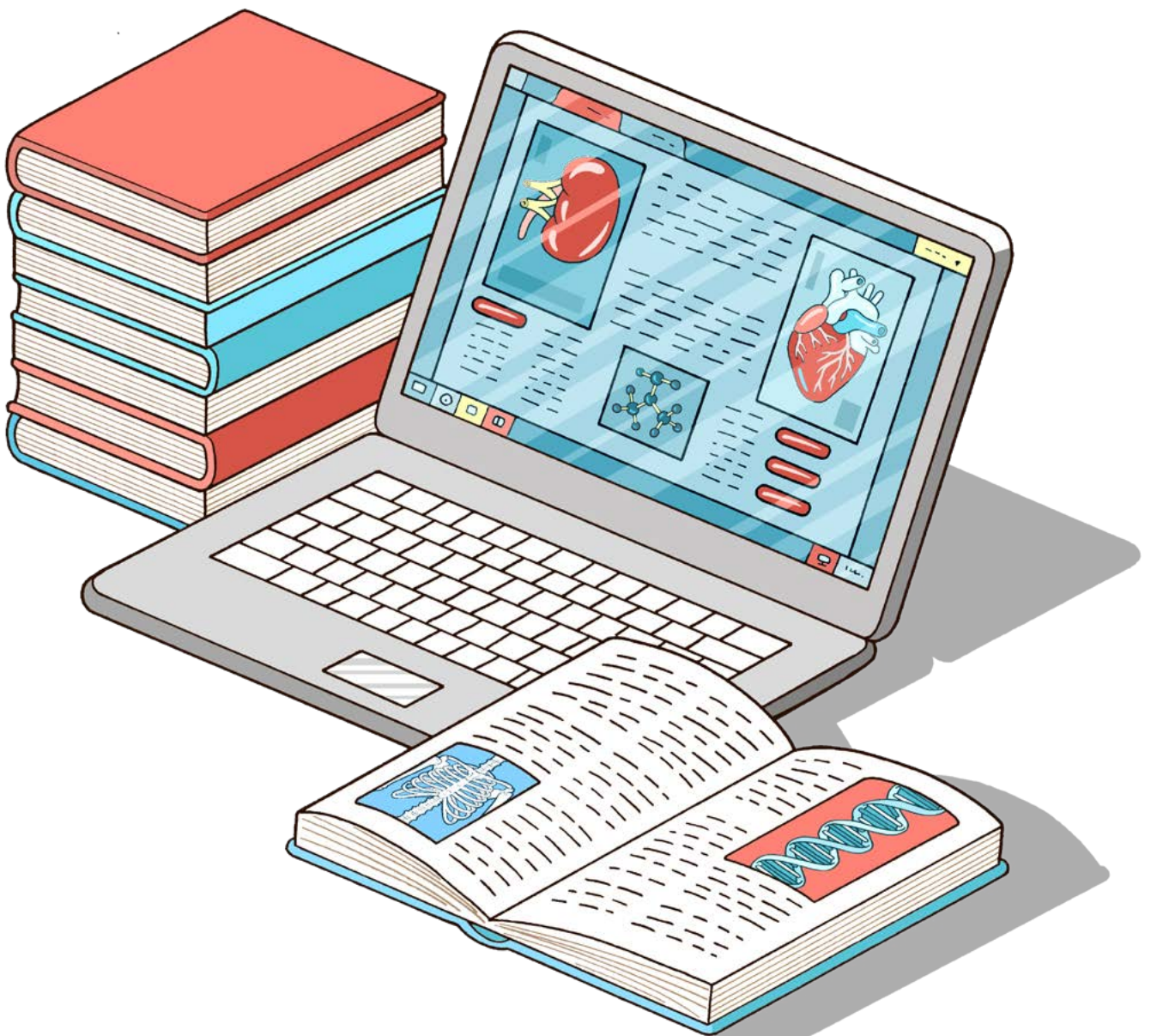
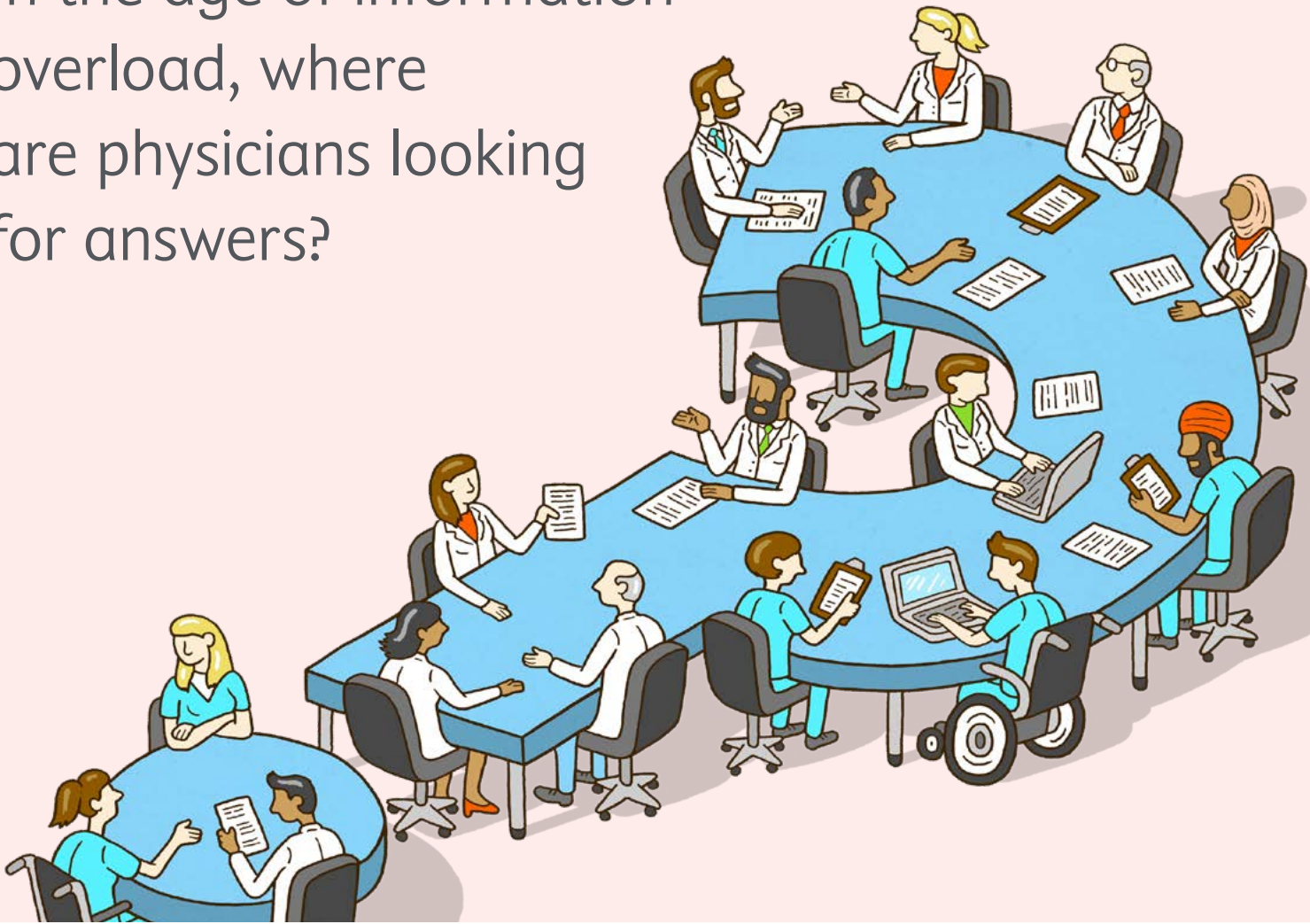


Physicians are online— here's why

Elsevier physician surveys reveal trends and changes
before and after COVID-19



In the age of information overload, where are physicians looking for answers?



