentor, individualized to meet the needs of each student.

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SWANBERG ADDRESS

Deep Roots and Strong Wings: Seek The Sky

By Helen E. Hodgson, PhD / Professor of Communication, Westminster College, Salt Lake City, UT

In considering my life through the metaphors of roots and wings, I hope that it will allow those of you who have been members of the American Medical Writers Association for some years to look back on your own moments of discovery, while it provides some insights for those of you who are newer to the profession. As we move through these turning points in my life, I will be sharing some of the lessons I have learned.

One of the things I have discovered is that it's okay for your path through life to take unexpected twists and turns. As J.R.R. Tolkien wrote in *The Lord of the Rings*,

All that is gold does not glitter,
Not all those who wander are lost;
The old that is strong does not wither,
Deep roots are not reached by the frost.

The many opportunities that life offers allow you to establish the deep roots you will need when the wind begins to blow.

The author and poet Anthony Liccione wrote, "A tree stands strong not by its fruits or branches, but by the depth of its roots." The base of my tree has been education. And whether you acquire your education in academic institutions, in professional organizations like AMWA, or through life experience (that can mean your job)—it can help you grow the deep roots that will allow you to soar to unexpected heights. For me, it began with a path through a variety of colleges and universities.

Being uncertain as to what you want to major in isn't the end of the world. Knowing that I didn't have a clear sense of direction, I headed to the University of Michigan in Ann Arbor. Because it offered strong academic programs in a variety of fields, I felt many possibilities would be open to me. My mom had encouraged me to pursue teaching or nursing; as she explained, then I would have a career to fall back on if something happened to my husband and I had to support the children. My dad, on the other hand, encouraged me to follow my dreams, to do anything I wanted, and I took his message to heart.



The **Harold Swanberg Distinguished Service Award** is presented each year to "an active member who has made distinguished contributions to medical communication or rendered unusual and distinguished services to the medical profession." The 2015 award was presented to Helen E. Hodgson, PhD, by Ann Winter-Vann, PhD, at the annual conference in San Antonio, Texas. This article is based on the Swanberg Award Address delivered at the conference.

During the 3 years it took me to complete my undergraduate degree, I explored 3 different majors—English, speech and theatre, and history—at the same time that I began fulfilling the requirements to attend medical school. I finally settled on a BA in English, and when I graduated at the age of 20, I had no idea where I wanted my path to lead me.

I had been living next door to the First Presbyterian Church of Ann Arbor, and Ernie Campbell was the minister there at the time. An extremely charismatic leader (his next appointment was at the Riverside Church in New York City), he suggested divinity school—a thought that hadn't crossed my mind—and off I went.

Having selected Yale University, I had a great educational experience, but in divinity school, you don't spend your life asking, "What do I need to study for this class?" Rather, the daily question is, "What is my reason for being?" I wasn't ready to answer that question then (I'm not sure I can answer it now), but rather than give up completely on the path I had chosen, I joined the Student Interracial Ministry and spent a summer working in its Atlanta Urban Project. At the end of the summer, I accepted a teaching position at Tuskegee Institute, as part of the Student Interracial Ministry College Teaching Internship Program. Because many divinity school students elected year-long internships as part of their course of study, I knew I could always go back to Yale.

I was already building the strong conviction that it never hurts to stand in a doorway with the freedom of moving

You may be asking yourself, “How did a specialist in 19th-century American literature qualify to be a technical publications editor?” The answer is simple: pre-med classes!

through it in either direction. At Tuskegee, I discovered my love for teaching. And just as I did, you too may develop a passion through work experiences rather than through formal education.

So there I was: a 21-year-old woman with a BA in English and a year at Yale Divinity School, filling a position as a professor of English in a predominantly black college in the middle of Alabama. Yet I loved every minute in the classroom and with my students; I couldn't imagine doing anything else.

That experience led to the counsel I give my current students when they come to me for career advice: “When you get up in the morning, what job can you imagine going to that wouldn't feel like work? That's what you want to do with your life.”

In my case, I knew I would need additional education if I wanted a permanent career in college teaching, so I began a PhD program at the University of Denver. There I learned that the choices you make may ultimately open unexpected doors.

I thrived on education. While I completed classes for a PhD in English, I earned free tuition as a teaching fellow, and I couldn't imagine letting that opportunity go to waste. With my course work completed for a specialty in 19th-century American literature, I decided to use my free tuition to begin a master's degree in history. My thinking was that then I could teach English, history, and American studies, which might open possibilities in a very tight job market. I quickly became disenchanted with history, so I returned to pre-med and completed all the remaining requirements to attend medical school. My classes in developmental vertebrate anatomy and genetics made it clear that I loved thinking about the implications of genetics far more than I enjoyed dissecting a big orange tomcat.

So deciding that medical school wasn't in my future, I was forced to acknowledge that it was time for a real job. When I graduated, college teaching positions were almost nonexistent, and I had no success at landing one. Having adopted my genetics professor as my mentor, I went to her for advice, and she knew of a position at the US Geological Survey (USGS) for a technical publications editor. I didn't even know what that meant.

In *If This Isn't Nice, What Is? Advice for the Young*, Kurt Vonnegut wrote, “We have to continually be jumping off cliffs and developing our wings on the way down.” So as Vonnegut suggests, the next choice for you may be to jump off a cliff and hope you can fly. While decisions you make in your life may be life changing, they are not irrevocable. So it's okay to take a risk and see where you land. Following my mentor's advice to accept a position at the USGS was the first of many times that I jumped off cliffs and hoped my wings would take over before I

hit the ground. When I began at the USGS, I couldn't have predicted where that decision would take me. So my advice to you is, “Accept whatever challenge life offers, and run with it!”

You may be asking yourself, “How did a specialist in 19th-century American literature qualify to be a technical publications editor?” The answer is simple: pre-med classes! My formal job title, technical publications editor, included a parenthetical note describing the position as focused on either earth science or physical science. The logical specialty at a government office dedicated to geology would have been earth science, but I qualified for the physical science designation—and for the job—because of all the pre-med classes I had completed.

If I hadn't been so desperate to have a real job, perhaps I would have realized what I was in for. In my initial interview, the woman who became my immediate supervisor told me I wouldn't work out and, for that reason I was being hired on a 700-hour temporary appointment as a GS-7 rather than a GS-11, the starting grade for a PhD. She made my life miserable, but eventually we Peter-principled her into another division, and I stayed for 13 years. During that time I became the USGS expert on technical writing and taught classes (back to feeding my passion) in Corpus Christi, Menlo Park, Denver—anywhere the USGS had an office. I spoke at geological conferences on the importance of writing, inadvertently becoming a national expert in geoscience writing. But I never liked rocks, so I began to ask myself, “Why not move the skill set I had developed to the medical field?”

That's when I discovered AMWA. And a professional organization with the type of caring, giving, sharing members that you find in this association presents as rich an opportunity as any formal educational experience that you might have. I credit AMWA with being able to change my life's direction.

My first AMWA experience was the Houston mini-conference in 1983, where I met Lynn Alperin and Marianne Mallia (now past presidents of AMWA), who have become my life-long friends. Years later, long after I had moved to Utah, they came to help celebrate my marriage. And perhaps only in Utah would you take 2 such attractive women along on your honeymoon, but that's exactly what I did.

In 1983 there was no Rocky Mountain chapter of AMWA, and I contacted HQ to find out why. I was immediately put in touch with Judy Linn (a past president) and I set off to the San Antonio annual conference in 1984 with the goal of acquiring the 25 signatures needed to start a chapter. There I met Steve Prather, a Salt Lake City physician, and in the process of getting his signature, I discovered that he wanted to change the way physicians communicated with their patients.

Moving my writing expertise from geology to medicine hadn't been as easy as I had expected: physicians to whom I offered my services assured me that they could write and didn't need my help. Steve cited *What Color Is Your Parachute?* and convinced me I was on the right path. Shortly after the conference ended, we began to collaborate.

Deciding to work with Steve in a business called Health/Life Planning provided the opportunity for me to leap off one more cliff. Our collaboration led to my moving from Denver to Salt Lake City, and I continued to be active in AMWA, proposing my first AMWA workshop after attending the San Antonio conference.

Steve and I developed an intensive seminar for physicians called "Caring for Difficult Patients," to encourage physicians to recognize their communication styles, improve their effectiveness in communicating with patients, and help them reduce the risk of lawsuits. So I was teaching once again. The concepts we developed were then captured in a book called *Medical Risk Management* (not the title we had chosen) that focused on how high levels of communication can enhance the physician-patient relationship.

As young entrepreneurs, the work didn't pay well, so I took a second job as an adjunct professor of business and technical writing at Westminster College in Salt Lake City. And with that decision, my career trajectory took one more twist on the path. If your life journey is anything like mine, you may need to be patient until your ongoing passion becomes the major career direction in your life.

After 6 years of adjunct teaching at Westminster, I was offered a full-time position in the newly developed Master of Professional Communication program. Over the years, the relationships I established with my students before and after they graduated led to a variety of writing positions—just another means of teaching. I first developed a column called "Food and Fitness" in a monthly newsmagazine. That established my reputation as a writer, and I began writing about health for *Salt Lake* magazine. Several years later, I was offered the position of food editor, a delightful gig that I had for 7 years.

My most recent writing opportunity has come through a colleague from my food writing days. When she learned that I had become a master gardener, she asked if I would like to write gardening features for the *Salt Lake Tribune*. That turned into a platform to write about growing your own vegetables and using them to prepare healthy meals.

Being open to all the experiences life offers can enlarge your circle of colleagues and expand your horizons. Networking has led to many opportunities I never could have predicted, and AMWA is the perfect place to use this to advantage.

J.M. Barrie, in *The Little White Bird*, wrote, "The reason birds can fly and we can't is simply because they have perfect

faith, for to have faith is to have wings." Believing in yourself allows you to overcome barriers and see where they lead.

You can turn barriers into exciting possibilities, just as you see my grandson doing in this photo. Greyson's Grandma Mari set up what she saw as a barrier to prevent this 9-month-old adventurer from too much exploring. But Greyson took it as an opportunity to expand his world to new heights.



Greyson, grandson of Helen Hodgson, using a barrier to expand his world to new heights.

In *World Peace: The Voice of a Mountain Bird*, Amit Ray wrote, "A bird is safe in its nest—but that's not what its wings are made for." Wings are made for flying, and trusting your wings can bring you great joy.

As physicist Freehof Capra said, "This is the true joy in life: working for a mighty purpose; being thoroughly worn out before you are thrown on the scrap heap; being a force of nature instead of a feverish little clod of ailments and grievances complaining that the world will not devote itself to making you happy."

Every day, my dog Annabella epitomizes this verve for life. Twice a day, every day, she becomes a whirling dervish, leaping in a series of 360-degree circles as her food bowl is carried across the kitchen. She sees every moment in each day of her life as an opportunity for joy and exploration.

Wherever you are on life's path, I wish you deep roots and strong wings so you too can know this level of joy in life's adventures.

