

## Life and Death in the Mental-Health Blogosphere: An Analysis of Blog Content and Survival

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*The purpose of this study was to describe a sample of mental-health blogs, to determine the proportion of sampled blogs still posting several years after identification, and to identify the correlates of survival. One hundred eighty-eight mental-health blogs were identified in 2007–08 and revisited in 2014. Eligible blogs were U.S.-based, in English, and active. Baseline characteristics and survival status were described and variation based on blog focus and survival examined. Mental-health bloggers tended to be females blogging as patients and caregivers focusing on specific mental illnesses/conditions. The proportion of blogs still active at follow-up ranged from 25.5 percent to 30.3 percent depending on the definition of survival employed. Factors associated with survival included sponsorship/advertising and assumption of a professional/caregiving rather than patient/consumer perspective. Because professionally authored blogs with sponsorship/advertising tend to be longer lived, they may have disproportionate impact on the help-seeking behavior of individuals referred to them by search engine results. This suggests the need to promulgate and adhere to rules governing disclosure of real or perceived conflicts of interest, particularly given the growing use of industry paid/driven content.*

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**KEY WORDS:** e-health, Internet, blogs

### Background

The role of the Internet in health care has increased dramatically since the onset of Web 2.0 and free and easy-to-use software that promotes content creation and not just consumption (Cormode & Krishnamurthy, 2008). This increase in content creation is reflected in tools ranging from social networking sites to free encyclopedias and blogs. A blog, abbreviated from “web-log,” is a prime example of a Web 2.0 application. Virtually anyone with an Internet connection can create a blog with easy uploading of text, pictures, and audio and video files (Sauer et al., 2005).

Blogs are characterized by dated posts presented in reverse-chronological order. Common features include archived posts (grouped by dates), links to other websites, a blogroll (other recommended blogs), and a reader comment section. Between 18.7 and 31 million people in the United States author close to 42 million blogs read by more than one in four active Internet users (NM Incite, 2012;

Rampton, 2012). Worldwide, the number of blogs has increased remarkably, from just 3.0 million in 2004 to 50 million in 2006 and 164 million in 2011 (Treanor, 2011).

Research on health blogs tends to focus on descriptions of individual blogs and the use of blogs by health-care providers and consumers (Cohen, 2007; Harty-Golder, 2005; Jacobs, 2007; Kennedy, 2008). Research on blogs also explores the potential role of blogging in improving health awareness, education, and research (Anonymous, 2009; Boulos, Maramba, & Wheeler, 2006). Some examination of comparatively large samples of health-related blogs has taken place (Clauson, Ekins, & Goncz, 2010; Kovic, Lulic, & Brumni, 2008; Lagu, Kaufman, Asch, & Armstrong, 2008; Miller & Pole, 2009; Miller, Pole, & Bateman, 2011; Wagner, Paquin, & Persky, 2012). By contrast, there has been little systematic research reported on the content and characteristics of mental-health blogs; most of what has been reported consists of small samples focusing on particular mental-health topics and/or populations (Clark & Lang, 2012; Marcus, Westra, Eastwood, & Barnes, 2012; Sundar, Edwards, Hu, & Stavrositu, 2007; Tong, Heinemann-Lafave, Jeon, Kolodziej-Smith, & Warshay, 2013). Moreover, to our knowledge, no study has sought to quantify health blog survival, mental health or otherwise, or to identify factors that promote or impede whether or not blogs continue to post after a period of time.

The Internet has become increasingly important in the domain of health services delivery/treatment, information dissemination, disease prevention/promotion, and public health. Health researchers have, therefore, begun to investigate and discuss potential advantages and disadvantages of health-related online activities by consumers and professionals, including, for example, seeking information on medical diagnoses and treatment options; purchasing prescription drugs and medical devices; participating in online communities/networks; and marketing, providing, and receiving treatment (Deen, Withers, & Helleterstein, 2013; Fox & Brenner, 2013; Fox & Duggan, 2013; Moessner & Bauer, 2012; West & Miller, 2009). Because feelings of shame, fears of stigma, and lack of information are prevalent in mental disorders (Arboleda-Flórez & Sartorius, 2008; Corrigan, 2007; Hinshaw & Stier, 2008), affected individuals may be especially susceptible to benefiting (or being harmed) by the Internet's flexibility and anonymity. Describing and understanding mental-health blogs and other online activities is, thus, important not only for researchers but also for consumers, practitioners, and policymakers navigating this important and sensitive area.

Previously, we examined the content and characteristics of 951 health blogs identified during 2007 and 2008 (Miller & Pole, 2009; Miller et al., 2011). Approximately one fifth, or 188 of the 951 blogs analyzed, focused on mental health, including autism spectrum disorder (26.6 percent), bipolar disorder (25.5 percent), eating disorders (22.9 percent), depression (4.8 percent), Down syndrome (4.2 percent), schizophrenia (2.6 percent), and general mental health (13.3 percent). The present investigation drew data from this larger effort to examine the nature and content of mental-health blogs and bloggers identified during the formative years of the mental-health blogosphere. In doing so, the purpose of the

study was threefold: (i) to describe the sample of mental-health blogs and bloggers at baseline (2007–08), (ii) to identify the proportion of mental-health blogs in the sample still posting at follow-up (2014), and (iii) to examine the relationship between the baseline characteristics of the mental-health blogs studied and subsequent survival. Thus, the present study extends the current literature by representing one of only a handful of studies to use a large sample to systematically describe the content and characteristics of mental-health blogs and by being, to our knowledge, the first to quantify mental-health blog survival and its correlates.

## Methods

### *Sample Identification*

We used a purposive-snowball sampling approach to identify 951 health-related blogs (Patton, 2002). Initially, blogs were identified on the basis of keyword searches using various search engines and blog aggregators (e.g., Google, Technorati). Subsequently, additional blogs were identified using links provided on the blog rolls of the initially selected blogs. This sampling strategy is appropriate in cases such as blogs and blogging where a true random sample is not possible due to the absence of a known population but a sample with specific characteristics (i.e., blogs about health and health care) needs to be put together (Hindman, Tsioutsoulouklis, & Johnson, 2013; Karpf, 2008).