Physicians have access to a vast amount of information. In 2021, the total volume of data created and used was 79 zettabytes — almost twice the volume generated in 2019.

A similar trend can be observed in scientific and medical information. With more than 40,000 indexed titles, [Scopus](#) had over 80 million records by 2021. As of February 2022, [PubMed listed 33,713,114 publications](#), and there are almost [1 million citations added to Medline](#) per year.

Although this means the medical knowledge base is growing at an accelerated rate, it also means physicians are increasingly challenged to keep up with the latest developments. In addition to peer-reviewed medical and scientific publications, there is a growing number of additional sources of information — from medical society websites and medical apps to social media.

The move to digital was already reducing the use of printed books and journals among physicians and the COVID-19 pandemic pushed the usage of digital sources even further. Today, physicians can access almost anything online. So, where do they look, and why?



Understanding how physicians use online resources

Elsevier carried out two global surveys to answer questions about physicians' use of online resources — one before the pandemic and the other at its height.

In 2019 and 2021, more than 3,700 physicians worldwide answered questions about where they look for information, how and why they choose their sources, and how they use social media. In 2021, they also shared insights around patient education materials.

2019

Physician Use of Online Resources and Social Media



A 15-minute online survey carried out in September and October 2019.

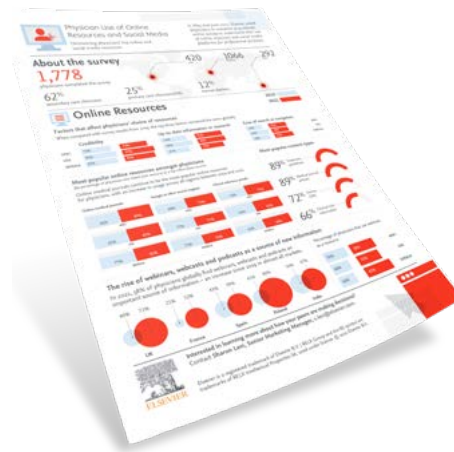
1,937

physicians responded:

- 409 (USA), 183 (Brazil), 1,000 (Europe) and 345 (APAC)
- About 70% of respondents were secondary care clinicians, consultants or specialists

2021

Physician Use of Online Resources, Social Media and Patient Education Materials



A 15-minute online survey carried out in May and June 2021.

1,778

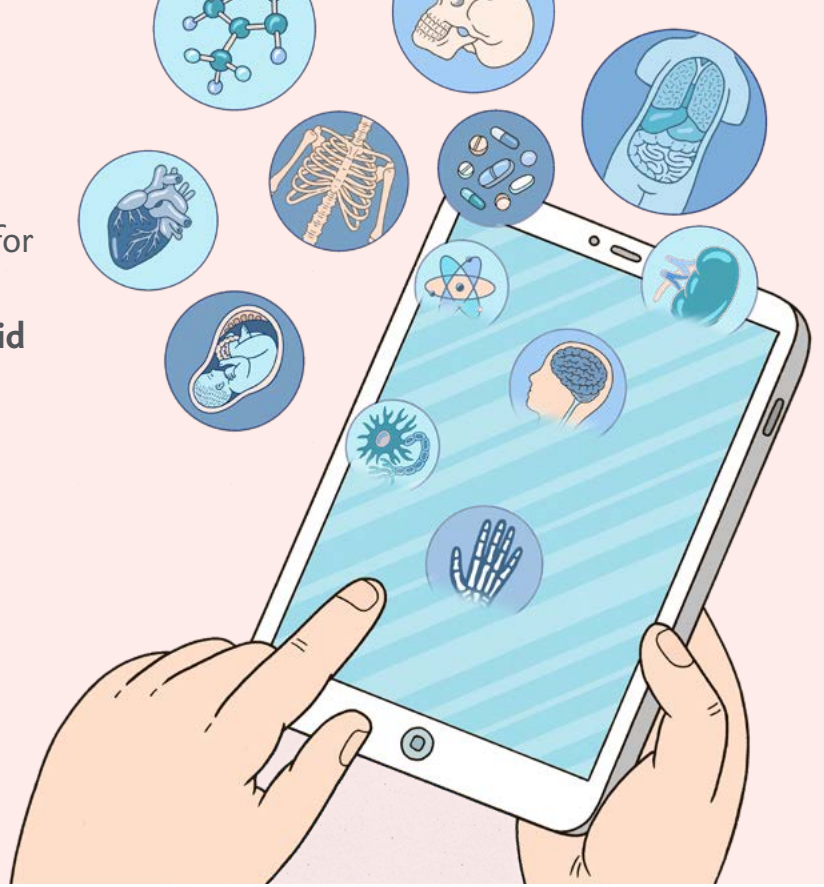
physicians responded:

- 1,066 (EMEALA), 420 (USA) and 292 (APAC)
- 62% were secondary care clinicians, 25% primary care clinicians/GPs and 12% trainee doctors



What's changing?

Physicians increasingly prefer going online for information — **survey respondents used online resources more in 2021 than they did in 2019.** This reflects the more general rise of digital technology, especially in the context of COVID-19.



While physicians' preferred content remained the same — online medical journals, Google, and clinical reference portals (*Fig. 1*) — there were notable newcomers: webinars and podcasts.