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Brian Bass



Lori De Milto



Debra Gordon



Phyllis Minick



Ruwaida Vakil

Q

What key types of software programs would you recommend for a new freelance?

A

To some extent this depends on the types of writing and editing you do in your business, as well as the expectations of your clients. Below are a few basic programs and applications that I own and consider useful for any medical writer, whether freelance or employee.

- **Microsoft Office** for Windows or Mac, which gives you Microsoft Word for word processing (the most common program in use in the United States); PowerPoint for slide creation or editing; and Excel for the creation or revision of graphs and data spreadsheets. This triad is, in my opinion, a sine qua non for the medical writer or editor. You could opt for iWorks instead, which includes word processing, slide presentation, and spreadsheet programs (with files easily converted to Microsoft Office)—but most of your clients will prefer that you have the Microsoft Office suite. Some people like Adobe FrameMaker for desktop publishing and the creation of large, complex manuals. Again, this depends on the kind of work you are doing, your clients, and your end-users. I do not consider it essential software for a medical writer, nor do I own it, but there are some who prefer it to Word, Quark, or InDesign.
- **Adobe Acrobat Pro**, which enables you to not only view PDF files but also edit the contents if needed. (I try to avoid having to edit in PDF format because I find it cumbersome; but some projects require this.) You may be able to get by with just Adobe Acrobat Reader (a free download), again depending on your clients and types of projects.
- **Adobe Creative Suite (CS)** Design Standard or Adobe Creative Cloud, which includes InDesign, Photoshop, Illustrator, and Adobe Acrobat Pro. However, if you do not need *all* of these programs, you may purchase any one of them individually. It depends on how much graphic-art/design and/or page layout you handle in your business. Some medical writers will never need any of these Adobe software packages, eg, those who specialize in regulatory affairs only or those who simply review/edit manuscripts, etc.

Note that today, rather than purchase the software and own it yourself, you purchase a monthly subscription for these applications, which is why I suggest you

think carefully about what you really need (and perhaps what monthly subscriptions your clients might be willing to cover for you). The costs vary, depending on whether you subscribe as an individual, a business, a student/teacher, or a university. Today the cost for an individual to purchase a bundle of all the appropriate applications is about \$49 per month for 12 months depending on the plan you arrange. The apps are updated regularly and the subscription includes the most recent versions, so you no longer have to pay a few hundred dollars to acquire the most recent update. (Check out Adobe's website for more detailed information on their offerings.) I own the discs for Adobe Creative Suite (CS) Design Standard and have chosen not to update to the subscription version. Thus, my versions are not up-to-date, but so far this has not been a problem. When I need serious professional graphic design, I hire a professional designer/graphic artist.

- **QuickBooks** or other accounting software packages, which is important if you handle your own bookkeeping and taxes. I have an outside bookkeeper and an accounting firm for taxes so I do not own accounting software.
- **InTouch With** or other contact/mini-database program—despite being a Mac user who also has an iPad and iPhone, I do not use the contact functions included with these devices for business. This, because I have found InTouch (www.pgrsoft.com) to be far more user-friendly (though it does not synch all your devices across the Cloud; it is only for my desktop computer in the office and my MacBook Pro laptop computer).

There are pros and cons to this kind of application and I suspect most people prefer to use the contacts function that comes with their systems. The reasons I prefer InTouch are: you do not have to enter information into individual cells followed by tabs (you can do it the old-fashioned way like addressing envelopes); the application has various grouping and search functions; and it includes separate (large) freestyle cell below the address data into which you can enter myriad information about that individual and then search by category later (ie, it is a mini-database). Note: I also keep a contact list synchronized between my iPad and iPhone but primarily use that

for personal contacts; only a handful clients are included in my iPhone/iPad contacts.

- **EndNote** or other bibliographic organization/citation program, which is useful if you prepare manuscripts and review articles or monographs that carry a plethora of references. I do not consider this essential but many others do. If you work in regulatory affairs, EndNote is not necessary for preparing clinical study reports (CSRs) but may be useful for investigator brochures and other comprehensive summaries that require a more extensive bibliography. (Some medical journals specifically request that EndNote not be used; however, you can still use it to organize and format references and then “copy and paste” them into your document.)

Apps for iPhone/iPad and other Mobile Devices

While there are hundreds of interesting and useful apps available for these devices, certainly not all are essential. Here are 3 that I find useful for my business.

- **JotNotPro**, which turns the iPhone/iPad into a scanner, allows you to crop the image, and saves it as a PDF file so you can email it to yourself or client. Yes, one can simply take a photo of a document with your iPhone or iPad, but it saves as a picture rather than instantaneously as a PDF file.
- **Pages**, which is a great word processing program from Apple for the iPad, which enables you to do anything you like on the move, without carrying a (heavier) laptop computer. You can type with an external keyboard or dictate your notes, articles, and memos. Like Microsoft Word, Pages has myriad formatting features. You can email your Pages document to yourself, saved in Microsoft Word format so that you can finish off when you return to the office.
- **Khan Academy**, which is an invaluable online education resource that allows me to learn more easily than doing a Google search. I use it for math, statistics, science, and humanities topics. Each topic is covered extremely well in just a few minutes.

—Cathryn Evans

Of course there is foundational software every freelance must have, whether you're on a Mac or PC. They are Word, PowerPoint, Excel, and Outlook. Other software programs are just as vital to your everyday functioning and to your success.

I think it is essential to have a financial software program to manage estimating, invoicing, accounts receivable, accounts payable, bank accounts, and reporting for quarterly and annual taxes. I use QuickBooks by Intuit. I love the program and recommend it because it's simple, powerful, and saves me a lot of time every day—especially when I'm preparing to meet with my accountant. I also use QuickBooks to track my time, although I do not have my time sheets feed into my invoices because I don't bill by the hour. So why track my time? So that I can see how much more money I made than if I had been charging by the hour!

New freelances should also invest in Adobe Acrobat, which you can use to create, mark up, and manage PDFs. There are Acrobat Standard and Acrobat Pro editions, but I have found that the standard edition provides everything I need. Now there is also an Acrobat Document Cloud edition that operates across desktop, web, and mobile platforms and includes digital signature features. I'm not sure whether you need that, but it's available.

I also have WinZip on my computer, which is invaluable for collecting lots of files, such as highlighted references, for sending to clients. WinZip compresses the files so they take up less space. This sometimes enables you to email a batch of references to a client that you would otherwise have to post to an FTP site like Dropbox or Hightail. It is useful, however, to have at least one of these FTP programs on your computer as well. Clients commonly use Dropbox, so getting your own account (the basic service is free) will make things easier.

Other software you should consider installing include communications programs such as Skype or GoToMeeting. Clients will often use these programs for document reviews, and you don't want to discover 2 minutes before a meeting starts that you aren't ready to connect.

Now that you don't have an IT department down the hall (welcome to freelancing, you are the IT department), you need to think about security, maintenance, and file backup as well. I use Carbonite cloud backup because the company has an outstanding reputation, and the service is economical and employs the latest security features. To keep my computer free of malicious software, I regularly run Malwarebytes in addition to the clean-up programs that came installed on my computer. If you do this regularly, you're less likely to have problems with your system. Because that's not a guarantee, I also use Kaspersky antivirus and Internet security to keep my computer happy, healthy, and protected.

—Brian Bass

The key software programs that a freelance should have other than the standard Microsoft Office programs include a PDF reader/editor, a good bookkeeping program, reference management software, and an integrated medical dictionary. I work on a Mac so I use Fanurio to invoice and manage my clients. It also allows me to track my time. I use iBank as the software to manage my business account and financial transactions. It syncs up with my bank and credit cards so that I can instantly assess my finances and know how much I have made from each client as well as my current expenses. I can view my income and expenses by year, month, or any way I would like to configure it. When it comes to tax time all I have to do is run a report and send that to my accountant. I don't need a bookkeeper with this software. I use Endnote to manage references and find it essential. I could not imagine managing references without it. I have also integrated Stedman's Medical dictionary into my word processing program.

—Ruwaida Vakil

Q What type of filing systems do you use to keep track of your business beyond the financial records? How do you file/archive client records and projects and for how long do you keep them?

A

Since I often work on confidential projects, most clients do not want me to keep related files for long after project completion (manuscript publication or submission to the FDA). Therefore, I toss or shred paper copies and delete the electronic versions, generally about 3 to 6 months after submission or publication.

Also, because I am not legally responsible or liable for the *content* of projects that are written on behalf of others (eg, regulatory documents as well as educational material, grant applications, editorial reviews/critiques, and other projects that do not carry my name as author and medical/scientific expert), there is little reason to keep files for long as a self-protective measure. Drug companies are responsible, in the end, for the scientific accuracy, completeness, and fair balance of any written reports that they submit to a regulatory authority.

I do not have any special filing software. I do not use the Cloud for storage (a personal choice). I keep paper copies of administrative aspects of jobs in folders (in drawers or boxes) for a year or two, or as long as a particular client is active. I keep work samples and templates on my computer of almost every type of project I've ever created. They are stored in file folders on my hard drive, as well as on an external backup drive. I can search these files by client, by type of project (eg, CSR or sales training), or by product/therapeutic category. My preference is to avoid learning new programs for project management or file systems, unless it is absolutely necessary. I believe that the decision about how to organize files and where and how long to retain them is fairly subjective. People need to use their own common sense in deciding what is most effective, efficient, and convenient.

—Cathryn Evans

My work focuses on editing medical journal articles, grant proposals, and books or book chapters. Since all requests for work arrive by email, my recordkeeping is mostly online in 4 types of computer folders:

Chron. “Chron” (chronology) is a current projects folder, where I store a log-in file labeled with the principal author's name, the date work arrived, the number of files received,

and an identification indicating the content type for each file (eg, letter to editor, manuscripts, figures, tables, supplements). Because I'm usually busy and often interrupted when those files arrive in my email, I quickly handwrite duplicate reminder messages on sticky notes. As I complete each job or file, I check off the sticky note, so that I can track progress at a glance. Each text file goes back to the author in 2 formats: a tracked-changes version, which shows all additions, deletions, suggestions and notes, and a clean copy.

Billings. When a job is complete, a copy of the title, author, and number of files goes into a billings folder, with page total, hours of work and, often, extent of editorial complexity and/or request for quick deadline, which adds to the hourly charge. That information is used to create the invoice.

Billed. I place a copy of the invoice in this folder. The folder also includes a list with the lead author's last name, billing date, number of hours billed, and dollar total for each job. The itemized list in this folder becomes part of the eventual tax record.

Principal Investigator's Last Name. The files I want to keep long-term—usually 3 years—go into folders labeled with the principal investigator's last name. I keep those files for several years. If information in a current job is incomplete, I can often find a definition, explanation or literature reference by checking an old file.

—Phyllis Minick

I have a true paperless office. Everything I need is available electronically. I set up a digital folder for each client, then another folder within that for each project, then subfolders as needed. I use the same system to manage email from the client. All my files are on Dropbox. After a certain time, I digitally archive files from old projects; if another project arises from the client, I can always move client files back into “active projects” as needed.

