The Q&A Summary of the thematic meeting on AI Applications in Medical Imaging and Radiotherapy Equipment

Qustion 1

In the current medical device industry, particularly in the fields of medical imaging and radiotherapy, why is artificial intelligence (AI) being applied with increasing frequency? In the context of industry competition, how does AI enhance a company's competitiveness and help build market barriers?

Answer:

As the competitive landscape of the industry continues to evolve, artificial intelligence (AI) has become a key driver of innovation in medical imaging and radiotherapy. With the deepening application of AI, AI-assisted diagnosis and treatment is transitioning from a "nice-to-have" to a clinical necessity. Imaging diagnostic and radiotherapy equipment across the industry are increasingly integrating AI technologies to optimize diagnostic workflows and treatment planning. Correspondingly, clinical institutions are showing a growing preference for equipment equipped with AI-enabled diagnostic capabilities, such as pulmonary nodule detection, intracranial hemorrhage screening, coronary CTA analysis, and fracture detection.

Currently, the application demand for AI in medical imaging and radiotherapy is mainly reflected in the following aspects:

First, AI significantly enhances diagnostic and treatment efficiency for clinicians, helping alleviate issues such as heavy workload and limited manpower. Medical imaging and radiotherapy involve a large amount of quantitative and comparative tasks, and the introduction of AI can help doctors perform exams, analyses, and diagnoses more efficiently. For example, after implementing AI at a hospital in Shandong Province, the number of vascular reconstruction technicians needed was reduced from three to one, substantially shortening diagnostic time and improving overall efficiency. Furthermore, AI can also help reduce misdiagnosis and missed diagnoses, improving accuracy.

Second, AI improves diagnostic precision and supports clinical decision-making with its high-accuracy image recognition, automatic segmentation, and lesion analysis capabilities. It also excels at handling complex computational tasks. For instance, CT-FFR (coronary CT-derived fractional flow reserve) technology enables accurate analysis of the functional significance of coronary artery stenosis, providing clinicians with reliable data to support interventional treatment decisions. This computational power not only improves diagnostic precision but also helps doctors make faster and more informed treatment plans, reducing errors and improving patient outcomes.

Third, widespread adoption of AI enhances equipment utilization rates and optimizes medical resource allocation. AI can upgrade the intelligence level of existing imaging and radiotherapy equipment, effectively "revitalizing" older machines and extending their lifespan while enabling the

integration of new technologies. Particularly in primary care settings (e.g., county hospitals, township health centers, community health centers), where there is often a shortage of radiologists, certain diagnostic procedures—such as coronary CTA or head and neck imaging—can be difficult to perform. AI-assisted diagnostic technologies help address these gaps, enhance diagnostic capabilities, expand service offerings, and generate economic value while providing more patients with access to high-quality care.

Today, AI is evolving from a tool of technological innovation into a deep enabler of clinical practice, becoming a critical pillar for the development of the medical imaging and radiotherapy industry. Its integration is not only accelerating the advancement of intelligent healthcare but also serving as a core driver of competitive differentiation. As the technology matures, its value in enhancing product competitiveness and creating market barriers is becoming increasingly apparent in the following areas:

First, modern clinical environments involve a wide range of diseases and complex diagnostic workflows. Therefore, clinical users place higher demands on the comprehensiveness and precision of AI integration in imaging systems. AI needs to cover the full workflow—from image acquisition, reconstruction, and analysis to intelligent diagnosis—and support optimization across various modalities such as CT, MR, X-ray, and PET/CT. For example, AI-powered intelligent reconstruction can maintain high image quality under low-dose scanning; automated lesion detection accurately identifies abnormal tissues; and intelligent radiotherapy planning enables the development of more precise, personalized treatment plans. These AI capabilities upgrade imaging and radiotherapy systems from passive "tools" to intelligent "assistants," improving clinical adaptability and streamlining diagnostic workflows, thus expanding future application scenarios.

Second, AI is fundamentally driven by algorithms and data. The precision, efficiency, stability, and accuracy of algorithms, along with the comprehensiveness and clinical relevance of datasets, directly determine the value of an AI-assisted diagnosis system. Leading AI technologies enable pixel-level identification, automatic lesion segmentation, and detection of complex pathologies. Through deep learning and large-scale data training, they continuously improve diagnostic accuracy, reduce the risk of errors, and provide clinicians with more quantitative references to support informed clinical decision-making—realizing an intelligent closed-loop from imaging to decision-making.

