

# APPROPRIATE AND VALUE-BASED CARE CONFERENCE 2025

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Appropriate and Value-Based Care



## Systematic Implementation of PROMs in NHG through Digital Integration

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### Introduction

Patient Reported Outcome Measures (PROMs) are a cornerstone of Value-based Healthcare (VBHC), enabling shared decision-making at patient level and quality improvement at cohort level.<sup>1</sup> However, fragmented data collection and poor integration with electronic medical records (EMR) have limited PROMs' impact.<sup>2</sup> To overcome these barriers and embed PROMs into routine, National Healthcare Group (NHG) embarked on a systematic approach for PROMs implementation.

### Methodology

#### 1. Planning

- Dual-pronged strategy to **secure senior management endorsement** while **fostering ground-up participation** through institutional Value-Driven Care (VDC) Offices.
- Cluster-level, condition-specific workgroups selected and aligned on PROMs based on clinical utility, psychometric properties and feasibility.

#### 4. Continuous Improvement

- PROMs data is regularly analysed to **identify care gaps** and **inform improvement initiatives**.



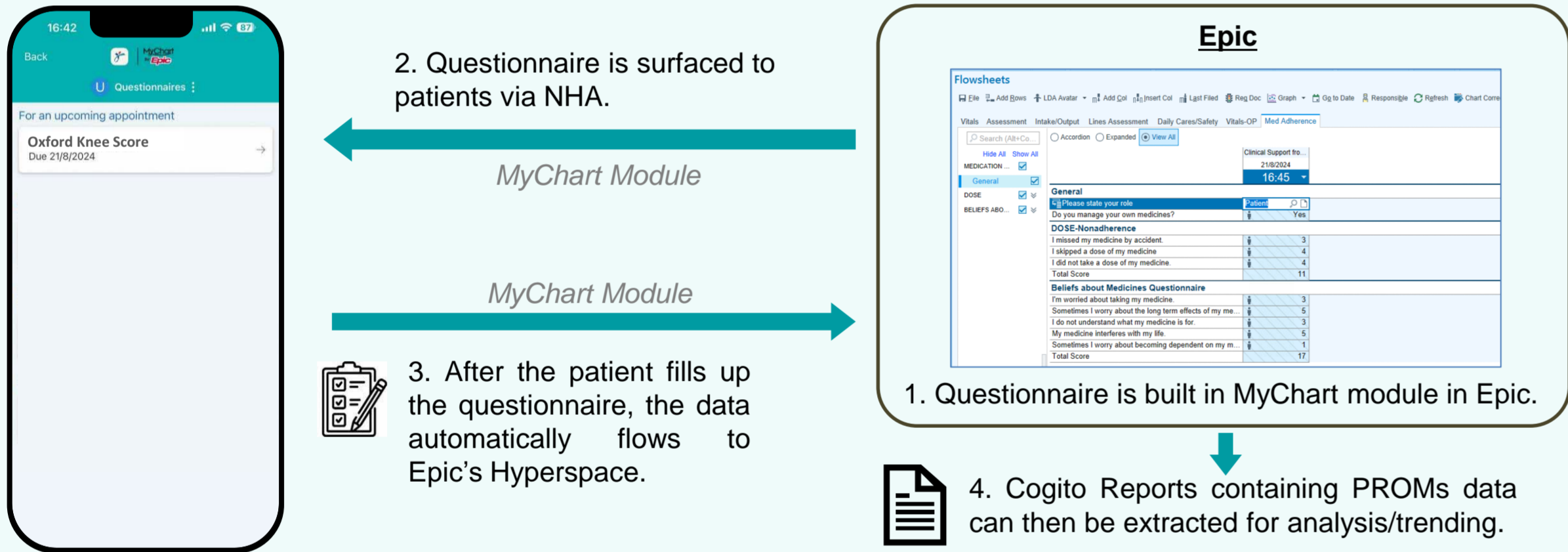
#### 2. Systematic Integration

- PROMs collection was embedded into NHG's EMR (Epic) and patient-facing NHG Health App (NHA).
- Automated distribution at clinical milestones and real-time synchronisation **eliminated manual transcription and unified the data source for clinicians**.