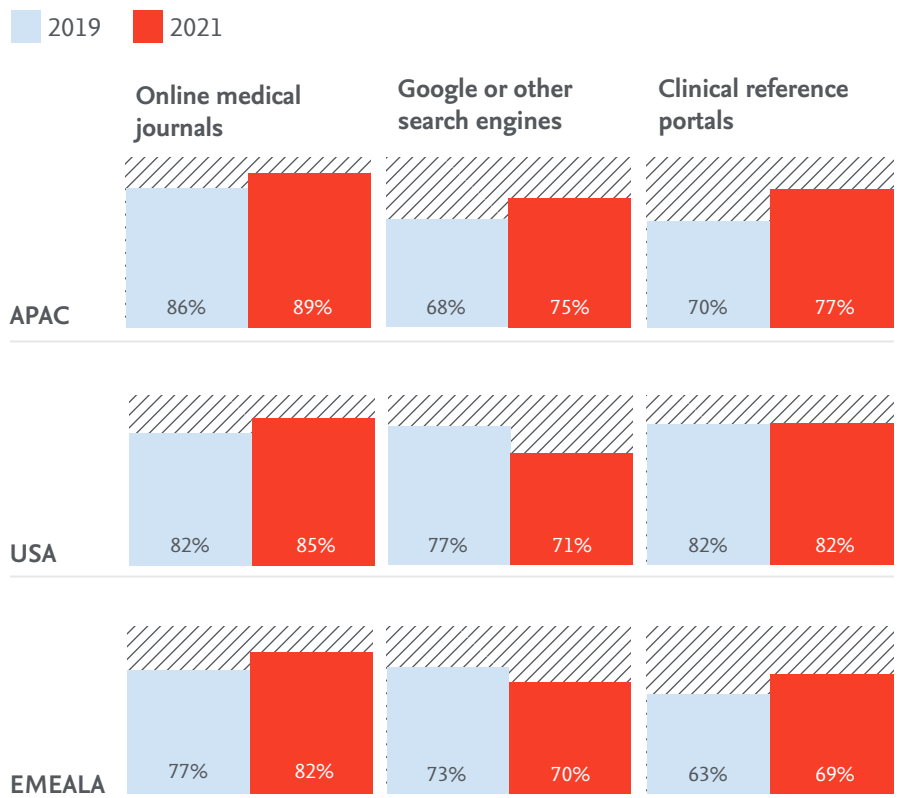
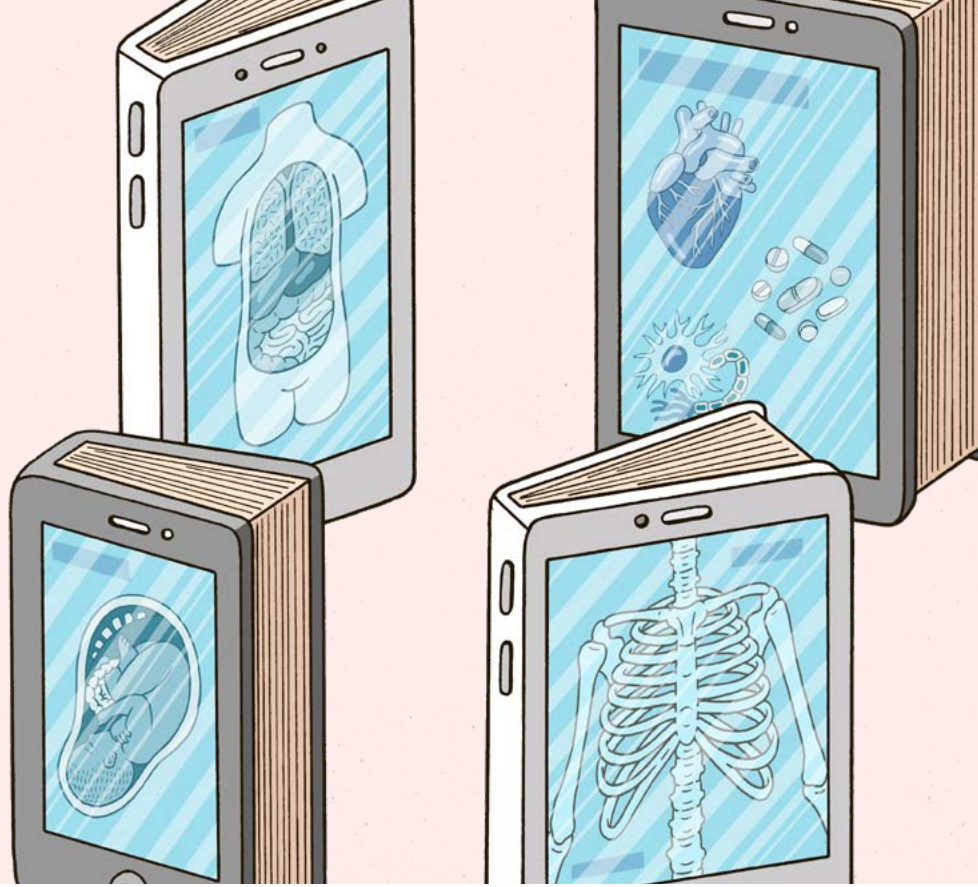


Fig. 1 – Percentage of physicians that listed each resource as a top information source for professional purposes

85%

of physicians worldwide use online medical journals





Physicians' use of social media for news about their own specialty and general healthcare topics also increased.

70%

of physicians use social media for news covering their medical specialty

54%

of physicians use social media for general healthcare topics

Underpinning this general increase in the use of online resources, physicians cited the same reasons for their choices. In both years, the top three factors affecting physicians' choice of resources were credibility, up-to-date information and ease of use (Fig. 2).

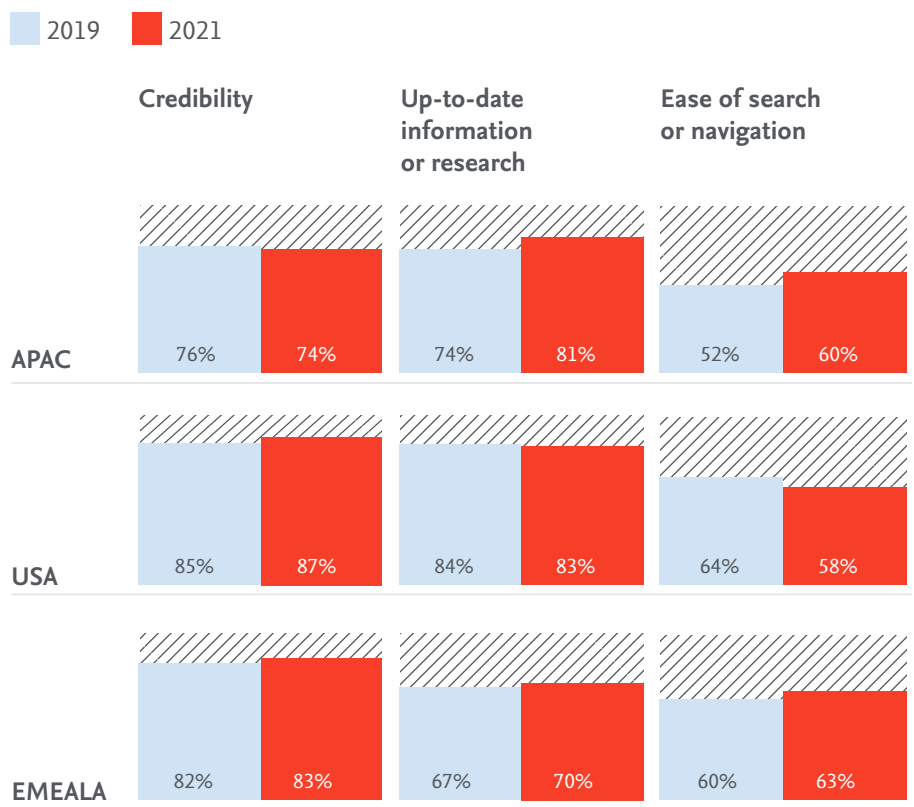


Fig. 2 – Factors affecting physicians' choice of resources, by percentage

Decoding the trends

Elsevier spoke to physicians from different regions to gain deeper insights into the factors that help determine their use of online resources.



Dr. Dominique Spaeth,

Located in Nancy, a city in north-eastern France, Dr. Dominique Spaeth has been practicing as a Medical Oncologist for more than 30 years.

Dr. Spaeth, Dr. Jaswal, and Dr. Silverberg shared personal experiences around the use of online resources and explained what drives their decision-making process.



