SINI 2025
Thriving
IN THE AGE OF AI:
MASTERING EMERGING
TECH IN HEALTHCARE

厦门大学附属心血管病医院
XIAMEN CARDIOVASCULAR HOSPITAL XIAMEN UNIVERSITY

Awareness and Training Needs of Generative AI in Cardiovascular Nursing

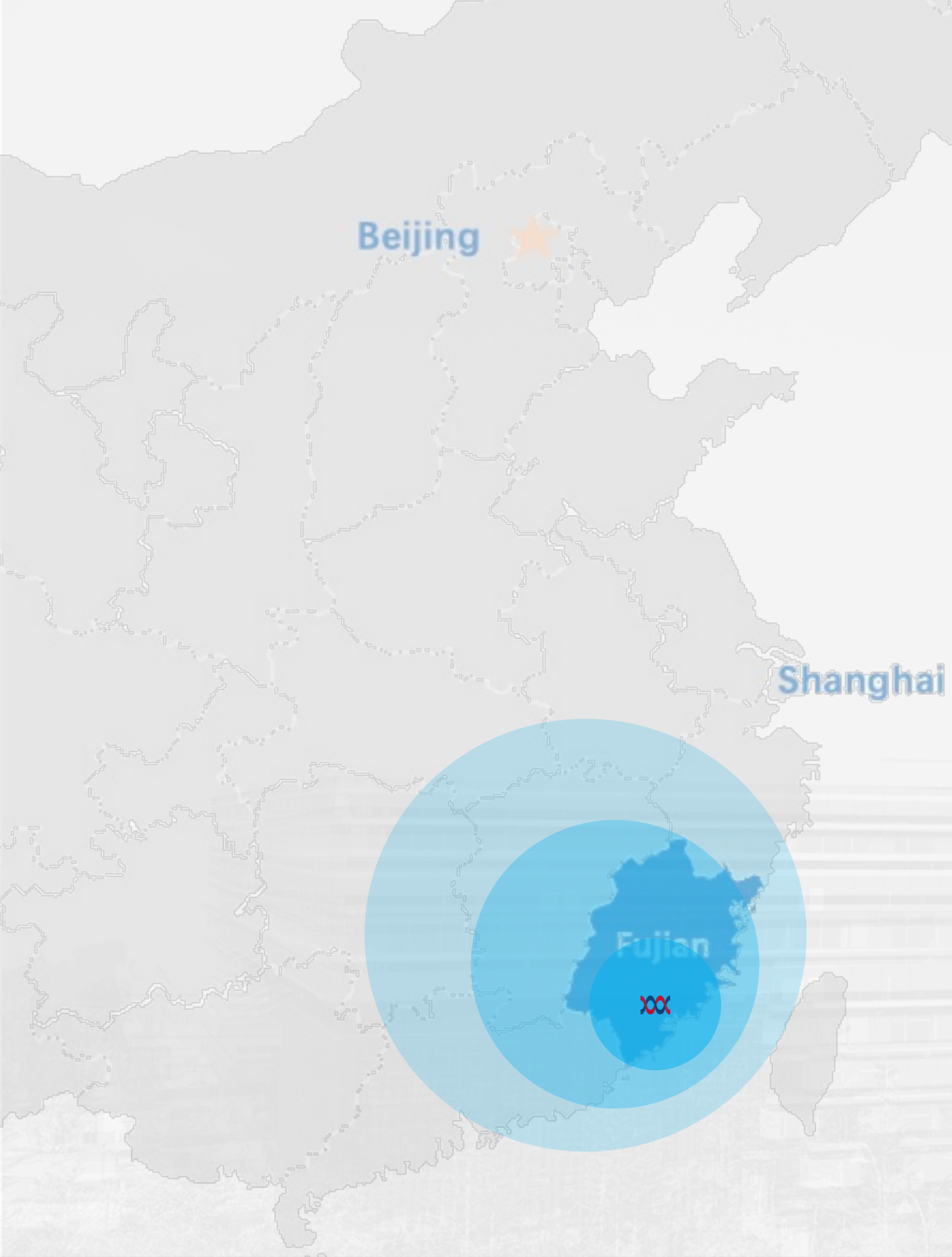
A Multicenter Survey Study

Presenter:Ruidan Hu,MS, RN

Co-author:Shushu Duan MS, RN,Xiaolin Zhu,RN;Xueting Huang,RN

Affiliation:Xiamen Cardiovascular Hospital of Xiamen University, School of Medicine, fujian Branch of National clinical Research Center for Cardiovascular Diseases, Xiamen, China

