HIMSS

From Exploration to Execution:

Understanding 5G Maturity and Adoption in Asia-Pacific Hospitals

How healthcare providers are progressing from awareness and pilots towards scalable connected healthcare transformation

GSMA Foundry

White Paper June 2026

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Led by our members, we represent the interests of over 1,100 operators and businesses in the broader ecosystem. The GSMA also unites the industry at world-leading events, such as MWC (in Barcelona, Kigali, Las Vegas and Shanghai) and the M360 Series.

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Executive Summary

Based on a survey of 50 healthcare leaders, clinicians and IT professionals across seven Asia-Pacific markets conducted in December 2025, this report explores how hospitals are progressing from awareness and pilots towards scalable connected healthcare transformation.

The research demonstrates that ecosystem maturity, organisational readiness, workforce capability and leadership support are stronger predictors of adoption than geography alone. The next phase of connected healthcare will depend on integrating connectivity with AI, automation, IoT and digital transformation programmes.

About the Research

This whitepaper is based on a survey conducted by GSMA and Healthcare Information and Management Systems Society (HIMSS) to assess the maturity, adoption, challenges and future investment outlook for 5G-enabled healthcare across the Asia-Pacific region.

Survey Overview

- Survey period: December 2025
- Total respondents: 50 healthcare professionals
- Respondent seniority:
  - 78% C-Suite and senior leadership (39 respondents)
  - 12% Clinician-informaticians (6 respondents)
  - 10% IT professionals (5 respondents)
- Hospital types:
  - 68% Private hospitals
  - 32% Public/Government hospitals
- Countries represented:
  - Malaysia (10)
  - South Korea (10)
  - Indonesia (9)
  - Singapore (7)
  - Thailand (5)
  - Philippines (5)
  - Japan (4)

The findings were analysed using a multi-dimensional maturity framework examining 5G knowledge, adoption status, deployment progress, use-case maturity, organisational readiness, workforce capability and future investment intentions. Results are segmented by hospital ecosystem size to identify the factors most strongly associated with successful adoption and scale.

Key Findings

- 5G adoption remains in the early stages across APAC healthcare, with only 50% of surveyed hospitals reporting active initiatives or plans.
- Only 24% of hospitals have moved beyond planning into tangible deployment activity.
- Large ecosystem hospitals demonstrate significantly higher maturity than standalone institutions.
- Operational efficiency, virtual care and patient monitoring are the leading 5G use cases.
- AI, IoT and automation are emerging as the strongest catalysts for future 5G investment.
- Cost, integration complexity and workforce readiness remain the most significant barriers.
- 67% of hospitals expect to increase 5G investment over the next few years.

The challenge facing healthcare systems is no longer understanding the potential of 5G. The challenge is execution. Organisations that successfully combine connectivity with AI, digital infrastructure, governance and workforce readiness will be best positioned to realise the benefits of connected healthcare at scale.

1. The Connected Healthcare Imperative

1.1 Healthcare is entering a new era

Healthcare providers are facing growing demand, workforce shortages, ageing populations and rising chronic disease burdens. Advanced connectivity is becoming a foundational enabler of digital health transformation.

5G introduces ultra-reliable low-latency communications, support for massive numbers of connected devices and improved performance for data-intensive healthcare applications. These capabilities support telemedicine, remote monitoring, smart hospitals, AI-enabled diagnostics and future healthcare delivery models.

Healthcare systems throughout Asia-Pacific face increasing pressure from:

- Ageing populations
- Rising chronic disease burden
- Workforce shortages
- Increasing patient expectations
- Growing demand for community-based care

Traditional healthcare infrastructure was not designed for continuous, real-time data exchange across hospitals, homes, ambulances and community settings. This is where advanced connectivity becomes critical.