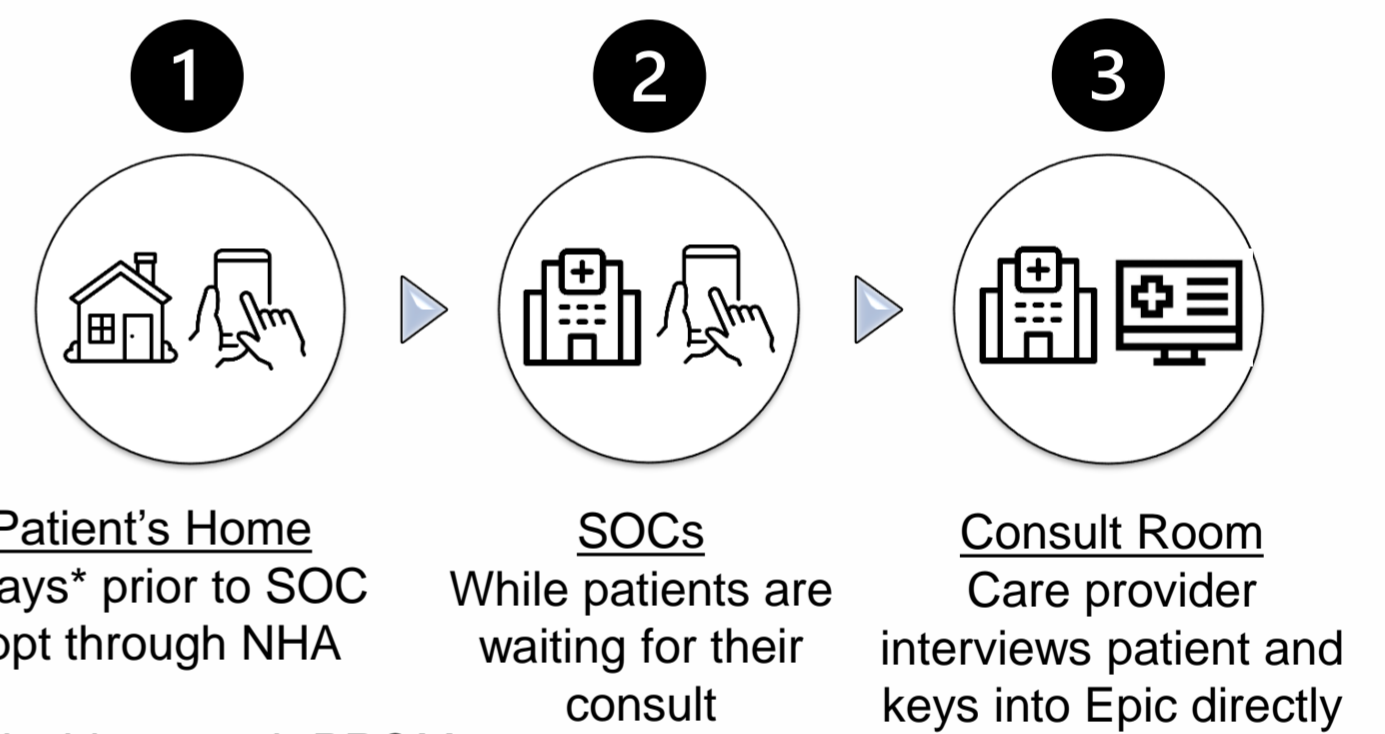
#### 3. Change Management

- Providers: Targeted trainings, clinician toolkits, and onsite support** from institutional VDC Offices. Clinician Champions were also appointed to influence peers and drive adoption.
- Patients: Educational materials and incentives** for self-reporting.