The specific sampling approach employed is also appropriate when the focus is on identifying the most widely read and influential blogs rather than putting together a sample representative of the entire blogosphere. Hindman et al. (2013) conclude that “any site which is more than three clicks away from any of the top 200 Google or Yahoo results on a given topic is definitely off the beaten track, and not likely to have any substantial impact.” Blogs that are reported by search engines and blog aggregators are much more visible than those that are not, a level of visibility that declines exponentially among blogs one, two, or three times removed from the blogs that come up in search results. Indeed, those blogs that fail to be identified by Google, for example, are essentially invisible (Hindman et al., 2013). The sampling approach employed, therefore, enables scholars to focus on identifying the most heavily linked blogs—that is, those that are most widely read and hence, presumably, influential, rather than having to catalog thousands of blogs, most of which few, if anyone, reads.

Health-related blogs were identified during two data collection periods, June–July 2007 and April–May 2008. Eligible blogs, focused on a health-related topic, were written in English, were U.S.-based, and had at least one new post in the 6 months prior to data collection. Blog authors were not informed about this research prior to data collection. Blogs were treated as publicly available documents. This project received Institutional Review Board approval.

To compile the June–July 2007 sample, we relied upon links, search engines, and blog aggregators such as Technorati and Google Blog, primarily using

general keywords such as “health blog,” “medical blog,” “mental health blog,” “health policy,” “mental health policy,” “physician,” “patient,” and “disease.” However, domain-specific keywords were used as well, including, for example, “cancer,” “heart disease,” “depression,” “schizophrenia,” “nutrition,” etc. Additional blogs were then identified using blogrolls. Sampling ceased once the same blogs appeared multiple times with no new blogs being identified. The June–July 2007 sample consisted of 622 blogs.

To compile the April–May 2008 sample, we used *Healthcare 100 Blogs* ([www.edrugsearch.com/edsblog/healthcare100/](http://www.edrugsearch.com/edsblog/healthcare100/)), a global ranking of the top English-language health-care blogs. Of approximately 800 blogs listed, 329 new blogs were eligible for inclusion and 114 were identified already. The remaining blogs were ineligible based on the inclusion criteria outlined above. In all, 951 health-related blogs were identified in 2007 and 2008, 188 of which focused on mental health.

### *Data Abstraction*

Data abstraction took place at initial data collection in 2007 and 2008 and included quantifying objective measures and identifying subjective themes. Initial categories describing blog characteristics derived from prior research (McKenna & Pole, 2008; Pole, 2006, 2009). These categories were refined over several iterations using an initial set of blogs before applying them to all blogs in the final sample (Glaser & Strauss, 1967; Miles & Huberman, 1984). Baseline categories include blogger demographics (gender, age, education, occupation), blog age, blog features (blogrolls, archives, comment sections, audio/video clips, external/internal links, sponsorship/advertising), general topic (disease/disability experiences, health policy and law, health research and news, doctoral-level practitioner experiences, non-physician practitioner experiences, nutrition), and perspective (patient/consumer, caregiver, professional).

Most blog/blogger characteristics were easily identifiable through a cursory review of the blogs identified; some information, however, required a deeper exploration of blog content, the examination of multiple posts when necessary. A research assistant coded all of the data under the direct supervision of the authors. To examine reliability, a random subset of 100 blogs was coded independently by two coders trained and familiarized with the codebook. The reliability index was calculated by computing the percent agreement between the data abstracted by these two individuals, both overall and for each of the study variables examined. Results reveal an overall level of agreement of 88.0 percent. They also reveal a 59.0–99.0 percent range of agreement across the study variables abstracted. Those categories with levels of agreement below 80 percent include: health research and news (71 percent), health policy and law (69 percent), internal links (74 percent), advertising (60 percent), and education (74 percent).

In July 2014, we examined the status of each of the 188 mental-health blogs identified in 2007 and 2008. Data abstracted include whether or not a blog was still visible. If visible, we recorded the year; if not visible, we recorded whether or not the blog was password protected or closed.

### *Data Analysis*

The purpose of the present study is to conduct exploratory analyses that identify characteristics of mental-health blogs at baseline, the subsequent survival of the blogs identified, and the correlates of that survival. First, we describe the mental-health blogs sampled at baseline (2007–08). This includes reporting the baseline characteristics of the 188 mental-health blogs sampled. It also includes comparing the baseline characteristics of the 188 mental-health blogs identified to 763 other health-related blogs sampled during the same time period. To do so, we use  $\chi$ -square tests to examine the relationship between blog type and other categorical variables, and t-tests to examine the relationship between blog type and the two continuous variables in the dataset, blogger age and blog age. Examples of mental-health blogs and their characteristics are shown in Table 1.

We also uncover differences across the 188 mental-health blogs with varying foci: severe mental illness (bipolar disorder, schizophrenia; 53 blogs), developmental disorders (autism spectrum disorder, Down syndrome; 58 blogs), eating disorders (43 blogs), general mental health (25 blogs), and depression (9 blogs). To make the number of comparisons manageable, the number of categories had to be reduced for purposes of analysis. Thus, blogs focusing on bipolar disorder and schizophrenia were combined into a single category, severe mental illness, and blogs focusing on autism spectrum disorder and Down syndrome were combined into a single category, developmental disorders. Chi-square/exact tests were used to examine the relationship between blog focus and other categorical variables, and one-way ANOVAs to examine the relationship between blog focus and the two continuous variables analyzed, blogger age and blog age.

Second, we report the proportion of mental-health blogs still posting at follow-up. Survival rates were calculated using four different definitions of blog survival based on the inclusion/exclusion of password-protected blogs and the inclusion/exclusion of blogs last posting in 2013.

Third, we report the relationship between the characteristics of the mental-health blogs sampled at baseline and subsequent survival. In doing so, we employed a conservative definition of blog survival, excluding the 25 blogs that were password protected at follow-up since we could not know whether or not they were still in fact posting. Two sets of analyses were, therefore, conducted: one defining survival as a last post in 2013 or 2014, the other defining survival as a last post in 2014 only. Chi-square tests were used to examine the relationship between blog survival and other categorical variables, and t-tests to examine the relationship between blog survival and the two continuous variables analyzed, blogger age and blog age.

## **Results**

### *What Were the Baseline Characteristics of the Mental-Health Blogs Sampled?*

Table 2 displays the baseline characteristics of the mental-health blogs studied. The average age of the mental-health blogs sampled was 3.3 years.

