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# **Case study: SingHealth's bedside tablet initiative**



# Background

SingHealth, Singapore's largest healthcare cluster, serves the eastern region through four hospitals, five national specialty centres, and a network of polyclinics. At its heart lies Singapore General Hospital (SGH) —the country's oldest and largest tertiary hospital, home to over 50 specialties and serving as a regional academic medical centre.

In 2018, SGH implemented a patient bedside tablet initiative equipped with the MyCare application. By 2022, the program was rolled out hospital-wide.

## The initial findings over the year showed the following:

- Educate patients and caregivers through better information flow and to provide them with greater certainty and peace of mind.
- empower patients to be part of the recovery process by providing more control to the patient
- Enable patients to better sustain their recovery beyond their inpatient experience to post discharge through enhanced patient engagement

But introducing the technology alone wasn't enough. SGH wanted to measure whether this initiative genuinely fostered a shift from a traditional, paternalistic care approach to a more person centred culture.







# Measuring what matters

To meaningfully assess the impact, SGH chose not to rely on traditional satisfaction surveys, which would have collected information only on the intervention implemented. Instead, they adopted the Picker Patient Experience Questionnaire (PPE-15). This validated tool allowed them to monitor broader experience outcomes over time.

SGH wanted a more holistic approach to measuring how patients' overall experience evolved at each stage of the tablet rollout. Drawing on findings from a published study (Fan et al., 2024), they explored how digital tools could shift healthcare dynamics—and where challenges remained.



# The challenges

The PPE-15 survey was administered through a bedside tablet, targeting patients aged 21 and older in general wards. Convenience sampling was used to recruit participants. Four specific areas were identified as most relevant to the tablet's features:



