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The application of Generative AI in clinical laboratory

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With the advancement of automated testing equipment and the annual implementation of intelligent testing processes, there has been significant improvement and enhancement in the efficiency and quality of pre-, mid-, and post-clinical testing operations. However, in practical operations, many administrative management tasks, quality assurance, and teaching activities still remain. These routine management duties often consume a considerable amount of time for managers. While improvements can be made through informatization, the functionality of information systems often cannot keep up with the demand, leading to the inefficiency of such management tasks and creating a daily burden for management personnel.

With the rapid development of generative AI tools, office automation has become our next goal. Our hospital is gradually utilizing the powerful creative capabilities of large language models, combined with various automation software applications. This has significantly helped with routine quality assurance tasks, staff training in information capabilities, and the generation of meeting minutes, review reports, documents, and lesson plans that would traditionally require manual effort. This presentation aims to share the laboratory's digital transformation strategy and future development with colleagues in the testing field, allowing laboratory management tasks to move toward automation.