

RESULTS OF THE 2011 AMWA SALARY SURVEY*

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As the leading professional organization for medical communicators, the American Medical Writers Association (AMWA) has periodically surveyed its membership monitoring the demographic characteristics and salaries of medical writers.¹⁻⁵ The AMWA survey has been referenced by the profession of medical writers as the largest survey in terms of number of respondents and the most in-depth analysis of demographic/professional characteristics and salary. For many medical communicators, the survey serves as the most dependable basis for setting salary ranges among employers and for negotiating salaries and contract fees among employees and freelancers/consultants. The 2011 salary survey is the sixth survey conducted by AMWA; previous salary surveys were done periodically between 1989 and 2007. With each survey, AMWA has made improvements, adding newly requested questions to capture the interests of its membership. This 2011 survey also retained key questions so that this year's results could be compared with those of prior surveys.

METHODS

SurveyMonkey software (SurveyMonkey.com LLC, Portland, OR) was used to collect responses to the survey. Many methods were used to notify AMWA's 5,350 membership about the survey, including announcement of the survey in the March 2011 issue of the *AMWA Journal*, e-mails to members in April and at the launch of the survey (May 3), and a reminder e-mail to members during the time the survey was available (until May 25). A short slide presentation was posted by the

*A slide presentation of the Salary Survey findings is available in the Members Only section of the AMWA website (www.amwa.org).

author to the AMWA listserv to further promote participation in the survey, a parody on the term "ghost writers" as a means to portray writers who would be "missing from survey results" if they did not respond.

The survey requested demographic and professional details and income information on monies earned during the 2010 tax year. The same information was monitored in previous surveys, including those attributes reported by employed writers and freelancers (as applicable): gender, age, education level, years of experience in the profession, work status (full-time or part-time), type of primary employer, type of work performed (writing, editing, mix, etc), and career level (entry level to supervisor). Predefined assumptions were adopted to facilitate analysis of comparisons (Table 1).

Responses were requested per instruction in the survey and grouped according to status as an employed writer and for freelance writers. However, if a respondent prematurely stopped answering questions in the survey, the remaining blank fields resulted in limiting the statistical analyses of the missing data.

Table 1. Definitions and Assumptions for Group Comparison Analyses

Employed Writer	Freelance Writer
Taxes	
Filed by the employer	Filed by the writer 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	

Data handling included directing the SurveyMonkey software to export data to Microsoft Excel, where all raw data were preserved. Raw data were then imported to SAS software (SAS Institute, Cary, NC). Data were first cleaned programmatically for entry anomalies and errors before subsequent analyses. Raw data for approximately 50 entries were additionally manually adjudicated twice (initially by the author and secondly by an independent quality control person) when it could not be corrected programmatically.

Descriptive statistics were calculated 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. Statistical analyses of full-time employed writers' salaries were also conducted as multivariate regression models for those variables suspected of being possible predictors (ie, contributing factors) of salaries. The initial predictors in the regression models were patterned after previous surveys: gender, age, education level, years of experience in medical communication, and employment according to three groups (categorized according to approximating mean salaries):

- Pharmaceutical or biotechnology company
- Medical device, communication, or advertising company
- All other employers (university or medical school, association or professional society, journal or publisher, health care organization, contract research organization, and research organization)

After the initial regressions were reviewed, results were optimized for statistical significance and correlation. The optimized regression models were followed with exploratory regressions. Geographic region was explored as an additional predictor of salary. Geographic regions were organized into three groups according to a composite consumer price index (cCPI). 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 such as the cost of utilities and transportation.⁷ Geographic regions associated with cost of living differences were verified to contribute appreciably to salaries as predictors in the regression model.

Statistical analysis of freelance writers'/consultants' salaries consisted of descriptive statistics for incomes and contract fees. For analyses of the freelance responses, the following designations were adopted. "Freelances" refers to respondents who freelance only, and does not include those freelancers who are also employees. "Part-time freelance/employee" refers to respondents who freelance part-time and are also employees (almost all of these respondents are employed full-time). After the freelance data were separated into several categories, those categories that had observable differences were summarized for comparison.