July 18,2025



ABOUT US

Since 2001

Xiamen, Fujian

National Regional Medical Center

for Cardiovascular Disease

国家心血管病区域医疗中心

Branch of National Clinical Research Center

for Cardiovascular Disease

国家心血管疾病临床医学研究中心分中心

XIAMEN CARDIOVASCULAR
HOSPITAL
XIAMEN UNIVERSITY

Background

01

崇德|术精|仁爱|创新

Challenges in Cardiovascular Nursing +The AI Opportunity

Public Health Crisis

Cardiovascular diseases remain a global public health priority, affecting millions worldwide

Efficiency Demands

Cardiac nurses face workloads necessitates urgent workflow optimization

Generative AI

Diagnostic support
Personalized care plans
Patient education

Q:Are nurses equipped to adopt AI?

Research Objectives

- Understanding of Generative AI technology
- Attitudes
- Training needs

XIAMEN CARDIOVASCULAR
HOSPITAL
XIAMEN UNIVERSITY

Method

02

崇德|术精|仁爱|创新

Participants

Convenience sampling

- 5 tertiary first-class hospitals in Fujian Province, Shanxi Province, and Guangdong Province are taken as the research objects.

inclusion Criteria

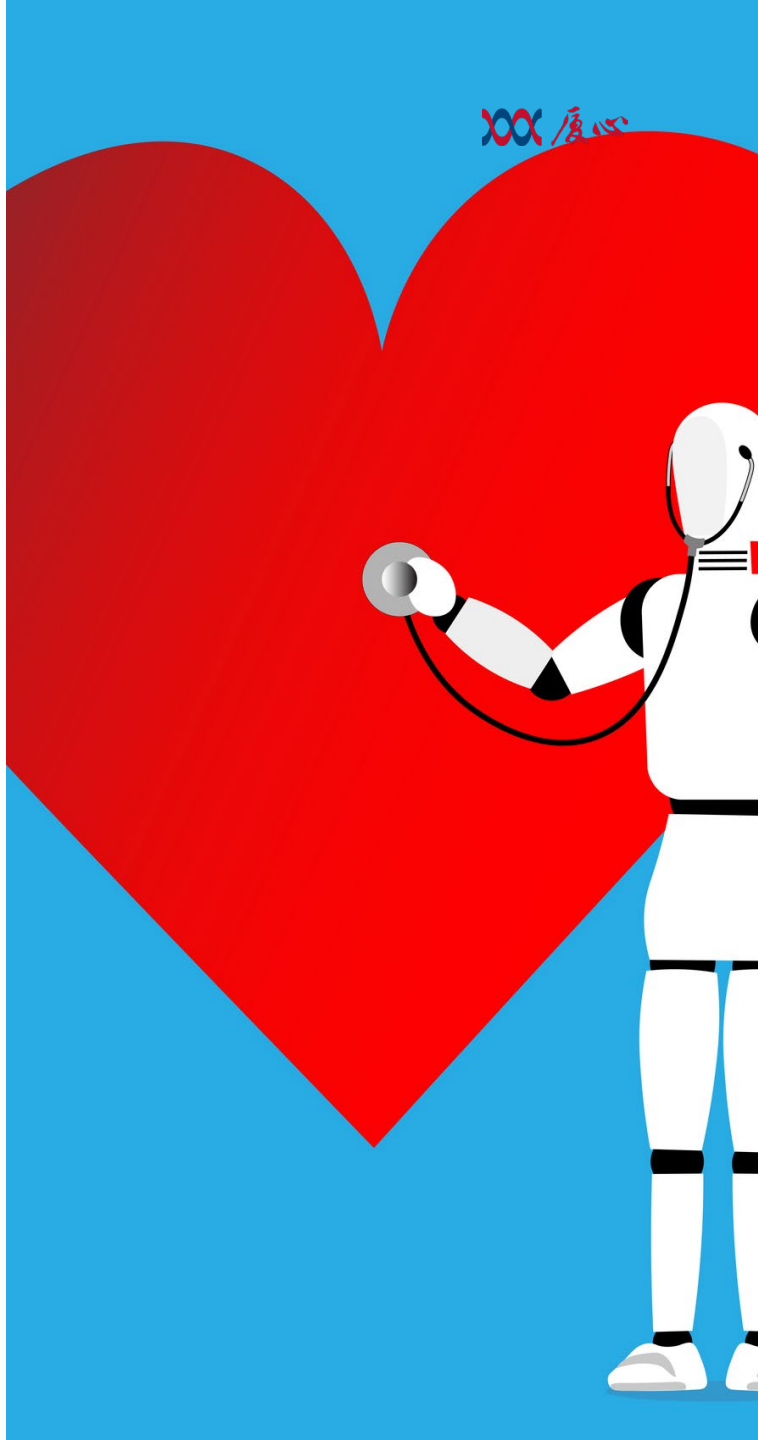
- Registered nurses;
- engaged in cardiovascular specialized nursing work for ≥ 1 year;
- voluntarily participate in this research