**Clear information  
and  
communication**



**Involvement in  
decisions and  
respect for  
preferences**



**Attention to  
physical and  
environmental  
needs**

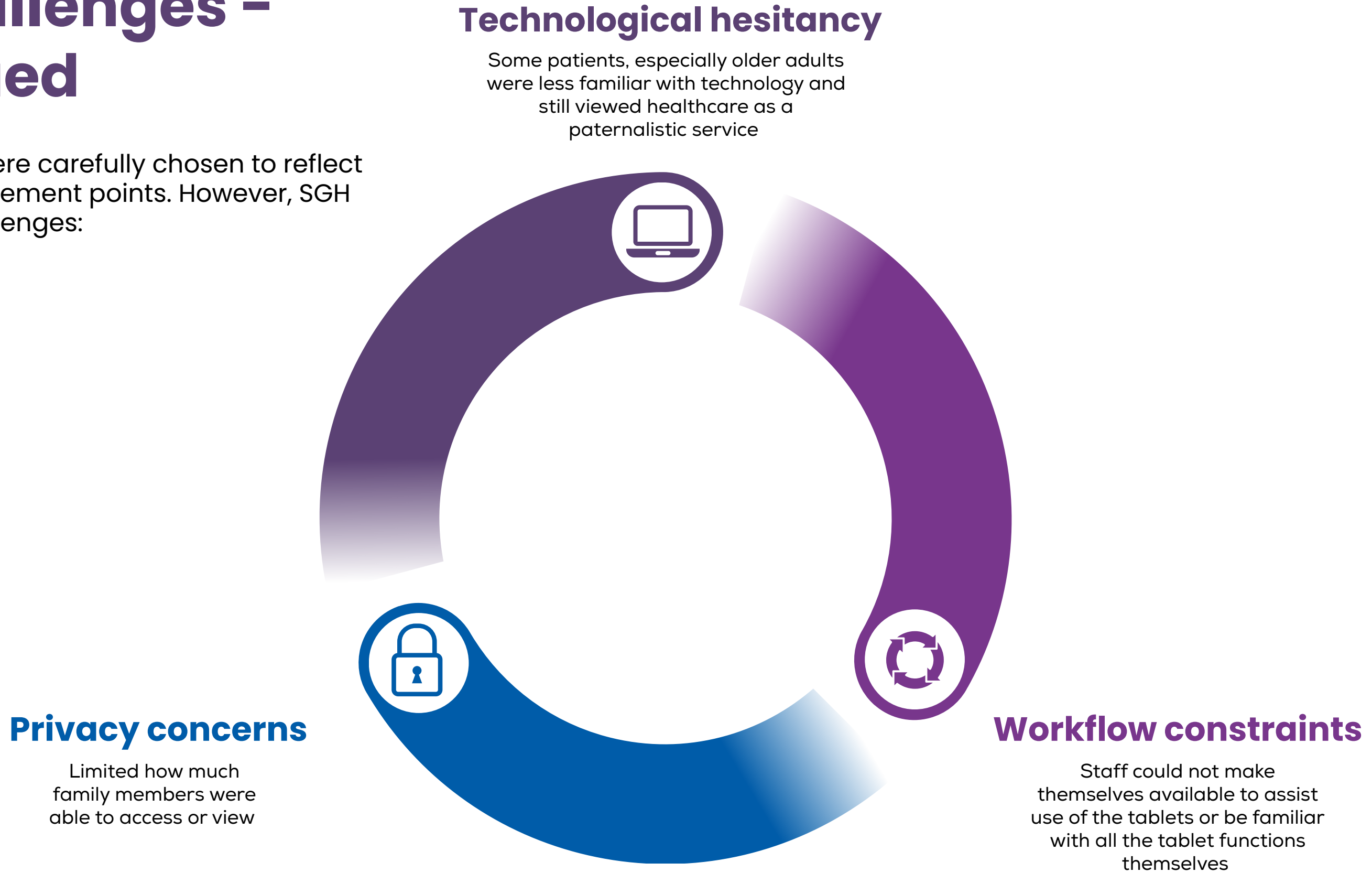


**Involvement and  
support for family  
and carers**



# The challenges – continued

These domains were carefully chosen to reflect key patient engagement points. However, SGH encountered challenges:





# Key findings

The initial findings over the year showed the following:

## Nurse communication clarity

- Positive scores improved from 72.1% to 78.7%.
- Gains were likely driven by features that allowed patients to ask questions or request help via messaging tools.
- The gradual rollout of critical information access further supported clearer communication.

## Patient involvement

- Scores dropped in Stage 1 (to 53.1%) before recovering to 69.3%.
- Early challenges may have stemmed from a lack of educational materials guiding patients on how to use the technology.
- Recovery coincided with the introduction of self-charting and daily health update features.
- Involvement improved as the technology became more embedded in the patient journey.

## Addressing patient concerns

- Scores remained relatively low but improved from 31.8% to 41.9%.
- Patients may have struggled to find relevant content or express their anxieties through the system.







# Key findings – continued

## Messaging function effectiveness

The effectiveness of the messaging function may have been limited by:

- No real-time alert system to notify staff immediately.
- Delays in responses, reducing patient confidence in the tool.
- Staff hesitancy to actively promote the feature.

## Family information provision

Scores declined from 61.9% to 42.5%, possibly due to:

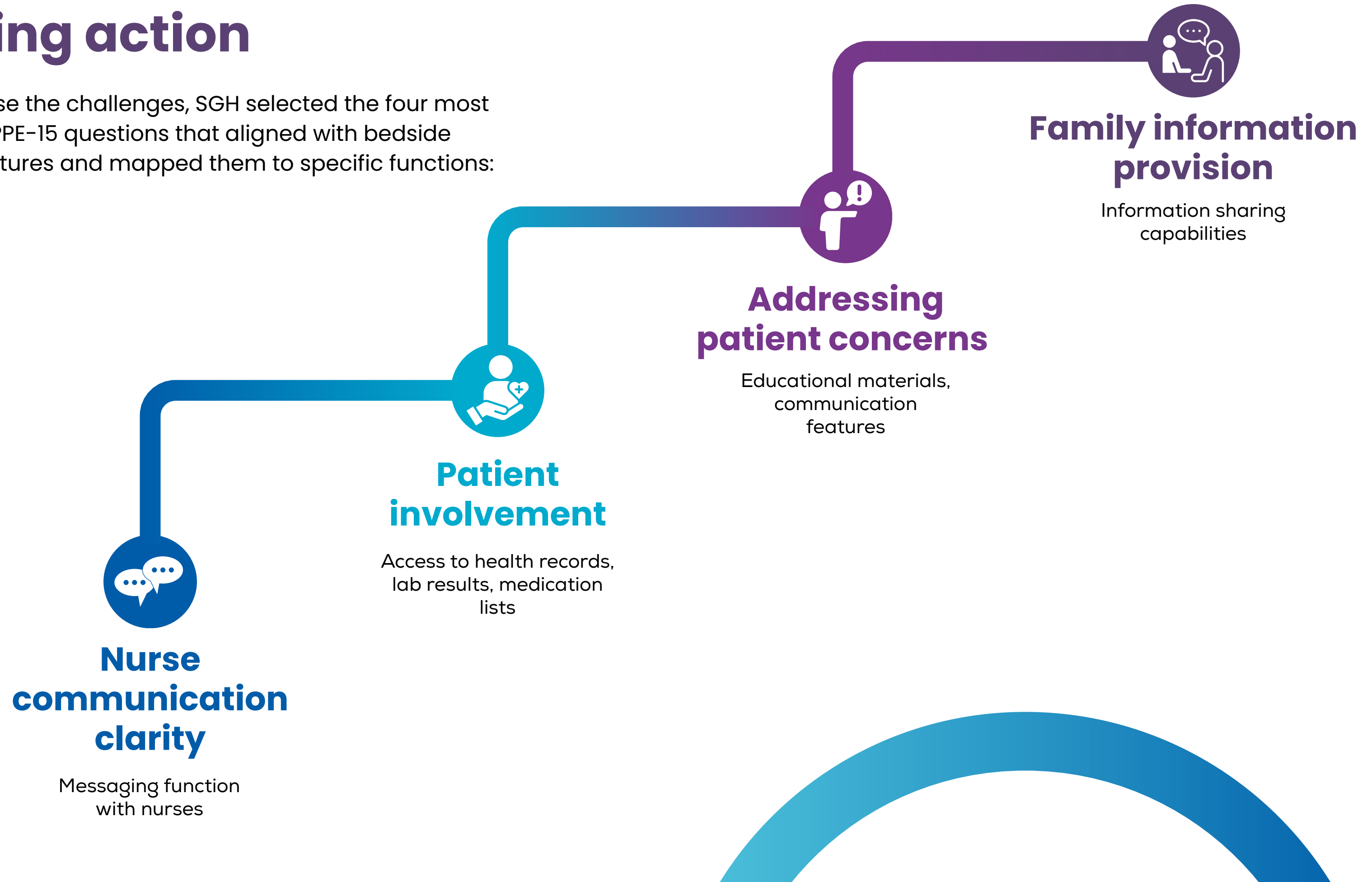
- Few features designed for families, limiting their direct involvement.
- Privacy restrictions and time constraints on staff, which made it harder to share updates with family members.