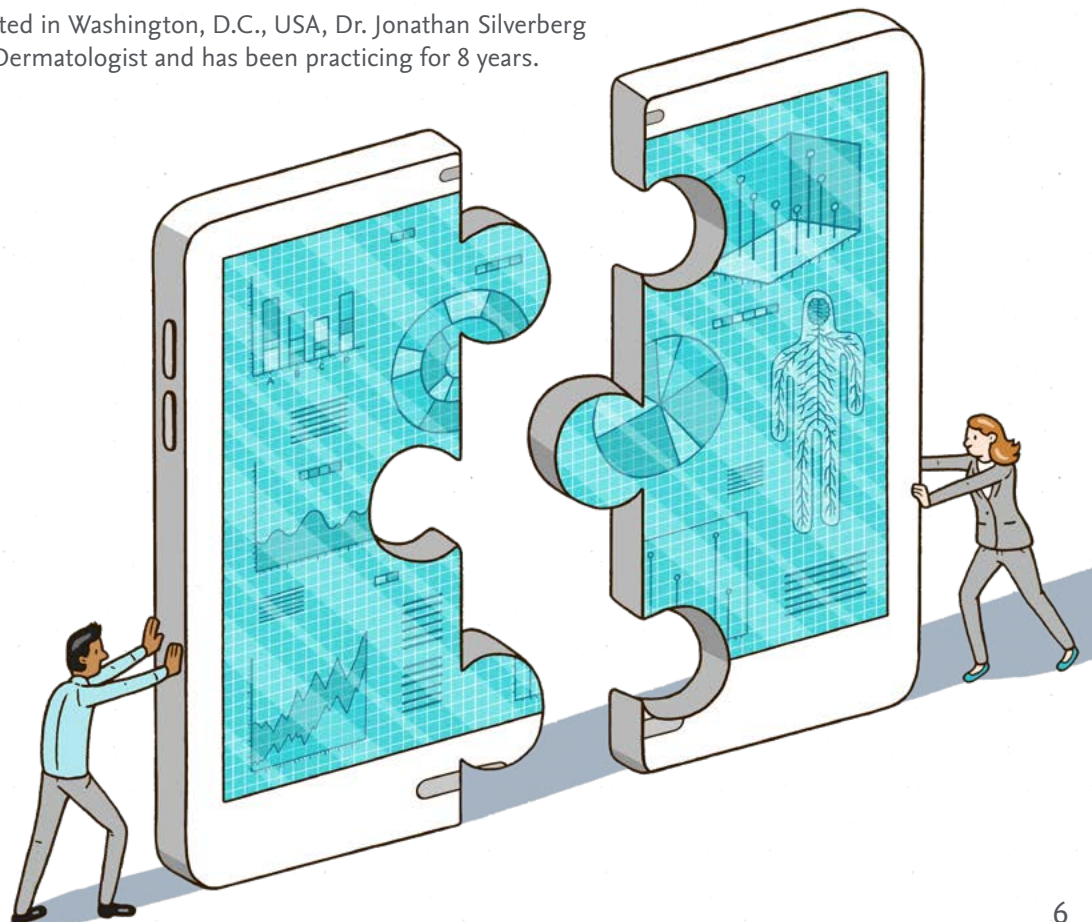
Dr. Aparna Jaswal,

Dr. Aparna Jaswal is a registered, practicing Clinical Cardiologist since 2003, and is located in New Delhi, India.



Dr. Jonathan Silverberg,

Located in Washington, D.C., USA, Dr. Jonathan Silverberg is a Dermatologist and has been practicing for 8 years.



Credibility is key

Globally, 81% of physicians consider credibility as an important factor in choosing an online resource (Fig. 3).

Dr. Spaeth commented:

“We have to [practice] medicine based on proven science. So, credibility is [important] for me... it is the first criteria when I seek some news or some information.”

Dr. Aparna Jaswal agrees:

“Whenever I am told of anything, the first thing I like to do [...] is immediately type it into Google to identify [the] source credibility. When we practice medicine, the most important [thing] is to look at the articles that we like to refer to, to look into the journals, to read the source of information.”

The importance of credibility affects physicians’ preferred content — online medical journals were the most popular resources for physicians in both 2019 and 2021, with clinical reference portals and search engines like Google in second and third place.

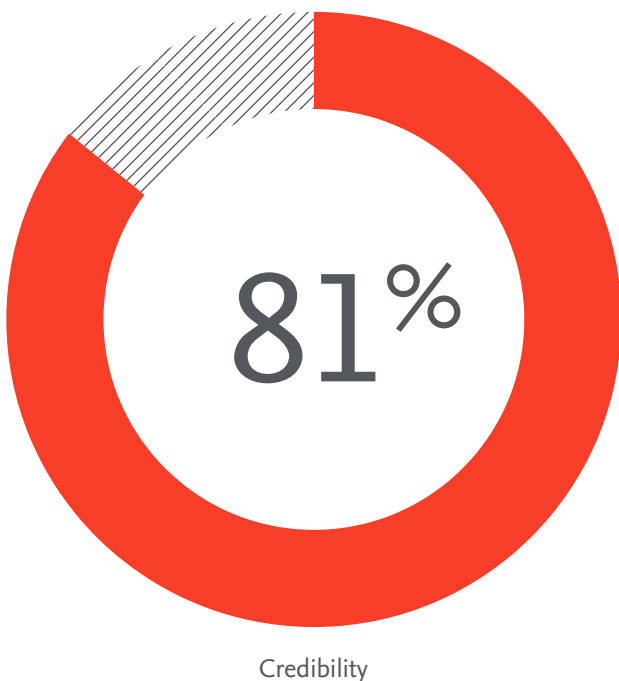


Fig. 3 – Percentage of physicians that listed credibility as an important factor in choosing a resource

Dr. Spaeth uses credible websites, including those of national and international clinical cancer societies.

“I try to [trust] official sources of medical societies which I think are not biased by private interests. And I trust news in peer reviewed journals, and news [from] the best congresses.”

Dr. Jonathan Silverberg emphasizes the importance of information accuracy.

“Credibility is driven by evidence. And I want to make sure that I’m getting accurate information — no fake news — and the most correct, thorough and up-to-date evidence on a particular topic that I’m looking into.”

Credibility is also a factor in choosing content from these resources (Fig. 4) — 78% of physicians used national guidelines as a source of medical information in 2021, and 59% used international guidelines. Dr. Silverberg explains why information needs to keep up with innovation.

“When you have a field that has a lot of innovation, and you have a lot of new therapies, you really need guidelines that are in step with that, that can keep up with that and provide that kind of reference to clinicians.”

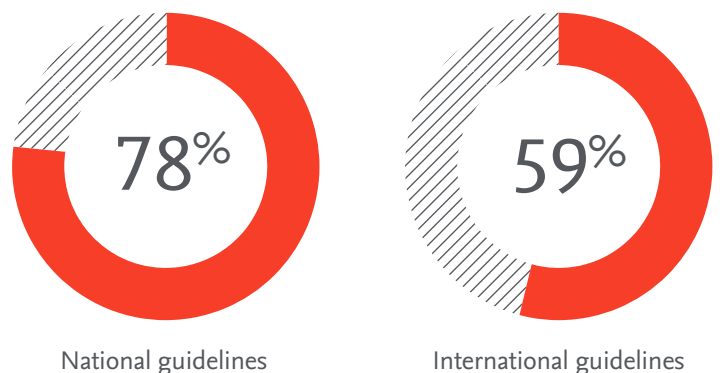


Fig. 4 – Percentage of physicians that use national and international guidelines in 2021

Physicians use guidelines for information and to support their decision-making processes. As a credible source of information, they are trustworthy, but they do not always meet all of a physician's needs.