Exclusion Criteria

- Student nurses or nurses on advanced study;
- fail to complete all the contents of the questionnaire.

Sample Size Calculation

- 5 - 10 times the number of questionnaire items.
- the required sample size : 100 - 200
- 202 samples are actually included.



Tools

Basic Information of Nurses

Age, gender, professional title, educational background, etc

Attitude Assessment

Advantages of AIGC technology application, potential challenges, acceptance willingness, and other aspects.

.

Cognitive Dimensions of AIGC Technology

The concept 、 technical principles, and application scenarios。

Training Needs

Content preferences, implementation methods, priority ranking, and other training - related content.

Data Collection and Analysis

Online Survey

After obtaining participants’ consent, researchers distributed surveys through WeChat

February 7–14, 2025

All 202 collected questionnaires were validated

Real-time quality monitoring;
Exclusion of incomplete/contradictory responses

Statistical analysis performed using SPSS.19.0

XIAMEN CARDIOVASCULAR
HOSPITAL
XIAMEN UNIVERSITY

Result

03

崇德|术精|仁爱|创新

1.General Characteristics

Category	Data Presentation
Age Distribution	Mean age: 31 years (range: 28-37)
Work Experience	Median: 8 years (IQR: 5-14.25)
Gender Ratio	Male: 27 (13.37%) Female: 175 (86.63%)
Professional Titles	Nurse: 24 (11.88%) · Senior Nurse: 81 (40.1%) Charge Nurse: 79 (39.11%) · Deputy Chief Nurse: 15 (7.43%) Chief Nurse: 3 (1.49%)
Education Level	Associate Degree:22 (10.89%) Bachelor's:162 (80.2%) Master's:18 (8.91%)

