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Closing the information gap in a rapidly changing healthcare ecosystem:

# Lessons learned from COVID-19



As the global health community acknowledges the official end of the COVID-19 public health emergency, this transition period offers a moment of reflection and an opportunity to innovate and prepare for the future. The COVID-19 pandemic was a challenging time yet provided insights and learnings regarding the flow of information, the need for timely and accurate insights, and the importance of a coordinated care team when prevention and treatment recommendations were changing by the day.

In addition to a public health emergency, the global health community also faced an “infodemic,” a term introduced by the [World Health Organization \(WHO\)](#) to describe the explosion of available medical information, including false or misleading intel that can cause confusion, widespread misinformation, and risk-taking behaviors that can harm health. During an infodemic, medical knowledge and research are overflowing and not always accurate, which can make it more difficult for clinicians to find trustworthy sources.

Keeping up with this high volume of often conflicting information was a major challenge for clinicians. In 2020, medical literature on COVID-19 increased by 50-90%, representing four percent of the world’s research output.



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## Trustworthy and timely information

The infodemic underscored the need for guardrails within medical research to help clinicians on the front lines access trustworthy knowledge and not be overwhelmed with the volume. It also highlighted the importance of clinical decision support (CDS) resources for distributing reliable, transparent, and consistent information across care teams.

“UpToDate® brought value in the midst of the infodemic by addressing the lack of data to support common misconceptions,” said Dr. Allyson Bloom, senior deputy editor at UpToDate.

By shining a light on some of the challenges raised during the pandemic, there’s an opportunity to drive the conversation positively toward more change and innovation to solve these challenges.

## A reliable, global resource during the COVID-19 pandemic

As the entire world learned how to adapt in an effort to decrease the virus’s death toll, all eyes were on the healthcare industry for the answers on how to do this. With more than 2 million global users searching clinical topics over 1,200 times per minute, UpToDate was a go-to source for credible, timely information and remained committed to finding solutions for clinicians during the infodemic.

To help support this growing demand for trustworthy clinical information, UpToDate leveraged its existing team of over 7,400 physician contributors and started developing new content on COVID-19 in February 2020. This quickly grew to nearly 100 new topics and clinical pathways related to COVID-19, which have been updated more than 2,000 times since February 1, 2020. All content followed UpToDate’s rigorous [editorial process](#), providing an evidence-based recommendation authored by a physician with relevant specialty expertise to the topic.

Throughout the pandemic, the topics were viewed more than 52 million times by 1.8 million doctors, nurses, and other clinicians worldwide.



**7,400+**

existing physician contributors around the world were available to support the creation of reliable and transparent information on COVID-19



**2,000+**

updates to the 100 topics and clinical pathways related to COVID-19\*



**1.8 million**

doctors, nurses, and other clinicians worldwide viewed UpToDate COVID-19 topics more than 52 million times\*



**Free**

publicly available clinical and drug topics related to COVID-19

*\*since February 1, 2020*

Ensuring ubiquitous global access to COVID-19 information became a key goal of UpToDate, which launched the [Coronavirus Resource Center](#), providing free and publicly available information such as a [FAQ](#) page authored by physician editors; a [COVID-19](#) page housing all resources related to diagnosis, management, and prevention; and a live chatbot for users to ask immediate questions.

“The UpToDate staff of well-trained physicians and editors have accomplished the worthy goal of providing caregivers with timely and reliable information on which to base appropriate management of individual patients and enhance community control of COVID-19,” said Dr. Marty Hirsch, editor-in-chief of infectious diseases and section editor of viral infections at UpToDate.

### ***Broadening the aperture of understanding***

Traditional sources, such as peer-reviewed scientific journals, were unable to keep up with the pace at which new research was being conducted, since the standard publication timeframe may require months or even years. To capture the rapid development of medical information on COVID-19, UpToDate had to adapt its standard editorial process to selectively leverage non-traditional resources, such as preprints that have not been through a formal peer review process.

“Transparency and timeliness were and are key. A lot of information was conveyed by the media over the past few years as if it were certain. When the information changed, trust was eroded. It has been critical for us to be transparent about the limitations of the available information, particularly when having to leverage non-traditional sources,” said Bloom.

As new treatment concepts came to market—some of which were controversial or untested—UpToDate carefully evaluated both pre-existing and emerging information to make a holistic and evidence-based determination on its guidance for clinicians.

### ***The power of context***

The rapid pace of new medical information on COVID-19 often meant there were contradictory findings and confusion about the current state of science. In addition to staying current, UpToDate helped put emerging information in perspective so that clinicians had a broad view of how to interpret the clinical recommendation.

Bloom noted, “Unlike a lot of the media outlets, UpToDate presented new information in the context of the total body of evidence instead of focusing just on the new study of the day. Sometimes the message from today’s study upended the message from yesterday’s study, but we considered all the available data and made determinations based on the confidence in the different findings to present an inclusive and cohesive message.”

Gaps in data or information were addressed by always providing an evidence-based recommendation to users in each scenario and updating the content over 2,000 times to remain current. The pandemic emphasized the need to consider the totality of the evidence on a particular question or topic, rather than one study in isolation.