—Debra Gordon

Q

Did you prepare a written business plan when you started your freelance business? What are the pros and cons for having a written business plan?

A

When I started my business in 1997, I developed a solid marketing plan, which was very similar to a business plan and had all of the information I thought most crucial to a freelance business. Having a written plan (whether you call it a marketing or business plan) is essential to succeeding as a freelance, because if you don't know where you're going, you won't get there.

A business or marketing plan forces you to describe the services you provide (which must be more specific than "freelance medical writing"), the type of clients you want to work with, and how you'll reach them (marketing). It helps you choose the type of work you'll do, instead of taking whatever work comes along. If you're just starting out, you probably won't always be able to do exactly what you want to do, but you'll know what your goal is as you build your experience.

A written plan is a commitment you make to your success. It also gives you something to refer to so you can remember what you thought you'd do and how you planned to do it. You can and should revise your plan as you get more experience and learn more about what's happening in the freelance medical writing marketplace.

Within about a year of starting my business, I had more work than I could handle because I implemented my marketing plan faithfully. I've revised it over the years as I learned more about medical writing and the type of work I liked best. That's enabled me to now specialize in the type of work I like best: writing for patients and consumers.

There are no cons of having a written business or marketing plan.

—Lori De Milto

No, I didn't but I highly recommend that you do. It helps you to clarify in your mind what you want to accomplish and enables you to set realistic goals for the year, quarter, month, and even week. It should include a marketing plan and revenue goal, as well as your mission statement and values. I suggest updating it at least every 6 months and assessing your progress, particularly in the early stages of your business.

—Debra Gordon

I had a written business plan when I started my freelance business, and I think every new freelance should, too.

First of all, having a plan in your head is a wish list. It's not a plan because it can't include everything you should have in a formal business plan. What are the strengths and weaknesses you bring to the table? What opportunities and threats exist in the marketplace? What's your brand, your identity, and how will you differentiate yourself from competitors? How will you market yourself, and how will you gauge the effectiveness of your marketing efforts? Finally, and perhaps most important of all, what does success look like? If you don't know where you're going, you'll never get there.

Writing a marketing plan makes you think hard about all these questions. You have to answer them. And once you've written the plan, you have something to which you can hold yourself accountable.

There really are no downsides to having a written business plan. Sure it takes time, and it's hard to do. Then you have to look at it and update it often, because your answers to the questions will change over time. They'll change because the marketplace changes and because you change. Your successes and failures along the way will teach you, and your business plan needs to reflect what you've learned.

Building a freelance business is a journey. Along the way you'll discover roads you didn't know existed when you set out. Bridges you thought existed will be washed out. There'll be roadblocks. You'll build your own roads. So much will happen, and having a written business plan gives you a roadmap to your own success.

—Brian Bass



**Do you have a question for the
Freelance Forum?**

Send it to
JournalEditor@amwa.org

LinkedIn Endorsements: Meaningful or Meaningless?

By Cynthia L. Kryder, MS, CCC-Sp / Medical Communication Consultant, Phoenixville, PA

A colleague and I had a conversation recently about LinkedIn endorsements. Whereas I was lukewarm about their value, she claimed that recruiters relied on these endorsements to find candidates with particular skills. Neither of us, though, had any hard evidence to support our positions.

The Skills feature has been an option on LinkedIn for several years. When I set up my profile years ago, I was able to list a variety of specialty skills I wanted people to know I had. I'm sure you did, too. But without verification from my connections, these became little more than a laundry list of my capabilities. Sometime around 2012, as LinkedIn evolved, it added the endorsement capability through which first-level connections in your network could give you a virtual thumbs-up for certain skills. With endorsements, the Skills section became dynamic, which enabled LinkedIn to track and analyze the skills data.

Being endorsed by a client or colleague for a skill certainly sounds as though it would be a benefit. The problem I have is when I'm endorsed by a connection with whom I've never worked. How can this casual acquaintance know whether I'm skilled at publication planning and sales training? Such willy-nilly endorsements seem disingenuous and meaningless to me. Furthermore, there is no way users can verify the validity of any endorsements I receive.

Donna Serdula is my go-to resource for all things LinkedIn. Founder of LinkedIn-Makeover.com, Donna and her team write LinkedIn profiles for professionals and work with them to make the most out of this platform. I knew she could provide some perspective.

"Endorsements lend credibility to your profile," asserts Donna. They also may improve your search ranking in LinkedIn's algorithm when users are looking for someone with those skills, she says. From that perspective, endorsements can become part of a strategy to ensure that your

profile includes those key words people will use to find your profile in the first place. Furthermore, since connections can endorse you for skills you haven't listed on your profile, this can be an opportunity to rethink your capabilities and revise your profile by adding skills you hadn't considered.

Of course, nothing is more powerful than a great recommendation from a satisfied client or employer. Donna acknowledges that recommendations provide details about you and your work that can't be gleaned from a simple endorsement. Nevertheless, "numbers will sway people," says Donna. "Which is more powerful: 300 endorsements or 3 recommendations?"

Being endorsed by a client or colleague for a skill certainly sounds as though it would be a benefit. The problem I have is when I'm endorsed by a connection with whom I've never worked.

So, should you run out and start endorsing connections simply because they endorsed you? Donna advises users to divorce themselves from a quid pro quo mindset when it comes to endorsements. She recommends acknowledging the endorsement with a thank-you message, but don't feel the need to reciprocate. "Use LinkedIn endorsements as ethically, genuinely, and transparently as possible," she says. For me, that means endorsing those colleagues with whom I've worked and for those skills at which I know them to be adept.

If you're not a fan of endorsements, you can opt out of them completely. Another option is to move the Endorsement section near the bottom of your profile page, keeping the most relevant information you want people to see near the top. On my profile, recommendations appear above endorsements, since I want anyone who views my profile to read the recommendations first. I also periodically go into my endorsements and remove any that I find inappropriate or duplicative. For example, I write sales training materials but am not in sales. When someone endorsed me for sales, I removed that endorsement.

To further manage endorsements, you can change your notification settings so that you no longer receive prompts or emails about them. To do so, on the LinkedIn homepage, click on the Profile tab and then Edit Profile on the drop-

down menu. Next, scroll down and place your cursor in the Skills & Endorsements section. When you click on the Add Skill button, you'll be directed to a page where you can opt in or out of endorsements and related notifications. Use the up-down arrow beside the Add Skill button to rearrange where the Endorsement section appears on your profile. Make sure you click on Save once you've made changes.

Regardless of whether you consider endorsements to be meaningful or meaningless, don't ignore them. You do have some control. Review and curate endorsements so they reflect only those skills you want to advertise.

Author disclosure: The author notes she has no commercial associations that may pose a conflict of interest to this article.

Author contact: clkwriter@comcast.net

Want to fine-tune your LinkedIn profile? Here are some resources.

- Lucy Bingle (www.lucybingle.com) works with companies and senior executives to build their brands through LinkedIn. Check out her occasional blog post for tips on optimizing LinkedIn.
- Donna Serdula (www.linkedin-makeover.com) works with individuals to ensure their LinkedIn profiles tell their professional stories. She offers free resources on her website, such as a LinkedIn Headline Generator, to help you make your LinkedIn profile stand out.
- LinkedIn offers its own tips. Check out LinkedIn For Students (<https://university.linkedin.com/linkedin-for-students>), which includes downloadable tip sheets on various topics, such as tailoring your profile to your goals and building your personal professional brand, among others; and the LinkedIn Newsroom (<https://press.linkedin.com/content-resources>), which includes an infographic with 5 ways to rock your LinkedIn profile (<https://content.linkedin.com/content/dam/press/Download-Assets/Media%20Resources/Infographics/5%20Ways%20to%20Rock%20Your%20Profile.jpg>).
- Social Media Examiner (www.socialmediaexaminer.com/) has curated a list of articles related to LinkedIn marketing that have been published on the site (<http://www.socialmediaexaminer.com/linkedin-marketing-resources/>). In addition, Social Media Examiner offers daily podcasts on various aspects of social media marketing, including LinkedIn.



The 2016 AMWA Medical Writing & Communication Conference **Experience**

By Yeshi Mikyas, PhD, ELS, CMPP,¹ and Julie Gelderloos, PhD²

¹2016 Annual Conference Administrator, ²Member, Annual Conference Committee

Just a few short months stand between us and the 2016 AMWA Medical Writing & Communication Conference in scenic Denver, but we're sure you need all that time to carefully plan the many activities available to you over the 4 days you will be there. You will find an outstanding lineup of sessions and workshops developed by fellow colleagues and designed to address your needs. Just look at the stats:



With all these offerings, there is bound to be something that sparks your interest, whether it is expanding your knowledge in your specialty, finding a solution to a workplace challenge, or seeking best practices for your work or business. There will be plenty of “ah-ha” and “eureka” moments. Besides the scheduled activities, one must not forget the many networking opportunities, a unique and vital component of the AMWA experience. Conversations with colleagues, whether planned or serendipitous, are bound to leave you with strengthened connections or blossoming friendships. Attend the Alvarez, McGovern, and Swanberg Award sessions to be inspired as award recipients share their thoughts and unique journeys as medical communicators. This year's winners are, respectively, Roxanne Khamsi, chief news editor of the international biomedical journal *Nature Medicine*; Kevin Pho, a physician with expertise in social media and health care; and Flo Witte, PhD, a past president of AMWA whose excellence in teaching earned her AMWA's Golden Apple Award in 1999.

Take Note

This year's conference features 2 speed networking sessions, plus a High Tea with exhibitors for even more networking opportunities. Educational session topics include freelance, editing, technology, regulatory, publications, and so much more. A few sessions of note include The CORE Reference: A Medical Writer's Guide to Preparing CSRs in an Evolving Context (an update on the final output of the Budapest Working

Group), Weeding Out the Myths: How Colorado Public Health Officials and Providers are Managing Recreational Marijuana, and a Jam Session for Seasoned Freelancers. View program information online to see more session information.

New this year is a full day pre-conference writing clinic specially designed for scientists new to medical writing. This clinic provides attendees with tools and processes they can use to become better writers. AMWA's very own Medical Writer Certification (MWC) exam along with the BELS exam will be administered the first day of the conference. Note that the application deadline for the MWC exam is July 31 (www.amwa.org/mwc_exam), and the BELS exam is September 14 (www.bels.org/exam-schedule).

Take Advantage of the Early Registration Discounts

AMWA's annual conference for Super Saver rates (until June 30) a bargain; even at the \$695 regular price it is still a steal. Those who make the investment to come to the meeting year after year already understand this, but first-time attendees will soon discover what they get is so much more than what they paid for. What's even more special this year is the round-table discussion event is already included in your registration, so don't forget to sign up for a conversation over lunch.

New to AMWA

AMWA always makes it a point to have special events for those new to AMWA or the conference. If you are new to AMWA, make sure you take advantage of the New to AMWA and Medical Communication Session on Thursday morning.

