



Influence of Social Media on the Dissemination of a Traditional Surgical Research Article

EeeLN H. Buckarma, MD,* Cornelius A. Thiels, DO,*[†] Becca L. Gas,* Daniel Cabrera, MD,[‡] Juliane Bingener-Casey, MD,*[§] and David R. Farley, MD*

*Department of Surgery, Mayo Clinic, Rochester, Minnesota; [†]Robert D. and Patricia E. Kern Center for the Science of Health Care Delivery, Mayo Clinic, Rochester, Minnesota; [‡]Department of Emergency Medicine, Mayo Clinic, Rochester, Minnesota; and [§]Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, Minnesota

OBJECTIVE: Many institutions use social media to share research with the general public. However, the influence of social media on the dissemination of a surgical research article itself is unknown. Our objective was to determine whether a blog post highlighting the findings of a surgical research article would lead to increased dissemination of the article itself.

DESIGN: We prospectively followed the online page views of an article that was published online in *Surgery* in May 2015 and published in print in August 2015. The authors subsequently released a blog post in October 2015 to promote the research. The number of article page views from the journal's website was obtained before and after the blog post, along with the page views from the blog post itself. Social media influence data were collected, including social activity in the form of mentions on social media sites, scholarly activity in online libraries, and scholarly commentary.

RESULTS: The article's online activity peaked in the first month after online publication (475 page views). Online activity plateaued by 4 months after publication, with 118 monthly page views, and a blog post was subsequently published. The blog post was viewed by 1566 readers, and readers spent a mean of 2.5 minutes on the page. When compared to the projected trend, the page views increased by 33% in the month after the blog post. The blog post resulted in a 9% increase in the social media influence score and a 5% absolute increase in total article page views.

CONCLUSIONS: Social media is an important tool for sharing surgical research. Our data suggest that social media

can increase distribution of an article's message and also potentially increase dissemination of the article itself. We believe that authors should consider using social media to increase the dissemination of traditionally published articles. (*J Surg Ed* 74:79-83. © 2016 Association of Program Directors in Surgery. Published by Elsevier Inc. All rights reserved.)

KEY WORDS: alternative media, blog, dissemination, knowledge translation, social media, *Surgery* publication

COMPETENCIES: Medical Knowledge, Systems-Based Practice

INTRODUCTION

Over the past decade, the online social media movement has changed the way medical professionals work, communicate, and learn. Up to 80% of Internet users interact with social networks on a regular basis.¹ Social media use is gaining popularity in the medical field as well. For example, physicians are increasingly using Twitter, Facebook, and other sites during national meetings.² In recent years, even general surgery journal clubs have become digital, and a Twitter-grounded organization called International General Surgery Journal Club has 1855 monthly followers, and the International Urology Journal Club has more than 1000 followers.³ In addition to traditional social networks, Doximity and other physician-only social networks are used by more than 60% of physicians,⁴ and social networks for researchers, such as ResearchGate, are also increasing in popularity.⁵ Although the use of social media in medicine has increased, readership in traditional print media has

Correspondence: Inquiries to EeeLN H. Buckarma, MD, Department of Surgery, Mayo Clinic, 200 First Street SW, Rochester, MN 55905; fax: (507) 284-5916; e-mail: Buckarma.EeeLN@mayo.edu, scipubs@mayo.edu

steadily and considerably decreased.⁶ Medical journals have been no exception. One successful but controversial method to combat the decrease in readership has been the advent of open-access and online-only journals, which have increased in popularity in recent years.⁷

Traditional peer-reviewed journals remain the most important means for obtaining up-to-date and trustworthy information for clinicians and researchers. To counter decreasing readership, most journals have realized the importance of having an online presence, and it is now the norm for journals to have websites, apps, and social media accounts and to create social media campaigns around original content as a best practice. One example is the Thoracic Surgery Social Media Network.⁸ This collaboration between *The Annals of Thoracic Surgery* and *The Journal of Thoracic and Cardiovascular Surgery* is intended to be a unique and innovative way of highlighting key publications through the use of social media.