- Full-time freelances vs *all* part-time freelances (part-time freelances plus part-time freelances/employees)
- Part-time freelancing (part-time freelance only vs part-time freelance who is also employee)
- Groups according to work performed (writing vs mixture of writing and editing vs editing)
- Groups according to the area of writing (regulatory writing vs scientific publications vs continuing education vs marketing/advertising vs consumer writing)

RESULTS

Overall, the response rate was 26% (n=1,393); this rate was somewhat lower than that for previous surveys. However, the demographic profile for the survey was still similar to the previous surveys (Table 2). Female gender has historically been predominant in AMWA; all survey results have captured this pattern, with a greater percentage of female respondents (72%-84%) than male respondents (16%-28%, Table 2). Survey results have also historically demonstrated that approximately two-thirds of respondents are employees and one-third are freelances. Since 2002, variance of only a few years has occurred in the "age" and "years of experience" categories. With respect to education level, the percentage of respondents with a bachelor's degree decreased from approximately 34% in 2002-2007 to 28% in 2011; the percentage of respondents with an education higher than a master's degree increased from approximately 30% in 2002-2007 to 38% in 2011. The percentage of respondents with science degrees increased to 44% in 2011, compared with 40% in 2007 and 34% in 2004.

The value of the AMWA certificate was personally viewed by writers and editors as an important achievement (40%) and was also considered to add professional credibility (35%). Although 15% of respondents stated that they had received unsolicited confirmation from clients/employers of the importance and value of the AMWA certificates, approximately 80% said that they had never asked for this input. This disparity leads to the idea that more writers and editors should be requesting this input from their clients and employers.

Employees

The distribution of full-time employees among primary employers demonstrated a decrease in the percentage of respondents employed in pharmaceutical and biotechnology companies, communications and advertising companies, journals and publica-

tions, and universities/medical schools (Figure 1). Some of these employees may have found employment within the health care sector or within the category reported as "other" (not shown), as the percentage of respondents in both of these employment categories increased.

The mean annual salary for full-time employees was approximately \$93,000 (n=728, SD=\$36,000; median=\$88,000; interquartile range=\$66,000, \$110,000; Table 3). Salary was highest for respondents employed at biotechnology (\$116,800) and pharmaceutical (\$112,800) companies, followed by communication and advertising agencies (\$93,400), medical device companies (\$92,700), contract research organizations (\$89,600), government agencies (\$88,300), and medical education companies (\$79,500). Compared with the 2007 survey, salary increased in most categories of primary employers (range: 3%-25%; Table 4).

Mean annual salary was positively associated with several factors: increased number of years of experience, writing as primary type of work, career level of manager or supervisor, level of education, and residence in a higher cost of living region of the United States. Compared with the 2007 survey, notable increases in salary were found in the following categories: government jobs (24%), "<5" and "11 to 15" years of experience (14% and 12%, respectively), employees with masters degrees (15%), mid-level and senior-level career with no management (14% and 13%, respectively), "research and writing" (30%) and "primarily writing" (21%) as types of work performed (Table 4). Salary was highest in New England (\$109,700), followed by the West Coast (including western Canada; \$106,100), areas outside the United States and Canada (\$100,200), the New York-Delaware Valley area (including New York, New Jersey, Pennsylvania, Delaware, and eastern Canada; \$97,100), the northern Midwest area (\$91,800), and the mid-Atlantic area (\$87,500) (Figure 2).