Denver: Fabulous Views and Variety in the West

One cannot travel all the way to Denver without seeing the local attractions. The snow-capped peaks of Colorado's Rocky Mountains are an ever-present and magnificent backdrop for the Mile High City. With 300 days of sunshine, plenty of natural beauty, and a thriving cultural scene, Denver provides its visitors with a spectacular playground. Luckily, AMWA's conference hotel is located in the heart of it all, along the 16th Street Mall. This 12-block pedestrian walkway contains numerous options for dining, shopping, and entertainment, with complimentary shuttles for added convenience. Nearby, you can easily visit the Denver Art Museum and Colorado's State Capitol, or rent a bike and explore the city's many bike paths. A quick bus ride can take you to Denver's lovely Botanic Gardens or the Museum of Nature and Science—home to an outstanding dinosaur fossil collection. Within an hour's drive of Denver are numerous outdoor adventures in the foothill towns of Golden, Evergreen, and Boulder.

We encourage you to sign up near the conference registration desk for opportunities to join your fellow conference attendees at Denver's local attractions or meet-ups. Also, remember Friday night dine-arounds will once again provide a chance to get together with other attendees and enjoy the nightlife of the host city.

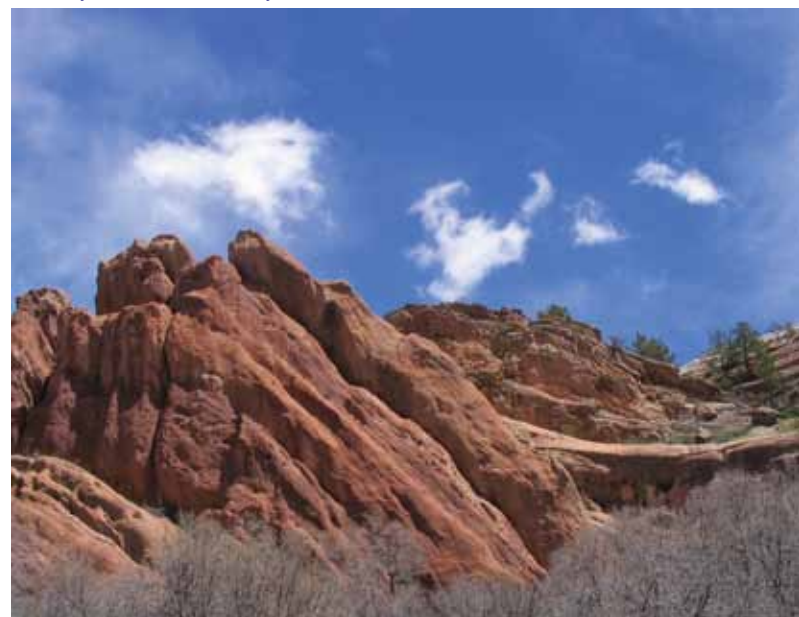
Check for Updates as We Count Down

As the weeks and months roll, continue to check AMWA's conference site (www.amwa.org/conference) as well as your email for more details about the conference and other activities.

Top: Red rocks at Roxborough State Park near Denver.

Bottom: The Japanese Garden at the Denver Botanical Garden.

Photo by Aakash Sahai-CC by-SA 4.0.



FROM THE PRESIDENT

A Big Meeting

By Stephen N. Palmer, PhD, ELS / 2015–2016 AMWA President



The AMWA Board of Directors (BOD) meeting held this past April in Rockville, Maryland, was a big meeting. I mean that literally: In attendance were not only the board (comprising the AMWA officers, administrators, executive director, and delegates from each of AMWA's 19 chapters) and the usual guests (AMWA staff, a few AMWA volunteers not on the board, and representatives from AMWA's accounting firm), but also additional leaders from almost every chapter. These chapter leaders were invited because the meeting was to have a special focus on chapters and on the future of AMWA.

Part of the meeting was devoted to the BOD's usual business: reviewing AMWA's financial and investment reports, approving the budget for the coming fiscal year, discussing projects currently underway, and so forth. But an equal portion of the attendees' time was dedicated to participating in several breakout discussions of various topics of importance to AMWA and its members.

Six different topics were addressed in 3 different breakout sessions, so that each topic was discussed by 3 different sets of participants. At every table, there were 1 or 2 AMWA officers or administrators, 1 member of the AMWA staff, and

4 or more chapter delegates or other chapter leaders. Three topics of discussion were focused on chapters: chapter conferences, in-person networking events, and alternatives for struggling chapters. The other 3 topics related to AMWA as a whole: an analysis of AMWA's strengths, weaknesses, opportunities, and threats (SWOT); AMWA's new Engage online networking platform; and ideas for marketing AMWA's products and services.

Before these discussions began, AMWA Executive Director Susan Krug presented information on the responsibilities of nonprofit boards, and we talked about one of the challenging aspects of being a chapter delegate to the BOD. To perform their duties in full, delegates must wear 2 hats: that of a representative of their chapter and its interests and that of a member of the governing body of AMWA who supports the interests of the organization as a whole. (In fact, delegates may wear more hats than those, eg, workshop leader, freelance, regulatory writer, member of a sister organization.) The topics that were selected for discussion in the breakout sessions made this a particularly important issue to highlight, so the AMWA staff—in characteristically creative fashion—created some actual hats



Which hat should I wear? At AMWA's Board of Directors meeting, attendees were reminded that for some discussions, they should represent their chapter's best interests and at other times, consider what was best for the organization as a whole.

for the occasion, some labeled *Chapter* and others labeled *AMWA*. These hats were placed at the discussion tables to prompt the participants as to which mindset was more appropriate for that particular topic.

These discussions proved to be highly productive. At the chapter conferences table, chapter leaders and AMWA staff discussed ways to enhance the planning, promotion, and execution of these events. At the table on in-person networking events, participants talked about different online tools for identifying AMWA members in a given location and keeping people in a region apprised of upcoming events, and they discussed ideas for events, as well. In the discussion of alternatives for chapters struggling to function and to keep the required chapter officer positions filled, participants weighed the pros and cons of a hypothetical, less formal alternative structure to which such chapters could convert that would consist of one or more regional networking groups; such a structure would not need to meet the governance and business requirements that chapters do.

The consensus among participants in the SWOT discussions was that AMWA is still not widely known and that its national conference, chapter events, and other offerings need to be better publicized.

Regarding the 3 topics related to AMWA as a whole, the consensus among participants in the SWOT discussions was that AMWA is still not widely known and that its national conference, chapter events, and other offerings need to be better publicized. At the table about Engage, the participants generally expressed satisfaction with the new platform and noted that they would find it even more useful if more members participated actively in the discussions. And at the marketing table, participants talked about the importance of differentiating AMWA from competing organizations, identifying and reaching out to decision-makers at the corporate level to find out how AMWA can fulfill their needs with regard to training and retaining medical writers, and getting people in medical writing positions to identify themselves as medical writers.

In addition to the breakout discussions, because of this meeting's special focus on chapters, AMWA Deputy Director Shari Rager presented some information about chapter leadership and the results of a survey of chapter leaders. She highlighted the various chapter leadership initiatives AMWA has launched in the past 4 years:

- Monthly chapter leader teleconferences
- Efforts to better prepare and inform delegates in advance of each BOD meeting
- Updates to the Chapter Handbook, which is now available online, as well as the Chapter Conference Handbook
- Expansion of the Chapter Leader Toolkit and making it available online
- Creation of an online Chapter Gems resource page
- Headquarters' management of chapter conference registration
- Monthly communications with "AMWA News You Can Use" to chapter leaders
- One-on-one support to chapter leaders regarding financial, administrative, and governance issues

She then summarized the results of the survey, which was completed by 107 leaders representing all 19 AMWA chapters. When the respondents were asked about what they found most rewarding about being a chapter leader, the most popular first choices were giving back to the organization (36%) and providing vision and strategy (20%). The most popular second choices were implementing chapter events (29%) and developing or increasing their leadership skills (21%).

With regard to the greatest challenges they faced as chapter leaders, the most popular first choices by far were implementing chapter activities (28%) and chapter leader succession planning (26%). Responses were distributed more evenly among the second choices, the most popular being chapter membership recruitment and retention (17%) and implementing chapter activities (16%).

As a follow-up to the survey of chapter leaders, AMWA is planning to conduct a survey to obtain information from members about their chapter experiences.

Overall, it was a very productive meeting, and I think both AMWA's leadership and chapter leaders left it better informed—and with ideas for the future.

American Medical Writers Association Annual Financial Report, 2014–2015

By Christine F. Wogan, MS, ELS / AMWA Treasurer and Publications Program Manager, Division of Radiation Oncology, The University of Texas MD Anderson Cancer Center, Houston, TX

Overview

In this financial report for the American Medical Writers Association (AMWA) for the fiscal year ending June 30, 2015, I am pleased to report that AMWA remains in a strong financial position with steady revenue streams and managed expenses resulting in investment and cash balances at the end of the year totaling more than \$2 million. From this position of financial strength, the fiscal year ending June 30, 2015, was a year of investing in AMWA's future.

Investing for the Future

With a focus on the future, significant resources were spent in 2 areas this fiscal year—online education and certification. AMWA made an operating investment in online education of approximately \$170,000 and a capital investment in online learning of \$25,645 to develop the new Learning Management System (LMS). This system went live in December 2015. We anticipate that online learning will be a significant source of revenue for AMWA while providing a more accessible way for medical communicators to learn.

AMWA also made a major investment in the Medical Writing Certification initiative this year. Approximately \$87,000 was invested in creating and promoting the certification exam, which was given for the first time in October 2015.

Revenues Remain Consistent

AMWA revenue streams in the year ending June 30, 2015, remain in line with those in previous years (Figure 1). AMWA can rely on its revenue, with more than 80% of

that revenue consistently coming from membership, the annual conference, and the certificate program.

Of note, although membership has remained essentially flat, a slight increase in membership dues each year has resulted in revenue growth in that area. Revenue from the annual conference remains close to \$500,000, although decreases in conference attendance and in workshop registration led to a slight decline in income. Revenue from the certificate program has increased, particularly sales of the self-study modules, but onsite corporate training revenue was down, resulting in an overall slight decrease in revenue from these 2 sources.

Consistent with market performance, investment income was less in 2015 than in 2014.

Operations on Target

Operating expenses increased by approximately \$200,000 this year relative to last year. More than \$250,000 in operating expenses was incurred to fund the organization's online education, strategic planning, and certification initiatives. When these expenses are removed for comparative purposes, AMWA's expenses remain in line with those of previous years (Figure 2).

Strong Reserves to Fuel Future Investment

Reserves are the accumulation of funds over time that enable the organization to withstand an emergency or to invest in new programs (Figure 3). This year, \$222,500 of reserve funds were released into the operating fund to cover expenses for important new initiatives. Unrestricted reserves of 6 to 12 months of annual operating expenses represent a standard target for not-for-profit organizations.