Table 1. Examples of Mental-Health Blogs: Topics, Features, Occupation, and Perspective

Blog Title (URL)	General Topic				Specific Topics				Features			Occupation		
	Doctoral	Research, News	Disease, Disability	Severe Mental Illness	Developmental Disorder	Eating Disorder	General Mental Health	Depression	Blogroll (Y/N)	Age of Blog (years)	Sponsorship or Advertising	Doctoral-Level (Y/N)	Other Health (Y/N)	Other (Y/N)
Professional														
World of Psychology ( <a href="http://www.psychcentral.com/blog/">www.psychcentral.com/blog/</a> )		X					X		Y	8	Y	Y	N	N
Be the Best You Can Be ( <a href="http://bestyoucanbe.blogspot.com/">bestyoucanbe.blogspot.com/</a> )		X			X				N	10	N	N	N	Y
Shrink Wrap (psychiatrist-blog.blogspot.com/)	X		X				X		Y	8	Y	Y	N	N
The Therapist Mumbles ( <a href="http://therapistmumbles.blogspot.com/">therapistmumbles.blogspot.com/</a> )			X				X		N	8	N	N	Y	N
Does Every Woman Have an Eating Disorder? ( <a href="http://www.everywomanhasaneatingdisorder.blogspot.com/">www.everywomanhasaneatingdisorder.blogspot.com/</a> )				X			X		Y	8	Y	Y	N	N
Patient/Consumer														
A Chick With Bipolar Disorder ( <a href="http://www.thebipolarchick.blogspot.com/">www.thebipolarchick.blogspot.com/</a> )			X	X					Y	7	Y	N	N	Y
Reasons to Live ( <a href="http://www.reasonstolive.net/">www.reasonstolive.net/</a> )			X					X	N	7	Y	N	N	Y
Pre-Rain Man Autism ( <a href="http://preinmanautism.blogspot.com/">preinmanautism.blogspot.com/</a> )			X		X				N	9	N	N	N	Y
A Splintered Mind (thesplinteredmind.blogspot.com/)			X					X	Y	9	N	N	N	Y
Diary of a Bulimic (weirdoleme.blogspot.com/)			X						N	7	N	N	N	N
Caregiver														
Autism's Edges (autismisedges.blogspot.com/)			X		X				Y	9	N	N	N	Y
Big Blueberry Eyes (mdbeau.blogspot.com/)			X		X				Y	8	Y	N	N	Y
Fighting Monsters with Rubber Swords ( <a href="http://www.schuylermonsterblog.com/">www.schuylermonsterblog.com/</a> )			X	X					Y	8	N	N	N	Y
Day Sixty-Seven (daysixtyseven.blogspot.com/)			X		X				Y	9	N	N	N	Y
Dear Noah ( <a href="http://www.deamosh.blogspot.com/">www.deamosh.blogspot.com/</a> )			X		X				Y	10	N	N	Y	N

Almost all blogs had archives (98.4 percent), internal links (97.3 percent), external links (87.2 percent), and sections for readers' comments (97.3 percent). Audio clips (5.3 percent), video clips (17.0 percent), sponsorship (8.5 percent), and advertising (18.1 percent) were less common attributes.

Women comprised 83.1 percent of mental-health bloggers. Bloggers' mean age was 35.6 years. Almost half of mental-health bloggers had college graduate degrees or less (47.1 percent), fewer had master's degrees (28.6 percent) or doctorate degrees (24.3 percent). The largest proportion worked in a non-health-related profession (86.2 percent); just 3.3 percent worked as a doctoral-level practitioner and 10.5 percent as a non-doctoral-level practitioner.

**Table 2.** Variation in Health Blog Characteristics by Type of Health Blog, Mental Health versus Other (951 Blogs)

	Mental Health % (n)/mean	Other Health % (n)/mean	t statistic or $\chi^2$ statistic (d.f.)	p-value
<b>Demographic Characteristics</b>				
Age <sup>1</sup>	35.6 years	35.9 years	-0.272	.786
Female <sup>2</sup>	83.1% (148)	52.4% (341)	54.7 (1)	<.001
Education <sup>3</sup>				
College graduate or less	47.1% (33)	30.5% (128)	15.0 (2)	.001
Master's graduate	28.6% (20)	20.5% (86)		
Doctoral graduate	24.3% (17)	49.0% (206)		
Occupation <sup>4</sup>	3.3% (6)			
Doctoral		26.2% (188)	118.9 (2)	<.001
Other Health	10.5% (19)	32.7% (235)		
Non-Health	86.2% (156)	41.1% (295)		
<b>Features</b>				
Blog age <sup>5</sup>	3.3 years	3.4 years	-1.527	.128
Archives	98.4% (185)	97.2% (742)	0.8 (1)	.365
Blogroll	74.5% (140)	75.5% (576)	0.1 (1)	.771
External links	87.2% (164)	91.0% (694)	2.4 (1)	.124
Internal links	97.3% (183)	98.2% (749)	0.5 (1)	.469
Comments	97.3% (183)	95.7% (730)	1.1 (1)	.296
Audio	5.3% (10)	5.5% (42)	0.0 (1)	.920
Video	17.0% (32)	14.9% (114)	0.5 (1)	.478
Sponsorship	8.5% (16)	17.3% (132)	8.9 (1)	.003
Advertising	18.1% (34)	30.5% (233)	11.6 (1)	.001
<b>Topics &amp; Perspectives</b>				
General topics				
Disease/disability experience	96.8% (182)	29.2% (223)	281.7 (1)	<.001
Health policy/law	0.5% (1)	21.2% (162)	45.5 (1)	<.001
Health research/news	3.7% (7)	18.0% (137)	23.8 (1)	<.001
Other provider experience	1.6% (3)	13.6% (104)	21.9 (1)	<.001
Physician experience	1.1% (2)	11.8% (90)	19.9 (1)	<.001
Nutrition information/news	0.5% (1)	6.0% (46)	9.7 (1)	.002
Blogger perspective				
Professional	10.1% (19)	65.1% (497)	296.7 (2)	<.001
Patient/consumer	56.4% (106)	33.2% (253)		
Caregiver	33.5% (63)	1.7% (13)		

<sup>1</sup>N = 326, <sup>2</sup>N = 829, <sup>3</sup>N = 490, <sup>4</sup>N = 899, <sup>5</sup>N = 893.

Most blogs focused on disease/disability experience (96.8 percent). Very few focused on other issues, whether, for example, health policy/law (0.5 percent), health research/news (3.7 percent) or doctoral-level practitioner experiences (1.1 percent). More than half of the blogs assumed a patient/consumer perspective (56.4 percent), about a third (33.5 percent) the perspective of a caregiver, and just 10.1 percent the perspective of health/other professional.

