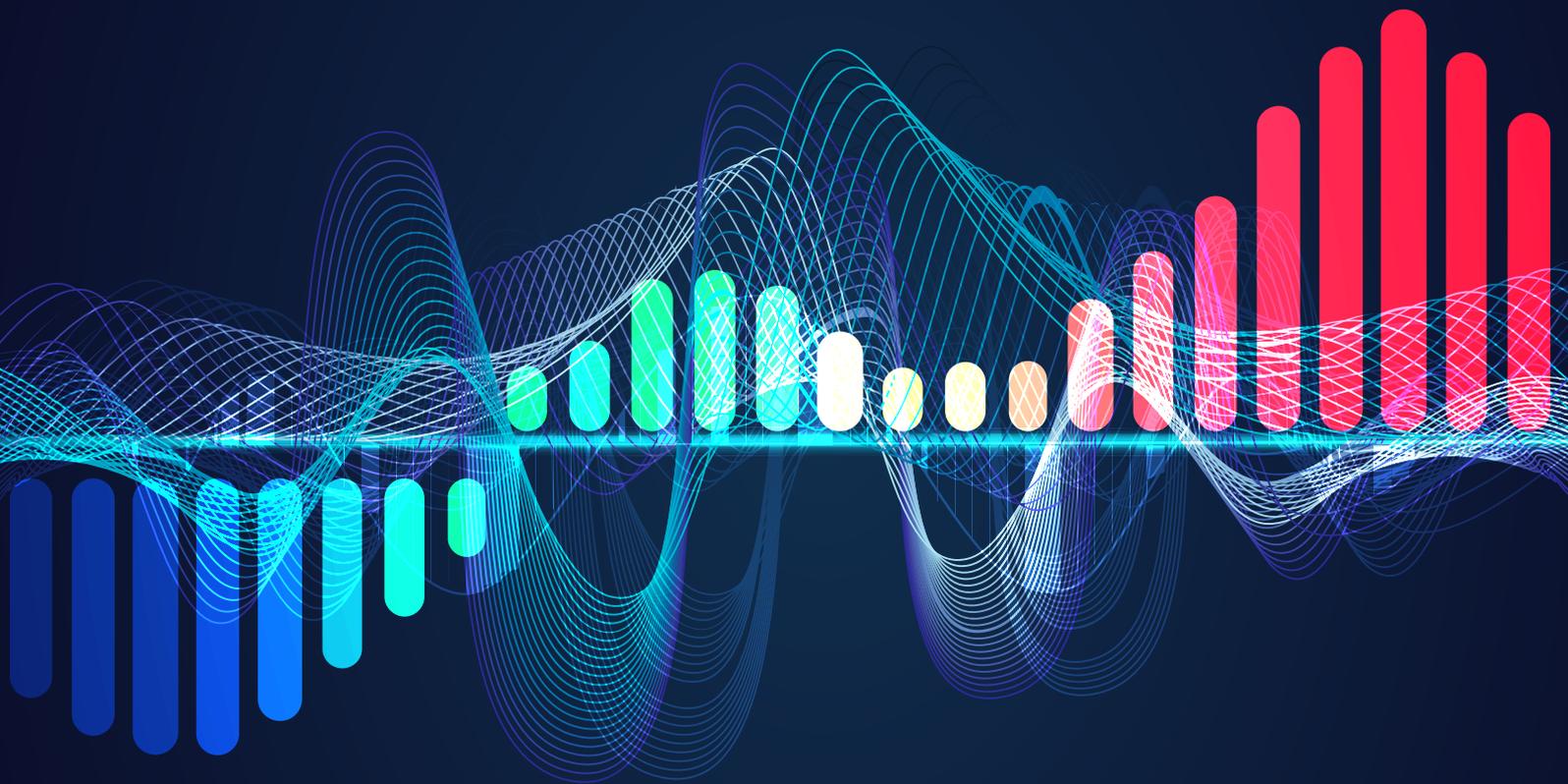




# Measuring the value of medical affairs with altmetrics





### About Altmetric

**Altmetric** was founded in 2011 and has made it a mission to track and analyze the online activity around scholarly literature. Altmetric collates what people are saying about published research in the media, public policy documents, social networks, blogs, and other online spaces to provide a more robust picture of the influence and reach of scholarly work. Altmetric is part of the Digital Science portfolio. Find out more at [altmetric.com](https://altmetric.com).

To date, Altmetric has uncovered and linked over 100 million discussions of 12.5 million journal articles, clinical trials, and other research outputs across data sources that include social media, patents, public policy, news, and expert peer reviews and recommendations.

### About IMPRINT Science

**IMPRINT Science** is a dedicated publications and medical affairs agency with a mission to strategically craft a product's value proposition and effectively disseminate medical knowledge to all stakeholders. IMPRINT is known for skilled analysis of literature, congress activities, and clinical trials to develop impactful publication plans. IMPRINT Science is part of VMLY&R. Find out more at [imprintscience.com](https://imprintscience.com).

IMPRINT has initiated the inclusion of Altmetric data to augment the analysis of publication plan impact and the identification of thought leaders.