Finally, regulatory compliance is a fundamental prerequisite for medical device products to enter global markets and serves as a key benchmark for ensuring product safety and effectiveness. As AI becomes more deeply embedded in medical imaging and radiotherapy, regulatory bodies worldwide have raised the bar for approval of medical AI products to ensure reliability and traceability in clinical applications. Securing regulatory certifications such as China’s NMPA approval, the U.S. FDA clearance, and the European CE mark directly influences the market entry and adoption speed of AI-integrated imaging and radiotherapy equipment. These certifications also increase purchasing confidence among healthcare institutions, accelerating global deployment and clinical adoption of innovative AI-powered solutions.

Qustion 2

What differentiated strategies and advantages does United Imaging Healthcare possess in the clinical application of AI across its devices?

Answer:

United Imaging Healthcare has established a leading technological innovation system and deep clinical foundation in applying AI to empower its medical imaging and radiotherapy equipment. Its core strengths are reflected in the following areas:

First, a platform-based innovation strategy. United Imaging Healthcare follows a dual-engine approach that equally prioritizes technological innovation and clinical needs. It adopts a platform-based R&D model to digitally and intelligently empower all product lines. Through years of strategic development, the company has built a comprehensive cross-modality intelligent super-platform, achieving AI enablement at the foundational level and driving innovation across multi-modality and multi-scale diagnostic and therapeutic technologies.

Key examples include:

- *uSense* perceptive intelligence platform for CT
- *uAIFI* brain-inspired AI platform for MR
- *uExcel* limitless platform for molecular imaging (MI)
- *uAid* and *uVera Technology* bionic intelligence platform for X-ray (XR)
- *All-In-One Solution* for radiotherapy (RT)

In **MR**, AI applications focus on imaging acceleration, lesion detection, and workflow optimization. The company's MR systems, powered by the *uAIFI* platform, support fast high-resolution dynamic imaging at 0.5 seconds per phase—an industry-leading capability.
In **CT**, AI supports low-dose scanning, image analysis, and rapid reconstruction, improving both image quality and diagnostic efficiency.
In **MI**, AI is primarily applied to radiotracer analysis and image registration, with future development targeting biomarker discovery and treatment response monitoring.
In **XR**, AI offers image enhancement, lesion detection, and diagnostic assistance—enabling real-time image interpretation and large-scale screening.
In **RT**, AI is applied to target delineation and automated segmentation, improving standardization and accessibility of treatment planning—addressing quality inconsistency and limited workforce challenges.

These developments help drive personalized medicine, real-time automation, and expanded clinical decision support for physicians.

Thanks to this platform-based innovation, United Imaging Healthcare has rapidly introduced industry-first products that address critical technology gaps, including the world's first 5T MRI system *uMI Jupiter*, the next-generation *uMI Panorama* series for molecular imaging, and high-precision CT-guided radiotherapy systems. These achievements are deeply rooted in the company's strong platform R&D capabilities.

Second, clinical-centric product development. United Imaging Healthcare recognizes the complexity and diversity of clinical practice and remains focused on developing intelligent solutions that address real-world needs.

To alleviate workforce shortages in primary care settings, the company introduced the intelligent CT system *uCT Orion* in 2024—the industry's first AI quality-control CT system based on deep learning. It addresses three critical needs: precision QC, intelligent diagnosis, and affordability. Equipped with a dual-camera intelligent sensing system, it improves image quality through artifact detection. The built-in AI diagnostic platform covers brain hemorrhage, pulmonary nodules, and spine/skeletal analysis—supporting accurate diagnosis of common conditions. The hardware offers robust performance and stability, while integrated intelligent applications reduce operating costs. Since its launch in Q4 2024, *uCT Orion* has received over 100 orders in China and is scheduled for international rollout in the first half of this year.

In angiography, the ceiling-mounted *uAngio AVIVA* DSA system supports multi-directional scanning and intelligent 3D modeling and incorporates the industry's first voice-interaction system—enhancing precision and safety during procedures.

In radiotherapy, Sun Yat-sen University Cancer Center used United Imaging Healthcare's *uRT-linac 506c* and its All-In-One (AIO) technology to reduce the radiotherapy preparation time for nasopharyngeal carcinoma from several days to just over 20 minutes—a dramatic improvement in clinical workflow.

Through platform-based innovation, clinical-driven product design, and intelligent technology integration, United Imaging Healthcare has built distinct competitive advantages in AI-empowered medical imaging and radiotherapy. These applications not only enhance product competitiveness but also provide clinicians with intelligent assistance and decision support—advancing the development of personalized and precision medicine.

Looking ahead, United Imaging Healthcare will continue to deepen its AI applications, expand its influence across the healthcare industry, and deliver more intelligent and efficient healthcare solutions to customers worldwide.