“I use guidelines almost every day. We have our regional and national guidelines, which I will follow first, because these guidelines are [...] aligned with the approval of medications in my country. And after [that], if I am [reflecting on] what to do for [a] certain patient [in] an unusual situation, I will seek [regional] guidelines. In my practice I treat all kinds of solid tumors, [...] the guidelines change every week or every two weeks. It's part of my work [pressure] to cope with that.”

—Dr. Dominique Spaeth

“Irrespective of where we are in the world, we have to follow a set of guidelines. The ACC/AHA, the HRS, and the European Heart Rhythm [...] are credible guidelines that we like to follow when we practice cardiology or electrophysiology on our patients. We certainly follow the practice guidelines and try to keep ourselves abreast with these guidelines so as to deliver better health care to our patients.”

—Dr. Aparna Jaswal

“[Treatment guidelines and medical journal articles] are very important because they usually give the full gamut of options. One of the biggest challenges with guidelines is that, like textbooks, by the time they get published, they're already outdated by a year or two, sometimes more. So there needs to be a supplementation to really understand the state of the art. In order to keep up with innovation, you really do have to consult with the peer-reviewed literature; there's no [other] place to go to if you want to [truly] understand the evidence.”

—Dr. Jonathan Silverberg

Pressure to stay up-to-date

For physicians, credibility is also a key factor when it comes to staying well informed of new medical developments in their specialty: most physicians looked to content like treatment guidelines (89%), medical journal articles (89%), online CME (72%) and clinical trial information (66%) (Fig. 5).

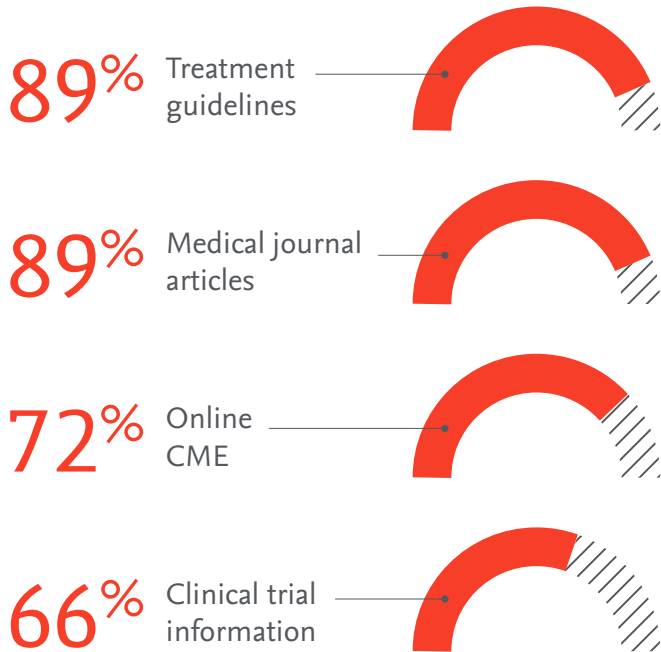


Fig. 5 – Percentage of physicians that use different content types to stay well informed about new medical developments

However, there is increasing pressure to stay up to date with a constantly growing body of knowledge. Next to credibility, physicians cited up-to-date information/research (78%) as the second most important factor in choosing an online resource.

78%

of physicians cited up-to-date information/research as the second most important factor in choosing an online resource

Dr. Jaswal says:

“Medicine cannot be what it was 10 years ago. We keep learning, and we have to fall back on the medical journals.”

Physicians often need fast access to information on-the-go. This was reflected in the resources physicians use most frequently — Google (95%), email newsletters (89%) and hospital intranet (88%). In contrast, online medical journals, which require more time to search and read, rank lower in terms of frequency of exposure, at 76%. Dr. Silverberg comments:

“In a very rapid clinical setting, it’s really time sensitive. Sometimes the first thing that pops up in a Google search is [...] what we will read — a sample of convenience when I have no other choice, I don’t have time or I don’t have another of my trusted sources to go to. On the other extreme, if I have the luxury of time and I have the access, then there’s certain outlets that I will go to [for] information. [For example, I might go] straight to the peer review literature through a PubMed search, and then go through journal by journal.”

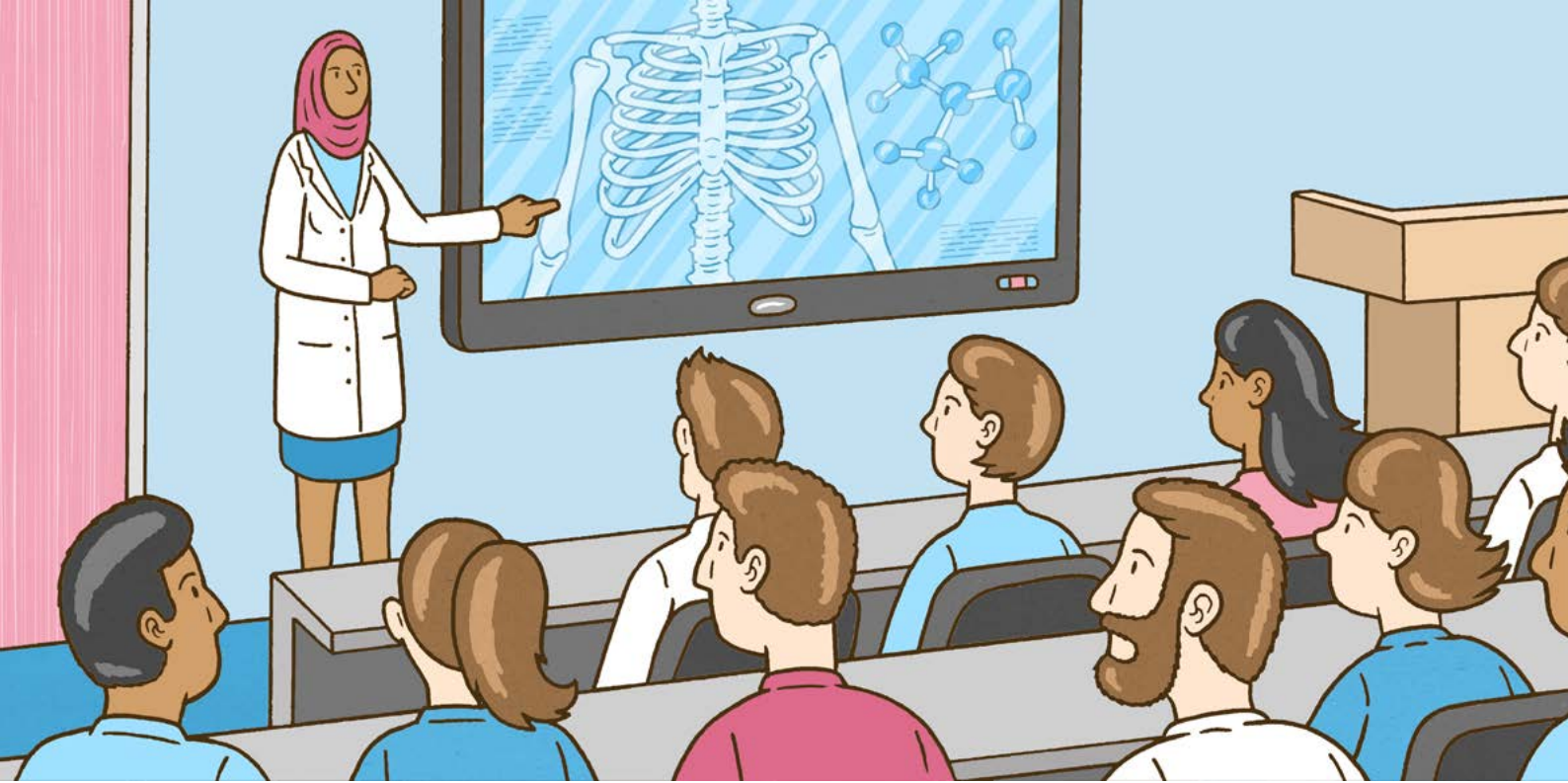
Search engines like Google enable physicians to cut through a vast amount of information in a split second and see links to some of the most relevant — if not always credible — content.

