

# Value-based Healthcare (VBHC): Implementation of Individual Clinician Report (ICR)



Singapore  
General Hospital  
SingHealth

Khema Han Ziyen, Ng Shao Zhi, Rhoda Lew, Leow Xu Ying,  
A/Prof Hairil Rizal Bin Abdullah, Dr Jayanti Visvanathan, Raymond  
Teo Chee Yang, Elisabeth Angelina, VBHC@SGH Team

## Introduction

The Singapore General Hospital (SGH) started its Value-Based Healthcare (VBHC) journey since 2019 to drive high quality care by reducing practice variability and deliver greater value to our patients. To date, the SGH VBHC initiative have 38 VBHC conditions under the care of 156 clinicians. For each condition, clinical outcome measurements known as Clinical Quality Indicators (CQI), were used as benchmark and analysed to identify improvement opportunities where quality initiatives were initiated. Simultaneously, monitoring of CQI performance through an interactive dashboard in Tableau was done to inform on the impact and effectiveness of our efforts.

Spreading the goals of VBHC beyond clinical leads of the various conditions in the development stage was essential for the success of VBHC. Alignment across clinical teams was sought through equipping clinicians with data of their own CQI performance in a personal report – the Individual Clinician Report (ICR). It allowed access to their performance with peer-to-peer benchmarking available. The evidence-based benefits demonstrated by the data garnered greater support from clinicians and encouraged self-driven improvement.

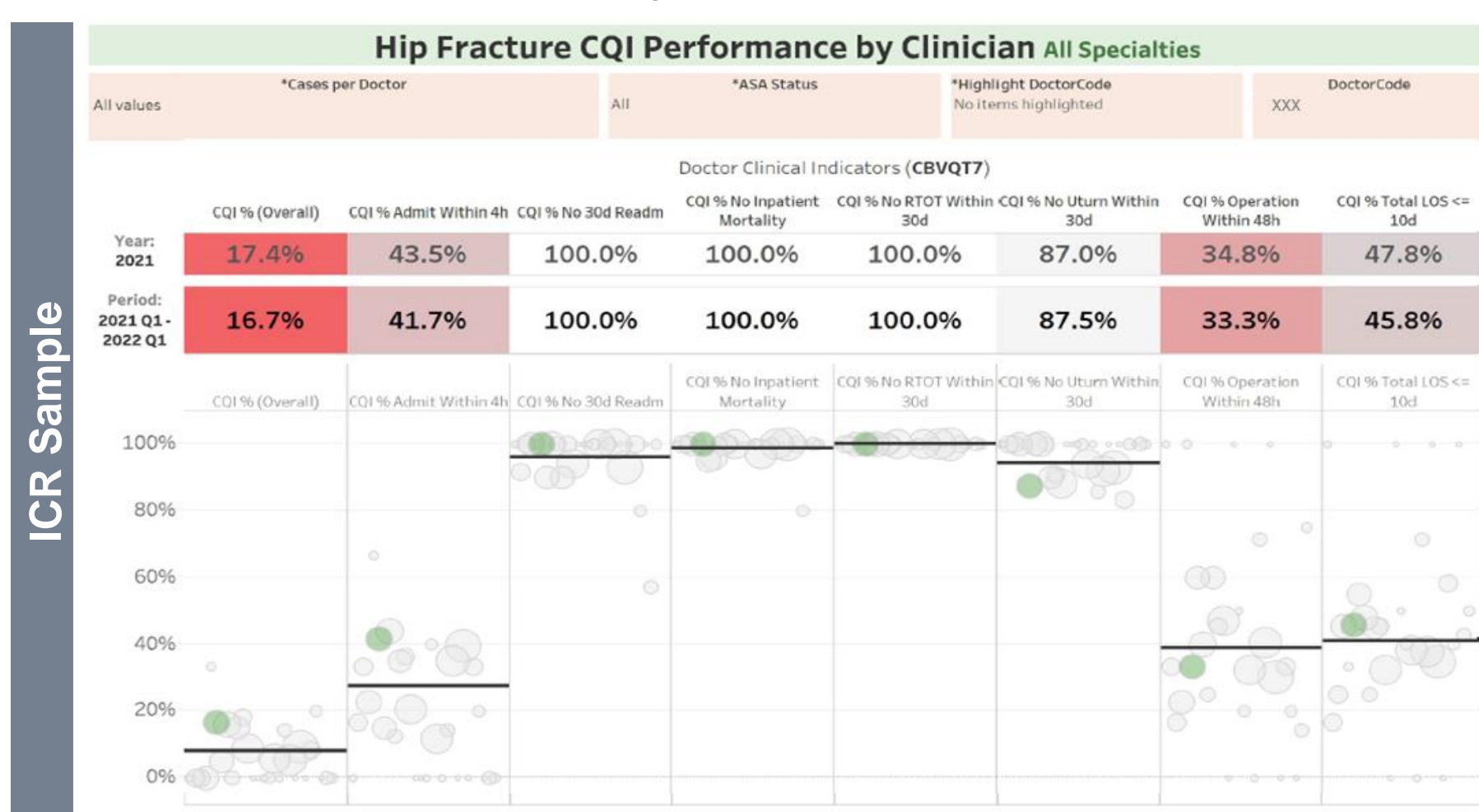
With remarkable improvement reported in several VBHC conditions, the volume of ICR is expected to grow with more conditions and clinicians coming onboard the VBHC initiative. Automation was necessary for an efficient report generation and distribution of ICR on a quarterly basis moving forward.