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

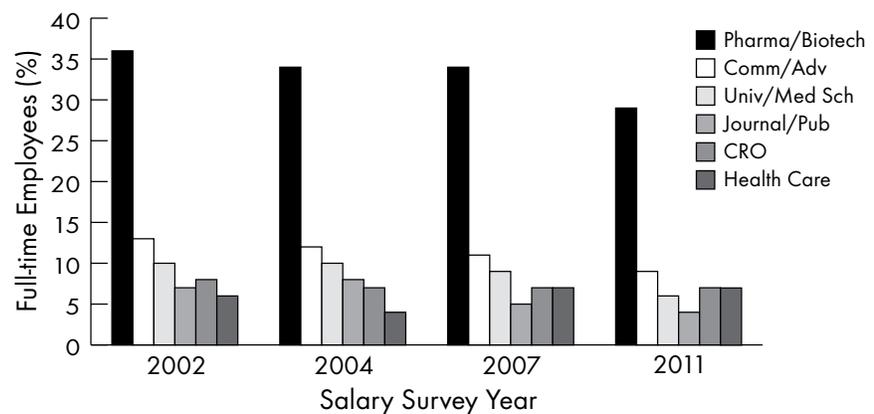
Parameter	Survey Year					
	1989	1994	2002	2004	2007	2011
No. of surveys sent	2700	3900	4800	4800	5400	5350
Respondents (n [%])	886 (33)	1822 (47)	1320 (39)	1811(38)	1704 (32)	1393 (26)
Employee (n [%])	N/A	N/A	871 (66)	1215 (67)	1183 (69)	819 (69)
Freelance (n [%]) ^a	N/A	N/A	449 (34)	596 (33)	521(31)	374 (31)
Gender						
Women (n [%])	635 (72)	(~75)	1069 (82)	1476 (83)	1383 (83)	963 (84)
Men (n [%])	251 (28)	(~25)	242 (18)	298 (17)	281 (17)	181 (16)
Age (mean yrs)						
Women	N/A	N/A	44	44	45	46
Men	N/A	N/A	47	47	47	48
Employee	N/A	N/A	N/A	N/A	44	45
Freelance ^a	N/A	N/A	N/A	N/A	48	50
Years of experience (%)						
<2	10	10	6	13	14	11
2-5	21	28	31	22	20	20
6-10	29	25	22	25	28	25
>10	40	38	41	40	38	43
Years of experience (mean yrs)						
Employee	N/A	N/A	N/A	N/A	9	11
Freelance ^a	N/A	N/A	N/A	12	13	15
Education level (%)						
Bachelor's degree	40	41	33	33	36	28
Master's degree	34	34	34	35	34	34
Advanced degree	21	23	31	30	30	38
Degree field (%)						
Science ^b	N/A	N/A	36	34	40	44
Liberal arts	N/A	N/A	15	14	11	11
Journalism	N/A	N/A	7	5	5	5
Pharmacy	N/A	N/A	4	5	5	5
Medicine	N/A	N/A	6	5	4	4
Communications	N/A	N/A	6	4	4	4

N/A = not applicable or not available

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

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

Figure 1. Comparison of primary employers in the current and previous salary surveys. CRO=contract research organization.



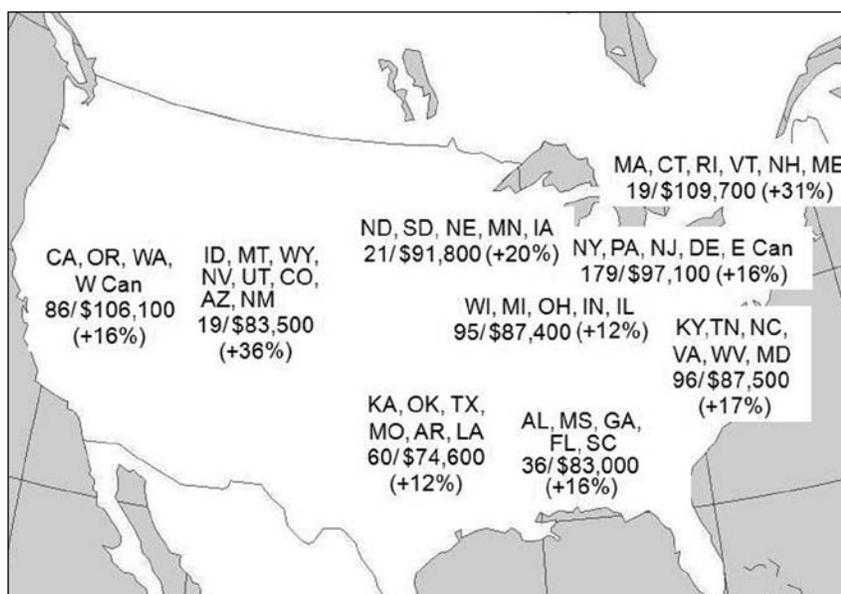


Figure 2. Salary according to region of the country. The first number indicates the sample size, the second number is the median salary, and the percentage is the change in salary compared with that reported in the 2007 salary survey.
 Note: Full-time employees who also reported their salary.