Dr. Jaswal says:

“I use [a] search engine as the first point when I’m searching for certain information I’m not aware of. When we encounter a new case, we want to learn better. That’s when we want to go into search engines, see if people have done any previous studies on those patients, if we have any data on special techniques. [...] Whenever we use a search engine, we always want to see the credibility of the journal, it should be an indexed journal.”

But Google isn’t the only search engine available. Physicians use the search engines that best meet their needs in a given situation. Google is quick and comprehensive, PubMed is more limited and credible, and searches on curated content sites are more specific. Dr. Silverberg explains:

“There are different search engines for different purposes. Google is good for certain high-level information. But for the more subtle, nuanced points, complex cases, I will turn to PubMed, or [a] guideline or reference source. I use Scopus as a broader approach to capture a little bit more of the global literature.”



The importance of connection

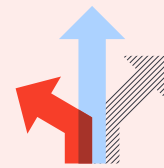
Medical congresses and conferences are important sources of information on medical advances. Professional conferences or symposia were the preferred channel of information about new medical developments (64% selected them as their first or second preferred channel), along with newsletters from medical associations (46% selected them as their first and second preferred channel). In 2021, the popularity of websites for congresses also increased by more than 10% compared to 2019 in France, Germany, Spain, Italy, Poland, Brazil and China.

Dr. Spaeth noted that while there was previously a delay between new findings shared at a congress and the subsequent publication of the data, they often happen simultaneously now.

“At the last ESMO, they’d tell me interesting news for treatment of metastatic prostate cancer, that were reported and were published the same day, and the day after I had to change my practice, because it was concerning medications that were already available.”

The COVID-19 pandemic saw the postponement or cancellation of many medical conferences, leaving a gap in connection between medical professionals. While some went online (see the next section on the rise of webinars), others looked to medical societies for connection.

Medical society websites were popular among physicians as a source of information in 2021 (63% globally). They increased in popularity by more than 10% compared to 2019 in Germany, Spain, Italy, Poland, Australia, India and China.



Physicians’ preferred channel of information for new medical developments

- Professional conferences/symposia
- Newsletters from medical associations



Medical society websites increased in popularity

- Considered a preferred source of information by 63% of physicians
- Notable increase in popularity in Germany, Spain, Italy, Poland, Australia, India and China



The rise of webinars

In the absence of in-person congresses, conferences and seminars during the COVID-19 pandemic, many organizers took events online. Medical societies held webinars to keep their members up-to-date and to facilitate discussions that are vital to sharing knowledge.

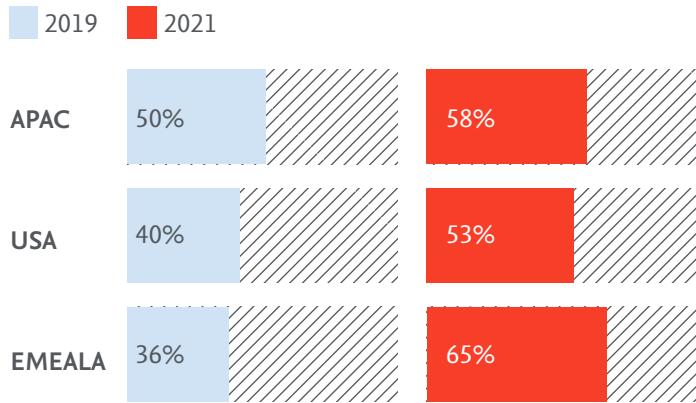


Fig. 6 – Percentage of physicians that use webinars as a resource

Webinars were already popular as per the 2019 survey, with 42% of physicians worldwide using them as a resource for staying well informed about new medical developments in their specialty. Their popularity rose significantly by 2021 (Fig. 6), with 59% physicians using webinars as a resource.

The increase in popularity was high in the EMEALA region (Fig. 7), with a 29% increase in two years. In some European countries, the increase was particularly dramatic, with the popularity of webinars rising by more than 30% in the UK, France and Poland.

In EMEALA, webinars saw a significant increase in popularity

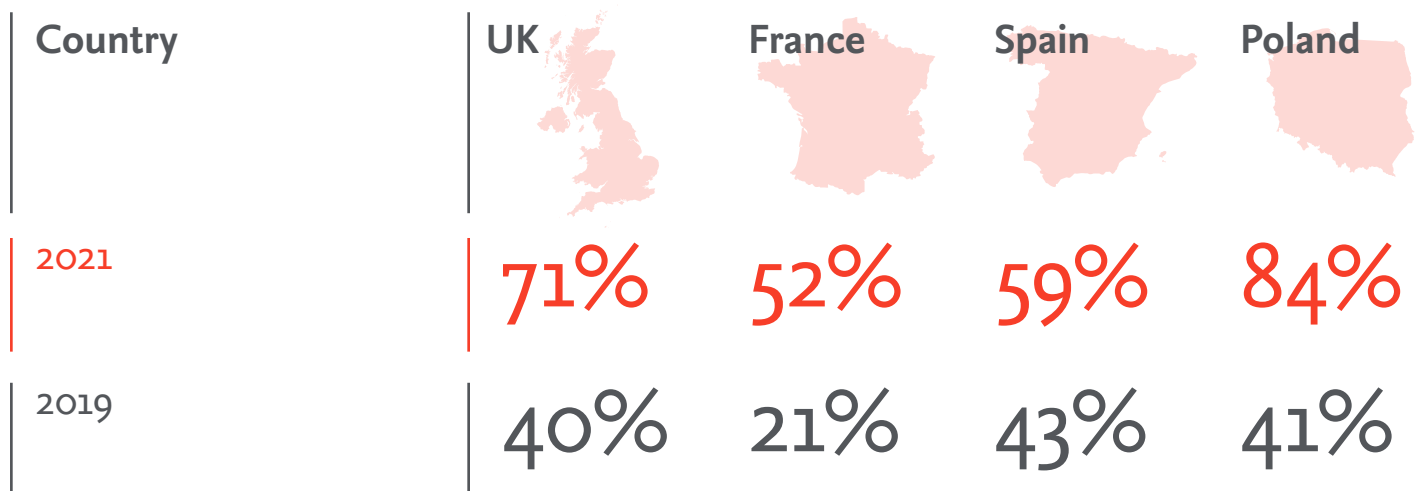
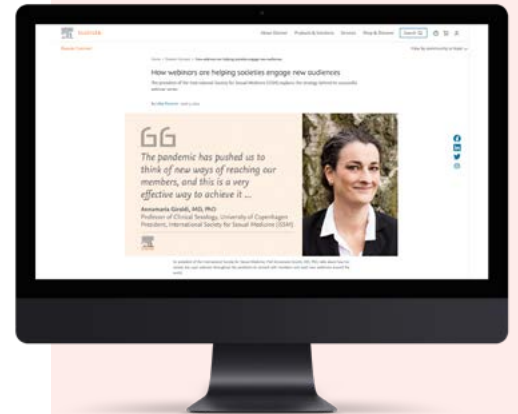


Fig. 7 – Percentage of physicians in EMEALA that use webinars as a resource



The International Society for Sexual Medicine (ISSM) [ran a series of monthly webinars](#) on a range of topics during the pandemic. ISSM President Dr. Annamaria Girdali, Professor of Clinical Sexology at the University of Copenhagen, said:

“The pandemic has pushed us to think of new ways of reaching our members, and this is a very effective way to achieve it.”