5G offers:

- Ultra-low latency
- Higher reliability
- Massive device connectivity
- Improved security architectures
- Support for AI-enabled healthcare workflows

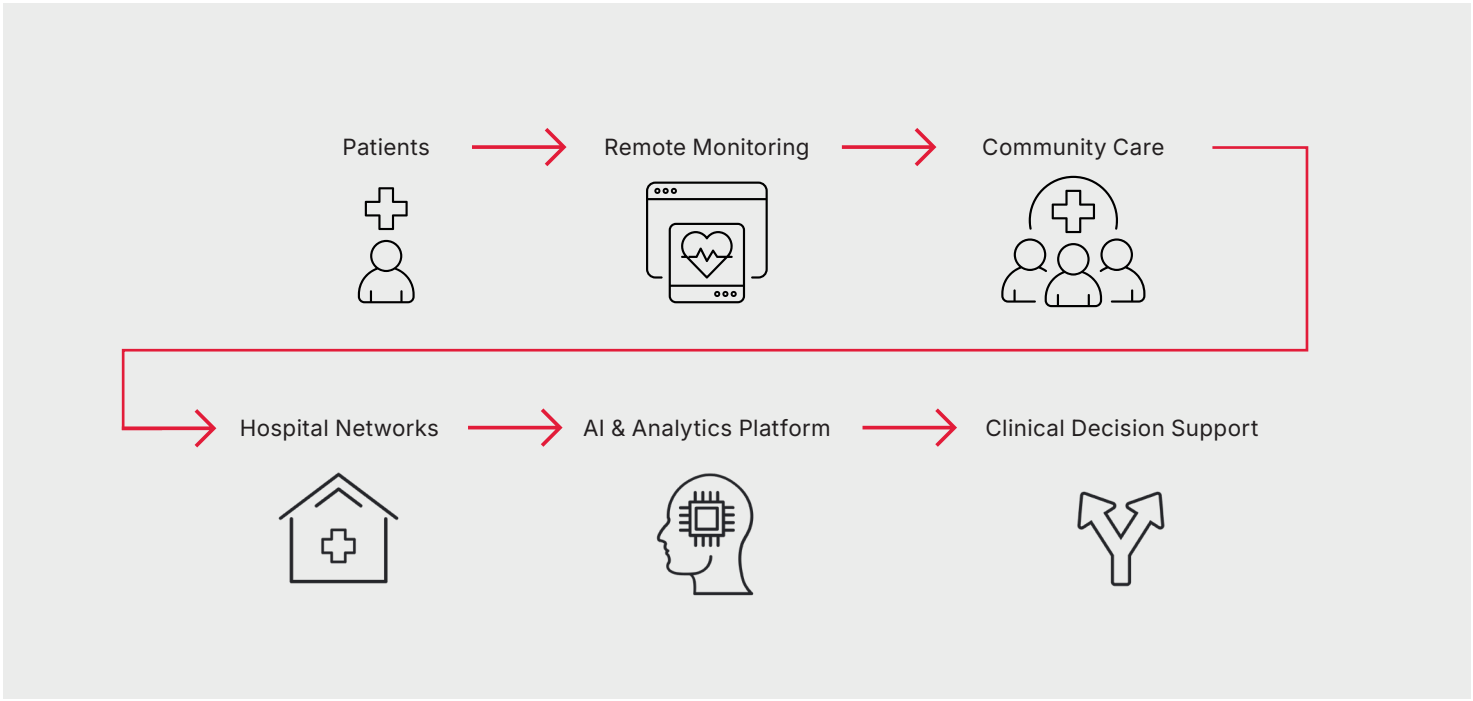

Figure 1, The Connected Healthcare Ecosystem

2. State of 5G Adoption Across APAC Hospitals

2.1 Early but accelerating adoption

The survey reveals that **50%** of hospitals report active 5G initiatives or plans. However, only a subset have progressed to active deployment. Adoption remains fragmented and uneven, reflecting differences in organisational readiness and ecosystem maturity.

Large ecosystem hospitals demonstrate higher adoption rates than standalone institutions, suggesting collaboration and ecosystem participation play a critical role in accelerating deployment.

Analysis

The results suggest healthcare remains in a transitional phase where experimentation is growing but institutionalisation remains limited.