Table 3. Comparison of Gross Salaries for Full-time Employees in AMWA Salary Surveys

Parameter	Survey Year ^a					
	1989	1994	2002	2004	2007	2011 ^b
Gross Salary (US \$)						
Mean	38,887	49,967	67,351	74,016	82,232	92,867
Median	36,000	45,000	64,000	70,000	76,000	88,000
Interquartile Range ^b	N/A	N/A	N/A	N/A	N/A	66, 110
Salary by Gender						
Women (mean)	36,135	N/A	64,556	71,775	79,609	87,315
Men (mean) ^c	46,865	N/A	78,733	84,259	93,677	103,627
Difference: men vs women (%)	+30	N/A	+22	+17	+18	+12
Inflation rate since previous survey (%)	N/A	20.5	20.2	4.1	9.3	5.2
% gain of mean salary vs inflation	N/A	+8.0	+14.6	+5.8	+1.8	+6.7

N/A = not applicable or not available

^aYear of survey refers to the year in which the survey was conducted; surveys collected information for the prior tax year; for example, the 2011 survey collected salary information for income earned in 2010. Salaries beyond approximately 3 SD of the mean were excluded.

^bInterquartile range presented in \$1000.

^cResponses for men were low in past surveys and in the 2011 survey (n=132; SD=47,600; median=97,000).

Salaries for men were higher than those for women by a mean of ~\$16,000 (Table 3); medians were similarly higher for men by \$17,000. Several possible contributing factors toward overall salaries may have accounted for this phenomenon. Yet, when regression

analyses were performed and the best model was selected, gender failed to reach significance (p>0.05) as a contributing factor.

The total percentage of respondents who reported having an AMWA certificate (total: 27%; core certificate:

11%; advanced certificate: 16%) was similar to the percentage in 2007. But the component percentages of the 2 certificates in 2011 revealed a shift toward the advanced certificate when compared with the 2007 survey (core certificate: 21%; advanced certificate: 6%). As in prior surveys, the mean salary was significantly higher for respondents who had an AMWA certificate than for respondents who did not have a certificate (p<0.0001, Wilcoxon test). This result should be considered with caution, however, as the regression analyses indicated that several variables contributed to medical writers' salaries, and having an AMWA certificate failed to reach significance (p>0.05) as a contributing factor.

At first glance, the increase in mean salary (12.9%) seemed to outpace inflation since the 2007 survey and was reported to be 5.2% over 4 years. However, as mentioned previously, the CPI does not consider the inflation due to price increases for food, housing, health care, or energy-based commodities. Therefore, if all inflation factors were considered, the increase may not have exceeded the true inflation rate. Despite these limits of the CPI, survey results substantiated the fact that increases in mean salary out-paced CPI.

A forward stepwise multivariate regression was performed with the factors that had previously shown evidence of contributing to increases in salary: primary employer, years of experience in medical communication, career level (entry, middle, or management), education level, and type of work performed (writing, editing, etc). Geographic region was a newly added factor to the regression analysis with this survey. The regions of cCPI were grouped into distinct geographic regions according to three cutoff values of cCPI (<"95" vs "95 to 100" vs ">100"). Ad hoc regression analyses showed that including the geographic location of the employer was a valid predictor of salary.