#### Flow of PROMs Questionnaire and Responses between NHA and Epic



#### Opportunities for PROMs collection in a Patient Journey



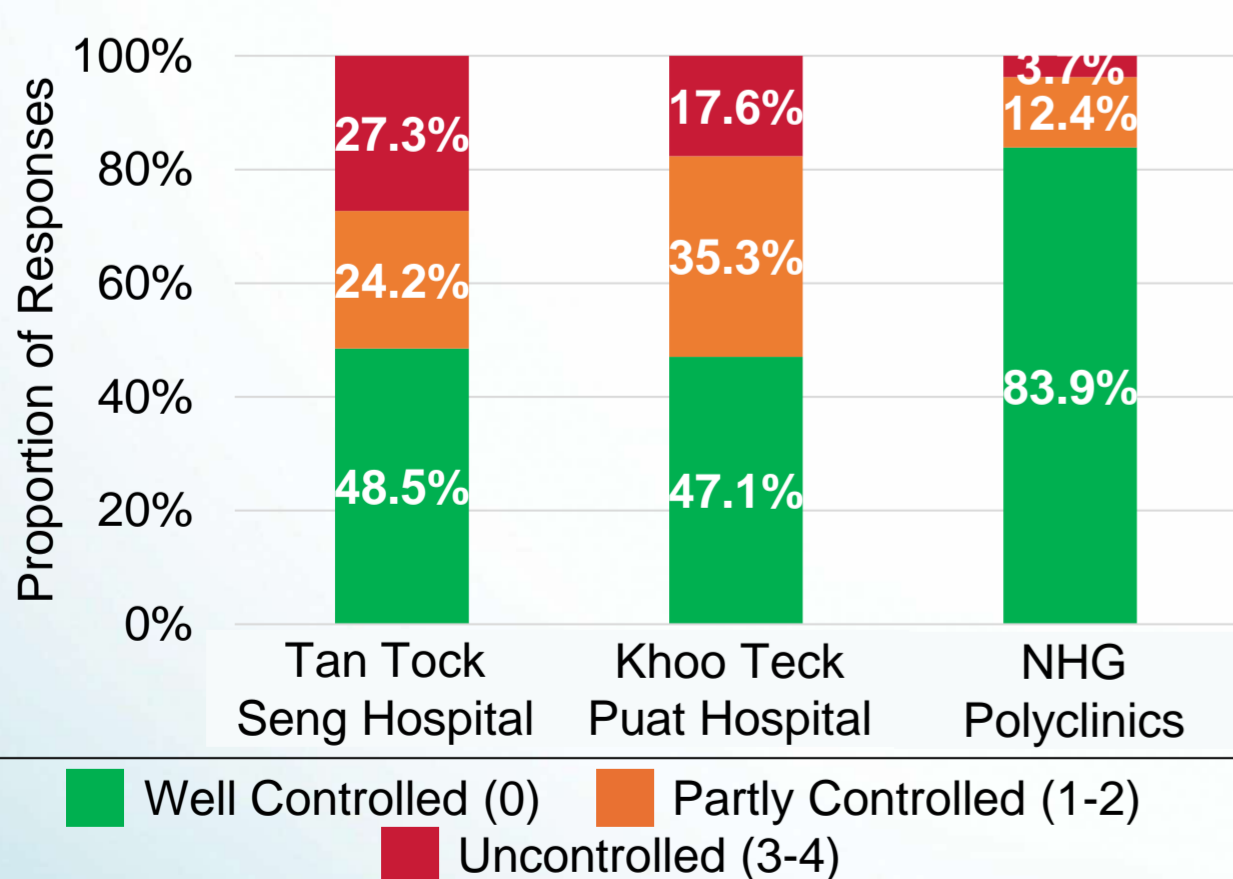
\*Customisable to each PROM

### Results

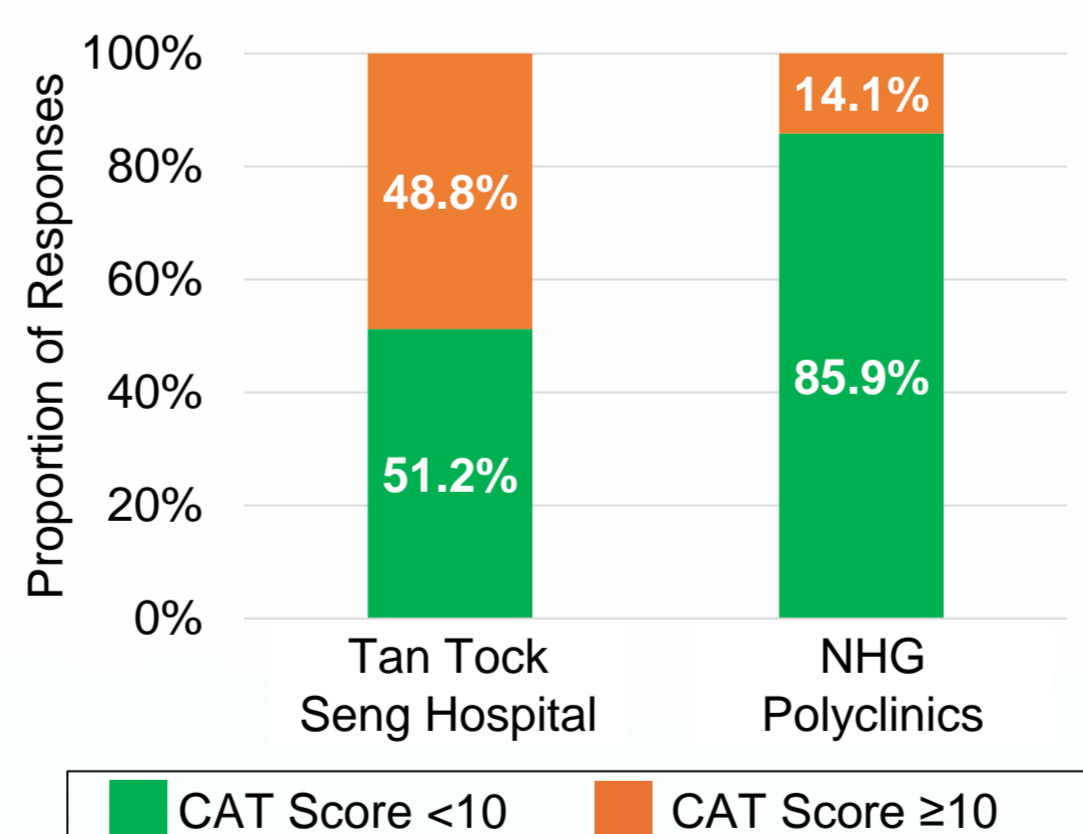
Systematic implementation of PROMs has enabled NHG institutions to monitor patient-reported outcomes at scale, supporting population-level insights and clinical decision-making. Early wins from implementing the Global Initiative for Asthma Assessment of Asthma Control (GINA) and COPD Assessment Test (CAT) Score suggests the scalability of this model and the potential for utilising PROMs in clinical decision-making and population health monitoring.

Using validated tiering frameworks from GINA<sup>3</sup> and GOLD<sup>4</sup>, patients were stratified by symptom severity based on their GINA and CAT Score questionnaire responses. Analysis revealed that acute hospitals manage a higher proportion of patients with moderate to severe symptoms, indicating appropriate care alignment based on clinical acuity. Identification of patients with well-controlled symptoms in acute hospitals also highlights opportunities for right-siting to primary care. Notably, GINA outcomes have been adopted cluster-wide as a criterion to inform care transitions, demonstrating the utility of PROMs in enabling data-driven, patient-centred care planning and service optimisation.

GINA Scores (July 2025)



CAT Scores (July 2025)



#### Key Takeaways

- Response rates remain modest (26% for GINA and 11% for CAT Score) due to factors like digital literacy and app uptake.