## Methodology

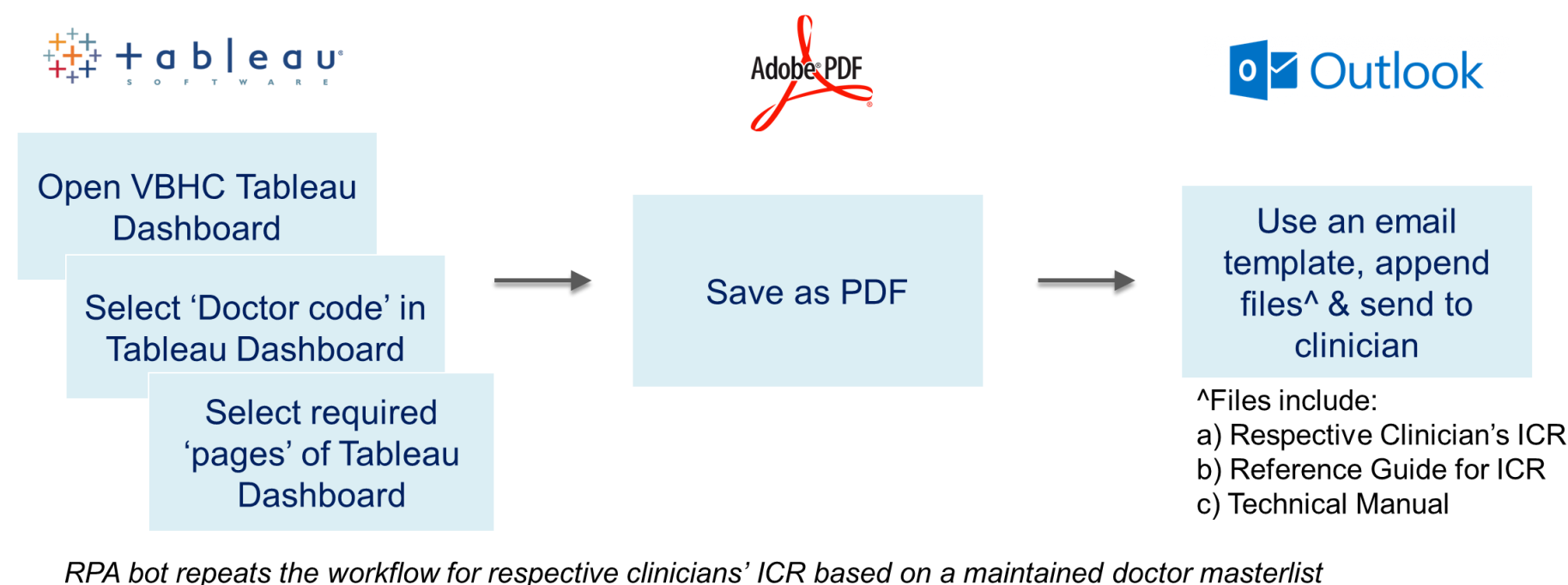
The ICR for each clinician was populated from interactive Tableau dashboards of each condition. Due to the significant volume of ICR, RPA was explored to automate the end-to-end processing from report generation to dissemination.