### About the authors

**Stacy Konkiel** is Director of Research Relations at Altmetric. Her research interests include incentives systems in academia and informetrics, and Stacy has written and presented widely about altmetrics, Open Science, and library services. Previously, Stacy worked with teams at Impactstory, Indiana University & PLOS. Learn more about Stacy's work at [stacykonkiel.org](https://stacykonkiel.org).

**Sharon Hayes** is the Director of Medical Affairs at IMPRINT Science. She specializes in publication planning and execution and has a special interest literature analytics. Sharon's team has been focused on developing new methods of assessing publication value and has published several abstracts on the utilization of altmetrics in literature analyses.

This report was published by Altmetric.

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# Introduction

Medical affairs professionals and publications planners in the pharmaceutical industry have a nagging worry: that the impact of the work they do—publishing high-quality research in order to accurately disseminate their companies’ research findings—is too difficult to quantify.

*“How can I explain to my managers and CMO the full reach of the articles I write, beyond counting citations?” they ask. “Is it possible to know what patients and doctors are saying about the research I publish for my company?”*

Until very recently, these questions were nearly impossible to answer. But with the rise of altmetrics (“alternative metrics” from the social web that help authors understand who is talking about their research and what they are saying), it is now easier than ever to identify key opinion leaders (KOLs) and their online equivalents, Digital Online Influencers (DOIs). These experts are talking about industry-authored research online and using their expertise to influence others.

Altmetrics offer a major advantage to traditionally-tracked medical affairs data like time to publication, total number of publications, and citation counts: they can show you the reach of your research to a broad, informed group of potential DOIs that includes patient advocacy groups, physicians, policy-makers, and entrepreneurs.

Altmetrics can include data like how often a journal article has been referenced in patents, how public policymakers are using it to influence their work, whether clinicians are sharing it with their colleagues across social media, and if so, what they are saying about it.

Agencies specializing in publication planning utilize traditional metrics (Table) to assess the degree of implementation and success of the publication plan and ensure that all key scientific statements are communicated to target audiences. Incorporating altmetrics into these analyses can provide additional real-time insight into the degree and type of engagement in the scientific community and among a broader audience, better facilitating refinement of publication strategies.

Though citation counts are valuable for understanding the impact of industry research amongst academics, they represent a narrow subset of the audiences and stakeholders on which pharma focuses. Academics are but a tiny portion of the audience for peer-reviewed research. What patients, clinicians, health care providers, and others are saying about your research will never be reflected by article citation counts or journal-level impact metrics. That’s why altmetrics are a valuable complement to traditional metrics for medical affairs.



Traditional metrics & analysis	Altmetrics & analysis
 <p>Understand the reach of your company’s research among scientists and clinicians by analyzing citations in papers authored by Key Opinion Leaders</p>	 <p>Analyze altmetrics to understand how and why Digital Online Influencers are sharing your company’s research with their followers</p>
 <p>Traditional influencer analysis: Find highly-cited researchers to author articles or advise companies</p>	 <p>Digital influencer analysis: Find the authors of the most trail-blazing, attention-getting research who could be co-authors or advisors</p>
 <p>Time to publication: Measure how quickly new ideas, concepts, or drugs are introduced into the research literature from the time they are first conceived</p>	 <p>Time from publication to first attention: Measure how quickly your company’s published research gets traction online</p>
 <p>Use publication volume and key scientific statements to inform your publication planning strategy and measure your success</p>	 <p>Use altmetrics to more rapidly measure engagement with research containing specific key scientific statements, as well as reception of your research findings and study design by a broad audience that includes patient groups</p>
 <p>Assess journal citation trends to assist in publication targeting and use journal impact factor as a surrogate measure of publication impact</p>	 <p>Utilize altmetrics to consider online attention and promotion when selecting journals and article pickup by media outlets and digital influencers when assessing impact</p>

**Table.** How altmetrics can complement traditional publication planning metrics in a number of scenarios.

# What the data tells us

Several recent projects by Altmetric and IMPRINT Science shine a light on online engagement with sponsored research.

Importantly, these studies offer insight that can guide your organization's publication planning strategies and produce research with greater reach, more influence in your therapeutic area, and increased public impact.