Institutions and researchers have traditionally used press releases to highlight key research. However, press releases are costly and narrow in scope, and typically only large institutions can facilitate them. In addition, submitting a press release is no guarantee that a news outlet would eventually use it.⁹ More recently, some institutions have embraced the use of social media through blogs, Facebook, and Twitter as a way to share key research, and various medical blogs are now directed at physicians and researchers to share their published work quickly and at no cost to theoretically increase the exposure of their research. Ideally, these methods would direct blog readers to the original journal article. Fox et al.¹⁰ explored this topic and concluded that a social media strategy for a cardiovascular journal did not increase exposure of the research. However, social media advocates have concerns surrounding what they believe is an overstated conclusion, and they say that social media has proved to be beneficial.¹¹ In reality, it is largely unknown whether highlights on social media increase journal article readership.

The objective of our study was to explore the role of social media in the dissemination of a surgical research article. Specifically, we aimed to determine whether a blog post highlighting the findings of a surgical research article would lead to increased dissemination of the article itself.

METHODS

The journal *Surgery* published an article (“Surgical Never Events and Contributing Human Factors”) online on May 29, 2015, and in its print edition in August 2015.¹² A press release was distributed concurrently by our institution at the time of online publication.¹³ Monthly data were subsequently obtained on the number of social media views, shares, and online article downloads. The article download data were obtained directly from the journal’s article use

reports provided to the authors in monthly increments.¹⁴ Additional data were obtained from the journal’s website, which highlighted the most read articles.¹⁵ Trends were projected for the months after the blog post to create a “control group” (i.e., readership values if no blog were posted) and use the same percentage decrease in the months before the blog post.

The number of article page views was followed until the readership trended down and then stabilized for at least 2 consecutive months (Fig.). Subsequently, a 650-word “Never Events” blog post¹⁶ was written by the same authors of the published article¹² and submitted to KevinMD for consideration. (KevinMD is a blog operated by a social media expert and physician, Kevin Pho, and is aimed at primarily publishing articles of interest to physicians.¹⁷ The blog regularly features posts by physicians and other medical professionals on various topics related to medicine and surgery.¹⁸ KevinMD has 2-million monthly page views on average and was chosen because of its popularity and its target audience.)

The blog post was published online on October 26, 2015, along with a link to the original journal article. Page view data, including total number of readers over time, number of unique readers, and time spent on the page, were collected from the blog. Social media data were obtained from the journal’s website with Altmetrics (Altmetric LLP), which measures the social media influence and influence of an article; this composite score is based on the article’s online attention, including the number of times it is mentioned in mainstream media, blogs, policies, and social media, among others.¹⁴ Standard descriptive statistics were used.

RESULTS

The monthly article page views are shown in the Figure. After electronic publication in *Surgery*, the article received 475 views in June and 278 in July 2015 (a 42% decrease in number of views). The number of online views continued

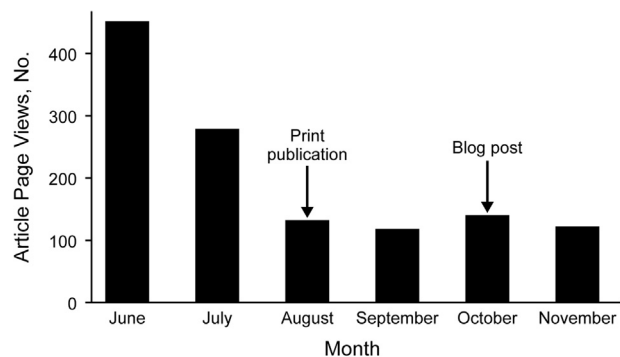


FIGURE. Article Page Views. Number of monthly article page views (captured by journal analytics) after online publication on May 29, 2015.

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