### Steps taken in implementing the ICR

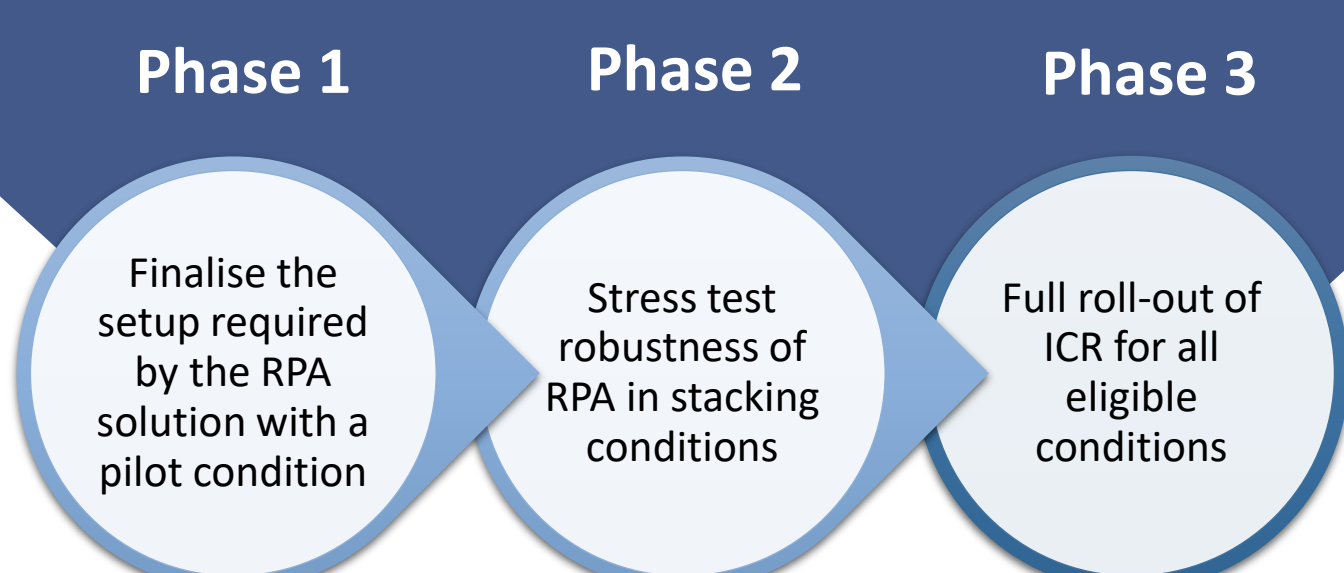
- 1. Communication – Obtain buy-in from HODs and clinician leads through engagement and emphasis on intent of ICR:**
  - Drive improvements at individual level
  - Promote alignment across clinical team to reduce practice variability
  - Reports are not used for appraisal which leadership is cognizant of
- 2. Curated & concise report – Provide key insights at a glance**
  - Summary of CQI performance
  - Trends and benchmarking to peers



- 3. Automation – Use of RPA UI Path to automate the end-to-end report generation and dissemination via email**