Steady use of social media

Physicians' use of social media increased slightly between 2019 and 2021. This increase is predicted to continue — in the 2021 survey, 49% of physicians said they believe their use of social media for professional purposes will increase in the future. This is partly due to professional advantages — in 2021, 55% of physicians acknowledged that social media can be beneficial to their career. Physicians also noted the risks of using social media — in 2021, 75% were concerned about the security of their private information.

In 2021, 70% of physicians worldwide used social media to keep up to date with news in their medical specialty, 54% for general news on healthcare topics, and 49% for information about conferences or congresses (Fig. 8).

49%

of physicians said they believe their use of social media for professional purposes will increase in the future

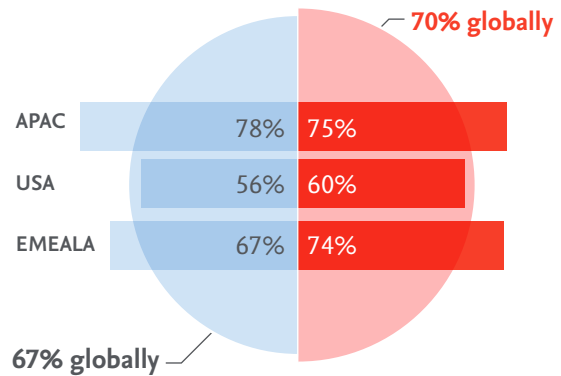
55%

of physicians acknowledged that social media can be beneficial to their career

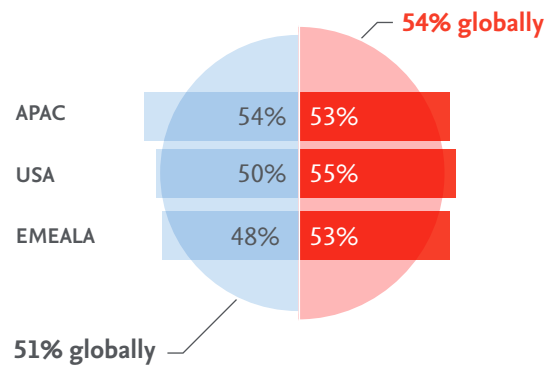
75%

were concerned about the security of their private information

News covering their medical specialty



General news on healthcare topics



Information about conferences or congresses

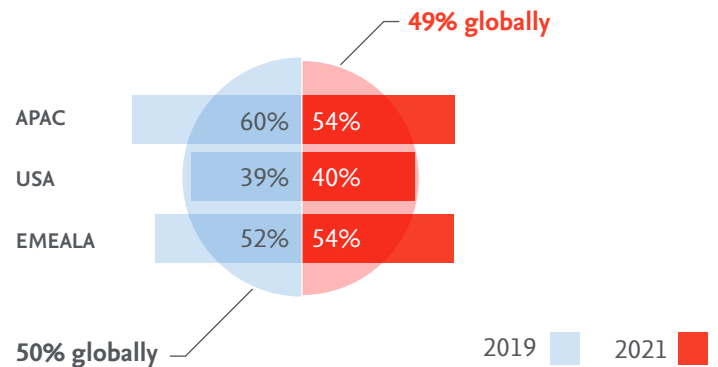


Fig. 8 – Percentage of physicians choosing social media for specific reasons

Popular social media platforms

Although physicians were most likely to use YouTube and LinkedIn overall, WhatsApp was used more often on a weekly basis in 2021 (Fig. 9).

YouTube and LinkedIn were the main social media platforms used for professional and professional/personal use in 2021.

With busy jobs and long working hours, physicians often don't have time to spend on social media. For example, Dr. Jaswal checks Twitter once every couple of weeks.

“The reason I'm not busy [on social media is] because I am working in a very busy center. My clinical practice consumes most of my time.”

Some social platforms were particularly popular among physicians in certain countries in 2021 — Doximity is commonly used in the USA, WeChat in China and Doctors.net in the UK. This is one way of separating home and office — 69% of physicians said they like to keep their professional and personal social media activity separate.

The daily use of WhatsApp has grown since 2019. The use of WhatsApp increased considerably in APAC, from 40% in 2019 to 51% in 2021.

Dr. Spaeth thinks that WhatsApp is useful for informal exchanges.

“It's not for seeking information. I have several groups on WhatsApp when I have to communicate with my fellow colleagues. I use WhatsApp because it's very, very useful for that. But if I am in search of serious information, I don't use that. I don't trust social media for giving reliable information.”

Dr. Silverberg uses social media to keep up with faculty news, what people in the discipline are doing, and information about conferences. However, the lack of credibility is a concern for him.

“If you're a lay person, you're going to stop at that headline [in] that tweet, and you're going to take it at face value. On the other hand, if you have that scientific expertise and knowledge and know how to read the literature, I think we are all obligated to click that journal article and [...] read the article. If something is just out there without a link to the trusted source of that information, I may see it, but I will discount it until I'm able to read that original source information. I would say there are countless times when I saw an interpretation of a study in a tweet that simply did not match up to what the study showed.”