*Were There Differences Between Mental-Health and Other Health-Related Blogs?*

Table 2 also compares the characteristics of mental-health blogs to other health-related blogs. Most mental-health bloggers were female (83.1 percent) as compared to half of other health bloggers (52.4 percent) ( $p < .001$ ). Virtually all mental-health bloggers worked in a non-health-related field (86.2 percent); in contrast, more than half of other health bloggers worked as either doctoral (26.2 percent) or non-doctoral (32.7 percent) level practitioners ( $p < .001$ ). There also were significant differences with respect to highest educational achievement, with mental-health bloggers being substantially less likely to have doctoral degrees than other health-related bloggers (24.3 percent vs. 49.0 percent) and substantially more likely to be college educated or less (47.1 percent vs. 30.5 percent) ( $p < .001$ ). Average age was similar between the two groups (~35 years).

Compared to other health bloggers, a lower proportion of mental-health bloggers included sponsorship (8.5 percent vs. 18.3 percent) ( $p < .01$ ) and advertising (18.1 percent vs. 30.5 percent) ( $p < .01$ ) on their blogs. There were no statistically significant differences between mental health and other blogs across the other blog features analyzed.

Mental-health bloggers were much more likely than other health bloggers to blog about disease and disability experiences (96.8 percent vs. 29.2 percent) but substantially less likely to blog about practitioner-related experiences, doctoral (1.1 percent vs. 11.8 percent), or otherwise (1.6 percent vs. 13.6 percent) ( $p < .001$ ). Mental-health bloggers were also considerably less likely than other health bloggers to blog about health research and news (3.7 percent vs. 18.0 percent) ( $p < .001$ ), health policy and law (0.5 percent vs. 21.2 percent) ( $p < .001$ ), and nutrition (0.5 percent vs. 4.3 percent) ( $p < .01$ ).

Last, mental-health bloggers were considerably more likely than other health bloggers to blog from a patient/consumer (56.4 percent vs. 33.2 percent) and caregiver (33.5 percent vs. 1.7 percent) perspective but substantially less likely to blog from the perspective of a professional (10.1 percent vs. 65.1 percent) ( $p < .001$ ).

*Were There Differences Across Mental-Health Blogs With Varying Foci?*

Table 3 compares the characteristics of mental-health blogs with differences foci. On average, the age of those blogging about developmental disorders (40.2 years) and eating disorders (29.1 years) were significantly older and younger, respectively, than those blogging about other mental-health areas (35.6–38.5 years)



**Table 3.** Variation in Mental-Health Blog Characteristics by Focus: Severe Mental Illness (Bipolar Disorder, Schizophrenia), Developmental Disorders (Autism Spectrum Disorder, Down's Syndrome), Eating Disorders, General Mental Health, and Depression (188 Blogs)

	Mental Illness		Developmental Disorders		Eating Disorders		General Mental Health		Depression		F statistic or $\chi^2$ statistic (d.f.)		p-value
	% (n)/mean	% (n)/mean	% (n)/mean	% (n)/mean	% (n)/mean	% (n)/mean	% (n)/mean	% (n)/mean	% (n)/mean	% (n)/mean			
<b>Demographic Characteristics</b>													
Age <sup>1</sup>	36.6 years	40.2 years	29.1 years	35.6 years	38.5 years	9.5 (4)	<.001						
Female <sup>2</sup>	78.8% (41)	87.0% (47)	93.0% (40)	65.0% (13)	77.8% (7)	9.1 (4)	.048						
<b>Education<sup>3</sup></b>													
College graduate or less	52.6% (10)	43.8% (7)	47.4% (9)	38.5% (5)	66.7% (2)	15.5 (8)	.045						
Masters graduate	36.8% (7)	31.3% (5)	36.8% (7)	0.0% (0)	33.3% (1)								
Doctoral graduate	10.5% (2)	25.0% (4)	15.8% (3)	61.5% (8)	0.0% (0)								
<b>Occupation<sup>4</sup></b>													
Doctoral	0.0% (0)	0.0% (0)	0.0% (0)	26.1% (6)	0.0% (0)	50.7 (8)	<.001						
Other health	6.0% (3)	6.9% (4)	18.6% (8)	17.4% (4)	0.0% (0)								
Non-health	94.0% (47)	93.1% (54)	81.4% (35)	56.5% (13)	100.0% (7)								
<b>Features</b>													
Blog age <sup>5</sup>	3.2 years	3.7 years	2.6 years	3.4 years	3.1 years	8.2 (4)	<.001						
Archives	94.3% (50)	100.0% (58)	100.0% (43)	100.0% (25)	100.0% (9)	7.8 (4)	.210						
Blogroll	83.0% (44)	65.5% (38)	69.8% (30)	80.0% (20)	88.9% (8)	6.4 (4)	.192						
External links	94.3% (50)	81.0% (47)	83.7% (36)	92.0% (23)	88.9% (8)	5.4 (4)	.224						
Internal links	100.0% (53)	94.8% (55)	97.7% (42)	100.0% (25)	88.9% (8)	6.0 (4)	.136						
Comments	98.1% (52)	98.3% (57)	100.0% (43)	92.0% (23)	88.9% (8)	6.7 (4)	.096						
Audio	9.4% (5)	3.4% (2)	2.3% (1)	8.0% (2)	0.0% (0)	3.8 (4)	.491						
Video	18.9% (10)	12.1% (7)	16.3% (7)	20.0% (5)	33.3% (3)	3.0 (4)	.009						
Sponsorship	5.7% (3)	1.7% (1)	14.0% (6)	24.0% (6)	0.0% (0)	14.2 (4)	.800						
Advertising	18.9% (10)	13.8% (8)	18.6% (8)	24.0% (6)	22.2% (2)	1.4 (4)							

(Continued)

Table 3. Continued

Topics & perspectives	Mental Illness		Developmental Disorders		Eating Disorders		General Mental Health		Depression		F statistic or $\chi^2$ statistic (d.f.)		p-value
	% (n)/mean		% (n)/mean		% (n)/mean		% (n)/mean		% (n)/mean				
General topics													
Disease/disability experience	100.0% (53)		100.0% (58)		97.7% (42)		80.0% (20)		100.0% (9)		26.9 (4)		<.001
Health policy/law	0.0% (0)		0.0% (0)		0.0% (0)		4.0% (1)		0.0% (0)		6.5 (4)		.181
Health research/news	0.0% (0)		0.0% (0)		0.0% (0)		28.0% (7)		0.0% (0)		47.4 (4)		<.001
Other provider experience	0.0% (0)		0.0% (0)		0.0% (0)		12.0% (3)		0.0% (0)		19.9 (4)		.008
Physician experience	0.0% (0)		0.0% (0)		0.0% (0)		8.0% (2)		0.0% (0)		13.2 (4)		.032
Nutrition information/news	0.0% (0)		0.0% (0)		2.3% (1)		0.0% (0)		0.0% (0)		3.4 (4)		.410
Blogger perspective													
Professional	0.0% (0)		1.7% (1)		9.3% (4)		56.0% (14)		0.0% (0)		193.3 (8)		<.001
Patient/consumer	88.7% (47)		6.9% (4)		86.0% (37)		36.0% (9)		100.0% (9)				
Caregiver	11.3% (6)		91.4% (53)				4.7% (2)		8.0% (2)		0.0% (0)		

<sup>1</sup>N = 95, <sup>2</sup>N = 178, <sup>3</sup>N = 70, <sup>4</sup>N = 181, <sup>5</sup>N = 178.