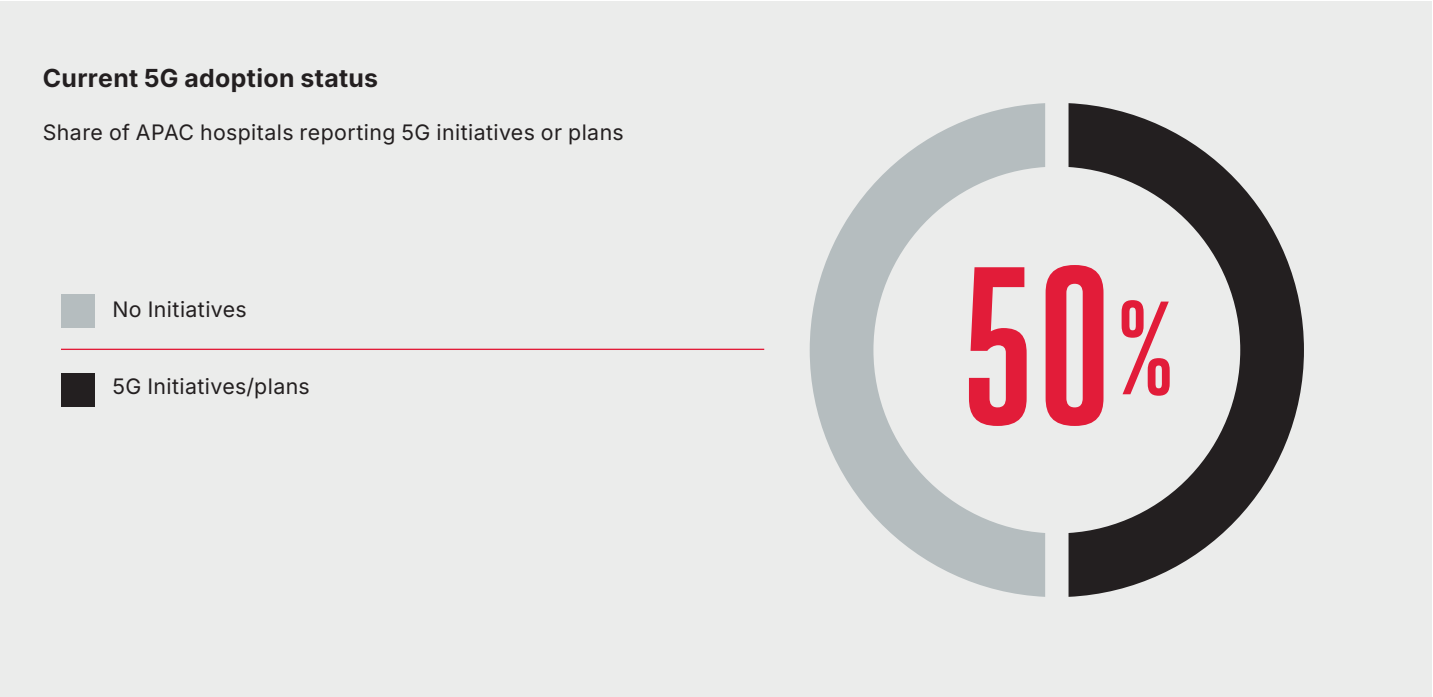

Figure 2, Current 5G adoption status

3. Understanding 5G Maturity

3.1 Awareness exceeds execution

While awareness of 5G is becoming widespread across APAC healthcare, deep expertise remains limited. The survey found that 74% of respondents rated their 5G knowledge at Levels 2–3, indicating that most hospitals have moved beyond basic awareness and have developed a working understanding of potential healthcare applications. However, only 6% rated their knowledge at Level 4, representing organisations with a deep understanding of 5G capabilities, deployment models and operational requirements.

In practical terms, Level 2 organisations are generally able to identify potential use cases and participate in discussions around 5G-enabled healthcare solutions, while Level 3 organisations are more actively evaluating opportunities through planning activities, pilot projects or technology assessments. By contrast, Level 4 organisations possess the specialised expertise needed to design, deploy and scale 5G-enabled solutions across clinical and operational environments.

