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Artificial Intelligence Adoption in Clinical Practice in China: Patterns and Challenges

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Background

The adoption of artificial intelligence (AI) in healthcare is increasing rapidly, owing to the increasing demand for healthcare services, need for more accurate diagnoses, and high volume of administrative tasks.

Objective

This study seeks to understand the current real-world landscape of AI tools integration within contemporary clinical workflows among physicians in China.

Methods

Study design:

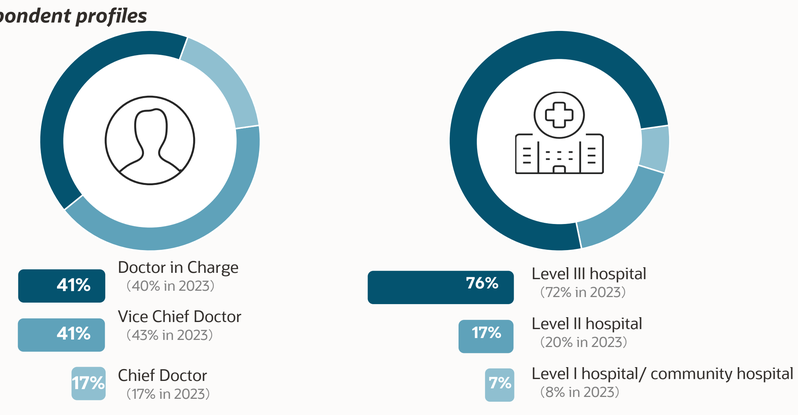
- This study used the 2024 data from the longitudinal Digital Life Physician (DLP) survey (Oracle-JKT) conducted among physicians (n=4,700) from over 20 specialities across China.
- The survey collects responses across 200+ cities in China.
- Physician's profiles are summarised in Figure 1.

Outcomes and data analysis:

- Outcomes associated with physicians' online and AI adoption and usage practices for medical-related activities were reported descriptively.
- Descriptive statistics (distribution frequencies for categorical variables, means, standard deviations, mediansm and ranges) were calculated for variables.

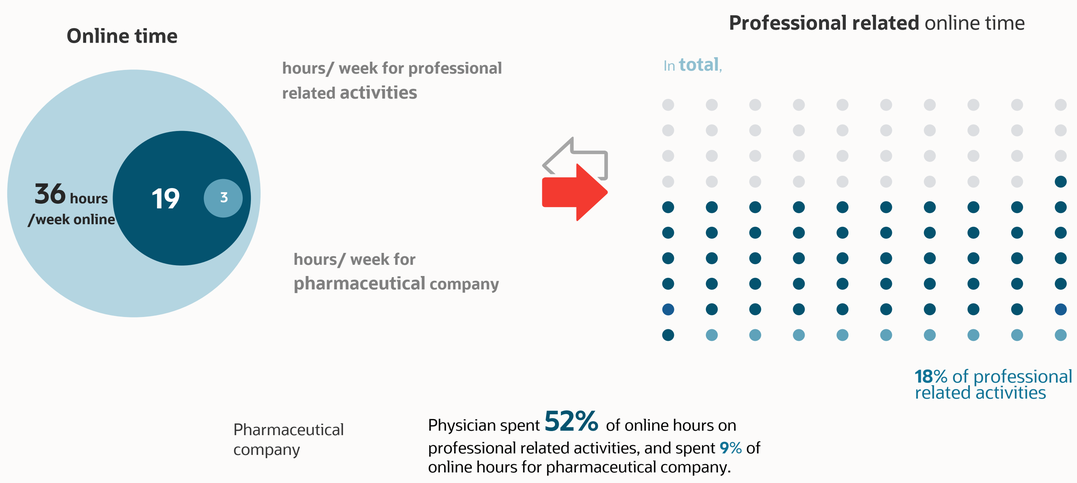
Results

Figure 1. Physician respondent profiles



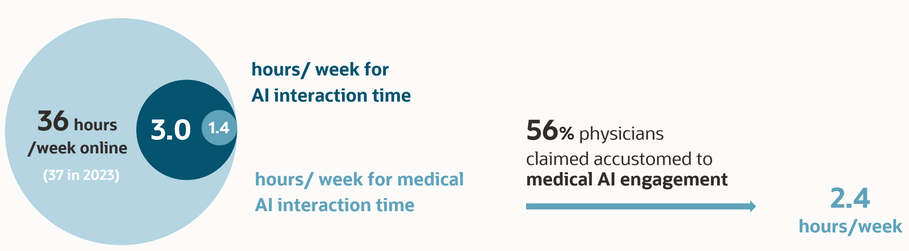
Physicians had spent an average of 36 hours weekly on digital engagement, with 52% of the online time spent on professional-related activities (**Figure 2**).