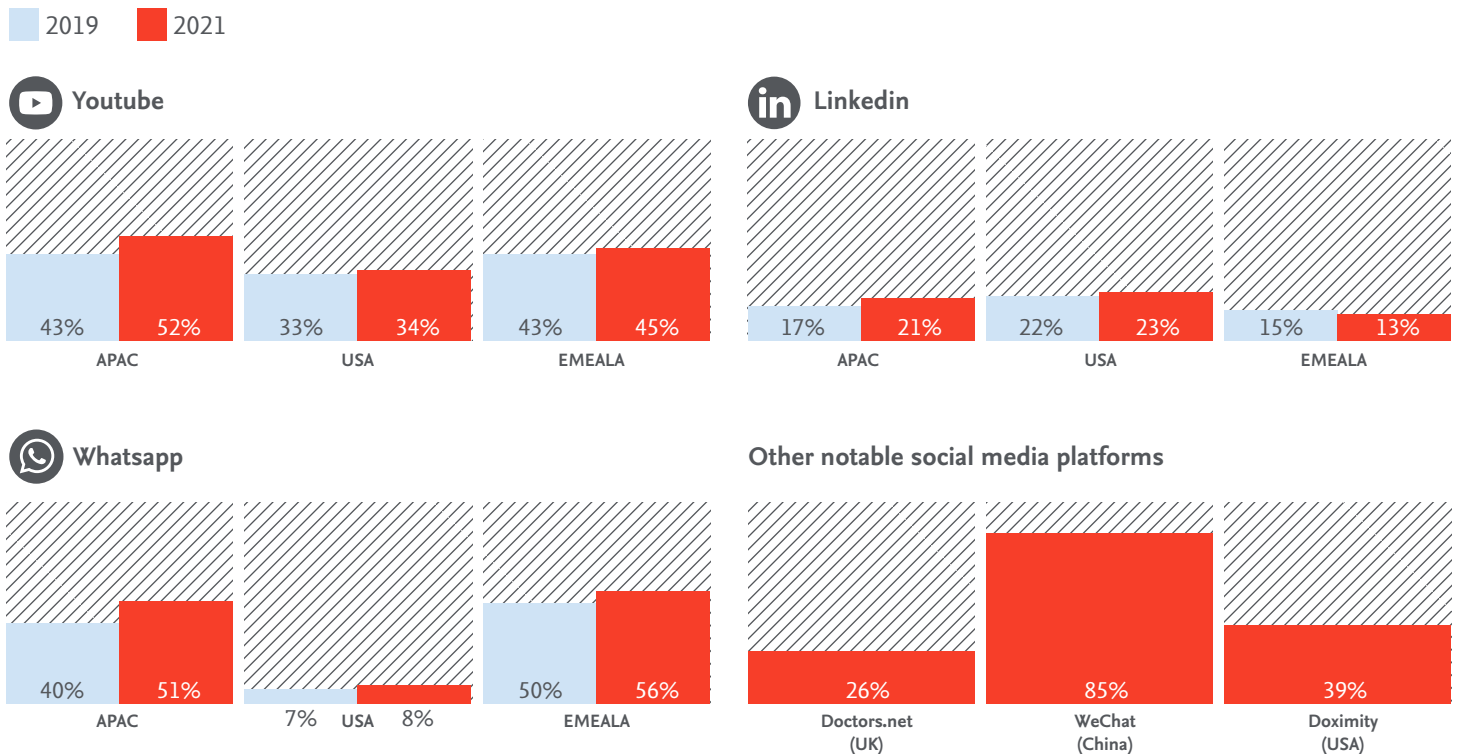


Fig. 9 – Percentage of physicians using various social media platforms

Patient education

For the first time, the 2021 survey included a number of questions about patient education materials – and the results were surprising. Globally, 64% of physicians use patient education materials on a weekly basis; the percentage was particularly high in the USA, at 74%, and lowest in EMEALA at 53% (Fig. 10).

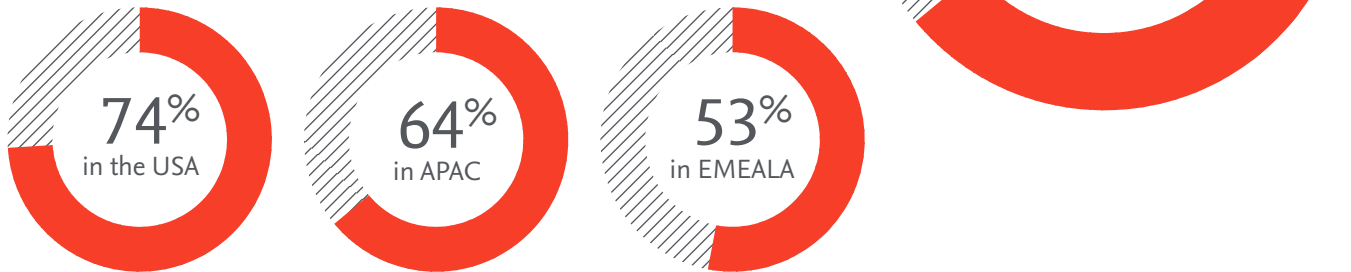


Fig. 10 – Percentage of physicians using patient education resources

Despite the global trend towards digital and online content, it is noteworthy that in 2021 — at the height of the COVID-19 pandemic — printed materials were the main patient education resources given to patients (65%) (Fig. 11) and most resources were shared with patients in-person (77%) (Fig. 12).

In comparison, only 39% of physicians used online brochures (and even fewer — 34% — in the USA). Just 28% shared resources with patients via email, and 17% via a personalized link to a patient portal or via text message.

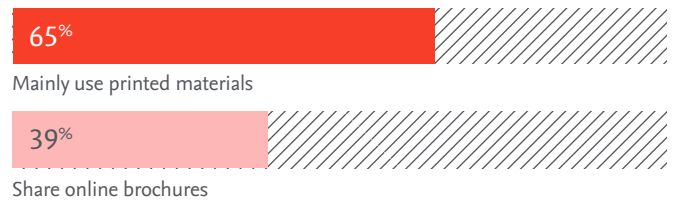


Fig. 11 – Percentage of physicians using print vs. online resources

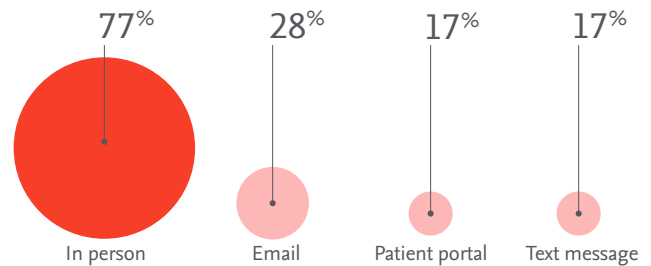


Fig. 12 – How physicians share education materials with patients

Physicians used patient education resources from a variety of places, including medical publishers and pharmaceutical companies (34%), and patient advocacy groups and voluntary organizations (15%). But the two most popular types of patient education resources among physicians were free resources found on the internet (54%) and resources from medical societies (50%) (Fig. 13). The popularity of these could be connected to physicians' need for speed and their preference for credibility, as we saw in previous sections.

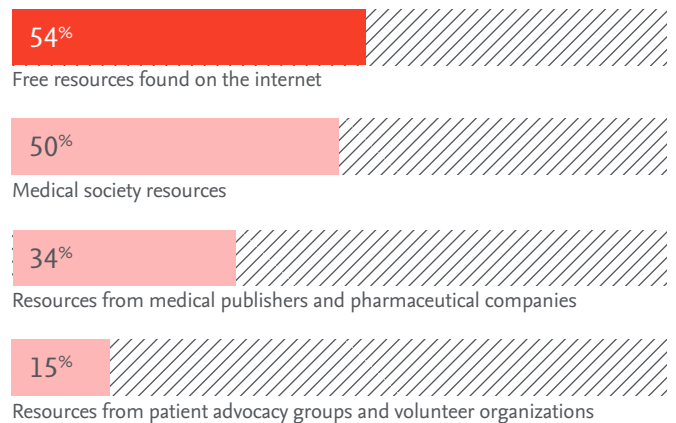


Fig. 13 – Percentage of physicians using different providers of patient education resources

Looking to the future — physicians' online information needs

The trend towards digital and online information is rising, and the volume of medical and scientific information continues to grow. Physicians are already looking to a wide range of online resources to stay up-to-date in their fields and give their patients the best possible care. By understanding their online preferences and behaviors, it is possible to provide the information physicians need in a way that supports their work.



Pharma & Life Sciences Solutions Team

At Elsevier, we will continue to conduct surveys on a regular basis so we can assess trends and keep track of changes in how physicians use online resources.

If you would like to be contacted by one of our Pharma & Life Sciences solutions experts, please tell us about yourself and the audience you want to reach.

[Contact us](#)