While positive trends were observed, statistical tests (Kruskal–Wallis H) did not show significant differences across stages, suggesting that multiple overlapping factors may have influenced the results.



# Taking action

To prioritise the challenges, SGH selected the four most relevant PPE-15 questions that aligned with bedside tablet features and mapped them to specific functions:

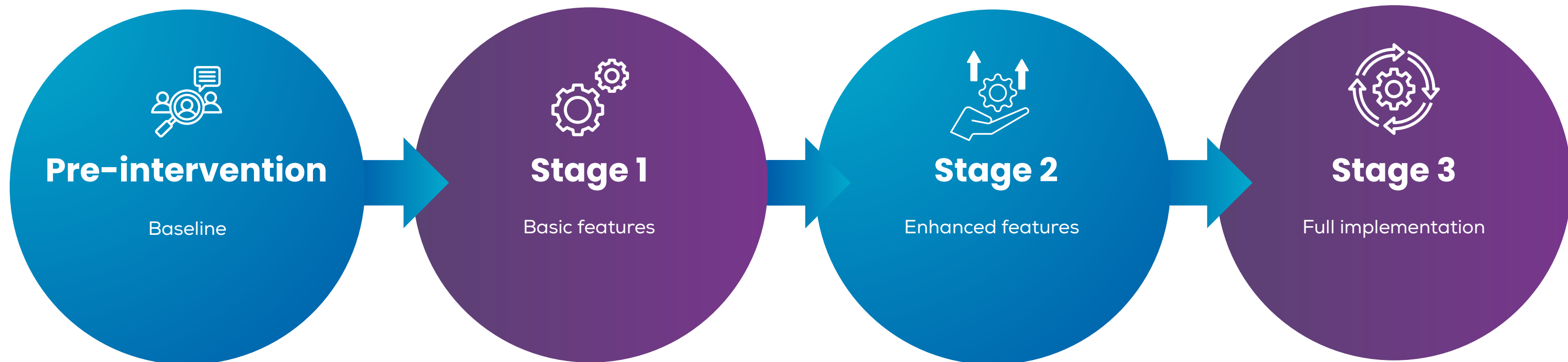




# Taking action – continued

To interpret the data meaningfully, SGH ensured three things: that teams understood the features and rollout, that the PPE-15 questions were clearly aligned with tablet capabilities, and that staff were trained to interpret data in relation to workflows.

SingHealth then examined trends across four main implementation stages and interpreted results by exploring potential relationships between survey scores and specific functionality rollouts:





# Impact and insights

The results of the PPE15 measurement helped SGH to:

- Pinpoint where patient experience improved
- Identify gaps in features or communication
- Refine the rollout strategy with patient needs in mind

The drop in family involvement prompted a focus on new features to better include families in care. Patient involvement also improved once more health information became available on the tablets.







## Next steps

Looking ahead, SGH and SingHealth are committed to continuous improvement in the following ways:

- Ongoing use of PPE-15 to track patient feedback
- Benchmarking with global partners through the Picker International Experience Network
- Plans to enhance:
  - Family engagement tools
  - User-friendly interfaces
  - Real-time communication features

By sharing insights and learning from others, SingHealth hopes to advance digital health not just within Singapore, but internationally.










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