Technology Awareness & Conceptual Understanding

6.44% demonstrate deep understanding

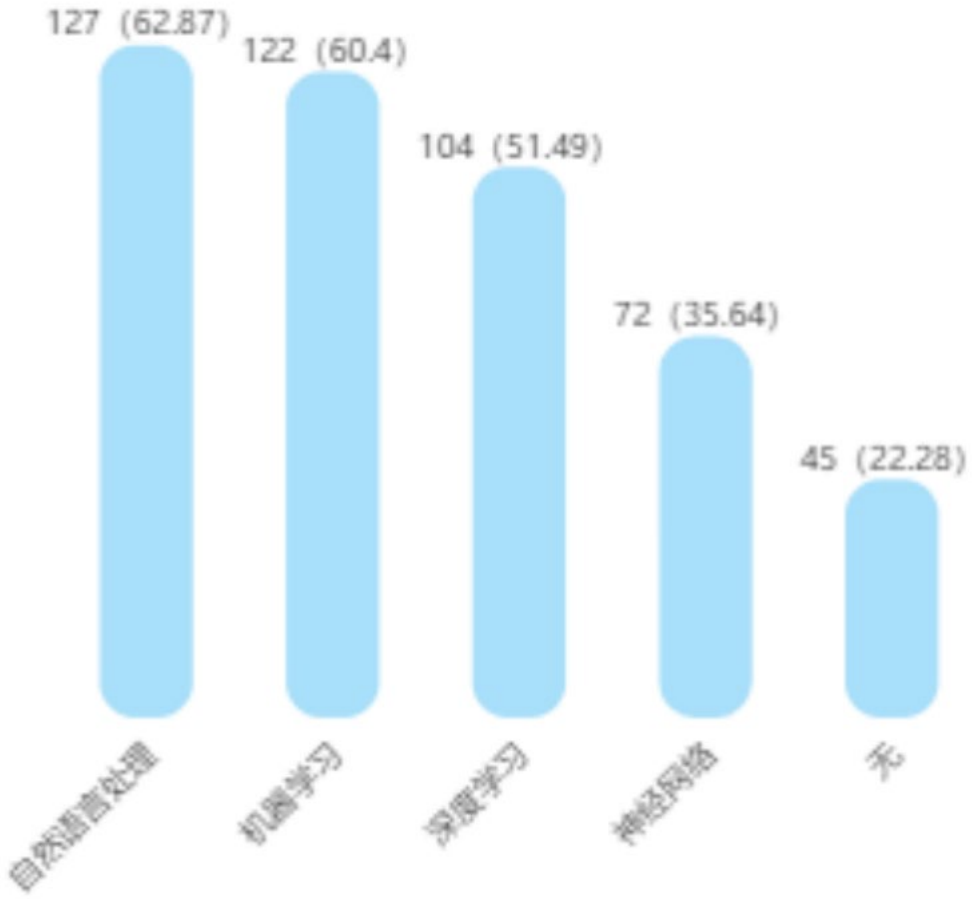
48.02% have basic knowledge

39.11% recognize only basic concepts

Best-Known Technologies:

Natural Language Processing (62.87%)

Machine Learning (60.4%)



Primary Sources:

Internet news (77.23%)

Peer communication (53.47%)

Training Gap:

Only 17.82% via hospital training

- Doubao (55.94%)、DeepSeek (53.47%)、ChatGPT (33.66%)