5G Knowledge levels

Distribution of self-reported 5G knowledge across APAC hospitals

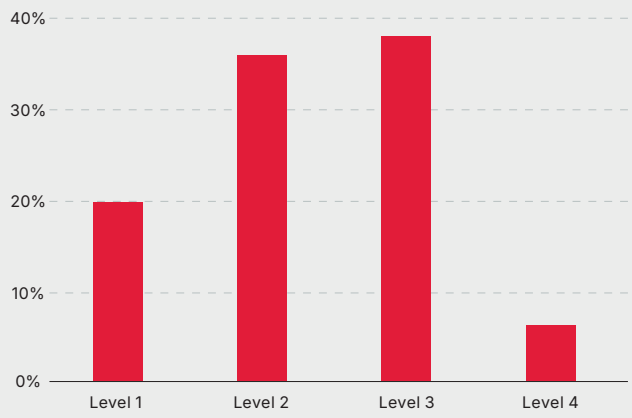

Figure 3, 5G Knowledge Levels

Key Insight

Awareness is not the same as readiness.

Many hospitals have progressed beyond awareness and are actively exploring how 5G could support healthcare delivery. However, the relatively small proportion reporting deep expertise indicates that significant capability gaps remain when it comes to large-scale deployment, integration and long-term operationalisation.

Understanding the Knowledge Scale

- **Level 1:** Limited awareness of 5G and its healthcare applications
- **Level 2:** Basic understanding of 5G concepts and potential use cases
- **Level 3:** Working knowledge with active evaluation, planning or pilot activity
- **Level 4:** Deep expertise in deployment, integration and operational scaling

4. The Ecosystem Effect

One of the strongest findings in the research is the relationship between ecosystem scale and 5G maturity. Hospitals operating within broader care ecosystems, including community care providers, rehabilitation services, emergency services, pharmacies and laboratory networks — were significantly more likely to report active 5G initiatives, pilot programmes and a wider range of use cases.

While the survey does not identify the specific reasons behind this relationship, the findings suggest that ecosystem participation is associated with higher levels of 5G adoption and execution activity. Further research would be needed to determine whether this reflects greater organisational readiness, increased collaboration requirements, stronger investment capacity, or other factors.

Connected ecosystems create stronger incentives for interoperability, real-time data sharing and integrated care delivery.

Large ecosystem hospitals

These organisations typically collaborate with:

— Community care providers
— Rehabilitation centres
— Emergency services
— Laboratories
— Pharmacies

Hospitals operating within these broader ecosystems are more than twice as likely to report active 5G initiatives.

Hospital Maturity Model

Figure 4, Hospital Maturity Model

5. Emerging Use Cases

5.1 Current priorities

The survey reveals that hospitals are prioritising practical and lower-risk applications.

Current use cases are primarily focused on operational efficiency, telemedicine, patient monitoring and IoT-enabled clinical devices.

Advanced applications such as XR-assisted surgery, digital twins and connected robotic systems remain at an earlier stage of maturity but represent significant future opportunities.

Real-world example use cases:

Connected Ambulances

Real-time transmission of patient vitals before arrival.

XR Surgical Planning

3D visualisation and clinician training.

Smart Hospitals

Connected devices, asset tracking and workflow automation.

Hospital-at-Home

Remote monitoring supported by 5G connectivity.

6. AI and 5G: A Converging Opportunity

The survey reveals hospitals increasingly see 5G as foundational infrastructure for AI.

Hospitals increasingly view 5G as a foundational layer for AI deployment. The strongest perceived opportunities include remote patient monitoring, real-time medical imaging, emergency care applications and intelligent automation.

The combination of AI and advanced connectivity has the potential to transform both clinical workflows and operational efficiency.

Top AI Applications

- Remote patient monitoring (88%)
- Medical imaging (78%)
- Emergency care AI (74%)
- Smart asset tracking (72%)
- Embodied AI and robotics (62%)

Key Insight

Hospitals increasingly view 5G not as a connectivity upgrade, but as an enabler of AI-driven healthcare transformation.