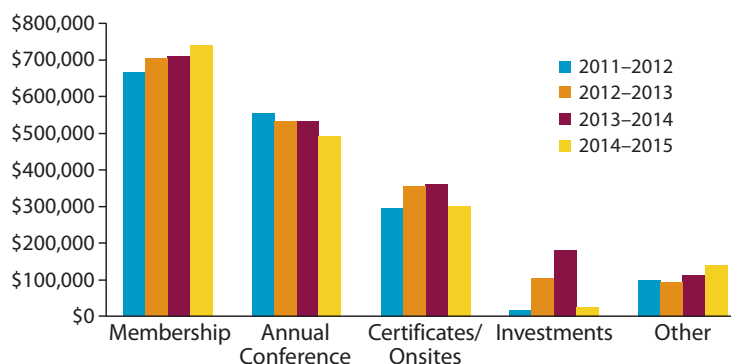


Figure 1. Sources of revenue for the previous 4 fiscal years. "Other" includes income from career services programs and webinars.

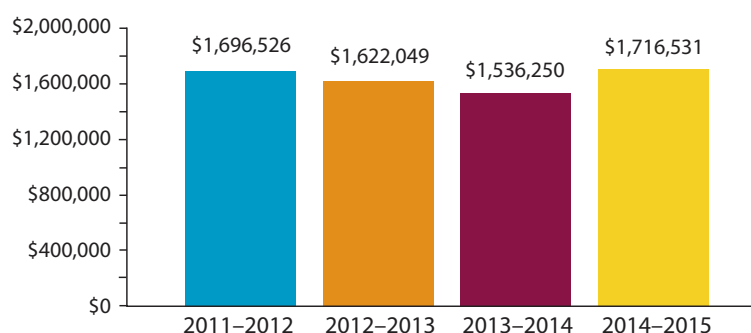


Figure 2. Expenses for the previous 4 fiscal years. For comparative purposes, the expense amount for 2014/2015 does not include operating expenses incurred for online education, strategic planning, and certification initiatives.

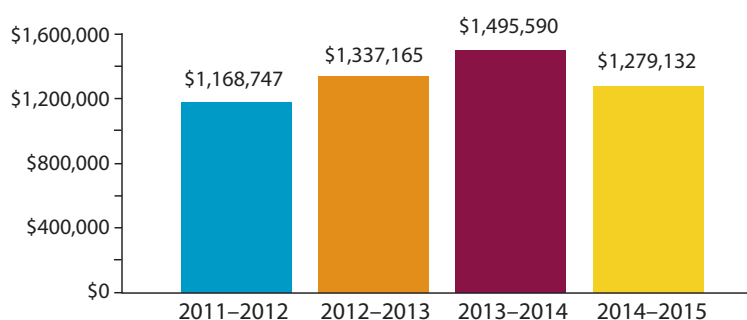


Figure 3. Total unrestricted reserves for the previous 4 fiscal years.

With budgeted annual operating expenses of \$2 million for the fiscal year ending June 30, 2016, AMWA's reserves remain securely within the targeted range.

Financial Position

An organization's financial position is reflected in its asset and liability holdings. AMWA is well positioned to pay its obligations and invest for the future. Total assets were \$2,242,209 as of June 30, 2015, and the organization's liabilities totaled \$658,200. The majority of AMWA's assets are liquid, including cash, CDs, and mutual funds.

Conclusion

AMWA continues to be in a secure financial position. Targeted investments in the development of online education activities and certification took place during the fiscal year ending June 30, 2015, and will continue into the next fiscal year.

Acknowledgments

I thank Vickie McCormick, Karen Roche, and Kathleen Kokolas of Calibre CPA Group PLLC for providing the financial data and the members of the 2014-2015 Budget and Finance Committee for their invaluable insights in their review of reports and budgets for that year: Theresa King-Hunter, Leslie Neistadt, Judi Pepin, Jill Shuman, Deb Whippen, and Jeanie Woodruff (and ex officio members Karen Klein, Stephen Palmer, and Susan Krug).

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Slate of Candidates for 2016–2017 Election

Each year, the slate of AMWA officers is chosen by the Nominating Committee, which consists of the president-elect (who serves as chair) and 6 voting members who are not members of the Executive Committee (EC). The Nominating Committee receives from AMWA headquarters the names and biographies of all members who meet the criteria for the 3 elected offices: president-elect, secretary, and treasurer. The EC interest form also was sent to qualified candidates, giving them an opportunity to express their interest in serving in an elected officer position. Members of the Nominating Committee discuss the potential candidates and select 1 candidate for each position. The names of these candidates are then presented to the Board of Directors for approval at its spring meeting. The following candidates were approved by the Board of Directors at its spring 2016 meeting:

President-elect: Katharyn Spiegel, PhD

Secretary: Cynthia Kryder, MS, CCC-Sp

Treasurer: Julie Phelan, MD, MBA



The president-elect automatically assumes the office of president at the annual business meeting held during the annual conference of the following year. The 2016–2017 AMWA president will be **Lori Alexander, MTPW, ELS, MWC**. Lori served as secretary in 2014–2015 and as annual conference

administrator in 2012–2013 and 2013–2014. Previously, she had served for 10 years as the *AMWA Journal* editor and was named editor emeritus in 2012. In 2015, she led AMWA's Strategic Planning Initiative as well as the AMWA Salary Survey Task Force. A member of AMWA since 1998, Lori has served on numerous AMWA committees, including the job analysis panel and item writing committee supporting the development of AMWA's medical writing certification. She has contributed to the annual conference as a workshop leader, open session speaker, and roundtable leader. At the chapter level, she is a past president of the Florida Chapter

and past president-elect of the Mid-Atlantic Chapter; she coordinated several chapter conferences for both of those chapters. She was recognized with the AMWA President's Award in 2009, an AMWA fellowship in 2010, and a special award for her service to the *AMWA Journal* in 2012. Lori received a bachelor's degree in English (concentration in journalism) from the University of New Hampshire and a master's degree in technical and professional writing from Northeastern University in Boston. Lori has more than 30 years of experience as both a medical writer and editor and is now a faculty member for the new medical writing certificate program at the University of California San Diego Extension. She is president of Editorial Rx, Inc, an independent medical writing and publishing company in Fort Myers, Florida.

PRESIDENT-ELECT

President-elect criteria: *The president-elect (1) must have served on the EC for a minimum of 2 full years and (2) must be a current member of the EC when his or her name is being considered by the Nominating Committee.*



Katharyn (Kathy) Spiegel, PhD, an AMWA member since 2006, currently serves on the EC as secretary and has been a member of the Constitution and Bylaws Committee since 2012. Her previous EC positions include chapter relations administrator (2012–2013) and chapters/membership administrator (2011–2012).

She is also currently a member of the Education Committee, for which she serves as chair of the Regulatory Education Subcommittee and as a member of the Advanced Education Workgroup. At the chapter level, she has been the president-elect, president, and immediate past president (2008–2013) of the Michigan Chapter, and she has also served as a chapter delegate (2009–2011). Her annual conference activities include roundtable leader (2009); special interest session coordinator, open session moderator, and open session panelist (2011, 2013); and workshop leader (2012, 2015).

She was awarded an AMWA fellowship in 2015. Kathy received a bachelor's degree in chemistry from Duke University and a doctorate in pharmacology from Cornell University Medical College. She is a regulatory writing senior manager at Amgen Inc, working from her home in Sharon Township, Michigan.

SECRETARY

Secretary criteria: *The secretary must have served on the EC within the 3 years immediately preceding his or her consideration by the Nominating Committee.*



Cynthia (Cyndy) Kryder, MS, CCC-Sp, an AMWA member since 1993, is currently the member resources administrator, a position she has held since 2013. In this position, she serves as chair of the Engage Advisory Group. She has served as editor of the Social Media section of the *AMWA Journal* since 2010

and has written more than a dozen articles for the *Journal*. Cyndy has served on numerous AMWA committees including the Constitution and Bylaws Committee, the Annual Conference Committee, and the Awards Committee. She chaired the Nonphysicians Book Awards Subcommittee of the Medical Book Awards Committee in 2012 and 2013. At the chapter level, she has served as secretary (2008–2009, 2009–2010), president-elect (2010–2011), president (2011–2012), and chapter delegate (2010–2013) for the Delaware Valley Chapter. At the annual conference, she has presented open sessions (2009–2011, 2013–2015) and roundtables (2009, 2010, 2014). She recently assisted with the development of an AMWA online activity about careers in medical communication. Cyndy transitioned to full-time freelance medical writing more than 20 years ago after a career as a speech-language pathologist. She writes promotional, educational, and scientific pieces for professional and lay audiences in various therapeutic areas and for a wide range of media. She also writes about health care economics, the changing health care landscape, and value-based purchasing and reimbursement. She lives in Phoenixville, Pennsylvania.

TREASURER

Treasurer criteria: *The treasurer must have served at least 1 year on the Budget and Finance Committee within the 5 years preceding his or her consideration by the Nominating Committee. It is also desirable for the treasurer to have served on the EC before assuming the office of treasurer.*



Julie Phelan, MD, MBA, an AMWA member since 2009, is currently a member of the Budget and Finance Committee (2015–2016) and of the AMWA Communications Committee (2014–2016). She was also a member of the 2015 Salary Survey Task Force and Salary Survey Writing Group, and of the

Social Media Committee (2012–2014). On the chapter level, she is president of the Greater Chicago Area Chapter (2014–2016), having previously served as president-elect (2013). She has also served as the membership chair for the chapter (2012–2014) and as chapter delegate (2013–2016). Julie is president of Biomedisys, Inc in Chicago, Illinois.

Procedure for Additional Nominations

According to AMWA's bylaws (Article III.2d), additional nominations for president-elect, secretary, or treasurer may be made by any member whose dues and special assessments are current, provided that any such nomination is submitted in writing to the secretary of AMWA at least 30 days before the annual business meeting (which will take place October 8, 2016, at the AMWA Medical Writing & Communication Conference in Denver, Colorado). Any individuals so nominated must meet the criteria outlined in the bylaws (Article III.1.a through III.1.d) for their names to be placed on the ballot. Such a nomination must clearly state the qualifications of the candidate, must be signed by 50 members in good standing as of the date of the receipt of the nomination, and must be accompanied by a letter from the candidate stating that he or she is willing to serve if elected.



New Benefits to Enhance Your Member Experience

By Cynthia L. Kryder, MS, CCC-Sp / 2015–2016 AMWA Member Resources Administrator

Over the past year, AMWA has added two new member benefits. *Medical Communication News* is a biweekly newsletter delivered straight to your inbox. Launched to all members in November 2015, *Medical Communication News* provides an executive summary of noteworthy articles in the medical communication industry to keep AMWA members up to date on news and trends.

Information Inc, an award-winning news service, is AMWA's partner in this endeavor. As we were developing this resource, AMWA worked closely with Information Inc's editorial staff to ensure they understood who our members were and what type of news would be of interest to us. In addition, a small group of members previewed multiple trial issues and made recommendations about the content, design, and usability to ensure this resource would meet members' needs.

