

Audience Amplification and Digital Scientific Exchange

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INTRODUCTION

Disseminating research data and clinical concepts to the right audience has demonstrated significant value, not only to biopharmaceutical organizations, but across the research and healthcare industries.

To conduct scientific exchange, a comprehensive set of strategies and tactics have been developed, with the most common forms being stakeholder engagement and publication in a peer-reviewed journal. However, the publishing landscape has shifted from traditional offline media (ie, print journals) to more online media (ie, digital journals). The digital shift is changing how we need to conduct scientific exchange. To present the science in a digital environment, we must engage the community where they are or bring the audience to the science.

"Online content is more and more the key priority as digital data dissemination and scientific exchange is spurred even faster with COVID-19. A medical digital strategy on electronic scientific publishing will be essential for the communication of new data and scientific advances moving forward."

Paul O'Grady, Head of Global Oncology Scientific Communications and Strategy, GSK

This article is intended to introduce the concept we refer to as Audience Amplification, or increasing the awareness and access to your scientific exchange. Using publications as an example, we will discuss the process of increasing scientific data awareness in today's environment and the need to digitally optimize, actively engage, and measure outcomes of your digital scientific exchange efforts across the community over time.

BACKGROUND

The print version of medical journals has not died completely as was once predicted, but the move to digital has occurred, driving a much different paradigm for scientific publication. We are currently still in a crossover period between print and digital, yet eventually it will likely go fully digital at some point. A clear example of this is the august *New England Journal of Medicine*, which has a print subscription of 113,433. Yet its site, NEJM.org, generates over 2.4 million unique visitors per month (including 1.1 million unique visitors from the United States, as well as 1.2 million registered US users).¹

This shift is not just happening at The *New England Journal of Medicine*, it is happening across all medical journals as younger, digitally native healthcare providers become more prevalent. According to a 2017 survey, 46% of healthcare providers 35 or younger read articles or abstracts online, compared to only 25% of healthcare providers 55 or older. Due to demographic shifts, by the end of 2020, 70% of HCPs in the European Union will be digital natives, and the trend is similar in the United States.

¹ 2019 NEJM Group U.S. Media Kit. <https://www.nejm.org/pb-assets/pdfs/2019-NEJM-Group-US-Media-Kit-1552499684437.pdf>. Accessed May 7, 2020.

only 25% of healthcare providers 55 or older.² Due to demographic shifts, by the end of 2020, 70% of HCPs in the European Union will be digital natives,³ and the trend is similar in the United States.

As the HCP audience becomes more digitally native and their educational consumption is conducted in new ways, scientific publication and all scientific exchange must evolve with that trend. However, as many have found during the COVID-19 crisis, when using digital dissemination techniques, simply developing and publishing a scientific communication does not necessarily engage the audience. To improve audience engagement rates, scientific communicators must understand the audience(s) and identify optimal digital channels (digital communication interfaces) for increasing awareness of the scientific communication.

"There is greater demand for communicating increasingly complex scientific data associated with changing biopharma product portfolios and the development of personalized medicines. It is critical for Medical Affairs to reimagine the publication processes through a digital lens that will drive knowledge retention and more active engagement focused on science."

Shaji Kalathil, Executive Director, Head of IT for Global Medical Affairs, Bristol Myers Squibb

The shift to digital scientific publication and dissemination, whether through open access journals or paywall journals, is not something to fear. The digital environment delivers opportunities for engagement and much more meaningful metrics for project analysis, both in real time and post hoc. Traditional metrics on scientific publications have been based on the specific vehicle (i.e., journal) utilized. In the case of digital vehicles, it is possible to identify not only how many eyes view your communication, but also to whom those eyes belong. Using specialized techniques and digital programs, it is possible to optimize the rank of an individual communication within results pages among both medical/scientific and general search engines.

PUBLICATION SEARCH OPTIMIZATION

In the digital publishing world, there are some specialized optimization techniques that can enhance the visibility of any digital content. Publication Search Optimization (PSO) is simply applying those techniques to the development and dissemination of a publication. PSO is a process for increasing the readership of your publication and delivering on Audience Amplification by increasing awareness of a publication for users of a search engine, both general and medical/scientific. The major steps in properly employing PSO for a publication are described below.

² DRG/Manhattan Research. Taking the Pulse®, 2017.

³ Veeva. Intelligent HCP Engagement in Europe, 2018. <https://www.veeva.com/eu/wp-content/uploads/2018/08/VE172-Across-Health-Remote-Engagement-WP-Redesign.pdf>. Accessed May 15, 2020.

DURING DEVELOPMENT	AT PUBLICATION	POST PUBLICATION
<ul style="list-style-type: none">• Consider several areas in developing your publication, including keywords to be used• Use a descriptive and concise title• Consistently reference the author(s) name and references• Maximize the citation count• Use machine-readable graphics• Identify and include metadata for all images and text	<ul style="list-style-type: none">• Utilize digital news vehicles to announce the publication• Develop a short press release• Encourage posting about the publication• Engage digital influencers	<ul style="list-style-type: none">• Build the connectivity web of the publication• Notify the author(s) network(s), institution(s), etc.• Identify and inform newsletter(s), digital influencer sites, etc.