Although three regression model analyses were conducted along with several permutations of their various

Table 4. Salaries for Full-time Employees According to Several Factors

Factors	N	Salary (US \$)		Mean % Change 2007-2011
		Mean (SD)	Median (Min, Max)	
Primary Employer				
Biotechnology company	77	116,800 (37,000)	110,000 (55,000- 200,000)	+10
Pharmaceutical company	150	112,800 (37,000)	108,500 (38,000-190,000)	+15
Communication and advertising	64	93,400 (32,000)	86,000 (42,000-180,000)	+12
Medical device company	32	92,700 (32,000)	92,500 (40,000-160,000)	+9
Other	35	95,700 (42,000)	110,000 (55,000-200,000)	+25
Clinical research organization	75	89,600 (30,000)	82,000 (55,000-200,000)	+17
Government	18	88,300 (31,000)	94,000 (45,000-160,000)	+24
Medical education company	48	79,500 (25,000)	80,000 (41,000-160,000)	+3
Years of Experience in Medical Communications				
≤5	181	76,800 (26,000)	72,000 (32,000-150,000)	+14
6 to 10	199	89,500 (30,000)	89,000 (35,000-180,000)	+4
11 to 15	106	102,500 (32,000)	99,500 (41,000-200,000)	+12
≥16	138	104,900 (33,000)	100,000 (50,000-200,000)	+4
Education Level				
Bachelor's degree	204	82,000 (31,000)	75,600 (32,000-175,000)	+8
Master's degree	230	90,900 (33,000)	88,000 (37,000-190,000)	+15
Higher than Master's degree	244	98,300 (30,000)	95,000 (38,000-190,000)	+4
Career Level				
Senior, management	91	119,200 (30,700)	120,000 (62,000-200,000)	+7
Senior, no management	167	96,100 (29,000)	95,000 (39,000-180,000)	+13
Middle, management	101	99,200 (34,000)	94,000 (42,000-190,000)	+12
Middle, no management	277	79,100 (26,000)	74,400 (32,000-175,000)	+14
Entry	45	64,700 (23,000)	60,000 (35,000-150,000)	+8
Type of Work Performed				
Supervision or administration	41	126,400 (36,000)	123,000 (61,000-190,000)	+5
Supervision/writing/editing	145	113,800 (40,000)	106,000 (43,000-200,000)	+15
Writing primarily	136	97,200 (32,000)	92,500 (43,000-190,000)	+21
Other	30	90,300 (46,000)	69,500 (35,000-190,000)	+22
Writing/editing (equal mixture)	160	86,500 (25,000)	85,500 (37,000-175,000)	-5
Research and writing	42	82,100 (31,000)	78,500 (38,000-175,000)	+30
Teaching and writing	7	77,000 (25,000)	85,000 (42,000-108,000)	+11
Editing (primarily)	140	69,000 (25,000)	64,500 (32,000-200,000)	+7

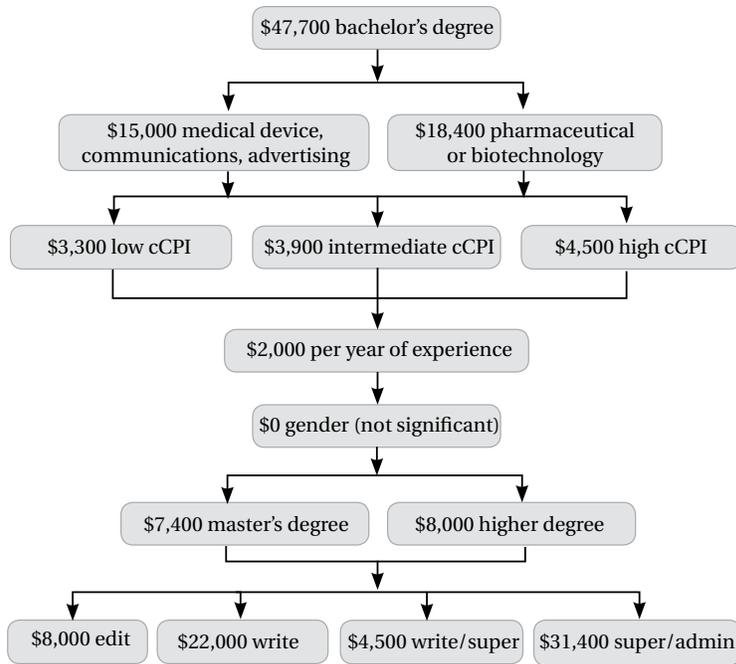


Figure 3. Gross income estimated by regression modeling. Begin with a salary of \$47,000 for a writer or editor with a bachelor's degree. Add the indicated amounts according to type of employer (if applicable), geographic area according to composite consumer price index (cCPI), years of experience, highest educational degree, and type of work performed. Super=supervisor, admin=administrator.