Figure 2. Distribution of time spent online and for professional-related activities



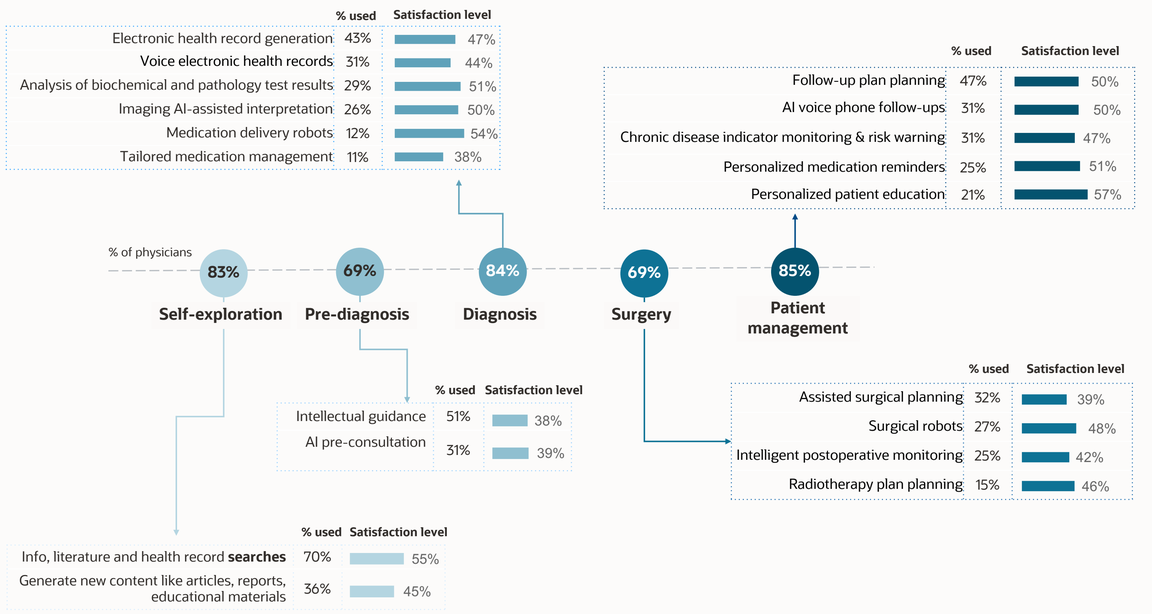
Among the physicians, 56% reported regular engagement with medical AI, spending at least 2.4 hours per week dedicated to medical applications.

Figure 3. Distribution of time spent online and engagement with AI tools.



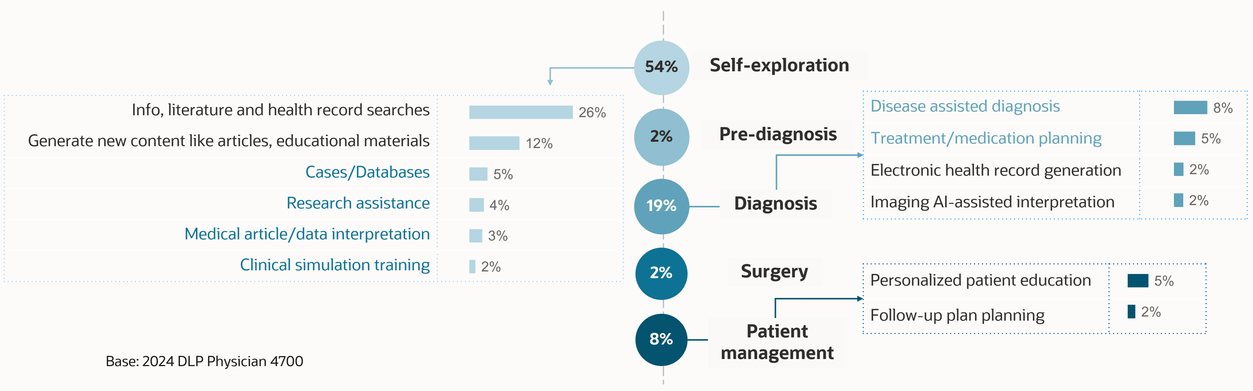
- Patient management was the most common function for adopting medical-related AI tools (85%), followed by diagnosis and clinical decision-making (84%), self-directed learning (83%), pre-consultation patient interactions (69%), and surgical workflow automation and optimization (69%) (**Figure 4**).
- Despite relatively widespread adoption of AI tools, user satisfaction is suboptimal. The satisfaction towards AI tools for most medical-related functions fall below benchmark expectations (cut-off 80%).
- Personalized patient education tools received the highest satisfaction rating (57%), followed by medical information search (55%) and medication delivery robots (54%) (**Figure 4**).

Figure 4. Proportion of physicians using AI tools for medical-related activities, specific functions and the satisfaction level.



- Majority of physicians (86%) identified areas for improvement in the capabilities of artificial intelligence within medical fields including medical information search (26%), literature curation (12%) and disease-assisted diagnosis (8%) (**Figure 5**).

Figure 5. Physicians' recommendations for improvements of AI tools and medical-related functions.



Base: 2024 DLP Physician 4700

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Conclusion

- The findings revealed significant integration of AI tools for medical-related activities and workflows, particularly for patient management and diagnosis.
- However, user satisfaction was suboptimal, with areas for improvement associated with information access and diagnostic support.
- This indicates a need to enhance the utility and physician experience of medical AI in China.