PSO is currently all about enhancing the publication's searchability in the digital environment. The more websites or digital communications connect to or reference the publication, the more it moves up in its search visibility. PSO will change in the future as search engine algorithms are modified and evolve, but in today's digital world it is all about keywording, quality content, and links.

ACTIVE ENGAGEMENT

Active engagement is the process of creating awareness of the publication. It is important to remember that our desired audience is being hit with communications via multiple vehicles and channels. Contemporary audiences are not only bombarded by endless communications, but they now have the option to choose when and where they view those communications.

In the past, our means of communicating were limited, and the audience was somewhat limited by the communication vehicle, such as the subscription distribution of a medical journal. However, now medical journal metrics are not only about their print subscriptions, but also their digital subscriptions and/or unique monthly visits.

Some approaches to properly integrating Active Engagement for a publication are described below. (Note: Always be sure to obtain Legal review where required)

DURING DEVELOPMENT	AT PUBLICATION	POST PUBLICATION
<ul style="list-style-type: none">• Create an Audience Amplification plan for the upcoming publication• Identify the authors' social media and professional footprints• Communicate to the community about your soon-to-be-published manuscript• Consider using a pre-print site, which can enable scientific communication even before the final manuscript is complete• Identify author services designed to help alert subscriber-targeted audiences to upcoming publications• Consider specific opportunities that are outlined on publisher websites during communication planning	<ul style="list-style-type: none">• Create email and social media content to help authors publicize their publication• Encourage authors to ask colleagues to link, circulate a link to the publication, and post a link to social media• Utilize author services offered by the journal• Add the publication URL to recommended reading lists• Bookmark and share the publication on reference manager sites• Collaborate with other internal communications groups to ensure supportive communications such as press releases and informational bulletin content are prepared for target institutions, Key Opinion Leaders, and Digital Influencers• Develop short-form pieces and progressive disclosure content such as plain language abstracts, video posters, info graphics, twitter posters, etc	<ul style="list-style-type: none">• Maximize impact objectives by sharing the publication cross-functionally• Ensure that all company HCP touch points have the required knowledge and a means of responding to publication questions• Construct communications for various internal audiences• Disseminate short-form communications to support the long-form publication• Ensure Medical Information teams have ways to communicate information about the publication and data• Distribute annotated bibliographies to field-based teams and designated speakers• Create plain language summaries for patients• Utilize conversation tracking programs such as Altmetrics to understand how and by whom your publication is being discussed

Successful active engagement starts during the planning stage while a publication is in development and continues through post publication. As defined in contemporary strategic communication plans, active engagement for any one publication normally continues for a set period of time post publication.

METRICS

In the past, scientific publication metrics were all about references and citations. Medical journals were chosen based on their editorial focus and subscription size. Eventually, the Impact Factor became a metric to identify target journals and determine the best fit for various scientific publication objectives. The old model, normally conducted on a journal level, could be used to project the scientific quality of a publication, but it did not give any readership or actual audience metrics.

Today, digital publications can deliver far more detailed measurements of audience engagement. In the digital world, it is possible to measure the success of both the publication project effort and the Audience Amplification effort.

Digital publication metrics should be considered from the strategic design of the communication plan all the way through post publication. Quality metrics will maintain focus on the objective and can assist in development and proper placement of a publication, as well as deliver real-time data on readership, downloads, and citations. We can also measure key performance indicators through:

- Comparing the number of links to a publication from other web locations, including institutions, author websites, etc.
- Counting digital mentions using social media analytics and other analytics packages
- Using badges and bits of code to monitor and track real-time access to gain metrics on the viewing and digital discussion of a publication
- Benchmarking against other comparator publications
- Aggregating information to identify patterns in audience awareness, enabling strategic adjustment to improve awareness trends

By using digital metrics, it is possible to determine how many eyes see the publication, whose eyes they are, and when they viewed it. All of these metrics will help Medical Affairs develop a much smoother transition to individual HCP dialogue. Use of digital metrics can also enable real-time responses to those HCPs who show an interest in the scientific development.

Scientific publications have been the primary vehicle of scientific evidence for over a century. Within the scientific archive, it is estimated there are almost 50 million scientific papers that have been published, and the number of papers published annually continues to increase.⁴ Although simply publishing the data gives a reference point for future use, the more stakeholders that are exposed to the data, the more fruitful the scientific exchange can be.

As the digital age matures, the capability to define, disseminate, and measure the audience for scientific communications has expanded. This new capability should be embraced by Medical Affairs and always integrated into scientific communication plans, both today and in the future.

⁴ Jinha, Arif. 2010. Article 50 million: An estimate of the number of scholarly articles in existence. *Learned Publishing*. 23. 258-263. 10.1087/20100308.



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