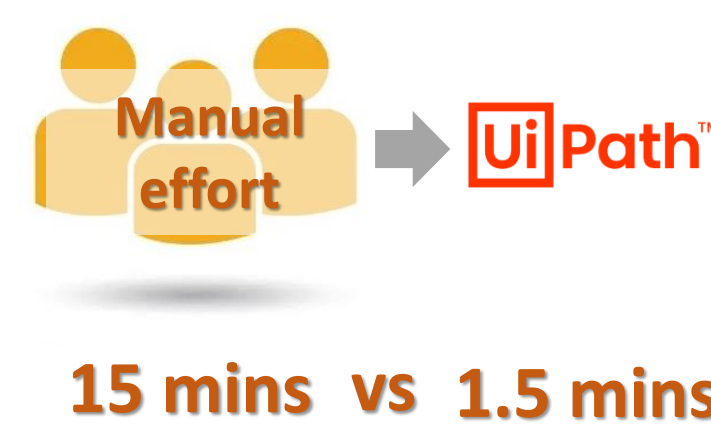


### Feasibility testing of RPA **UiPath** solution performed over 3 phases

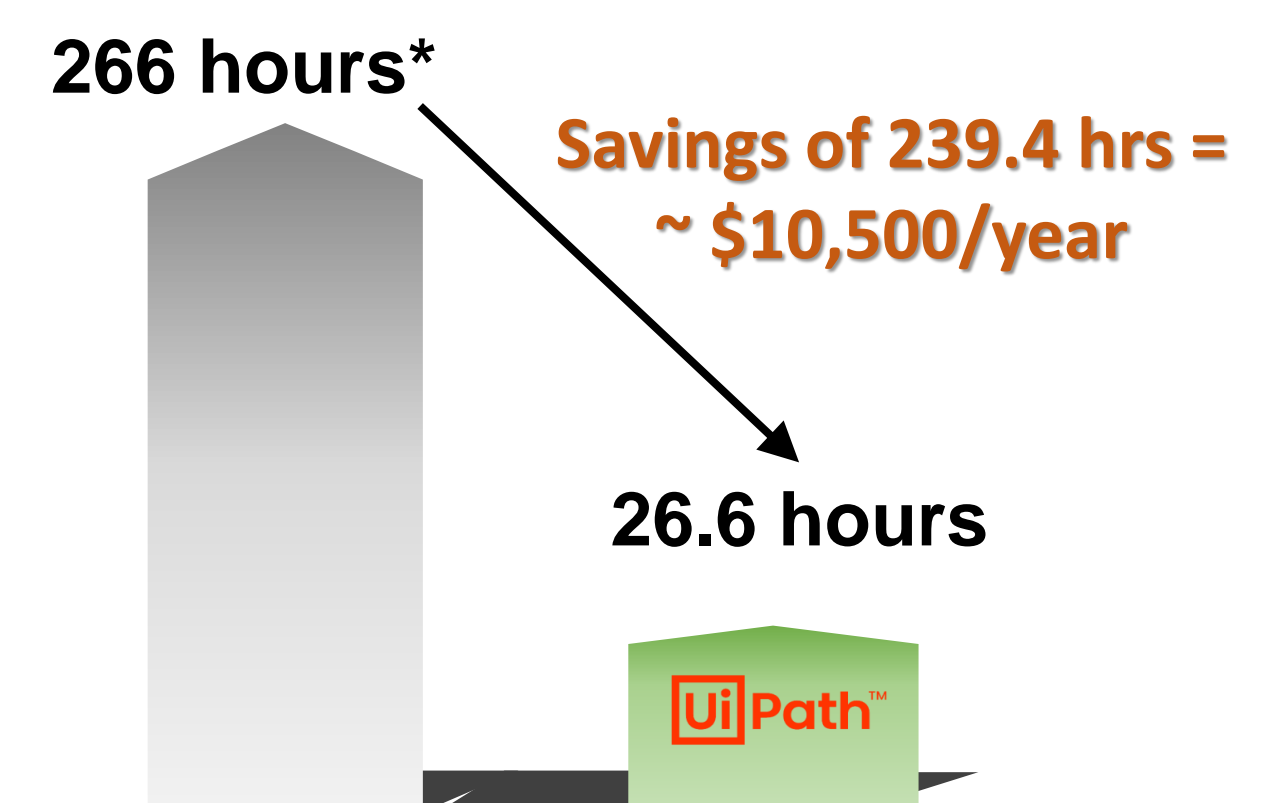


## Results

**10x time savings with use of RPA for one ICR**



**Translates to ~\$10,500 Cost Savings in manhours per year**



\*Based on quarterly dissemination of 266 ICRs

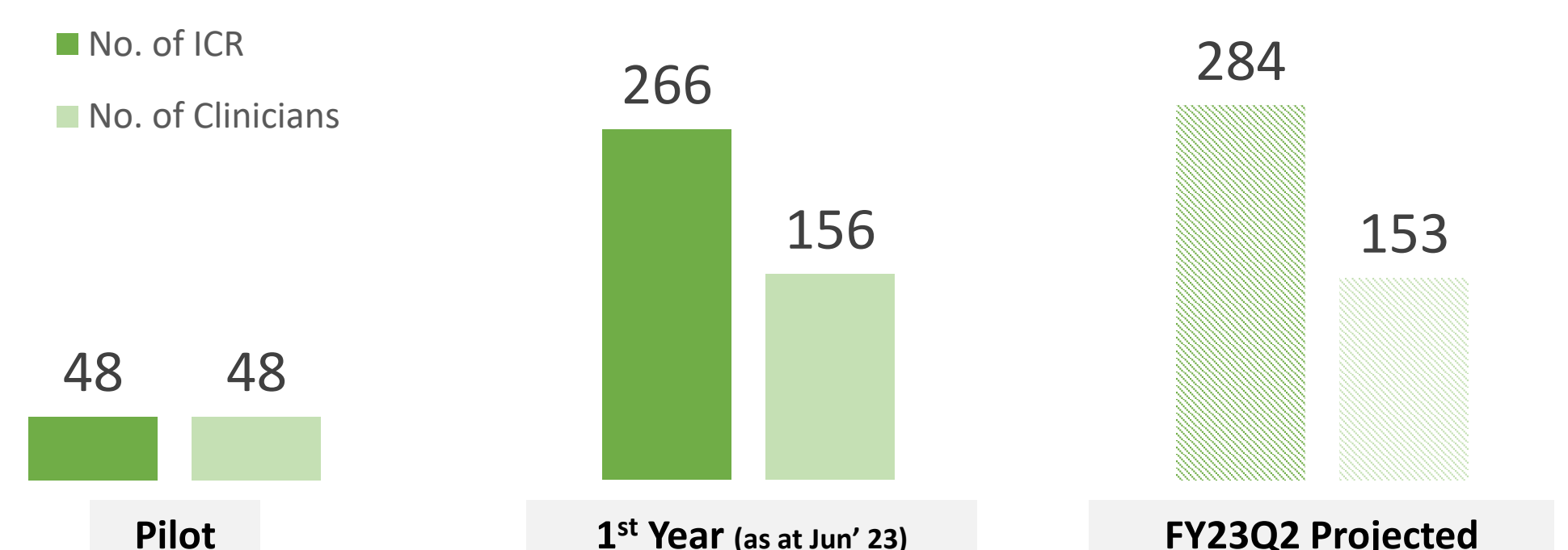
### Sustainability of RPA Solution for ICR

**Within the first year ...**

Automated dissemination of **266 ICRs for 156 clinicians** across 11 Tableau-ready conditions following the pilot

**... By FY2023 Q2**

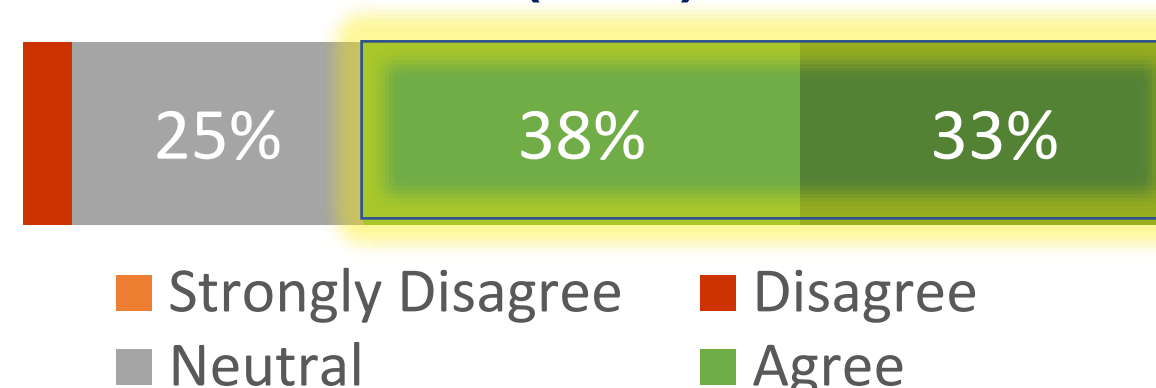
Projected to roll-out 284 ICR, with the addition of 3 new conditions



### Feedback on the ICR

Surveys are conducted to assess the effectiveness of ICR. Based on the recent survey in Aug 2023:

**71% found the ICR useful (n=24)**



### Comments

- “Provided good overview, self-reflection and benchmarking for individual surgeon”
- “Comprehensive data analysis”
- “Clear presentation of figures & diagrams”

## Conclusion

The implementation of a personal performance report is an integral part of our data democratisation effort. It demonstrates the importance of a safe data-empowered learning culture to drive improvements at the individual level. With the growth of the VBHC initiative, ICR will be extended to more VBHC conditions and automation via RPA will continue to be the key to facilitate sustainable scale-up.