( $p < .001$ ). Nearly all blogging about developmental disorders and eating disorders were female (87.0 percent and 93.0 percent, respectively), as compared to three quarters blogging about severe mental illness (78.8 percent) and depression (77.8 percent) and two thirds about general mental-health concerns (65.0 percent) ( $p < .05$ ).

Doctoral degrees were most prevalent among general mental-health bloggers (61.5 percent vs. <26.0 percent); college degrees or less among those blogging about depression and severe mental illness (66.7 percent and 52.6 percent, respectively, vs. <48.0 percent) ( $p < .05$ ). Doctoral-level practitioners were most common among general mental-health bloggers (26.1 percent); other practitioners among general mental health (17.4 percent) and eating disorder (18.6 percent) bloggers ( $p < .001$ ); non-practitioners among those blogging about depression (100.0 percent), severe mental illness (94.0 percent), and developmental disorders (93.1 percent) ( $p < .001$ ).

At 2.6 years, on average, eating disorder blogs were significantly younger than the other blog analyzed; at 3.7 years, developmental disorder blogs were significantly older ( $p < .001$ ). Sponsorship was especially common among general mental-health blogs (24 percent) and eating-disorder blogs (14.0 percent) relative to other blog areas (<6.0 percent) ( $p < .01$ ). There were no statistically significant differences between mental health and other blogs across the other blog features analyzed.

All blogs about severe mental illness, development disorders, and depression, and virtually all about eating disorders (97.7 percent) emphasized disease and disability experiences, as compared to 80.0 percent of blogs focusing on general mental health ( $p < .001$ ). General mental health blogs, in contrast, were more likely than other blogs to emphasize health research and news (28.0 percent vs. 0.0 percent,  $p < .001$ ) and health practitioner experiences, both doctoral-level (8.0 percent vs. 0.0 percent,  $p < .05$ ) and other (12.0 percent vs. 0.0 percent,  $p < .01$ ).

Blogs focusing on developmental disorders were much more likely to be authored by caregivers than the other blog areas studied (91.4 percent vs. <12.0 percent) ( $p < .001$ ). By contrast, patients/consumers were much more likely to author blogs focusing on severe mental illness (88.7 percent), eating disorders (86.0 percent), and depression (100 percent). Professional bloggers were most common among general mental-health blogs (56.0 percent), though about one third (36.0 percent) were authored by patients/consumers as well.

#### *What Was the Survival Status of the Mental-Health Blogs Sampled at Follow-Up?*

Table 4 summarizes the current status of the mental-health blogs sampled in 2007 and 2008. Two thirds (66.5 percent) of the blogs were still visible in 2014, the remainder were either password protected (13.3 percent) or closed (20.2 percent). Among visible blogs, 38.4 percent and 7.2 percent had last posts dated in 2014 and 2013, respectively. Not surprisingly, survival rates varied depending on the definition of blog survival employed. The most liberal definitions included password-protected sites; here, survival rates ranged from 38.8 percent when

**Table 4.** Status of Mental-Health Blogs at Follow-Up (188 Blogs)

	% (n)
Visible	
Yes	66.5% (125)
No	33.5% (63)
Password protected	13.3% (25)
Closed	20.2% (38)
Year of Last post if visible <sup>1</sup>	
2006	1.6% (2)
2007	6.4% (8)
2008	6.4% (8)
2009	11.2% (14)
2010	11.2% (14)
2011	8.8% (11)
2012	8.8% (11)
2013	7.2% (9)
2014	38.4% (48)
Still posting (Active)	
Exclude password-protected blogs	
Last Post: 2013 or 2014	30.3% (57)
Last Post: 2014 only	25.5% (48)
Include password-protected blogs	
Last Post: 2013 or 2014	43.6% (82)
Last Post: 2014 only	38.8% (73)

<sup>1</sup>n = 125

only accounting for blogs with last posts in 2014 to 43.6 percent when accounting for blogs with last posts in either 2013 or 2014. The most conservative definitions excluded password-protected sites; here, survival rates ranged from 25.5 percent when only accounting for blogs with last posts in 2014 to 30.3 percent when accounting for blogs with last posts in either 2013 or 2014.

*Were There Differences Across Mental-Health Blogs Based on Survival Status?*

Table 5 examines the relationship between survival status and baseline characteristics using the two conservative definitions of survival described. Results reveal few baseline correlates of survival. Nonetheless, findings suggest that blogs still posting in 2013 or 2014 were more likely to be authored by health practitioners than blogs that had ceased posting (22.2 percent vs. 10.2 percent), whereas blogs that had ceased posting were more likely to be authored by someone working outside the health sector than blogs that had continued to post (89.8 percent vs. 77.8 percent) ( $p < .10$ ).