Producing *Medical Communication News* is a huge undertaking. Information Inc's editorial staff monitors nearly 12,000 print and digital publications for news, research, and trends in the field of medical communication so you get the information you need in a timely and easy-to-read summary. Each issue summarizes 7 news articles with hyperlinks to the full-text articles whenever possible. Scroll through the news articles and you'll find relevant AMWA news, as well. We also offer digital advertising opportunities in *Medical Communication News*.

Did you overlook an issue? AMWA members can access the Medical Communication News archive through this link: www.amwa.org/medcommnews_archive.

Have You Gotten Engaged?

Engage, AMWA's exclusive online member community, launched in February 2016. Thanks to our members, Engage has been a success. During the first week alone, 1,327 members logged into Engage at <http://engage.amwa.org> and posted 168 messages.

Higher Logic is AMWA's vendor for the Engage community. The industry leader in online community platforms, Higher Logic supports more than 200,000 different communities with more than 25 million engaged members.

Much work went on behind the scenes before we launched Engage. A long list of volunteers served as beta testers before the platform went live; these members explored the site to test its functionality and reported any bugs or other issues. Their feedback and recommendations allowed us to fine tune Engage before we opened it to the entire AMWA membership. I'd like to personally thank them for their time and input. We also invited members to serve on the Engage Advisory Group; this group monitors Engage discussions, identifies community needs, reviews community rules and guidelines, and provides recommendations for the strategic direction of Engage. Their input is invaluable, and I'd like to thank them for their contributions, as well.

Engage is intended as a way for our members to connect and collaborate with colleagues. You can monitor discussions by receiving real-time notifications via email as conversations occur or with a daily digest that shows all the discussions that took place the previous day. To set up your notifications, go to My Profile and click on the My Account tab. From the dropdown menu choose Community Notifications.

If you haven't yet explored Engage I invite you to do so. In addition to allowing members to start discussions and share comments, Engage has several other features you may find useful. You can:

- Search for other members by name, email, or location in the **Engage Community Directory**. Simply click on the Directory tab on the top toolbar.
- Upload a file or search the **Engage library** for resources your colleagues have shared. On the Engage homepage, scroll down the left sidebar to see recently shared files. You can also access the library via the dropdown menu on the Browse tab on the top toolbar.
- Import your photo and profile information directly from your LinkedIn profile. Click on My Profile and look for the Import From LinkedIn section.

Engage is a new and evolving member benefit. AMWA staff and the Engage Advisory Group will continue to work together to evaluate Engage and explore options to grow this community over time.

The Launch Publication for Clarity and Openness in Reporting: E3-based (CORE) Reference

The 2 year EMWA-AMWA CORE Reference project resulted in the publication of the open-access CORE Reference at www.core-reference.org on May 3, 2016.

The full peer-reviewed publication supporting the launch of CORE Reference:

Hamilton S, Bernstein AB, Blakey G, Fagan V, Farrow T, Jordan D, Seiler W, Shannon A, Gertel A, Budapest Working Group: Developing the Clarity and Openness in Reporting: E3-based (CORE) Reference user manual for creation of clinical study reports in the era of clinical trials transparency. *Res Integr Peer Rev*. 2016. DOI: 10.1186/s41073-016-0009-4

is available at: <http://dx.doi.org/10.1186/s41073-016-0009-4>.

The abstract from the original publication is reproduced in the *AMWA Journal* under a Creative Commons license (<http://creativecommons.org/licenses/by/4.0/>).

Background

Interventional clinical studies conducted in the regulated drug research environment are reported using International Council for Harmonisation (ICH) regulatory guidance documents: ICH E3 on the structure and content of clinical study reports (CSRs) published in 1995, and ICH E3 supplementary Questions & Answers (Q & A) published in 2012.

Since the ICH guidance documents were published, there has been heightened awareness of the importance of disclosure of clinical study results. The use of the CSR as a key source document to fulfil emerging obligations has resulted in a re-examination of how ICH guidelines are applied in CSR preparation. The dynamic regulatory and modern drug development environments create emerging reporting challenges.

Methods

Regulatory medical writing and statistical professionals developed CORE (Clarity and Openness in Reporting: E3-based) Reference over a 2-year period. Stakeholders

contributing expertise included a global industry association, regulatory agency, patient advocate, academic and Principal Investigator representatives.

Results

CORE Reference should help authors navigate relevant guidelines as they create CSR content relevant for today's studies. It offers practical suggestions for developing CSRs that will require minimum redaction and modification prior to public disclosure.

CORE Reference comprises a Preface, followed by the actual resource. The Preface clarifies intended use and underlying principles that inform resource utility. The Preface lists references contributing to development of the resource, which broadly fall into 'regulatory' and 'public disclosure' categories. The resource includes ICH E3 guidance text; ICH E3 Q & A 2012-derived guidance text; and CORE Reference text, distinguished from one another through the use of shading. Rationale comments are used throughout for clarification purposes.

A separate mapping tool comparing ICH E3 sectional structure and CORE Reference sectional structure is also provided.

Together, CORE Reference and the mapping tool constitute the user manual.

Conclusions

This publication is intended to enhance the use, understanding and dissemination of CORE Reference.

The CORE Reference user manual and the associated website (www.core-reference.org) should improve the reporting of interventional clinical studies.

Periodic updates of CORE Reference are planned to maintain its relevance.

Registration

CORE Reference was registered with www.equator-network.org on March 23, 2015.

This abstract about the CORE Reference was first published by the AMWA Journal online ahead of print on May 4, 2016.

A Specific Number of Questions for the Author of “Fifty Psychological and Psychiatric Terms to Avoid” and *50 Great Myths of Popular Psychology*

Scott O. Lilienfeld, PhD, is a professor of psychology at Emory University in Atlanta, Georgia, and the author of numerous books for lay and professional audiences. His books (as author or editor) include *50 Great Myths of Popular Psychology: Shattering Widespread Misconceptions about Human Behavior* (with Steven Jay Lynn, John Ruscio, and the late Barry Beyerstein), *Brainwashed: The Seductive Appeal of Mindless Neuroscience* (with Sally Satel), and the textbook *Psychology: From Inquiry to Understanding*.

He recently published the article “Fifty Psychological and Psychiatric Terms to Avoid: a List of Inaccurate, Misleading, Misused, Ambiguous, and Logically Confused Words and Phrases.”¹ In the article, Lilienfeld and his colleagues provide helpful explanatory information for a collection of words or phrases that they think should either be used more precisely or avoided. The terms touch on topics related to psychology and psychiatry, including neuroscience, genetics, statistics, and clinical, social, cognitive, and forensic psychology.

A few examples:

- *a gene for*—when used in connection with personality traits and psychiatric disorders;
- *comorbidity*—which can be confusing because authors

sometimes use it to refer to different concepts: “(a) covariation (or correlation) between two diagnoses within a sample or the population or (b) co-occurrence between two diagnoses within an individual.”

- *Influence of gender (or social class, education, etc.) on X*—because, like *effect of*, such causal language often is not appropriate, depending upon the study design.
- *love molecule*—in reference to the hormone oxytocin—a description the article refers to as “woefully simplistic.”
- *no difference between groups*—when referring to group differences that are not considered to be statistically significant. As the article notes: “...a failure to reject the null hypothesis does not mean the null hypothesis, strictly speaking, has been confirmed.” The article suggests instead to consider language such as “no significant difference between groups” or “no significant correlation between variables.”

I recently spoke with Dr. Lilienfeld about his article and interests in scientific communication. Here is an edited transcript of our discussion.

—Victoria J. White, MA, ELS
Editor-in-Chief, *AMWA Journal*

Q&A with Scott O. Lilienfeld, PhD

VW: I’m curious what prompted this article in the first place. Was there a final straw that set you over the edge?

SL: I don’t recall a final straw. I think it was an accumulation of things. I do a lot of writing, but I also do a lot of editing. I’d noticed some consistent words and phrases that seem to be either misused or used in vague, unclear ways. It increasingly occurred to me that some of these phrases led not just to unclear writing, but more important, unclear thinking. One of my big interests the past 15 to 20 years of my career has been trying to increase the quality of clear and critical thinking in psychology.

We cite a paper by the late Sam Guze.² Because we deal in psychology and related fields with often fuzzy concepts, we may use that almost as a license or excuse to be a little fuzzy ourselves in our writing. I think Guze pointed it out, the opposite really (should be) true. We deal



with fuzzy concepts that lend themselves to misunderstanding, so it's all the more important that we be very clear about what we do and don't mean.

VW: Do you have an example of a fuzzy concept?

SL: One of the first ones I list is “gene for” something, which I think is really endemic in the popular media. To imply that there's a gene for political beliefs or a gene for divorce or a gene for sexual orientation is not just wrong, it's misleading, because then it may lead readers in both the general public and academic audiences to think that there are major genes that affect these remarkably complex behaviors. I think there's more and more evidence from genomewide association studies that that's very unlikely to be true.

VW: What has the response been to this article? Have people been sending you their favorite words?

SL: We were hoping for some of that. The general response has been very positive. We haven't gotten any hate mail. We had people taking issue with 1 or 2 terms. That's to be expected. That's actually healthy. I'd say the only negative feedback we had was that some people seemed concerned that we were implying that these phrases be banned, but one point that we make in the article—and in retrospect, we could have made it even clearer—is that we're not saying these terms should never be used under any circumstance. We are saying they should be used very carefully or should be used only in certain kinds of contexts.

There's nothing wrong with saying (for example) that “these authors adopt a medical model in the sense that...” (and then fill in the blank). What we're saying is not to get rid of the term *medical model*, but rather to get rid of the tendency to simply say, “These authors used a medical model,” which can mean many things. It could mean that they're implying that the entities that they're studying, like schizophrenia or depression, are somehow categorical rather than dimensional. It could be they're assuming there are biological causes. It could mean they're assuming it should be treated biologically. It could mean that they're assuming it should be treated by a physician. It's used in all those different ways and sometimes others. That's really our key point.

VW: That reminds me of my own editing. When you start digging into something, you realize the authors think they said one thing, but they haven't ruled out a hundred different possibilities.

I think sometimes some of these vague terms—again like *medical model* or *scientific method*—can sometimes almost substitute for deeper thought or understanding.

SL: That's right. Some of this, I have to say, also came from my teaching. I was guilty of using some of these terms and misusing some of them. One thing I discovered in my teaching is that if there was a term I hadn't thought that deeply or clearly about, I might just kind of throw it out as a placeholder. I think that some of these vague terms—again like *medical model* or *scientific method*—can sometimes almost substitute for deeper thought or understanding. It's like a punt. “I'm not quite sure what I'm saying here, so I'll just throw out this fancy term.”

VW: Your article is an excellent resource. I love articles like this, and I think my colleagues would as well. Often, medical writers and editors get thrown into things that they may not have the deep background on. An article like this is excellent for saying, “Here are some land mines out there to watch out for.”

SL: There are lots and lots of technical developments, so it's extremely hard to keep up with all of it. I'm sure we're all going to make some mistakes; we're all going to be a little bit imprecise in our language from time to time. I think that's fine, but the goal is to try to be as clear and careful in communication as we can to prevent public misunderstandings.