predictors, the ones that best described the regression model ($R^2 = 0.613$ and $p < 0.03$) were (in order of importance) primary employer, years of experience in medical communication, education level, type of work performed (writing vs editing, etc), and region of employment. Once the highest R^2 value was determined, the corresponding model demonstrated that gender failed to reach statistical significance and was dropped as a factor in the regression models. A predictive algorithm was developed to provide an estimate of the composite factors contributing to total salary (Figure 3).

Freelances/Consultants

Nearly one-third (31%) of respondents reported working as a freelance/consultant, a rate similar to that in previous surveys (Table 2). Most freelances worked part-time (58%), but more worked full-time in 2011 (42%) than in 2007 (36%, not shown). Freelances had an average of 4 more years of experience

(mean total experience: 15 years) than employed respondents, which was consistent with the findings of the 2007 survey (Table 2).

Among all freelances, most respondents reported billing by the hour (78%,

up by 14% since 2007), most billed for revisions by the hour (67%, up by 12% since 2007) and for any revision cycle (28%, up by 4% since 2007); 75% of respondents charge 20%-75% for rush jobs (not shown). More than 70% reported that 80% or more of their time was billable time, and 34% reported that they never reduced their rates for any reason. Additionally, 32% said that they had recently increased their rates (compared with 19% in 2007) and that their profits were average (40%) or better than average (37%) (not shown).

The distribution of mean gross income among all freelance respondents was the following: \$116,000 (full-time freelances), \$56,000 (part-time freelances), and \$17,000 (part-time freelances who are also employed) (Table 5). The hours per week worked ranged from 16 hours for part-time freelances/employees to 44 hours for full-time freelances (Table 5).

When salaries were compared among only full-time freelances, the following results were found. The gross income for the three levels of education was fairly linearly graduated between degree levels at a median difference of \$12,000–\$13,000; the net income was a difference of \$7,000–\$9,000 (Table 6).

Table 5. Work Hours and Gross Incomes of Freelances/Consultants by Working Status

Status	Hours	N	Gross Income (US \$)	
	Number per Week		Mean (SD)	Median
Full-time freelances	44	137	116,000 (75,000)	99,000
All freelances	29	400	68,000 (67,000)	51,000
Part-time freelances (not otherwise employed)	21	165	56,000 (46,000)	50,000
Part-time freelances/employees	16	98	17,000 (27,000)	7,000

Table 6. Gross Incomes of Full-time Freelances/Consultants by Education Level

Education Level	N	Gross Income (US \$)		N	Net Income (US \$)	
		Mean (SD)	Median		Mean (SD)	Median
Higher degree	44	127,000 (58,000)	120,000	41	87,000 (47,000)	85,000
Master's degree	53	111,000 (60,000)	98,000	51	76,000 (40,000)	76,000
Bachelor's degree	26	95,000 (50,000)	85,000	24	79,000 (44,000)	69,000

Both gross and net incomes were generally right-skewed, indicating that the majority of salaries were reported for lower median incomes than for mean incomes. Full-time freelancers whose work was “primarily writing” reported the highest salary (mean gross income, \$135,000) a mean increase of 23% over that in the 2007 survey (Table 7) and \$37,000-\$50,000 higher than the salaries for other freelance work performed. Also remarkable was the mean salary of approximately \$85,000 for “primarily editing” work, an 85% increase over the salary reported in the 2007 survey. (Note that “primarily editing” was reported by 14 freelance respondents.)

