



Illumina Senior Director of Global Medical Affairs for Oncology John Jiang speaks at CSCO 2024. Photo by Illumina

Showcasing the impact of genomics in precision oncology at CSCO 2024

Illumina featured discussions with leading experts on the future of cancer care in China

AT THE 2024 Chinese Society of Clinical Oncology (CSCO)¹ Annual Meeting this September in Xiamen, China, Illumina shared leading opinions and hosted discussions on the theme “Genomics shaping the future of precision oncology.”

[Watch the video at youtube.com/watch?v=n_4tc7vlqkc](https://www.youtube.com/watch?v=n_4tc7vlqkc)

A significant transformation in China’s health care sector is underway, driven by growing demand for high-quality medical services and a national focus on precision medicine. The country’s Healthy China 2030 initiative aims to improve public health through innovations in medical research and technology. Within this context, Illumina’s participation at CSCO underscores its role as a key partner in China’s efforts to fight cancer through genomic solutions.

During the conference, Illumina hosted multiple onstage panels and live-streamed dialogues with leading oncologists, researchers, and pharma representatives. These interactions focused on the integration of multiomics with other advanced technologies, such as

artificial intelligence (AI), to drive drug discovery at the source, meet clinical needs, and unleash the potential of next-generation sequencing (NGS) in large and national genomics initiatives to contribute to precision medicine.

Professor Ma Jun, director of the Harbin Institute of Hematology and Oncology, remarks: “With deeper insights into the genetic heterogeneity of cancer, we can more accurately identify its molecular characteristics and, further, offer more personalized treatment options. Genomics has ushered cancer treatment into a new era. Taking lymphatic cancer as an example, the implementation of precision oncology not only considers genetic diversity, but also points the way to further improving standard treatments.”

Professor Ye Dingwei, vice president of Fudan University Shanghai Cancer Center and chief expert of the Urologic Oncology multidisciplinary team, adds: “For prostate cancer prevention and treatment, it is crucial to have the mindset of precision and whole-course management. Every stage—from early screening, diagnosis, and treatment to ongoing monitoring and follow-up—relies on precise medical data and scientific

¹ cscoc.org.cn/cn/index.aspx

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methods. This management approach ensures patients receive consistent care, thereby improving treatment outcomes and survival expectations. The future of cancer treatment will focus increasingly on early intervention and long-term health monitoring, ensuring that all patients benefit from advances in precision medicine, leading to better survival rates and quality of life.”

To improve long-term patient outcomes, clinical practice guidelines and expert consensus in oncology in China have been continuously updated in recent years to include more medically significant targets for different cancer types. This will provide more precise and effective treatment options, and generate deeper insights into drug resistance, recurrence risks, prognosis, and more.

Professor Zhang Xuchao, director of the Medical Research Department at Guangdong Provincial People's Hospital and deputy director of the Guangdong Provincial Key Laboratory of Translational Medicine in Lung Cancer, notes: “Genetic sequencing technology has reached an advanced stage in clinical diagnosis, though challenges like missed rare targets and false negatives persist. However, with ongoing technological advancements, we are confident in overcoming these challenges and achieving more precise cancer biomarker monitoring. The integration of genomics with multiomics offers a window into cancer biology and facilitates precise classification, heterogeneity analysis, drug resistance studies, et cetera, which provide a theoretical foundation for target discovery and drug development, combination therapy strategies, and predictive biomarkers.”

Global genomic research initiatives, multiomics projects, and AI applications are fundamentally transforming the pharmaceutical industry's cycle of invention and innovation and its success rates. Advancements in AI, especially—such as Illumina's PrimateAI-3D—are set to accelerate scientific discovery and drug development by identifying pathogenic and

potential drug target variants within vast genomic datasets, addressing critical challenges in disease research.

Song Faxian, head of Oncology in China for the health care business sector at Merck, comments: “Genomic data provides invaluable insights at every stage of drug development, from early discovery and target validation to clinical trials. It helps us better understand disease mechanisms, design clinical trials, and develop more effective personalized therapies. Genomic data is leading the way in precision medicine, offering patients treatment options that meet their specific needs.”

The gap between China's drug development and the international leading edge is swiftly closing. This progress can largely be attributed to the seamless collaboration and innovative synergy among different stakeholders, including government bodies, industry organizations, academic institutions, research facilities, end users, investors, and others. As one of these players, Illumina is dedicated to building a robust ecosystem for cancer research and treatment by fostering partnerships and sharing expertise in China.

Jenny Zheng, senior vice president and general manager of Greater China at Illumina, highlights the importance of cooperation: “Illumina is dedicated to driving innovation and expanding the applications of genomics. Our participation in CSCO underscores our commitment to working with clinical and industry leaders to explore the vast potential of next-generation sequencing in transforming cancer care.”

Building off of the ideas and conversations from the 2024 CSCO Annual Meeting, Illumina will keep pushing the boundaries of what's possible in precision oncology. By integrating genomics into every facet of cancer care, Illumina expects to enhance patient outcomes and further pave the way for a new era of precision medicine in China and beyond. ♦