

New report outlines proposed solutions to reimagine the global health ecosystem

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The COVID-19 pandemic sent shockwaves through the life science ecosystem, uniting the scientific community with a common purpose and reimagining pathways to address global health challenges.

To help accelerate that innovation, the MIT Center for Collective Intelligence, the MIT Media Lab's Community Biotechnology Initiative, and MilliporeSigma—the U.S. and Canadian life science business of Merck KGaA, Darmstadt, Germany—together convened more than 200 thought leaders from around the world to collaboratively capture the disruptions caused by the [pandemic](#), and identify the solutions that will help usher in the future of the life sciences.

A comprehensive report containing synthesized, data-driven insights from this expert group, known as the "Life Sciences Supermind," has now been published. The work builds on the collaborators' research from 2020, which focused on pandemic response efforts, to outline the most promising solutions to build health resilience for now and the future.

The Life Sciences Supermind Report represents 18 months of global collaboration and expert synthesis, applying an accelerated methodology to identify solutions amid the urgency of a pandemic. During the invite-only curation exercise that ran for four weeks in May 2021, the Supermind convened using the Center for Collective Intelligence's software platform and methodology to address a central challenge question: How do we identify and apply the lessons learned from the COVID-19 pandemic to re-imagine the institutions, processes, policies and tools we use across the life sciences to address global health needs for all?

David Sun Kong, director of the Community Biotechnology Initiative within the MIT Media Lab and author of the report, says, "Building upon last year's effort, we widened the scope of our exploration to think deeply about the future of the entire life sciences ecosystem. In the coming years, human civilization faces unprecedented challenges that will require the global life sciences community to innovate, coordinate, and act. We believe many of the ideas and strategies presented in this report can help guide our future directions."

During this sprint, the Supermind identified gaps and innovative solutions across five key technical areas, including the future of scientific research; public health preparedness, science and technologies; science communication; disruptive technologies; and flexible and resilient manufacturing, supply, and distribution chains. Synthesizing the results of this exercise, the Supermind Report was published in thematic installments from June to November 2021 and is now released in full for the first time.

"Typically, Supermind participants contribute ideas to the platform asynchronously throughout the multi-week exercise. This year, we added a new activity to our methodology where Supermind participants collaborated during online video sessions to develop solutions together," says Kathleen Kennedy, executive director of the Center for Collective Intelligence, who oversaw the Supermind platform. "The combination of synchronous and asynchronous collaboration proved to be a powerful combination."

The Supermind provided an early signal on new modes of [global collaboration](#) that have the potential to build public health resilience for all. Experts identified innovative ideas such as creating a new field of public health technology to unite technology leadership and expertise with the design of public health programs, products and initiatives. This strategy has since been leveraged more broadly in the fight against COVID-19, sparking innovative partnerships between technology, design, medical, and public health professionals to respond to this global health emergency.

The Supermind Report also details key findings on building diverse and open communities to accelerate scientific discovery; deploying novel, open-source technologies for diagnostics and transmission control; combating the "infodemic" through integrated disciplines that tackle information overload; and restructuring talent development in the life

sciences, among other innovative strategies identified throughout the exercise.

The initiative's unique methodology applied natural language processing to cluster and synthesize contributions from the participants. Participants contributed to the online platform asynchronously with daily facilitation. In total, 137 individual ideas were put forward during the 2021 exercise, garnering more than 700 votes cast for the top solutions during an evaluation phase. These were then supplemented by synchronous deliberation geared toward identifying more specific pathways to implementation and actionable outcomes.

"By bringing together a diverse group of experts, we were able to leverage their collective knowledge and compile the findings," says Patrick Schneider, head of strategy, business development, and innovation for the Research Solutions business unit at MilliporeSigma and chair of the Life Science Innovation Board. "The result is a report that highlights novel ideas that have the ability to impact the future of life sciences. I look forward to taking these ideas and putting them into action."

The Life Sciences Supermind demonstrates the power of [collective intelligence](#) in identifying the most feasible, impactful solutions to re-imagine the global health ecosystem and build health resilience for now and in the future. Looking to a post-pandemic world, these lessons, strengths, and accelerated pathways to solutions have the power to usher in a paradigm shift across scientific and global [health](#) industries.

More information: The report is available as a PDF at [www.pandemicresponsedata.org/w ... L-compressed-min.pdf](http://www.pandemicresponsedata.org/w...L-compressed-min.pdf)

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