Qustion 3

Could the management team elaborate on United Imaging Healthcare's outlook for the future application of AI in medical imaging diagnosis and treatment?

Answer:

At present, AI applications in medical imaging diagnosis and treatment are in a stage of rapid development. Although significant progress has already been made, from a deeper perspective, medical AI has not yet fully penetrated healthcare institutions at all levels, and clinical usage habits among physicians are still in the process of being cultivated. Therefore, a key challenge for the entire industry is how to further unlock market potential, scale up application deployment, and ensure that medical AI delivers tangible value—becoming an indispensable tool that physicians rely on—thus achieving broader market penetration and deeper clinical integration.

Nonetheless, the industry is witnessing positive shifts. On the technology front, the rise of open-source large models such as DeepSeek has dramatically lowered technical barriers for text processing and language understanding, making AI technologies more accessible. This democratization of AI has triggered several important changes:

Healthcare institutions at all levels, as well as clinical users, are showing increased willingness to adopt AI.

There is growing long-term expectation from clinical users regarding the development of medical AI.

It has also accelerated the lightweight and localized deployment of medical large language models, lowering the implementation threshold for AI in clinical scenarios.

That said, despite the foundational breakthroughs brought by large models, medical AI still faces multiple structural barriers—talent, data, scenario adaptation, and regulatory compliance—all of which raise industry entry thresholds and define a company's core competitive advantage. In this context, success in medical AI will hinge on possessing:

- Interdisciplinary talent
- Long-term accumulation of proprietary data
- Deep clinical collaboration experience
- A robust compliance framework
- These will be the key differentiators in this highly competitive field.

First is the talent barrier—requiring cross-disciplinary integration.
Medical AI demands a high level of expertise across multiple domains, including AI algorithm development, clinical medicine, and data engineering. Only with a multidisciplinary team can companies create truly deployable and impactful solutions. As a result, companies with strong interdisciplinary teams enjoy a clear competitive edge, and this talent base has become a significant barrier to industry entry.

Second is the data barrier—particularly proprietary and domain-specific clinical data.
High-quality proprietary datasets, domain-specific annotations, and clinical-user-specific data are central to the success of medical AI. However, such data are typically not publicly available, requiring companies to either engage in long-term collaboration with healthcare institutions or build their own data ecosystems. Companies that control high-quality vertical datasets hold a substantial advantage in model training, optimization, and clinical applicability.

Third is regulatory and compliance complexity—critical for the sustainable development of medical

AI.
The medical field imposes strict standards on data security, patient privacy, and regulatory compliance. AI-based products must comply not only with medical device regulations (e.g., FDA, NMPA certifications) but also with international privacy laws such as GDPR and HIPAA. These layers of regulation significantly raise the bar for market entry. In a landmark policy shift, China's National Healthcare Security Administration officially recognized the value of AI in healthcare in its Project Initiation Guide issued in November 2024—signaling the beginning of broader regulatory acceptance and opening new opportunities for growth.

As AI technologies continue to advance, their influence across the medical industry will deepen, leading to major transformations in business models.

In the future, as AI becomes indispensable to physicians' daily work, the business model of medical AI will evolve from a hardware-attached feature into a full-chain service model centered on intelligent decision support. AI will no longer serve merely as a diagnostic aid, but rather participate deeply in clinical decision-making—helping physicians craft accurate, intelligent, and personalized care plans, and enabling intelligent, full-cycle disease management.

This evolution will manifest in several ways:

- AI will expand from single-point applications to full-chain enablement, covering pre-diagnosis risk prediction, intra-diagnosis decision support, and post-treatment follow-up.

- AI will shift from passive assistance to proactive decision support—acting as a real-time "think tank" for clinicians.

- AI services will decouple from hardware and evolve into standalone SaaS platforms, enabling intelligent healthcare services across institutions and departments.

These shifts, driven by supportive policy, improved data-sharing mechanisms, and accelerated hospital digitization, will create a favorable environment for the widespread adoption of AI in healthcare.

United Imaging Healthcare, in close collaboration with United Imaging Group, will continue to integrate cutting-edge technologies such as AI, cloud platforms, and big data to accelerate innovation and clinical application in areas like multi-modality precision radiotherapy, intelligent radiotherapy, and cloud-based radiotherapy.

By leveraging its robust data resources, continuous algorithm innovation, and strong clinical partnerships, the company is committed to advancing the deep integration of AI in medical imaging diagnosis and treatment—ensuring that intelligent healthcare solutions truly benefit patients around the world.