

SCIENCE MEETS SOCIETY:

Balancing Innovation, Equity and Public Health in a Post-Covid World

With nearly 7 million deaths worldwide to date, the Covid-19 pandemic has disrupted nearly every aspect of health practice. A precedent-setting bright spot has been the rapid development of vaccines and related anti-viral treatments, preventing untold millions of additional deaths while also showcasing the innovative potential of pharmaceutical therapy against future health threats.

More important, the larger social and economic impacts of the pandemic have led to unprecedented strains on the existing infrastructure of public health delivery. The aftermath of Covid-19 requires a broader conception of what we mean by public health protection, which must adapt to new realities like the soaring burden of mental illness and addiction as well as deterioration in the so-called social determinants of health caused by poverty, food insecurity and loss of community ties. In 2021, at the height of the Covid-19 pandemic, 57m adults in the US – nearly a quarter of the population – reported having a mental, behavioral or emotional disorder requiring treatment.

Arguably the biggest driver of a more holistic vision of health is climate change, which the WHO declared in October 2021 as "the biggest public health threat facing humanity." The list of dangers from a warming planet include more deadly vector-borne infections and lower resistance to disease overall due to growing food insecurity caused by drought, which is itself associated with a sharp rise in respiratory ailments linked to air pollution and the circulation of toxic residues from desertification.

To confront these threats, policy-makers are pushing forward with alternatives to the historical emphasis on "sick care." The strategy is to restore the gains lost to the

pandemic by focusing on preventing disease – addressing the whole patient, as an individual -- rather than just managing symptoms. Central to achieving this is the WHO-endorsed concept of global health equity, which aims to mobilize entire communities behind the redirection of health care resources toward forward-looking, big-impact, high-return initiatives like immunizations, maternal and child health and the empowerment of women generally – all of which were neglected in the midst of a global health emergency.

The final ingredient in advancing this new, patient-forward world of care is more innovation – especially in the underlying science and biology of human health, where rapid development of new medicines will benefit from the massive gains in drug search and discovery power achieved through emerging computational tools like quantum computing (QC) and multimodal AI. This in turn will lead to more drugs that can be personalized to the disease profiles of individual patients. Adverse event issues can be identified and resolved earlier in a drug's development stage.

The good news on innovation through discovery technology will continue to build on the momentum of industry success in defeating Covid. As the ability to map the contours of an individual patient's cells and organs progresses, tissue biology will emerge as a driver of medical insights on shrinking cancerous tumors, while refinement of mRNA delivery models will extend the preventive reach of vaccines beyond transmissible infections. And the scientific harvest derived from the study of genomics and, more recently, proteomics, will progress further in a new era of "multi-omics," leading to further advance-







ments in systematic interrogations of cellular system that can slow or cure disease.

Adapting to this post-Covid landscape for global health will require life science industry innovators to navigate a volatile mix of scientific promise, strategic risk and logistical uncertainty. The Galien Foundation's 14th annual Health Forum, convening Thursday, October 26 at the Alexandria Center for Life Science in New York, will address each of these topics in turn, breaking new ground at the intersection of science, entrepreneurship, public health, patient advocacy and disease prevention.

Each of these themes will be explored in six panel discussions that include Nobel laureates, key policy-makers, patient representatives and leading industry executives.

Tabled for debate are:

- > How to build a successful biopharma enterprise in a more challenging post-Covid business climate;
- > Confronting the existential structural impact of climate change on global health, particularly among the most vulnerable populations;
- > The post-Covid legacy of a mounting mental health crisis on overburdened health systems;
- > Biopharma CEO perspectives on getting ahead of the ongoing debate on access to medicines – who pays for tomorrow's innovations?
- > Striking the right balance between the scientific promise of AI and its larger societal impacts and uncertainties; and
- > Facing a new crossroads for drug therapy: the arrival of effective, preventive treatments for one of humanity's biggest health challenges – obesity –and the shape of things to come.