The hourly rate was highest for those who worked as full-time freelancers and primarily performed writing (\$105), a rate that was \$26/hour higher than the mean rate for full-time editing work, and a rate that was up \$8 (8%) from the 2007 survey (Table 8). The 2011 AMWA survey was the first to ask freelance writers what type of writing/editing they contracted most often (regulatory, publications, continuing education, etc). Among freelance respondents, the highest hourly rate was garnered by those who were full-time regulatory writers (\$120) and editors (\$116) (Table 9). Freelancers who worked full-time as regulatory writers also reported the highest salary (\$142,000), a salary that was \$28,000–\$72,000 greater than the salary for freelancers working in other settings (Figure 4). Because this analysis was new for the 2011 AMWA survey, future surveys will serve to further substantiate this comparison.

DISCUSSION

Despite the lower response rate for this survey, the results of the AMWA 2011 Salary Survey were believed to have captured the demographic profile of the AMWA membership as has been consistently reported in previous surveys. The results of the current survey demonstrated that the increase in medical writers' salaries exceeded the inflation rate as calculated by the CPI.

Table 7. Gross Incomes of Full-time Freelancers/Consultants by Type of Work Performed

Type of Work Performed	N	Gross Income (US \$)		Mean % Change 2007-2011
		Mean (SD)	Median	
Primarily writing	56	135,000 (64,000)	126,000	+23
Supervision/writing/editing	7	98,000 (64,000)	79,000	N/A
Writing/editing (equal mix)	30	95,000 (49,000)	79,000	+25
Research and writing	6	93,000 (25,000)	92,000	+22
Primarily editing	14	85,000 (23,000)	88,000	+85

Table 8. Hourly Rates of Freelancers/Consultants by Working Status and Type of Work Performed (Writing or Editing)

Type of Work Performed	N	Hourly Rate (US \$)		Mean % Change 2007-2011
		Mean (SD)	Median	
Full-time freelancers				
Writing	136	105 (28)	100	+8
Editing	91	79 (27)	75	-1
All freelancers (including those also employed)				
Writing	351	95 (30)	100	N/A
Editing	269	69 (30)	70	N/A
Part-time freelancers also employed elsewhere				
Writing	76	86 (58)	75	N/A
Editing	80	55 (26)	50	N/A

Note: Responses of both writing and editing were allowed.

Table 9. Hourly Rates of Full-time Regulatory Writers and Editors

Regulatory work (full-time)	N	Hourly Rate (US \$)	
		Mean (SD)	Median
Primarily regulatory work			
Writing	16	120 (22)	120
Editing	6	116 (28)	107
Regulatory work one of top three services			
Writing	38	120 (25)	120
Editing	18	116 (28)	107

This finding was unexpected, given the depressed US economy. However, an online commentary reported that, although the hiring demand for the pharmaceutical industry fell in late 2008 and reached an all-time low in

2009, demand has gradually and slowly increased since then.⁸ For pharmaceutical/biotechnology companies, a higher employee/contractor demand was most likely due to the reported 7-year high recorded for drug approvals by the FDA

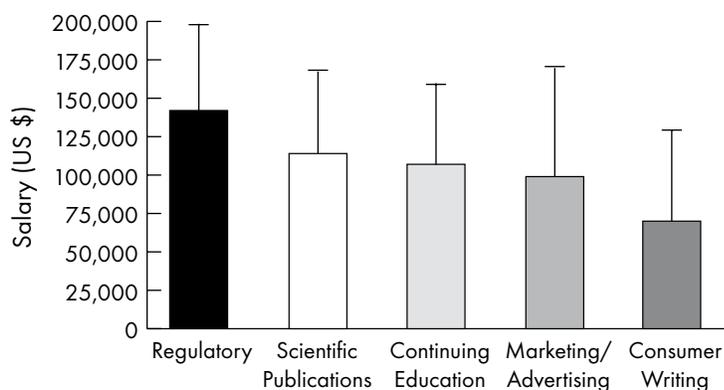


Figure 4. Salary of full-time freelancers/consultants according to the marketed area of their primary work.

in 2011.⁹ According to the FDA Center for Drug Evaluation and Research, 30 new molecular entities were approved in 2011¹⁰; this number is in addition to product approvals by other FDA divisions, such as biologics, radiology and devices, and veterinary medicine. The writing and compilation for these drug submissions would have mostly been conducted in 2010, the same year for the salaries reported in the 2011 survey.