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**Dr. Allyson Bloom, senior deputy editor at UpToDate**



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**3,000%**  
in 2020 and remains used during 13-17% of all office and outpatient visits

## Navigating the future

COVID-19 truly tested the global healthcare systems regarding the distribution of clinical information from the agencies responsible for creating public health guidance to various stakeholders who depended on such information. It also highlighted the important role CDS tools play in distributing a high volume of reliable, trustworthy, and ever-evolving information to clinicians around the world. As the global health community looks to the future, there are a few lessons from COVID-19 to consider.

### 1. The infodemic is not dead

The end of the COVID-19 public health emergency offers a moment of reflection about where the industry goes next to ensure CDS continues to support clinicians through distributing reliable, transparent, and consistent information across care teams. It also opens the possibility for a period of uncertainty and unpredictable increases in variability of care.

Looking ahead—as healthcare leaders consider both ongoing threats of COVID-19 as well as new, unimaginable pandemics—clinical decision support resources could be leveraged to improve speed and transparency and more effectively reach public health goals during an infodemic. These goals can only be reached if the industry remains agile in distributing continually emerging information.

### 2. CDS everywhere, including virtual

As the healthcare industry modernizes, there are new avenues for patients to interact with healthcare providers. For example, the rise of virtual healthcare during the pandemic—which increased by 3,000% in 2020 and remains used during 13-17% of all office and outpatient visits—allowed patients to safely and quickly connect with clinicians from home. In addition, COVID-19 proved the important role that local retail pharmacists play as an extension of a patient's care team, providing COVID tests, vaccines, treatment, and counsel to patients, among other key responsibilities. The challenge for the future will be to ensure that no matter where patients interact with their care team, they receive the most optimal and consistent care as possible.

In tandem with these shifts, it's crucial that healthcare systems work together and provide smart, consistent, and accurate information. CDS resources offer a standard approach to align the thousands of micro-decisions clinicians make every day, from physicians in the emergency room to primary care doctors at urgent care to virtual care at home and pharmacists at the neighborhood pharmacy.

### 3. Closing the care variability gap

Today, there is still a great deal of care variability, depending on which clinician a patient visits, where the patient lives, how much insurance and social support a patient has, and numerous other factors. Regardless of circumstances, clinicians should still have access to the most recent data and treatment recommendations. COVID-19 demonstrated that when information is widely shared, CDS resources can swiftly close the gap, whether clinicians are eight or 8,000 miles apart.

During the pandemic, UpToDate opened access to its platform in select regions, such as India, during times of crisis, [giving clinicians access to the latest information](#) to make the best care decisions for their communities. The volume of clinicians from India accessing UpToDate's content quickly surged, reaching a new high of over 3,000 daily views in May 2021. This was a significant increase from before, indicating the high demand for clinical decision support during a time of public health emergency. The use of a CDS allowed clinicians to leverage the same information as quickly as others around the world, which provided faster and indispensable treatment recommendations to respond to the enormous pressure on healthcare professionals and institutions in the country.

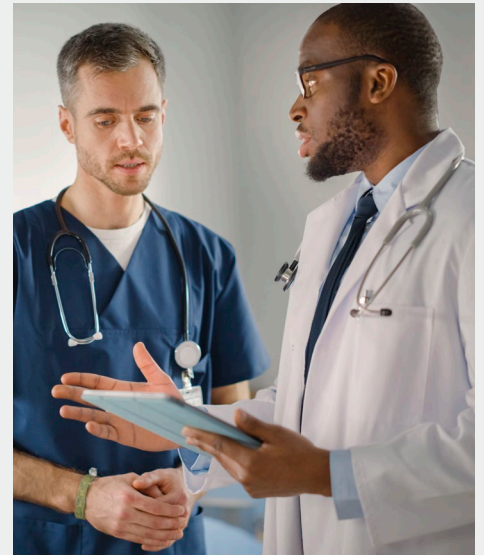
### 4. Integration at the point-of-care

As health technology continues to evolve, healthcare providers can use those advancements to make better and faster point-of-care decisions. By analyzing clinician search queries, CDS enables providers to see around corners and proactively observe trends and understand usage patterns, such as which clinical questions are most important. CDS resources can also share new medical updates with millions of providers and push notifications within the workflow of electronic medical record (EMR) systems to quickly educate clinicians with treatment recommendations that are trustworthy, verified, and improve patient outcomes. This can be incredibly valuable during a public health emergency.

Ultimately, it's to everyone's benefit to create an ecosystem where clinical knowledge systems and electronic medical record vendors can work harmoniously to capture and inform point-of-care decisions.

### Hope for the future

While there were many challenges in how the global healthcare system responded to the COVID-19 pandemic, global and US healthcare leaders learned how to adapt and make changes to everyday healthcare operations to improve patient outcomes. Over the last three years, the industry has experienced the value of CDS to quickly close gaps in information, leveling the playing field for clinicians all around the world. Healthcare providers have also seen the impact that CDS tools can make with regard to streamlining and improving workflows, leading to better-informed clinicians and stronger patient outcomes. To make progress as an industry toward closing the care variability gap—and to ensure we are prepared for the next public health emergency—health organizations need a CDS partner to access trustworthy and timely information.



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