



2020 Global Blockchain Survey | Deloitte Insights

## The after-effects of the pandemic on life sciences ecosystems

### Digitization, education, and participation could shape a blockchain-enabled future

As we look ahead to 2021, it is instructive to take stock of how quickly things changed when the pandemic struck. While 2020 has faced uncertainty, 2019 set us on a productive path for blockchain in life sciences. Momentum was building in use cases across the value chain, from data-tracking in clinical trials to supply chain management. [Deloitte's 2020 Global Blockchain Survey](#), published earlier this year, indicated that blockchain was a top-five strategic priority for many life sciences executives. Pilot and consortium activity grew, including the launch of PharmaLedger, a global consortium from the Innovative Medicines Initiative (IMI) that brought industry players together to build scalable blockchain solutions to manage governance, compliance, and interoperability.

Of course, things changed soon after. The advent of the pandemic in early 2020 accentuated preexisting issues about how to handle data and track provenance across partners in the value chain. Additionally, social distancing and the virtualization of work created new challenges in collecting, managing, and sharing data.

But it hasn't been all bad news. The pandemic spurred positive transformations in life sciences of lasting consequence: the digitization of everything and a global cultural shift in education and participation in drug development (e.g., vaccines), which blockchain can play a significant role in supporting.



## The digitization of everything

When the pandemic hit, it became clear that performing traditional clinical activities, from simply delivering medical supplies to hospitals to the complexities of running a large-scale clinical trial, was no longer feasible in person. In response, organizations were forced to pivot to perform critical activities virtually, often using tedious and manual solutions to get the job done. Where digital solutions existed, organizations accelerated their adoption and implementation. Organizations quickly recognized the importance (and difficulties) of and the need to enhance the way data is safely and effectively tracked and shared.

Although the digitization of life sciences was trending prepandemic (e.g., telemedicine in clinical trials), due to fallout from the lingering pandemic, we believe that digitization will continue as a dominant trend. In fact, 61% of life sciences executives say that digital assets will be very important in the next three years.<sup>1</sup> Additionally, blockchain can play a significant role by serving as the data backbone to facilitate secure data-sharing, connectivity, and auditability across all processes in the value chain.

When life sciences emerges from the pandemic, we expect to see new investment and cross-industry pilots in which blockchain, along with other digital technologies such as cloud, IoT, and AI, empowers virtual clinical trials, touchless supply chains, and other innovative applications. Organizations make persuasive business cases that the issues experienced during the pandemic can be addressed through digital technology and that virtualization in life sciences can help meet expectations of patients in the future.



## Educating the public

The second major pandemic-inspired transformation relates to how the public became better educated about the industry and the process of providing new medications to patients. Specifically, Operation Warp Speed, a federal program that aims to deliver a COVID-19 vaccine within one year, was a recurring story on cable news channels. This helped educate the public about participating in clinical trials and sharing medical data to help advance scientific research.

In general, clinical researchers are challenged to source data from patients and encourage them to participate in trials. However, our clients suggest that many individuals during the pandemic seemed more willing to share their medical information and participate in vaccine trials. As such, many life sciences practitioners we've spoken with appear optimistic that individuals might still be willing to participate in the research equation postpandemic.

If these predictions hold true, life sciences organizations should prepare to address privacy concerns about securely tracking patient data and ensuring that patients maintain ownership of their information throughout the process. Blockchain could fill an important role as the data backbone and serve as the trusted mechanism to provide data-sharing consent. In the past year, some small-scale pilots have pushed the boundaries on employing blockchain to do just that.

Continued activities in this space can help provide patients with avenues to participate and take a greater role in medical research. However, it's too early to tell if the public will retreat from medical research because they're scarred from their pandemic experiences.



## Blockchain challenges

Looking holistically at virtualization and public education, we expect to reach a steadier state for blockchain pilots once the pandemic subsides. As a result, life sciences executives must be prepared to address longstanding adoption barriers (e.g., regulatory concerns, IP management, and leadership prioritization). In fact, 50% of life sciences respondents identified a lack of regulatory clarity as a top barrier to blockchain adoption.<sup>2</sup>

We believe the regulatory front could quickly show positive movement. Because the US Food and Drug Administration experimented with blockchain in supply chain before the pandemic, it's possible it could adopt an innovative approach and endorse blockchain (and other exponential technologies) to help expedite the delivery of medications to the marketplace.

Even so, we still need actual proof points to verify the effectiveness and potential of new blockchain-based solutions. While life sciences leaders seem willing to experiment with blockchain pilots, actual adoption will still take time.

This is especially relevant given the significant levels of internal and external coordination, financial investment, and technology required for such a transformative effort. In the end, we must still evaluate the most effective approaches to determine blockchain's value-add, particularly as life sciences companies push toward digitization.



## Key takeaways

The trends emerging during the pandemic could have significant impact on user adoption of blockchain in the future. Digitization and virtualization trends became necessary during the pandemic to perform normal activities and to help develop a vaccine. We believe that these trends will translate into a “new normal” and that blockchain can—and will—be used as the data backbone to fuel activities ranging from clinical trials to supply chain and commercialization.

As the public becomes more familiar with the process behind developing COVID-19 therapies, global cultural shifts are encouraging them to share their personal data and play a more active role in the drug development life cycle. This, in turn, will require improved ways of sharing information in which blockchain could play a major role.

The exchange of information is clearly evolving. With the potential to save time and money by improving how companies, regulators, and individuals communicate with one another, now is the time to embrace these changes—the processes are already in motion.

## Authors

### Aditya Kudumala

Principal | US Life Sciences Blockchain and Digital Assets leader  
Deloitte Consulting LLP  
akudumala@deloitte.com

### Adam Israel

Manager  
Deloitte Consulting LLP  
adisrael@deloitte.com

## Contributor

### Linda Pawczuk

Principal | Global and US Consulting Blockchain and Digital Assets leader  
Deloitte Consulting LLP  
lpawczuk@deloitte.com

## Endnotes

1. Deloitte, “Deloitte’s 2020 Digital Blockchain Survey: From promise to reality,” <https://www2.deloitte.com/us/en/insights/topics/understanding-blockchain-potential/global-blockchain-survey.html>.
2. Ibid.

### About Deloitte

Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee (“DTTL”), its network of member firms, and their related entities. DTTL and each of its member firms are legally separate and independent entities. DTTL (also referred to as “Deloitte Global”) does not provide services to clients. In the United States, Deloitte refers to one or more of the US member firms of DTTL, their related entities that operate using the “Deloitte” name in the United States, and their respective affiliates. Certain services may not be available to attest clients under the rules and regulations of public accounting. Please see [www.deloitte.com/about](http://www.deloitte.com/about) to learn more about our global network of member firms.