Leading 5G use cases

Most common 5G use cases implemented or tested

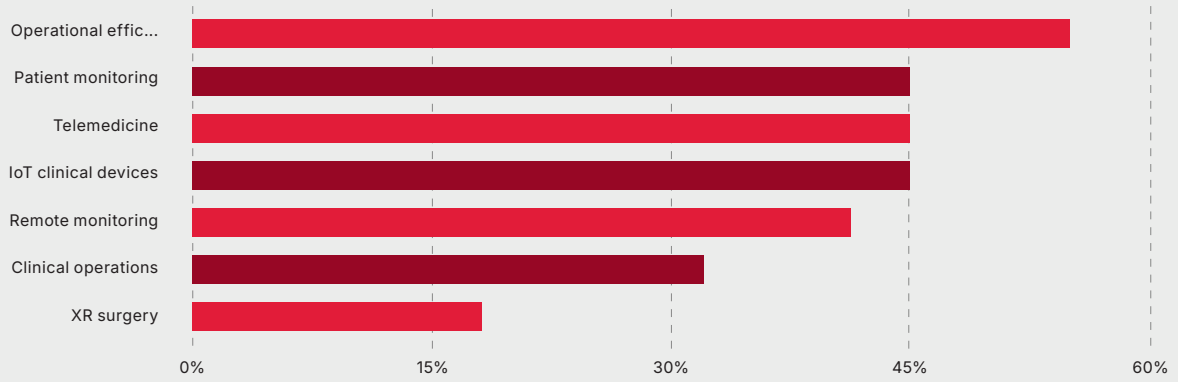

Figure 5, Leading 5G use cases

7. Barriers to Adoption

7.1 The execution gap

The most significant barriers identified include:

— Cost and budget constraints
— Integration with legacy systems
— Data security and privacy concerns
— ROI uncertainty
— Workforce capability gaps

These barriers are highly consistent across hospitals regardless of size, suggesting systemic challenges rather than isolated organisational issues.

Top barriers to 5G adoption

Percentage of hospitals rating each challenge as high severity (4-5)

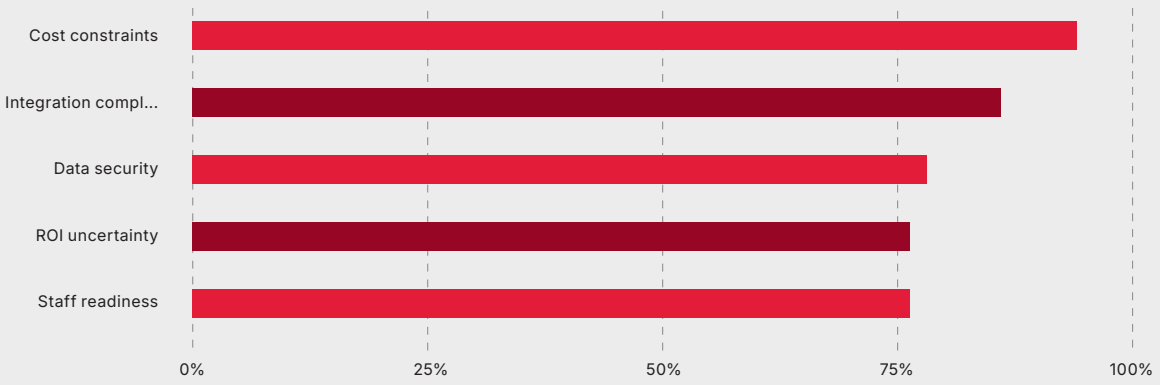

Figure 6, Top barriers to 5G adoption

8. Workforce Readiness

Successful deployment depends not only on technology but also on people. Hospitals identified capability gaps in network management, connected device management, workflow redesign and cybersecurity awareness.

Developing multidisciplinary teams that combine clinical, operational and technical expertise will be essential.

Key Insight

Technology deployment is no longer the primary challenge. Human capability and organisational readiness are emerging as the determining factors for success.