## Leading authors are not always online influencers

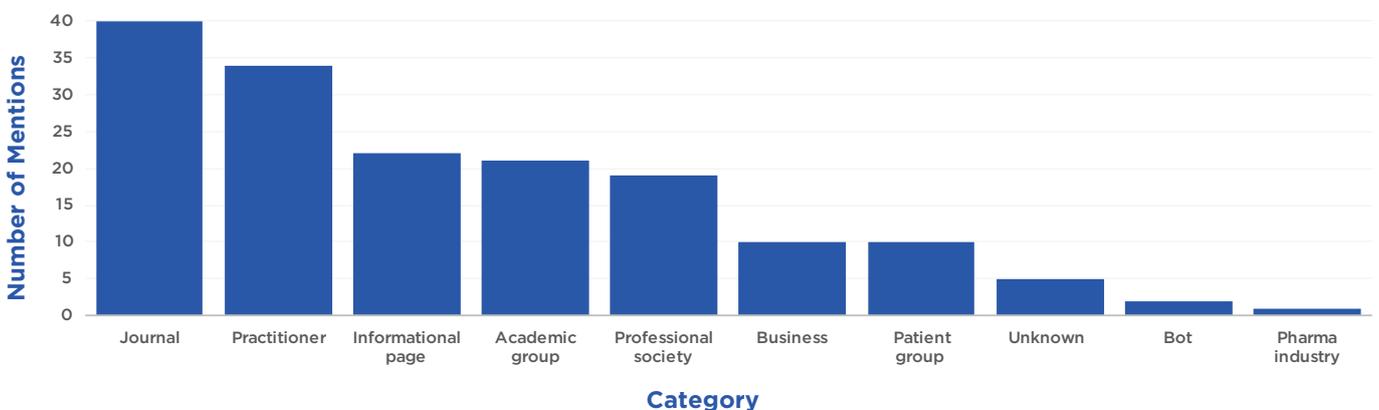
Traditionally, publication planners have used citation analysis to find highly-cited researchers, who they typically invite to collaborate or to serve as advisors to industry clinical trials.

Our research has found that leading authors are surprisingly not very influential online—meaning they have little caché among broader, non-scholarly audiences who might turn to online platforms like social media and Wikipedia to learn about a disease state or therapeutic area.

For a sample of publications on ADHD, we analyzed the authors whose work was cited and compared them to who was discussing this research most often on Twitter, Facebook, and blogs. We found that the cited authors were largely distinct from those who were posting the most about this subset of research online.

**While authors were generally not spreading the word out about their articles amongst the broader public, journals, practitioners, and patient advocacy groups were (Figure 1).**

Altmetric data made it possible to find those Digital Online Influencers (DOIs) talking about ADHD research—a valuable source of insight for medical affairs teams.



**Figure.** Categories of Facebook Influencers

## Careful publication strategy can lead to better impact

In another joint study, our teams used Altmetric data to augment a traditional literature gap analysis that is typically used to inform publication planning strategy.

**By utilizing Altmetric attention data to weight citation counts for several toxins used in the treatment of spasticity, we were able to differentiate between the publication strategies that led to successful online engagement from those strategies that were less impactful.**

For example, although the top three toxins appear to receive equal attention based on citation count, **Altmetric data shows that one toxin clearly dominates the digital discourse.** That has important implications for that toxin treatment's share of voice and attention from physicians.

Conversely, two key scientific statements (use of a specific scale and early intervention) were identified using citations counts to be important to industry sponsors. However, by analyzing Altmetric data we found that these statements did not garner much attention online. From this, **we learned there was a clear lack of public engagement with key messages that were important to study sponsors.** This type of feedback is valuable for publication teams and can facilitate strategic, iterative refinement of a company's publication plans.

## Data visualizations can enhance publication planning strategy

In recent years, Altmetric has partnered with a major European pharmaceutical company to create an experimental visualization dashboard that provides unique insights for journals and institutions that publish within six specific therapeutic areas, including epilepsy, Crohn's disease, and Parkinson's disease.

**Heatmaps and bubble charts can be used to visualize altmetrics, citation counts, and institutional affiliation data to help publications planning teams choose their target publications and find potential collaborators.**

**Altmetrics can also be used strategically to understand the growth of therapeutic areas.**

Altmetric-created data visualizations have been used to analyze highly-discussed cancer research funded by the US National Cancer Institute<sup>1</sup> and Cancer Research UK<sup>2</sup>.



**Figure.** A data visualization that groups high-attention research (as measured by altmetrics) according to topic.

## Analyzing the return on investment

Altmetric data has also been used to find surprising insights about industry-sponsored research. A 2018 study done in collaboration with Nature Publishing Group found that for a group of oncology clinical trials, **industry sponsorship for the research (defined as authors' employment by or material support received from pharmaceutical companies) appeared to have no relationship with the overall volume of attention that clinical trials received online (as measured using altmetrics).**

This finding departs from previous studies that looked at citation rates for industry-sponsored research, illustrating a difference in sponsorship's efficacy among the public and practitioners, as compared with research engagement by other scientists. Moreover, that the sponsorship status of research doesn't negatively affect the degree of attention that research receives is reassuring for medical publication professionals, as **it may demonstrate an increase in public trust in industry-sponsored research.** This is likely the result of years of implementing better oversight and regulations for what constitutes "good publication practices" of industry-sponsored research.

### Summary

Altmetrics have been proven to help find unique KOLs, illuminate the growth of therapeutic areas, and test our assumptions about the value of industry sponsorship for research. Used alongside citation counts and social media metrics such as follower counts, hashtag reach, and other measures of social engagement for a brand or topic, altmetrics are an invaluable source of insights for companies seeking to publish strategically and be more impactful.

<sup>1</sup> <https://demos.altmetric.com/demos/nci/#explore-subject>

<sup>2</sup> <https://demos.altmetric.com/demos/cruk/>

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visit [altmetric.com](http://altmetric.com) or email us at [info@altmetric.com](mailto:info@altmetric.com)

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