Sponsorship and advertising proved to be significant correlates of survival no matter which definition of survival was used. Thus, blogs still posting in 2013 or 2014 were more likely than blogs that had ceased posting to have had sponsorship (14.0 percent vs. 6.1 percent,  $p < .10$ ) and advertising (26.3 percent vs. 14.5 percent,  $p < .10$ ) at baseline. Similarly, blogs still posting in 2014 were more likely than blogs that had ceased posting to have had baseline sponsorship

Table 5. Correlates of Mental-Health Blog Survival, 2013 and 2014, and 2014 Only (188 Blogs)

	2013 and 2014			2014		
	Posting % (n)/mean	Not Posting % (n)/mean	t or $\chi^2$ (d.f.), p-value	Posting % (n)/mean	Not Posting % (n)/mean	t or $\chi^2$ (d.f.), p-value
<b>Demographic Characteristics</b>						
Age <sup>1</sup>	37.3 years 85.5% (47)	34.9 years 82.1% (101)	1.412, .161 0.3 (1), .582	37.6 years 82.6% (38)	35.0 years 83.3% (110)	1.414, .161 0.0 (1), .910
<b>Education<sup>3</sup></b>						
College graduate or less	34.9% (8)	53.2% (25)	2.1 (2), .349	33.3% (7)	53.1% (26)	2.5 (2), .292
Master's graduate	34.8% (8)	25.5% (12)		33.3% (7)	26.5% (13)	
Doctoral graduate	30.4% (7)	21.3% (10)		33.3% (7)	20.4% (10)	
<b>Occupation<sup>4</sup></b>						
Doctoral	3.7% (2)	3.1% (4)	5.4 (2), .068	4.4% (2)	2.9% (4)	3.7 (2), .154
Other health	18.5% (10)	7.1% (9)		17.8% (8)	8.1% (11)	
Non-health	77.8% (42)	89.8% (114)		77.8% (35)	89.0% (121)	
<b>Features</b>						
Blog age <sup>5</sup>	3.4 years	3.2 years	1.247, .214	3.3 years	3.2 years	0.693, .489
Archives	98.2% (56)	98.5% (129)	0.0 (1), .999	97.9% (47)	98.6% (138)	0.1 (1), .999
Blogroll	73.7% (42)	74.8% (42)	0.0 (1), .871	72.9% (35)	75.0% (105)	0.1 (1), .755
External links	84.2% (48)	88.5% (116)	0.7 (1), .413	85.4% (41)	87.9% (123)	0.2 (1), .662
Internal links	96.5% (55)	97.7% (128)	0.2 (1), .640	95.8% (46)	97.9% (137)	0.6 (1), .603
Comments	98.2% (56)	96.9% (127)	0.2 (1), .999	97.9% (47)	97.1% (136)	0.1 (1), .999
Audio	5.3% (3)	5.3% (7)	0.0 (1), .999	4.2% (2)	5.7% (8)	0.2 (1), .999
Video	22.8% (13)	14.5% (19)	1.9 (1), .205	22.9% (11)	15.0% (21)	1.6 (1), .265
Sponsorship	14.0% (8)	6.1% (8)	3.2 (1), .090	16.7% (8)	5.7% (8)	5.5 (1), .032
Advertising	26.3% (15)	14.5% (19)	3.7 (1), .053	27.1% (13)	15.0% (21)	3.5 (1), .061
<b>Topics &amp; Perspectives</b>						
<b>General topics</b>						
Disease/disability	94.7% (54)	97.7% (131)	1.1 (1), .370	93.8% (45)	97.9% (137)	1.9 (1), .175
Health policy/law	0.0% (0)	0.8% (1)	0.4 (1), .999	0.0% (0)	0.7% (1)	0.3 (1), .999
Health research/news	5.3% (3)	3.1% (4)	0.5 (0), .435	6.3% (3)	2.9% (4)	1.1 (1), .374
Other provider experience	3.5% (2)	0.8% (1)	1.9 (1), .219	4.2% (2)	0.7% (1)	2.7 (1), .161
MD experience	1.8% (1)	0.8% (1)	0.4 (1), .516	2.1% (1)	0.7% (1)	0.6 (1), .446
Nutrition information/news	1.8% (1)	0.0% (0)	2.3 (1), .303	2.1% (1)	0.0% (0)	2.9 (1), .255

Table 5. Continued

	2013 and 2014			2014		
	Posting % (n)/mean	Not Posting % (n)/mean	t or $\chi^2$ (d.f.), p-value	Posting % (n)/mean	Not Posting % (n)/mean	t or $\chi^2$ (d.f.), p-value
Mental health focus						
Severe mental illness	21.1%	31.3% (41)	6.2 (4), .186	18.8% (9)	31.4% (44)	6.9 (4), .140
Developmental disorders	29.8% (17)	31.3% (41)		31.3% (15)	30.7% (43)	
Eating disorders	21.1% (12)	23.7% (31)		20.8% (10)	23.6% (33)	
General mental health	21.1% (12)	9.9% (13)		22.9% (11)	10.0% (14)	
Depression	7.0% (4)	3.8% (5)		6.3% (3)	4.3% (6)	
Blogger perspective						
Professional	15.8% (9)	7.6% (10)	4.1 (2), .131	18.8% (9)	7.1% (10)	7.9 (2), .019
Patient/consumer	47.4% (27)	60.3% (79)		41.7% (20)	61.4% (86)	
Caregiver	36.8% (42)	32.1% (42)		39.6% (19)	31.4% (44)	

<sup>1</sup>N = 95, <sup>2</sup>N = 178, <sup>3</sup>N = 70, <sup>4</sup>N = 181, <sup>5</sup>N = 178

(16.7 percent vs. 5.7 percent,  $p < .05$ ) and advertising (27.1 percent vs. 15.0 percent,  $p < .10$ ).

Blogger perspective was an especially significant correlate of survival when using the most stringent definition of survival applied in this study. Thus, mental-health blogs still posting in 2014 were more likely than terminated blogs to be authored by professionals (18.8 percent vs. 7.1 percent) and caregivers (39.6 percent vs. 31.4 percent) ( $p < .05$ ). In contrast, blogs that had ceased posting were more likely to be authored by patients/consumers (61.4 percent vs. 41.7 percent).

## Discussion

This study analyzed the content of 188 mental-health blogs identified in 2007 and 2008, compared the content of those blogs to 753 other health-related blogs also collected during this time period, and explored differences across mental-health blogs with varying foci. It also determined the proportion of mental-health blogs continuing to post at follow-up (2014) and the correlates of survival up until that point. In sum, findings indicate that mental-health bloggers were most likely to be females without graduate degrees blogging as patients/consumers or caregivers about various mental illnesses or conditions. This is in contrast to bloggers in other health-related areas who were more likely than mental-health bloggers to be male master's- or doctoral-level graduates blogging as professionals about a variety of topics, which, in addition to various illnesses or conditions included health policy and law, health research and news, and practitioner-related experience. Blogs in other health-related areas were also more likely than mental-health blogs to rely on sponsorship and advertising.

Differences across mental-health blogs were apparent, however. In particular, findings indicate that general mental-health blogs were more likely than blogs about specific mental illnesses or conditions to be authored by male doctoral-level graduates blogging from a professional perspective. Although less likely to focus on various illnesses or conditions, general mental-health blogs were more likely than other mental-health blogs to discuss health research and news and practitioner-related experience and to include sponsorship and advertising.