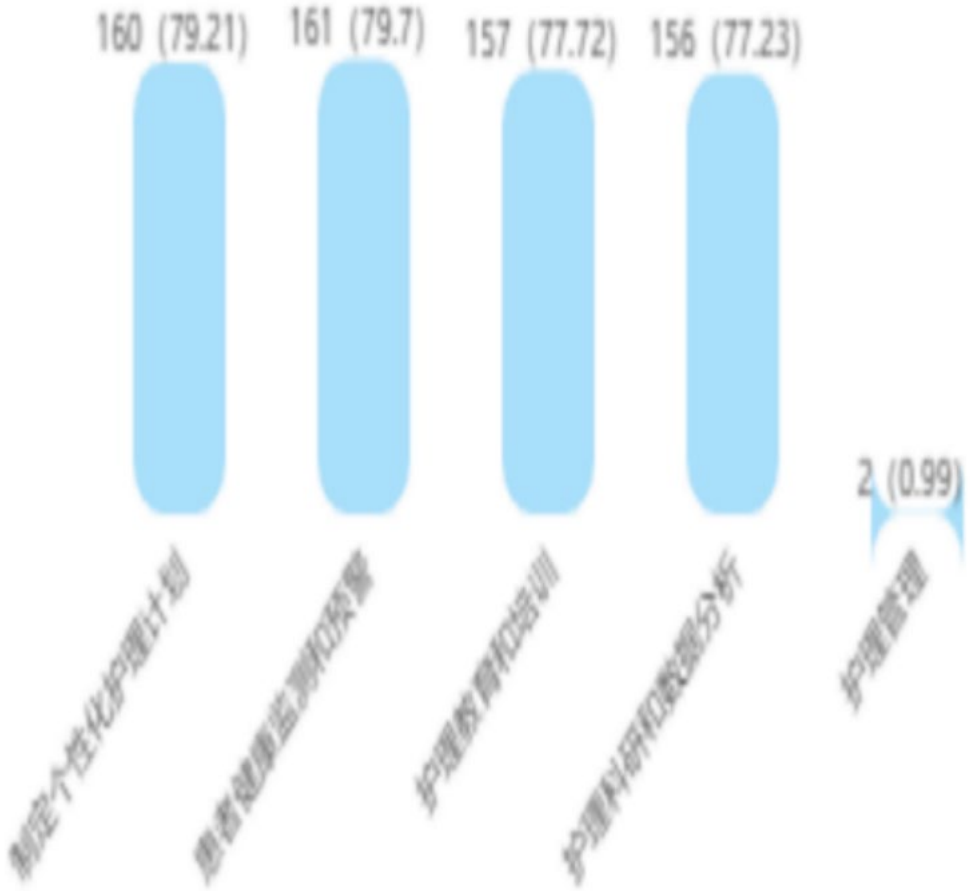
01 Application Scenarios:

13.37% know cardiovascular applications

02 Potential Uses:

Health monitoring & alerts (79.7%)

Personalized care plans (79.21%)



3.Attitudes & Acceptance of Technology Among Nurses

Perceived Benefits

- 42.08%: Efficiency improvement as primary advantage
- 21.78%: Workload reduction