VW: What was your own training in writing and editing? How did you become attuned to language issues?

SL: I had very little formal training in it. In graduate school, I went over to the medical school and took one course in medical terminology. We learned lots of medical terms and their derivations. I think what helped me is I worked with some PhD mentors who were uncommonly good writers and uncommonly clear thinkers who really took the hatchet to my writing.

My first semester in college, I had a terrific teacher. I took a course on science and good science writing. We read great books by great science writers, like Lewis Thomas, Charles Darwin, Carl Sagan, and other people like that who I've really come to respect. She would have us write papers once a week. I'd always gotten good feedback on my writing and even taken a freshman seminar and received very good feedback. When I got the first draft back from her,

I was traumatized because there was all this red ink all over it.

She pointed out to me, correctly, “You’re technically a good writer, but you’re way too fluffy and you’ve got a lot of excess verbiage in there. What is this word doing in there? What work is this doing for you, this word?” She really inculcated in me, and my PhD advisor did too, the idea that good writing should be succinct.

VW: So I have a question for you. You wrote this article, “Fifty psychological and psychiatric terms...” and I had run across your book, *Fifty Great Myths of Popular Psychology*. So psychologically, why are readers attracted to articles with 50 this or 10 that in the title?

SL: I don’t know if there’s research on that, but it’s kind of funny. The 50 thing came from our editor. We were just going to go with *Great Myths of Popular Psychology*, and she said, “We’ve discovered if something has a number before it, it’s more likely to sell.” Maybe somehow, it’s more finite. It’s like, “Oh, once I’m done with this, I have the 50 terms I can avoid.” Of course, that’s an illusion, because, as we point out, we actually had a lot more terms that we didn’t include.

VW: Did you find yourself changing your mind about any words as you went along?

SL: Not really. I think I found myself learning a bit more about some of the history of these terms, but I wouldn’t say there’s a term that I thought was misused that I suddenly said, “Oh, that’s used properly!”

VW: That’s probably a dream world for that to happen.

SL: It may happen. It will probably happen eventually.

References

1. Lilienfeld SO, Sauvigné KC, Lynn SJ, Cautin RL, Lutzman RD, Waldman ID. Fifty psychological and psychiatric terms to avoid: a list of inaccurate, misleading, misused, ambiguous, and logically confused words and phrases. *Front Psychol*. August 3, 2015. <http://dx.doi.org/10.3389/fpsyg.2015.01100>.
2. Guze SB. The need for toughmindedness in psychiatric thinking. *South Med J*. 1970;63(6):662-71.

Experts in Eating Disorders Create Their Own List

Inspired by the “Fifty Psychological and Psychiatric Terms to Avoid” article, current and former editors of the *International Journal of Eating Disorders* published: “Speaking of That: Terms to Avoid or Reconsider in the Eating Disorders Field.”¹ They present a list of 13 terms that are often used in problematic ways.

Two examples from their list:

anorexia and *bulimia*—The authors suggest that precise terminology for eating disorders as defined in the *Diagnostic and Statistical Manual for Mental Disorders* (DSM) or the *International Classification of Diseases* (ICD) should be used. The precise terms include *anorexia nervosa* and *bulimia nervosa*.

The reason for our recommendation is that both *anorexia* and *bulimia* (without *nervosa*) have additional, established clinical meanings (loss of appetite; an abnormal and constant craving for food) whereas *anorexia nervosa* and *bulimia nervosa* unambiguously refer to specific eating disorders.

The authors note that *bulimia* as a single-word diagnosis has not been used in recent editions of the DSM, and the description of the disorder has changed.

“Bulimia” therefore has a specific historical meaning as a diagnosis that will rarely be appropriate to use now. We advise authors to use “anorexia” only if the authors do indeed mean to refer to loss of appetite, as, for instance, in the literature on loss of appetite among physically ill or older individuals.

Weissman et al. generally avoided duplicating the Lilienfeld list, but like the earlier article, their list includes *gold standard*, which is used commonly in the eating disorders field. Weissman et al. note that even well-validated research instruments or treatments are imperfect; authors should therefore avoid the shorthand *gold standard* and instead, as applicable, describe instruments as “extensively validated” or describe treatments as “demonstrably superior to other treatments.”

—Victoria J. White

Reference

1. Weissman RS, Becker AE, Bulik CM, et al. Speaking of that: terms to avoid or reconsider in the eating disorders field. *Int J Eat Disord*. 2016;49(4):349-353.

Interviewers and Ideas Wanted

The *AMWA Journal* is seeking ideas for future Q&As with authors and researchers—and volunteers to conduct them.

Contact JournalEditor@amwa.org.



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Medical Writers ♥ Health Literacy

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Health literacy and medical writing are a match made in heaven. Join Rebecca Wright, Senior Health Writer at CommunicateHealth, for a webinar chock full of practical health literacy tips and tricks.

Unlock the Secrets to Freelance Success: Getting the Clients You Deserve

September 8, 2016

1:00–2:00 PM ET

Member \$55/Nonmember \$95

With the right strategies and tools, you can get great clients, make more money, and grow your freelance business. Learn what works best in marketing a freelance medical writing business, including networking through AMWA, email marketing, and politely persistent follow-up with prospects.

When a Guide Becomes a Rule: The Food and Drug Administration's Rulemaking Authority and its Impact on Submissions Documents

October 19, 2016

1:00–2:00 PM ET

Member \$55/Nonmember \$95

Have you ever wondered how the US Food and Drug Administration makes and promulgates its rules? Do you think a guidance document is only guidance, and not a rule? Because medical writers must be able to read and understand guidance documents to compose documentation submitted in support of a drug or device application for approval, it is essential to be able to discern a guide from that which is a rule.

Recorded webinars available at www.amwa.org/online_learning.

CALENDAR OF MEETINGS

2016
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OCTOBER 5-8 | DENVER, CO

Trends and Opportunities for Medical Communicators

DIA

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www.diaglobal.org

Committee on Publication Ethics North American Seminar

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<http://publicationethics.org>

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www.ismte.org/?page=2016NAConference

European Association for Communication in Healthcare (EACH)

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Heidelberg, Germany

www.each.eu/events/conferences

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www.bumc.bu.edu/healthliteracyconference

National Association of Science Writers

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<http://nasw.org>

American Public Health Association

October 29–November 2, 2016

Denver, CO

www.apha.org/annualmeeting

New Horizons in Science

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San Antonio, TX

<http://casw.org>

European Medical Writers Association

November 3–5, 2016

Brussels, Belgium

www.emwa.org

In the Service of Good Writing

Accentuate the Positive!

By Laurie Endicott Thomas, MA, ELS

The words *positive* and *negative* have different meanings in different contexts. If you use these words carelessly, you might accidentally say the opposite of what you mean. In particular, be cautious about using *positive* to mean good and *negative* to mean bad. A positive test result can be bad news, and a negative trend in some variable may be good news.

The word *posit* came from the Latin word *positus*, which is the past participle of *ponere*, which means to put. If you posit something, you are suggesting that it is true. In contrast, *negate* came from the Latin word *negatus*, which is the past participle of *negare*, which means to deny. If you negate a statement, you are saying that it is false. The word *negate* can also mean to cause something to be ineffective. For example, an antidote would negate the effects of a poison. Thus, *positive* can imply affirmation, addition, inclusion, or presence while *negative* can imply denial, subtraction, exclusion, or absence.

In laboratory medicine, *positive* is generally used to mean presence and *negative* is generally used to mean absence. A positive test result suggests that something is present. In contrast, a negative test result suggests that something is absent. These results may be good or bad news, depending on which outcome you want. For example, a positive result of a pregnancy test is good news if you want to be pregnant and bad news if you do not. Of course, a test result may be true or false. A test that rarely produces false-negative results is described as *sensitive*. A test that rarely produces false-positive results is described as *specific*.

When you are writing about microbiology, keep in mind the difference between a negative test result and a gram-negative organism. In a specimen that has undergone the Gram staining procedure, the purple bacteria are gram-positive and the pink bacteria are gram-negative. A finding of gram-negative organisms in a sample of spinal fluid (Figure 1) is *not* a negative result. It is a positive result that confirms the presence of bacterial meningitis, which is a terrible thing.



Figure 1. A finding of gram-negative *Neisseria meningitidis* in a specimen of spinal fluid is a positive result. It confirms the diagnosis of meningococcal meningitis (Gram stain, original magnification $\times 1150$). Photomicrograph courtesy of the Centers for Disease Control and Prevention.

Psychiatry also uses *positive* to mean presence and *negative* to mean absence. The positive symptoms of schizophrenia are symptoms that have started happening, such as hallucinations, delusions, confused thought and speech, and movement disorders. In contrast, the negative symptoms represent things that have stopped happening. For example, the person may no longer express emotions normally. This symptom is called flattening of the affect. (Affect means the outward expression of emotion.) The person may withdraw from social interactions and may find it hard to finish or even start many of the ordinary activities of daily living. The positive symptoms of schizophrenia may respond well to antipsychotic medications. Unfortunately, the negative symptoms are far less responsive to treatment and can be far more disabling.

Positive and *negative* also have specialized meanings in mathematics. A positive number is a real number that is greater than zero. A negative number is a real number that is

less than zero. In a mathematical context, positive can also imply increase or progression. If your cash flow is positive, then the amount of money you have is increasing.

Positive and *negative* also have specialized meanings in chemistry and physics. Back in the 18th century, Benjamin Franklin argued that electricity was a form of invisible fluid that was present in all matter and that could sometimes be made to flow from one substance to another, such as when you rub two insulating substances together. Franklin used the word *positive* to describe items that he thought had an excess of this fluid and *negative* to refer to items that he thought had a deficit of this fluid. For reasons that are lost to history, Franklin decided that a piece of glass that had been rubbed with silk would be positively charged and a piece of amber that had been rubbed with fur would be negatively charged. An electrical current would therefore represent a flow of positive charge. But today, we know that an electrical current results from the flow of electrons, which have a negative charge. Thus, in physics, the direction of the current is the opposite of the direction in which the electrons are moving.

In photography, a positive image has shades and tones of color that are similar to its subject. A negative image is the opposite (eg, dark areas in the subject are rendered as light areas on the image). In molecular biology, the words *positive* and *negative* have particular meanings with regard to the information encoded in DNA or RNA.

In many contexts, the word *positive* connotes growth and progress. As a result, the word *positive* is often used to mean good or desirable. In those contexts, the word *negative* tends to connote loss and retreat. As a result, *negative* has often been used to mean bad or undesirable. Yet some kinds of growth are undesirable, and some decreases are desirable. For that reason, careful writers should observe the following rules:

- Avoid using the word *positive* to mean good and *negative* to mean bad, especially in contexts where *positive* and *negative* have other meanings.
- When describing the results of a test that yields a positive or negative result, you may need to explain which result is desirable and why.
- When describing the result of some test that produces a numerical value, you may need to indicate whether a high score is a good or bad thing.

