

The Innovation Conference 2023 for Medicine: Fostering collaborative solutions through thought-provoking questions

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The Innovation Conference 2023 took place in Hangzhou, China, from October 31st to November 2nd, 2023. This conference, organized by The Innovation—a rising star journal, had a special focus on the field of medical health.

As the field of medical science and technology continues to evolve rapidly, we find ourselves at the forefront of medical innovation. The Innovation Conference aims to explore potential new models for fostering medical innovation.¹

Yang Wei, one of the co-founders of The Innovation and a researcher at the Institute of Geology and Geophysics of the Chinese Academy of Sciences, expressed his opinion to CCTV: "We no longer confine ourselves to specific disciplines; we confront challenges with an open mindset. When tackling complex challenges such as climate change, we can draw on a wide range of disciplines. This approach fosters cross-disciplinary collaboration, harnessing questions to guide discussions, and ultimately arriving at solutions or deeper insights..."

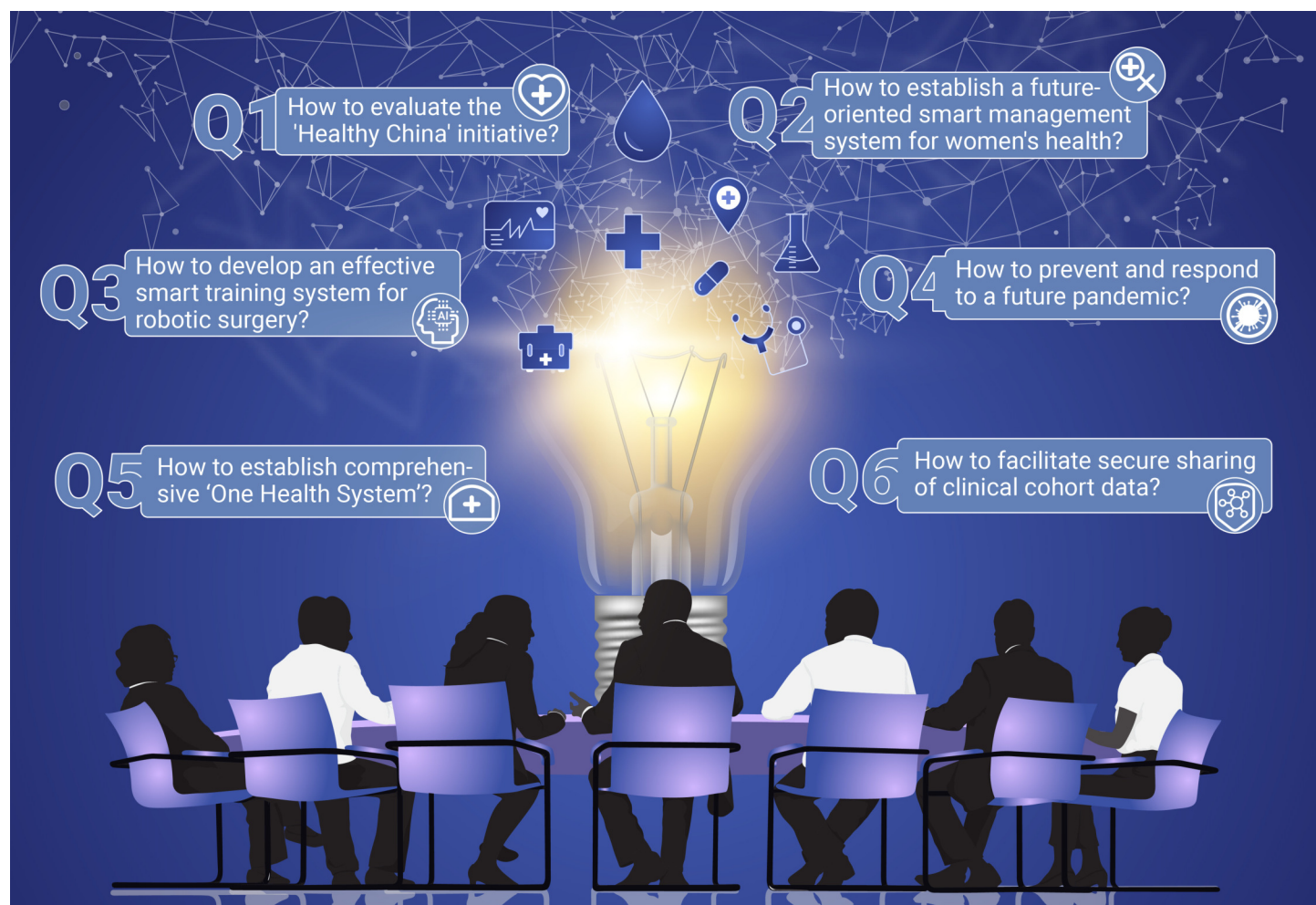


Figure 1. The structure and key topics of the Medical Innovation Conference.

The Innovation Conference aims to establish an open ecosystem and bridge the gap between academia and industry through a structured approach:

- Gather questions prior to the conference.
- Engage in discussions on these issues during the conference.
- Work collaboratively to solve these problems post-conference.
- Publish solutions to these problems.
- Promote the implementation and transformation of innovative achievements and related initiatives and more.

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Following this methodical process, the conference endeavors to foster meaningful connections between academia and industry.