The regression model suggested that several factors contributed to the estimation of employee salaries and the best model described 61% of the variance of the model. In other words, the variables tested explained 61% of the variability in income. The factors for this survey (in order of importance) were type of work performed (writing, editing, etc), primary employer, years of experience, education level, and geographic region according to cCPI. The geographic regions designating categories of cCPI are included in the slide presentation available on the AMWA website (www.amwa.org).

The 2011 survey also further separated freelance/consultant rates and salaries so that more freelance working statuses could be investigated/compared, such as full-time freelances, part-time freelances (not otherwise employed), and part-time freelances/employees. Full-time freelance respondents garnered the highest mean rates and salaries, followed by part-time freelances, and lastly part-time freelances/employees. Among full-time freelances,

the highest mean hourly rate and salary were garnered by full-time regulatory writers.

Those participants who held an AMWA certificate reported higher incomes than those who did not have a certificate. The regression analysis failed to support this finding as statistically significant, and other predictive factors were proven to significantly contribute to total salaries.

Survey Limitations

As with all surveys, the results were dependent on the number of respondents answering each question. Some respondents did not answer all questions pertaining to their group (employed vs freelance, writer vs editor, etc); some respondents answered a few questions only and then quit the survey. Therefore, when an association for a given question was analyzed with a second question, the “n” can only be based on the number of 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, due to missing data, a given “n” presented for these survey results for a specific group in any table or figure may not equal the “n” of another similar group in another table or figure; likewise, the “n” for a collection of questions may not add to the “n” for an inclusive group, association, or analysis. The extent of missing data is a well-known limitation of sur-

veys, which emphasizes the importance of full participation of respondents in completing all survey questions.

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 considering samples with a “small n.” For this reason, the means in this survey were mostly reported along with the corresponding “n,” standard deviations, and medians. When space allowed, the ranges were also included with the medians. This presentation of the data enables readers to consider the median values in lieu of the means where appropriate.

With the intent to make survey completion easier for respondents, all AMWA salary surveys have routinely requested only the gross salary and used this metric for all employee salary comparisons. The exclusive use of this metric produces myriad comparisons to consider and calls for extensive calculations as the primary metric for analyses. However, this strategy tends to overlook several other benefits for employees, such as the values of health benefits, 401K values, paid vacation, flexible spending accounts, bonuses, and stock options. Perhaps collection of this information might be considered in future surveys.

The percentage of male respondents (16%) for the survey accurately reflects the relative percentage of men in the AMWA membership as reported in earlier surveys. This low percentage makes it difficult to determine conclusive results of comparisons based on gender alone in subgroup analyses.

The overall response rate for the 2011 survey was lower than that for 2007. Other surveys conducted by AMWA may have created “survey fatigue” and reduced the response rate for this survey. Some pharmaceutical companies instructed employees not to answer the survey, which also occurred with prior surveys.

Recommendations for Future Surveys

Future surveys will provide the best profile of medical communicators' salaries, freelance rates, and professional qualities if more members participate and if surveys are completely answered. AMWA welcomes the comments and suggestions of members concerning the survey, its findings, and ways to improve participation in future surveys. Some suggestions that have already been offered include extending the time period for the survey; sending out postcards for reminders; further emphasizing the importance of participation; promoting the survey through social media channels such as LinkedIn, Facebook, and Twitter; and enabling AMWA members to explicitly opt-out (so they are not counted as nonrespondents). Full participation is paramount to enabling the best analysis and painting the best portrait of our professional career qualities.

Acknowledgment

I thank Tinker Gray (who has conducted three previous surveys) for serving as an independent adjudicator of questionable responses. Many thanks are extended to the AMWA members who participated in the survey.

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