Interestingly, blogs about developmental disorders (primarily autism) were much more likely to reflect a caregiver perspective than blogs focusing on severe mental illness, eating disorders, and depression, which were much more likely to be authored from a patient/consumer point of view. Eating-disorder bloggers tended to be younger and blog for shorter periods of time than bloggers in other mental-health areas. Eating-disorder bloggers were also most likely to be authored by females, though a comparatively high proportion of developmental-disorder bloggers were female as well.

The proportion of blogs still active at follow-up ranged from 42.5 percent when using the most liberal definition of survival employed (inclusion of password-protected blogs and blogs last posting in 2013 and 2014) to 25.5 percent when using the most conservative definition (exclusion of password-protected blogs, blogs continuing to post in 2014 only). Mental-health blogs that continued

to post new content at follow-up were more likely than mental-health blogs that ceased posting to exhibit sponsorship and advertising at baseline. Terminated mental-health blogs, on the other hand, were more likely than surviving blogs to be written from a patient/consumer than professional or caregiving point of view.

Most mental-health bloggers were female as compared to the bare majority being female in other health-related areas. On the one hand, this finding contrasts with some studies which suggest that the broader population of bloggers are more likely to be male than female (Nielsen Company, 2012a). Alternatively, it is consistent with other studies that show that American women are particularly active online with one in three bloggers being, in fact, mothers (Lenhart & Fox, 2006; Nielson Company, 2012b). The disproportionate presence of female bloggers in the sample studied may stem from the fact that women are more likely than men to assume responsibility both for their own and their families' health and mental-health needs (Misra, 2001). Indeed, our study suggests that when females blog about mental-health issues they often do so from the perspective of a parent taking care of a child, typically with autism. The high prevalence of females blogging about caregiving issues in mental-health contrasts with other health-related topics, such as reproduction, where women are much more likely to blog about their own illnesses or conditions (Miller et al., 2011).

Very few mental-health blogs had audio or video content; most relied exclusively on text and narration. This finding could, in part, reflect the time period from which our sample was drawn, before audio and video content became more widely ubiquitous. On the other hand, it also highlights the journaling nature of blogging, which in increasing self-awareness and permitting self-expression may serve as a source of catharsis among the patients and caregivers who authored most of the mental-health blogs analyzed (Ressler, Bradshaw, Gualtieri, & Chui, 2012; Ridgway, 2001). By providing a forum on which to share experiences, blogs may play a role in reducing isolation and increasing connection with others (Blass, 2007; Ressler et al., 2012). Indeed, virtually all the blogs studied were written about one's personal experience with a disease or disability, again, from the perspective of either a patient/consumer or caregiver. Thus, it would seem that mental-health blogs may be used to create support networks and, perhaps, to enlighten others, including providers, about the experiences of people impacted by mental illness (Bauer, Bauer, Spiessl, & Kagerbauer, 2013; Cohen, 2007; Gowen, Deschaine, Gruttadara, & Markey, 2012; Ressler et al., 2012; Wehbe-Alamah & Wolgamott, 2014).

By enabling people to express themselves in a relatively risk-free context, the anonymity blogging provides may be especially important for achieving catharsis and coping among those suffering from or caring for someone with a stigmatizing mental illness or condition (Boniel-Nissim & Barak, 2013; Ko & Kuo, 2009; Rains, 2014; Sundar et al., 2007). That this may be the case is reflected in a recent study which found a positive relationship between anonymity and self-disclosure among bloggers who were embarrassed by their ailments (Rains, 2014). Self-disclosure is important to the extent that it promotes coping and helps draw in



additional social support, a factor in promoting improvements in subjective well-being and understanding.

Although often positive, the anonymity, self-disclosure, and social/emotional support that blogging provides can have potentially negative ramifications, particularly among people partaking in or contemplating self-destructive behavior. On the one hand, for example, pro-eating disorder websites and blogs provide authors and readers with opportunities to cope with a stigmatizing condition by engaging in self-expression and seeking out and obtaining information and social support (Tong et al., 2013; Tubaro & Mounier, 2014; Yeshua-Katz & Martins, 2013). On the other hand, pro-eating disorder websites may promote unhealthy standards of thinness, extreme dieting and exercising, damaging lifestyle choices (anorexia, bulimia), and strategies for avoiding detection (Borzekowski, Scenk, Wilson, & Peebles, 2010; Peebles et al., 2012; Tong et al., 2013; Yeshua-Katz and Martins, 2013). This exposure may, in turn, have adverse effects on users, contributing to negative perceived body image, knowledge and engagement in unhealthy weight loss techniques, and lower overall quality of life (Jett, LaPorte, and Wanchisn, 2010; Peebles et al., 2012; Rouleau & von Ranson, 2011). The same is true for websites that promote or condone suicide and non-suicidal self-injury where evidence suggests a correlation between online content, suicidal ideation, and knowledge about engaging in and/or concealing the behaviors highlighted (Durkee, Hadlaczky, Westerland, & Carli, 2011; Harris, McLean, & Sheffield, 2009; Lewis, Rosenrot, & Messner, 2012; Sueki, Yonemoto, Takeshima, & Inagaki, 2014).

Findings suggest that blogging's potential benefits and drawbacks may be fleeting, at least when applied to any particular blog. According to our most conservative estimates, relatively few blogs, 25.5–30.3 percent, continued to post 6–7 years after initial inclusion in our sample. Moreover, blogs authored by patients/consumers were less likely to survive until follow-up than blogs authored by caregivers or professionals. That patient/consumer blogs might struggle to survive could, in part, reflect the physical and emotional toll imposed by mental illness over time. It could also, in part, reflect the lack of effective treatment among mentally ill bloggers who because of stigma, inadequate insurance coverage, and preference for virtual rather than in-person contact may be less likely than others to seek treatment offline (Germanotta & Swearer, 2014; Marcus et al., 2012; Moessner & Bauer, 2012; Peebles et al., 2012; Wehbe-Alamah & Wogamott, 2014). In addition, it could, in part, reflect less frequent use of sponsorship, advertising, and other revenue-generating strategies among patient/consumer than professional bloggers (Miller et al., 2011). That so few mental-health blogs survived until follow-up could also derive, in part, from exponential growth in online activity across a broad array of social media platforms. Over the last decade, there has been a greater than 10-fold increase in the proportion of Internet users engaging in social media, from just 7.0 percent in February 2005 to 72.0 percent in May 2013 (Fox, 2014). Commonly used social media options now include a growing array of traditional blogs, microblogs (Twitter, Tumblr), social

networks (Facebook, LinkedIn, Google+), and photo/video sharing applications (Instagram, YouTube, Snapchat). Since we collected our original data, therefore, the number and variety of options available to connect virtually about mental health has broadened considerably. The resulting competition has likely led to subsequent reduction in blogging as a means of online expression in this area. This, in turn, may be another reason why so few blogs in our 2007/2008 sample remain active in 2014.

