2025
The 8th AAMLS &
The 16th APFMLS

2025 8th Congress of Asia Association of Medical Laboratory Scientists
in conjunction with 16th Asia-Pacific Forum of Medical Laboratory Sciences
Precision, Innovation, and Legacy in Laboratory Medicine

Innovative Development and Challenges of Smart Healthcare

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Heading towards 2030, smart healthcare will extensively utilize big data, artificial intelligence, the Internet of Things, and Industry 4.0 technologies to reshape the future of healthcare. The core of this transformation is a shift from a medical process dominated by healthcare professionals to a patient-centered smart healthcare system. Under this new paradigm, medical services will not be limited to hospitals but will extend to communities and homes, achieving comprehensive health management and care. Through smart healthcare services, not only can communication between doctors and patients be improved, but preventive medicine can also be introduced, especially in the fields of cancer, neurological diseases, and chronic illnesses. Additionally, the application of information and communication technology will redesign the medical service process, reduce redundant tests, save medical resources, and provide more personalized healthcare solutions. With the aid of technology, large hospitals will focus more on treating urgent, severe, rare, and complex conditions, while chronic disease care will concentrate on disability prevention and rehabilitation. Over the next decade, the development of smart healthcare will become an indispensable part of smart cities, creating a value and efficiency-driven healthcare system, enhancing the quality of medical services and patient experience, and fostering a more efficient and personalized medical environment.