Laurie Endicott Thomas is the author of Not Trivial: How Studying the Traditional Liberal Arts Can Set You Free (www.nottrivialbook.com). For good news about the fight against meningococcal meningitis, see her book No More Measles! (www.nomeasles.com).

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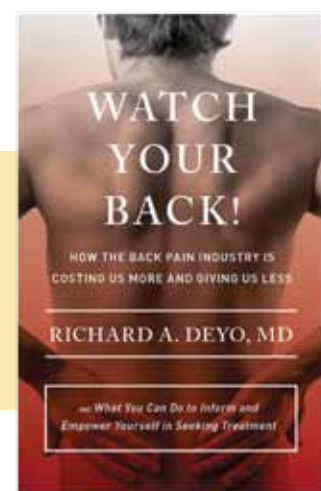


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Watch Your Back! How the Pain Industry Is Costing Us More and Giving Us Less—and What You Can Do to Inform and Empower Yourself in Seeking Treatment

Richard A. Deyo, MD

Ithaca, NY: Cornell University Press, 2014; Hardcover and digital formats, 232 pages.



More medical care is not necessarily better when treating low back pain, according to physician Richard Deyo in his book *Watch Your Back!* The book is written for individuals who experience back pain, but Deyo also hopes health care professionals who treat back pain, policy makers, and people in the media read this book.

Despite the variety of treatment options for low back pain, Deyo contends, patients are not getting better. He questions whether some well-known treatments are ineffective and overused. Most significantly, he suggests that patients adopt a more active role in managing their back pain, that health care providers critically evaluate treatment options and explain them to their patients, and that journalists critically evaluate and clearly communicate information about back pain treatments to laypersons.

Deyo reviews the literature regarding the efficacy of several types of low back pain treatments, such as painkillers, injections, and spinal fusion surgery. He also incorporates lessons learned from famous individuals with back pain, including President John F. Kennedy and Dr Jerome Groopman.

Patients can take more control of their care, Deyo explains, by changing how they view pain. Instead of focusing on the cause of the pain and searching for a cure, patients can use cognitive behavioral therapy to evaluate how the pain affects their daily lifestyles and then partner with their health care providers to identify treatment goals, including exercise therapy, for day-to-day pain management.

Deyo shares Groopman's experience in a rehabilitation program, where Groopman learned how to successfully manage his pain after overcoming his fear of increased physical activity. Over time, Groopman concluded that achieving small goals early in his rehabilitation gave him hope to recover, maintain a more active lifestyle, and reduce the frequency of his pain.

Deyo also recommends that health care providers act more like a coach rather than the person with “The Answer.” He asks the media to stop hyping the latest treatment as a cure or breakthrough for low back pain, and instead, be more critical and balanced in communicating information to the public.

Deyo describes how patients can become more informed about their treatment options by using decision aids. These patient-focused materials, including written information, interactive programs, and video interviews, enable patients to explore the pros and cons of treatment *decisions* rather than the treatment itself. Decision aids can help patients and health care providers discuss realistic goals and make shared decisions in managing pain.

Watch Your Back! is generally well organized. The book begins with Deyo's initial scientific evaluation of back pain treatments and the subsequent negative response he received from other health care providers, clinicians, and industry, which led him to further analyze the back pain industry. Next follows his review of well-known treatments, and then he concludes with how patients, health care providers, and policy makers can make changes to help patients achieve better outcomes.

Throughout the book, Deyo includes personal stories of treatment failures of famous individuals with back pain and their subsequent successes after changing their approach to managing pain. It also would have been interesting, however, if he had blended in personal stories of nonfamous people.

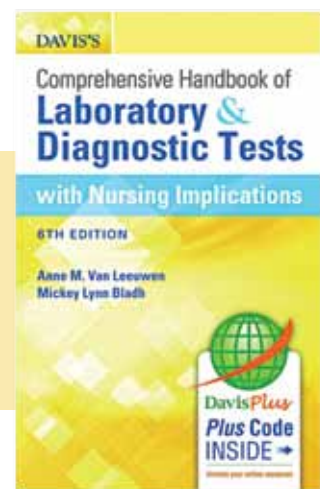
Although citations are not provided in each chapter, sources are included at the end of the book in the Notes section. However, the reader has to match the statement in the Notes section with the relevant statement in the chapter to identify the source. It would have been more helpful if Deyo included numbered references in the text and a reference list at the end of each chapter.

continued on next page

Davis's Comprehensive Handbook of Laboratory and Diagnostic Tests With Nursing Implications, 6th Edition

Anna M. Van Leeuwen and Mickey Lynn Bladh

Philadelphia: F.A. Davis, 2015; Paperback and digital formats, 1,650 pages.



The latest edition (6th) of *Davis's Comprehensive Handbook of Laboratory and Diagnostic Tests With Nursing Implications* by Anna M. Van Leeuwen, MS, BS, MT (ASCP) and Mickey Lynn Bladh, RN, MSN, is a ready compendium of clinical (laboratory and diagnostic) information in an easy-to-find format. The book is useful not only to its intended audience of nurses and nursing students, but also to the general clinical and medical community, including medical writers

Clinical tests are listed alphabetically by their complete name for quick reference. The index is especially comprehensive and allows fast searches by many different routes: abbreviation, synonym, disease, specimen type, or test classification. I particularly liked the “Body Systems Appendix” that categorizes common laboratory and diagnostic tests by each body system.

The chief features of this updated book are a succinct description of the laboratory and diagnostic tests, with cross-references, in monograph style. Reference values expressed in both conventional and SI units are included, and age- and gender-specific variations are listed wherever applicable. Potential confounding factors, such as timing of test, handling of specimen, and drug interactions and their effect on test results, are also depicted.

The new edition includes 2 new monographs—“Genetic Testing” and “Bioterrorism and Public Health Safety Concerns: Testing for Toxins and Infectious Agents.” New sections also are incorporated in each monograph:

- Expected patient outcomes, which focus on safe and effective nursing care during all 3 testing phases (pre-test, intra-test, and post-test)
- Study-specific complications (where applicable)
- Contraindications (where applicable)

Online resources for both instructors and students include interactive exercises, disease-specific case studies, and monographs for new approved tests.

Considering the rapid pace at which lab and medical research is being conducted, this handbook does a good job of researching, compiling, and indexing current literature. The content suits the needs of nurses and the nursing community at large by its direct and detailed approach. The content also provides an informative resource for the clinical, medical, and patient community—basically anyone who wishes to clarify or look up a diagnostic or lab test.

Missing from this otherwise useful handbook are self-explanatory illustrations and graphic features to complement the difficult concepts encountered in the descriptions of these tests; however, additional elements might have led to more volume.

Devoid of unnecessary and overly long explanations, this handbook delivers the information to understand—and appreciate—the whats, hows, and whys of clinical tests.

—**Debamita Chatterjee, PhD**

Debamita is a graduate of the University of Rochester in biomedical sciences. She has written for the University of Rochester Medical Center and journals including eLife and The Scientist.

Watch Your Back! review continued from page 94

Despite Deyo's criticism of the back pain industry, he does offer interesting suggestions to patients and health care providers for achieving better patient outcomes, as well as to those who communicate information about back pain treatments.

—**Eileen M. Girtten, MS**

Eileen is a Principal Medical Writer with inVentiv Health Clinical.

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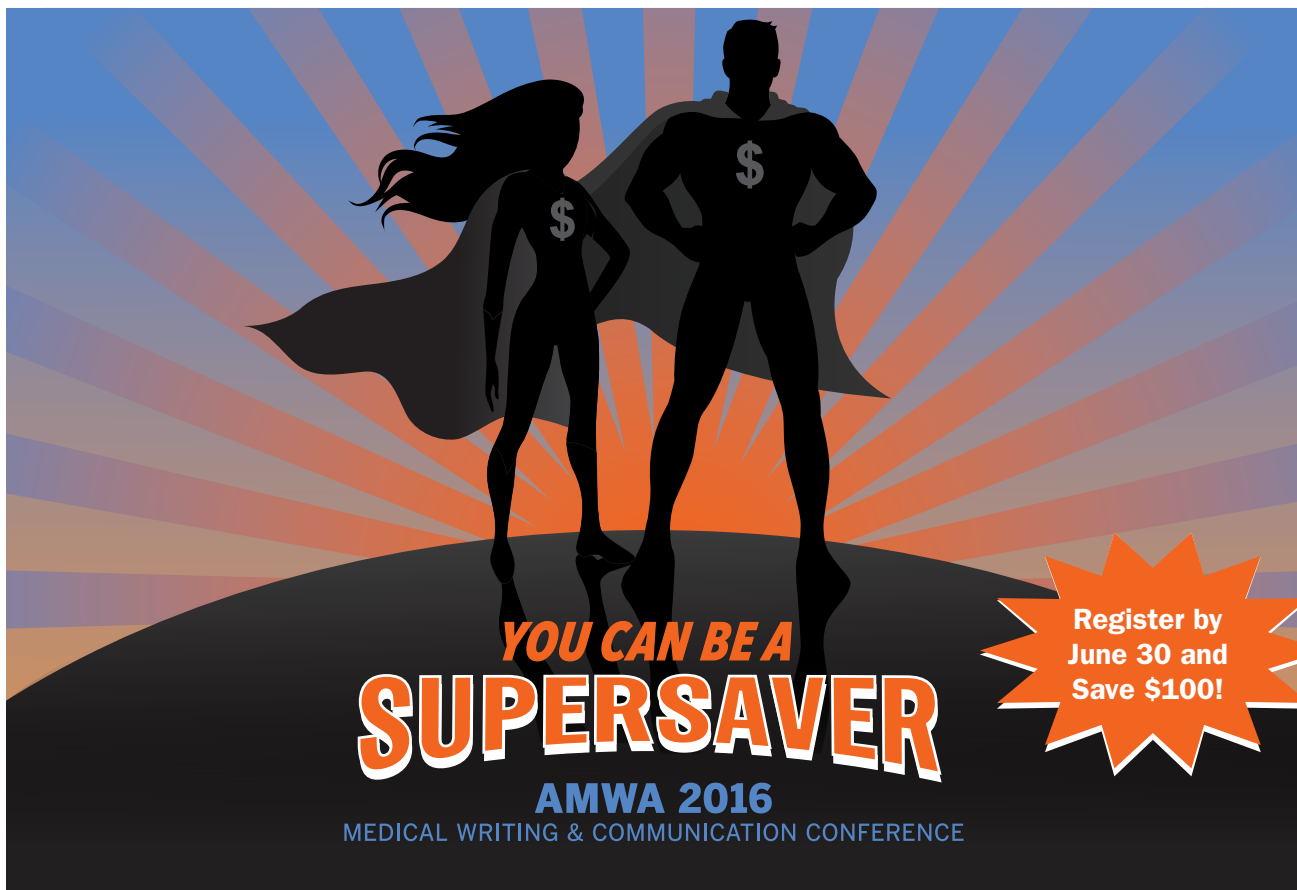
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