Key Challenges

40.59%: Technology reliability concerns
32.18%: Data accuracy issues

Job Displacement Concerns

60.89%: Not worried about replacement

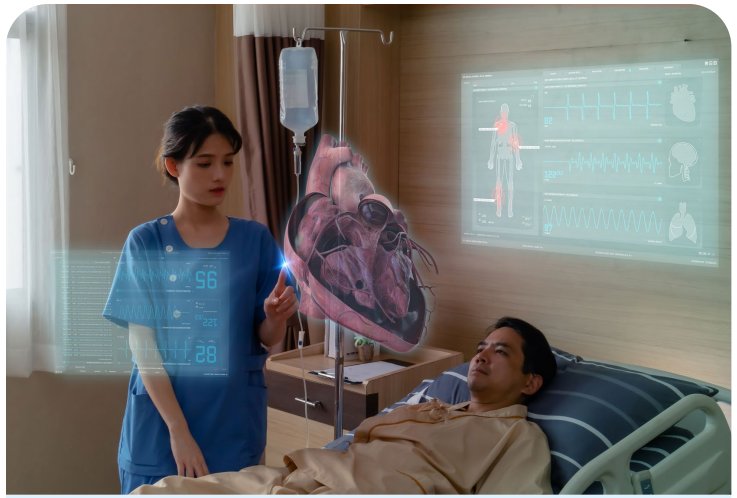
Future Outlook

48.02%: Optimistic about technology prospects

Adoption Willingness

83.63%: Willing to participate in pilot programs

4.Training Needs Analysis

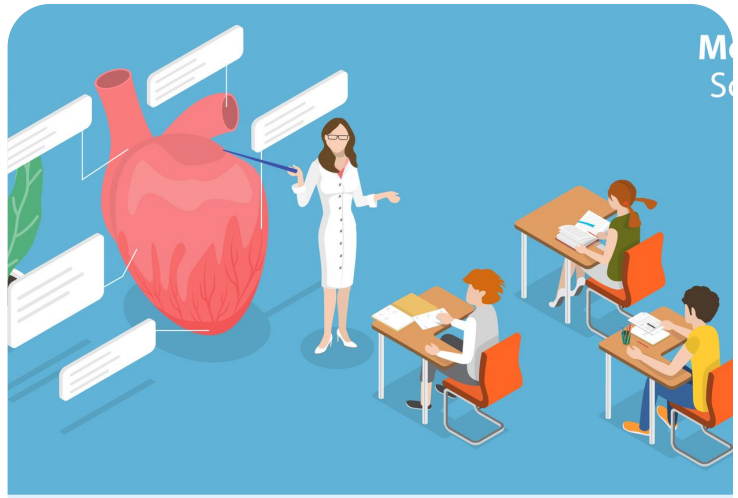


Training Demand

77.72% of nurses require specialized AIGC training

Top requested content

Hands-on skills (93.05%)
Case analyses (83.42%)
Technical principles (83.96%)
Data privacy (76.47%)



Preferred delivery methods

Workshops: 45.99%
E-learning: 26.74%
Hybrid: 18.81%

XIAMEN CARDIOVASCULAR
HOSPITAL
XIAMEN UNIVERSITY

Conclusion

04

崇德|术精|仁爱|创新

Awareness Levels & Training Necessity

Awareness Paradox

Cardiology nurses demonstrate a 'high demand-low knowledge' dichotomy toward AIGC technology

77.72% recognize its clinical value

<15% understand core technical principles

Causes of Knowledge Gap

Primary knowledge acquisition barriers:

77.23% rely on informal channels (social media/peers)

<20% utilize formal education (hospital training/academic conferences)

Training Framework Proposal

Tiered training system:

Foundational literacy、Clinical applications、Ethical implementation

Case-based pedagogy for conceptual reinforcement

Value Proposition & Implementation Insights

- **Staff Expectations**

① Operational efficiency (42.08% cited)

② Humanistic care enhancement (personalized patient interactions)

③ *Not* workforce replacement (60.89% unconcerned)

- **Conceptual Alignment**

① Perfect fit with 'Augmented Intelligence' principles

② Human-AI collaboration model

③ technology as decision support (not decision maker)

- **Training Recommendations**

① Essential curriculum components:Mandatory ethics module (76.47% agreement)

② Reality-check case studies (e.g., "When AI suggestions conflict with clinical judgment")

Implementation Barriers & Countermeasures

Key Implementation Barriers

- Technical reliability (40.59%) and data security (33.66%) emerge as primary adoption challenges

Access Evaluation Framework

- Recommendations:Establish institutional technology vetting protocols
- Prioritize clinically validated tools

Adaptive Capacity Building

- Simulation training should enhance:"
- Anomaly data handling
- Algorithmic bias detection
- Edge-case response protocols

Limitation&Future Research Directions

Multicenter Stratified Sampling

Expand research scope
include cardiovascular nurses across regions and hospital tiers, enhancing sample representativeness and generalizability.

Qualitative Interviews

explore:
Root causes of AIGC knowledge gaps
Nurses' unmet needs in technology adoption
Workflow-specific pain point

Prospective Cohort Study

Track training intervention effects through cohort studies to:
Quantify skill transfer efficacy
Identify optimal implementation strategies
Develop evidence-based scaling frameworks"

Contact Us

Get in Touch

Address
No.2999, Jinshan Road,
Huli District, Xiamen, China

Email
hurd_smu@126.com
office@xmheart.com

Website
https://en.xmheart.com/

Phone
(+86) 0592-2292333

厦门大学附属心血管病医院
XIAMEN CARDIOVASCULAR HOSPITAL XIAMEN UNIVERSITY

SINI 2025
Thriving
IN THE AGE OF AI:
MASTERING EMERGING
TECH IN HEALTHCARE

THANKS

- 崇德 VIRTUE / 术精 PROFICIENT / 仁爱 CHARITY / 创新 INNOVATION -

Presenter: Ruidan

厦门大学附属心血管病医院
XIAMEN CARDIOVASCULAR HOSPITAL XIAMEN UNIVERSITY