9. Future Outlook

9.1 Investment momentum is positive

Most hospitals expect 5G spending to increase over the coming years, driven by digital health initiatives, AI programmes, smart hospital investments and broader transformation agendas.

This indicates growing confidence in the long-term value of advanced connectivity.

67% of hospitals expect 5G budgets to increase.

Drivers include

— Digital health expansion
— Smart hospital programmes
— AI deployment
— Automation initiatives
— Infrastructure modernisation

Future 5G budget expectations

Expected direction of 5G budgets over the next few years

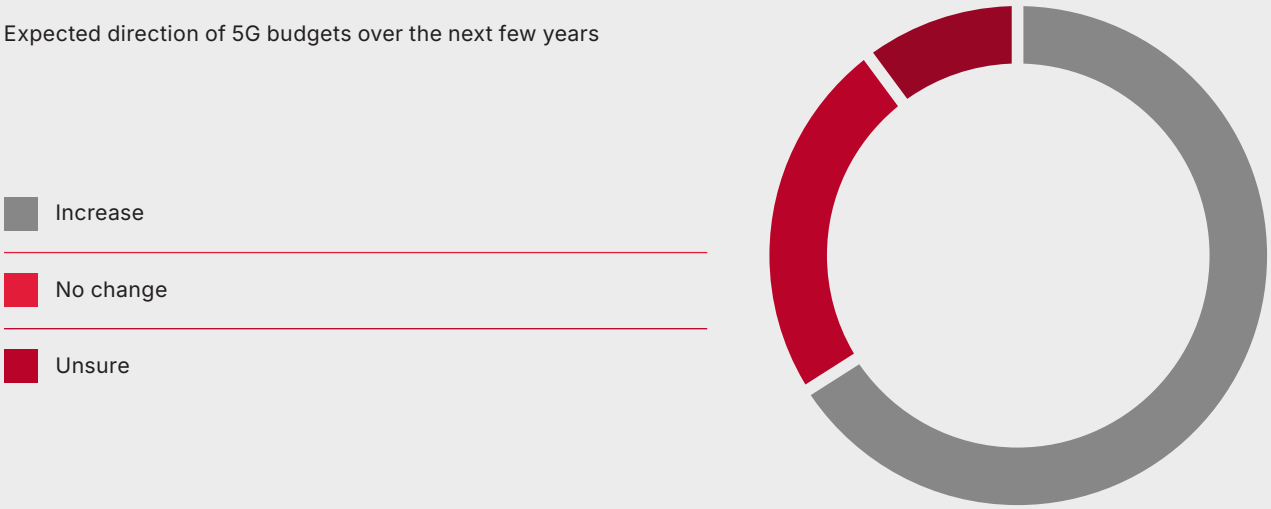

Figure 7, Future 5G budget expectations

10. Recommendations

For Healthcare Providers

— Align 5G initiatives with strategic healthcare priorities
— Establish cross-functional governance
— Develop workforce capability programmes
— Focus on measurable outcomes

For Mobile Operators

— Move beyond connectivity provision
— Develop healthcare-specific service models
— Support integration and cybersecurity requirements
— Create outcome-focused partnerships

For Policymakers

— Develop supportive regulatory frameworks
— Encourage ecosystem collaboration
— Facilitate funding mechanisms
— Promote interoperability standards

For Technology Partners

— Simplify deployment pathways
— Demonstrate measurable ROI
— Build repeatable implementation models
— Support long-term scaling strategies

11. Conclusion

Healthcare across Asia-Pacific is approaching a critical transition point. Awareness of 5G is widespread, investment is increasing and practical use cases are emerging. However, adoption remains constrained by execution challenges rather than technological limitations.

The next phase of connected healthcare will be defined by organisations that successfully combine advanced connectivity with AI, digital transformation, workforce readiness and ecosystem collaboration.

The opportunity is significant: not simply to deploy new networks, but to create connected healthcare systems capable of delivering more efficient operations, better patient experiences and improved clinical outcomes at scale.

This structure follows GSMA's guidance on clarity, authoritative storytelling, evidence-based insights, active language and audience-focused communication.

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