Although few mental-health professionals blogged, the prevalence of blogging among patients/consumers and their caregivers suggests an opportunity for mental-health providers to use blogs as an avenue to better understand and connect with their clients. This possibility is reflected in a study which sought to identify barriers to accessing mental-health treatment by analyzing eight mental-health blogs written by young adults between the ages of 18 and 25 (Marcus et al., 2012). Based on the results, recommendations were made to address young people's negative views and disconnect from the mental-health system. The potential for using mental-health blogs to better understand and connect with clients is also reflected in a study that asked bloggers and their readers with borderline personality disorder (BPD) to evaluate and suggest changes to the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) (Kalapatapu, Patil, & Goodman, 2010). Results highlighted both the willingness of the BPD population to share their opinions with mental-health professionals and the consistency between how those with BPD described their condition and the manner in which BPD was represented in the DSM-IV.

Limited blogging by mental-health professionals in the sample studied suggests an opportunity to use this and other social networking formats to more broadly disseminate mental-health information. If professionalism is to be maintained and blogs used as an effective tool for outreach and education, standards governing content quality, client confidentiality, and real or perceived conflicts of interest need to be promulgated and followed (Harty-Golder, 2005; Kennedy, 2008; West & Miller, 2009). Sponsorship and advertising play an especially important role when considering the implications of real or perceived conflicts of interest. Sponsorship involves ongoing relationships between bloggers and entities that pay for and/or host their blogs; for example, a health system, media conglomerate, or pharmaceutical company. Advertising involves placement of specific messages intended to lead visitors to external websites that sell particular products or services. Our results indicate that professionally authored blogs with sponsorship and advertising are longer lived and, hence, more visible than other mental-health blogs. This longevity, in turn, likely leads these blogs to have a disproportionate impact on the help-seeking behavior of individuals referred to them by search-engine results. This suggests that the promulgation and adherence to professional guidelines governing the disclosure of real or perceived conflicts of interest are especially critical, particularly in an era characterized by growing concern over "advertorials" and other industry paid/driven content (Slegg, 2013).

### Limitations and Bias

Several limitations are worth noting. Because many bloggers wish to remain anonymous, comprehensive sociodemographic data were lacking. Moreover, consistent with relying on self-reports instead of direct observations, bloggers' representation of themselves could not be verified, say, in relation to the occupation listed on the masthead (Presser et al., 2004). Although, at 88 percent, coders achieved a high overall level of agreement across the blog/blogger characteristics analyzed, some areas exhibited lower areas of agreement than others. This suggests that findings regarding some blog characteristics—health research and news, health policy and law, internal links, advertising, and education—should be interpreted more cautiously than others. The study also focused exclusively on U.S.-based blogs. Consequently, there may be differences across nations and cultures in the content, nature, and use of mental-health blogs that we did not explore and that could provide a fruitful avenue for further exploration in future research.

There were also biases inherent in the sampling approach used. Because we lacked a sampling frame, blogs with mental-health-related content may have been missed, either because they failed to be identified by a search engine or blog aggregator, or were not linked to a blogroll among those mental-health blogs that were identified. Moreover, in focusing on the most visible and active blogs, we failed to identify an unknown number of less widely linked blogs, resulting in the potential underrepresentation of some blog topics (e.g., pro-anorexia, suicide, and non-suicidal self-injury blogs) and overrepresentation of others (e.g., parents blogging about children with autism). Thus, while our findings may be generalizable to a narrow set of highly linked and visible blogs, they are not generalizable to all blogs that constitute the mental-health blogosphere.

Bias may also stem from the personalization of search results due to the use of algorithms by Google and other search engines that take into consideration for who conducts the searches, including search history and past click behavior, and where searches have taken place, accounting for geolocation and local policies toward viewable content (Pariser, 2011). Thus, our search results may have differed if we had aggregated the results of separate searches conducted by different individuals from around the country rather than relying on the results of searches undertaken exclusively by members of the study team at the particular institution where data collection took place. Because we did not exhaust all possible search terms, we may have missed some potentially relevant blogs as well.

### Conclusion

Use of web-based technologies continues to explode. This suggests a growing place for blogs in online mental-health, a sphere dominated by peer-to-peer interactions among patients/caregivers but through which health professionals may exert disproportionate influence because their blogs tend to persist longer.

There are a variety of ways in which online behavior might impact mental-health outcomes. This is reflected in a recent study that described seven domains within which consumers' online experiences might prove have positive or negative effects on health: (i) finding information, (ii) feeling supported, (iii) maintaining relationships, (iv) changing behavior, (v) navigating health services, (vi) learning how to relate/interpret stories, and (vii) visualizing disease through still images/videos (Ziebland & Wyke, 2012). The growth in online mental-health and its potential impact on mental-health outcomes suggests the need for mental-health professionals to use blogs both to better understand and connect with clients and to more effectively disseminate mental-health information to the broader population.

Professional organizations such as the American Medical Association and American Public Health Association have long since released guidelines regarding the quality and nature of health and medical information posted online (American Public Health Association, 2001; Winker et al., 2000). It is only recently that the discussion has turned to social media, not only among physicians (Mostaghimi & Crotty, 2011) but also among psychiatrists (Ginory, Sabatier, & Eth, 2012), psychologists (Ashton & Miller-Lewis, 2011), and other mental-health professionals (Kolms, Merz Nagel, and Anthony, n.d.). It is also only recently that mental-health providers have begun to harness social media as a tool for improving mental-health (Farrand, Perry, & Linsley, 2010), resulting in a dearth of evidence regarding intervention effectiveness (Chou, Prestin, Lyons, & Wen, 2013). Further development of professional guidelines and the research knowledge base on the part of mental-health practitioners and officials is necessary if Web 2.0 technologies are going to have a more robust impact on the mental-health sector than they have to date, both among those directly impacted by mental illness and among society more generally. This includes funding research aimed at understanding the impact of blogging and other social media on mental-health patients/consumers and caregivers. It also includes developing and enforcing rules aimed at ensuring the quality, reliability, and usefulness of the information posted by mental-health professionals.

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## Notes

Conflicts of interest: None declared.

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