At this conference, each keynote speaker delivered a brief presentation for approximately 10 minutes to raise questions. Following that, all guest speakers, including professionals from academia and industry, engaged in a 50-minute in-depth discussion. This interactive meeting style aims to stimulate participants' critical thinking, foster creativity, encourage bold expression, and

promote effective collaboration. Together, the participants work collaboratively to tackle scientific challenges in the field of medicine. During this conference, six questions were raised and discussed (Figure 1).

Q1. How to Evaluate the 'Healthy China' Initiative?

To advance global health, it is crucial to constantly assess and enhance progress. The effective implementation and scientific evaluation of the "Healthy China" Initiative are issues that concern the entire society. In this section, the keynote speaker outlined specific criteria for evaluating the 'Healthy China' initiative and shared the latest research findings, current status, and potential challenges. Invited professionals, audiences, and keynote speakers engaged in discussions to propose practical solutions and analyze the methods of data collection and sharing related to the evaluation of the 'Healthy China' initiative. They also explored the responsibilities and roles of governments, medical institutions, businesses, non-profit organizations, families, and individuals, as well as strategies for fostering productive and interactive relationships. This resulted in numerous valuable suggestions, which will be published later in scientific journals.

Q2. How to Establish a Future-Oriented Smart Management System for Women's Health?

Women's health plays a crucial role in shaping the future of humanity. This topic explores the use of cutting-edge technologies such as the AI-based Ovarian Reserve Assessment and Prediction (OVaRePred) tool² and the PCOST screening tool³ to improve early detection and warning of diseases or health conditions. These advancements empower women to gain a deeper understanding of their health status and emerging trends, allowing for timely lifestyle adjustments and disease prevention. The ultimate goal is to create a more intelligent and forward-thinking women's health wisdom system, facilitating scientifically informed management throughout the entire life-cycle.^{4,5} Additionally, we will publish innovative perspectives and unconventional ideas from experts in various fields on the smart management of women's health at a later date.

Q3. How to Develop an Effective Smart Training System for Robotic Surgery?

Surgery has always been a fundamental aspect of healthcare, and the rise and expansion of robot-assisted surgery is reshaping this landscape. With the increasing prominence of such technologies in the medical sector, the development of a sophisticated and effective training system for robotic surgery is becoming increasingly crucial. In this section of the conference, experts explored various approaches to creating a training system that is not only efficient but also thorough in preparing medical professionals with the required cutting-edge surgical skills.

This discussion offers insights into the design of an effective training system for robotic surgery, ensuring that practitioners are equipped with cutting-edge surgical competencies. Moreover, the experts suggested that the system's designers should stay updated with the latest techniques and technological advancements. They should also collaborate with experienced surgeons to ensure safer and more effective robot-assisted surgical training interventions.

Q4. How to Prevent and Respond to a Future Pandemic?

Over the past few years, the world has encountered a major challenge in the form of an infectious disease pandemic, emphasizing the crucial role of proactive strategies in preventing and responding to such health crises. This section was dedicated to exploring various strategies for utilizing science, technology, and international cooperation to strengthen our preparedness and response mechanisms for future pandemics.

Discussion topics in the section include cutting-edge vaccine research and development, epidemic surveillance systems, and the significance of interna-

tional collaboration in combating pandemics. By bringing together experts from different fields, this section aims to promote a multidisciplinary approach to pandemic preparedness, ensuring that we are better prepared to confront future infectious disease challenges.

Q5. How to Establish a Comprehensive 'One Health' System?

The 'One Health' concept is a pivotal framework that emphasizes the deep, intrinsic interconnectedness of human, animal, and ecological health. In this segment, a panel of experts engages in an in-depth discussion on integrating these critical domains to establish a comprehensive 'One Health' system, with the aim of enhancing global health protection. This holistic approach is vital for mitigating cross-species disease transmission, which is a significant concern given the rise in zoonotic diseases. Healthy ecosystems are essential for sustaining diverse species, including humans, and for ensuring the natural functioning of the environment. This balance is crucial for preventing the emergence and spread of new diseases. By understanding and managing the health of animals and the environment, we can better predict and prevent outbreaks that may have devastating effects on human populations.

Q6. How to Facilitate Secure Sharing of Clinical Cohort Data?

Data plays an indispensable role in modern healthcare. In China, medical cohorts covering multi-omics data and deep phenomics data are emerging. For each cohort, data are possible to be shared through an institutional committee. However, each individual cohort is often dedicated to a specific disease, thus necessitating a matched control cohort. To train a competent medical foundation model, shared medical cohorts are essential. In practice, conquering barriers in data sharing can be challenging. This is not only because the data are too new to be shared, but also due to the lack of trackable protocols. Although the development of such protocols is on the agenda, they have not yet been released. Additionally, the absence of a steering committee that connects each data owner further complicates the process. This section focused on promoting secure practices for sharing clinical cohort data, with the goal of fostering data-driven innovation in medical research, diagnosis, and treatment.

CONCLUSION

The Medical Innovation Conference, hosted by The Innovation, serves as an important platform for medical professionals from diverse specialties to connect and share groundbreaking research and innovative ideas. This event fosters vital collaborations among healthcare practitioners, researchers, and industry experts, driving the development of new strategies for advancing global health. It represents a fusion of diverse expertise with the goal of advancing medical science and improving healthcare outcomes. We are eagerly anticipating next year's conference, hoping for solutions or progress on the key issues from this year.

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DECLARATION OF INTERESTS

The author declares no competing interests.