- To address this, NHG introduced patient education materials to raise awareness on how PROMs could benefit patients and how patients could report their PROMs outcomes, and vouchers to incentivise patient participation.
- Moving forward, NHG will explore additional channels for patient self-reporting, keeping Epic as the single source of truth used by clinicians for PROMs data.
- These learnings reinforce the importance of a flexible, inclusive strategy to ensure representative and actionable PROMs data.

### Conclusion

NHG's systematic approach to PROMs implementation demonstrates how digital integration, coupled with comprehensive stakeholder engagement, can overcome traditional barriers to patient outcome measurement. The standardisation of PROMs tools across institutions enables meaningful benchmarking and drives care improvements through data-driven decision-making. This initiative has established a sustainable framework for patient-centred outcome measurement, supporting both individual care decisions and system-level quality improvement. Early results indicate improved capture of patient outcomes and enhanced clinical decision-making, laying the groundwork for future PROMs-informed improvements. As of July 2025, 9 additional PROMs questionnaires have been rolled out using this framework, further demonstrating its scalability and impact.

#### Acknowledgement

We would like to thank our partners, including but not limited to the NHG Institution VDC Offices, the NHG NGEMR FG2 and FG8 Clinical Informatics Analysts, PROMs Clinician Champions and Clinical Leads involved in the PROMs operationalisation, as well as all individuals involved in advancing PROMs implementation across NHG.

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