ADVERTISEMENT FEATURE

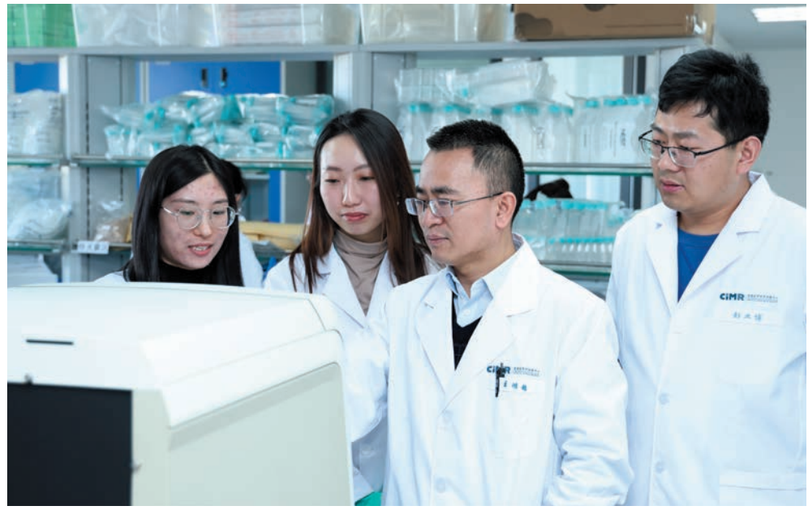
SHAPING THE FUTURE OF MEDICAL SCIENCE - A MULTIDISCIPLINARY PARADIGM

CIMR TRANSFORMS MEDICAL EDUCATION AND RESEARCH IN BEIJING, fostering collaboration, openness and innovation through a new model.

In the heart of Beijing, the Chinese Institutes for Medical Research (CIMR), a new research centre, aims to be a hub of innovation dedicated to advancing basic and translational medical research. With a mission to tackle fundamental problems in human health, CIMR has adopted a cutting-edge, multidisciplinary approach, bringing together scientists, doctors, entrepreneurs, and investors throughout the scoping and development of the medical research pipeline.

Lin Mei, CIMR director, describes the centre as a unique institution — different from a conventional university, research institute, enterprise, or hospital — with distinct responsibilities for talent cultivation, research outcomes, independent business operation, contribution to public research, and engagement in clinical medical research.

The untapped potential in Beijing's scientific and clinical resources highlights the need for improved collaboration. CIMR will work closely with the Capital Medical University (CMU), a premium medical university in the city, with 20 affiliated hospitals and 30,000 beds, to address the challenges in translating science into clinical breakthroughs. In a few years CIMR will relocate to Daxing in southern Beijing, a district set to become a healthcare innovation hub.



▲ **Senior researcher HongHu Zhu (second right) suggests that the next generation of medical professionals will benefit from the new model of training.**

"Its aim to be a hub of innovation requires leveraging our strengths through working together," says Mei, a renowned neuroscientist with more than 30 years of medical and research experience in the United States.

Collaboration is pivotal to CIMR's success and relies on active doctor involvement and teamwork with affiliated hospitals. Industry engagement ensures that the Institutes are aligned with product development routes, which will help to bridge the gap between research and its practical application.

"We aim to be a leader, not just in research but in changing how we approach medical challenges and innovation." Mei says, "CIMR aims to reshape the landscape of medical research and education by using its unconventional structure to defy conventional boundaries."

IMPROVING MEDICAL EDUCATION

CIMR is fostering a cultural shift within the institute through promoting equality, which has implications for how research is conducted: from selection of candidates, to the focus on academia over bureaucracy. "Everyone is equal here. professors, associate professors, and assistant professors are all the same," says Xinsheng Liao, deputy director of CIMR, who oversees the institute's talent cultivation and hospital cooperation.

Traditionally, CMU faces challenges in its medical residency training system, Liao says. Hospitals have been slow to produce residents ready and capable of independently managing patient care, such as surgery or cardiology.

This contrasts with the United States, where outstanding trainees then become attending physicians. This highlights the need for improved training in CMU, adds Liao, who worked as a doctor in the United States for more than 20 years.

"After finishing my training at the University of Washington, I was immediately appointed as an attending physician for bone marrow transplantation: a ward with 20 beds was assigned to my care," Liao recalls. He notes how he appreciated the effectiveness of this very practical aspect of clinical medical education.

According to Liao, there is a need to improve the effectiveness of teaching skills among CMU clinical instructors. "It can be difficult to efficiently pass on the large amount of complex clinical skills to trainees," Liao says. Many hospitals underestimate teaching needs, which contributes to a gap in clinical training, he suggests. So CIMR is determined to address these needs by taking a different tack.

CIMR has plans for collaborative efforts with hospitals and will bring in experienced doctors from abroad. In doing this, they aim to create a more targeted and skill-oriented approach to clinical medical education. "The key is to focus on essentials. It's like learning to ride a bicycle; once you grasp the fundamentals and the correct techniques, the rest becomes easy," Liao says.

A pilot programme called 'Jieping Class' is underway at CMU. This class addresses the shortage of high-level physician-scientists by integrating traditional clinical education with scientific research. It introduces courses in diverse fields and allows students to participate in interdisciplinary research groups, selecting a doctoral mentor group in the second year for a 7-10 year research period. This innovative approach aims to produce physician-scientists, blending skills in cell biology, immunology, engineering, pharmaceuticals, and public health.

"Our goal is to create an environment where students can become outstanding scientists." Liao concludes.

A CATALYST FOR CHANGE

CIMR's innovative strategy in cultivating physicians and researchers also includes programmes from outside traditional institutions. Initial funding is provided for 25 research projects and 31 outstanding youth innovation projects. These will span eight departments from the main campus and 16 affiliated hospitals of CMU.

A Young Physician-Scientist Training Program aims to support dozens of young doctors, and will encourage their participation in basic medical research alongside clinical practice.

"What surprised me from this programme was the quick decision to generously fund my research project," says HongHu Zhu, a senior researcher at CIMR, "It's quite different from what I've seen elsewhere."

Zhu has pioneered groundbreaking research in leukemia transformation. His approach for treatment for acute promyelocytic leukemia (APL) boasts a 95% cure rate, and also led him to define a new type of leukemia type, RARG-AML.

Having worked in various hospitals in China, Zhu joined CIMR because of its unique culture. "They saw my genuine passion for doing practical work in the field, not just producing papers," Zhu says. "It showed they value people with real experiences."

Zhu soon saw how CIMR's culture differed from other institutions, that reflected the equality that CIMR has worked hard to cultivate. "There's a unique atmosphere where young principal investigators can voice concerns and challenge leadership decisions," he notes.

CIMR's reforms, including reshaping the interaction between clinical management and scientific directors, to engage hospital leaders.

Zhu will continue to focus on breakthroughs in leukemia treatment in the elderly and understanding the impact of viruses on genetic mutations leading to cancer. "This new model could help cultivate a new generation of medical professionals from an early stage," he says.

Zhu's dedication to pushing the boundaries of medical research reflects CIMR's commitment to innovation and fostering a new generation of physician-scientists in China. ■

▲ **1. CIMR's goal is to create an environment where students can become outstanding scientists.**
2. The scientists at the CIMR, including director Lin Mei (pictured), aim to deliver a curriculum that helps to reshape the education landscape of medical research.

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