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Adopting a Value-Based Healthcare Implementation Matrix for use at Singapore General Hospital

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Background

In 2023, the SGH Office of Value Based Healthcare (OVBH) was formed to take on an expanded scope of value-based healthcare (VBHC) strategies and assist clinical teams in adopting and implementing best-in-class practices.

To achieve this, SGH OVBH adopted a VBHC implementation matrix from the European Institute of Innovation and Technology (EIT) Health, a knowledge and innovation community.

Methods
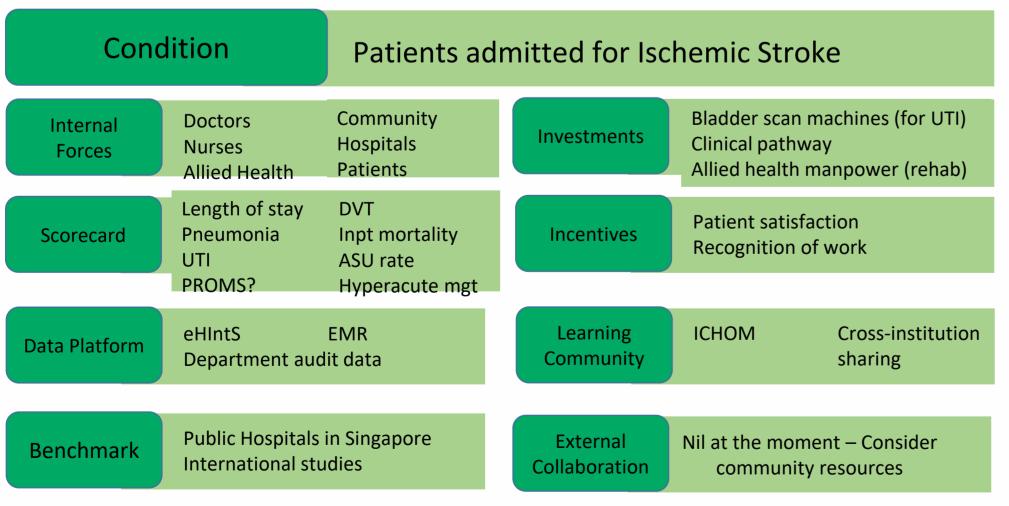

VBHC implementation matrix from EIT Health[1]

The matrix considers the perspective of patients, providers and payers, and can be adapted for most healthcare institutions.

Two VDC conditions at SGH were mapped to the matrix to identify compatibility as well as potential gaps in implementation thus far:
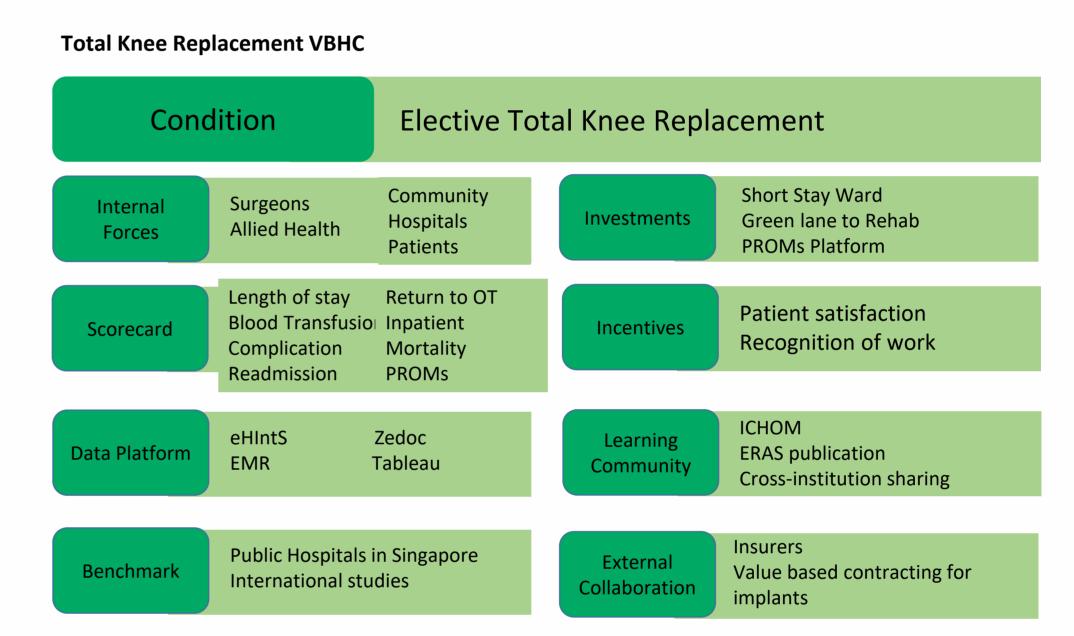- Elective total knee replacement (TKR)
- Ischemic stroke

Results

Ischemic Stroke VBHC

Condition	Patients admitted for Ischemic Stroke		
Internal Forces	Doctors / Nurses / Allied Health	Community Hospitals / Patients	Investments	Bladder scan machines (for UTI) / Clinical pathway / Allied health manpower (rehab)
Scorecard	Length of stay / Pneumonia / UTI / PROMS?	DVT / Inpt mortality / ASU rate / Hyperacute mgt	Incentives	Patient satisfaction / Recognition of work
Data Platform	eHIntS / Department audit data	EMR	Learning Community	ICHOM / Cross-institution sharing
Benchmark	Public Hospitals in Singapore / International studies		External Collaboration	Nil at the moment – Consider community resources

Results (Continued)

Total Knee Replacement VBHC

Condition	Elective Total Knee Replacement		
Internal Forces	Surgeons / Allied Health	Community Hospitals / Patients	Investments	Short Stay Ward / Green lane to Rehab / PROMs Platform
Scorecard	Length of stay / Blood Transfusion / Complication / Readmission	Return to OT / Inpatient / Mortality / PROMs	Incentives	Patient satisfaction / Recognition of work
Data Platform	eHIntS / EMR	Zedoc / Tableau	Learning Community	ICHOM / ERAS publication / Cross-institution sharing
Benchmark	Public Hospitals in Singapore / International studies		External Collaboration	Insurers / Value based contracting for implants

Most aspects of VBHC are in place

- Multi-disciplinary teams are involved
- Well-defined scorecard. Patient Reported Outcome Measures (PROMs) implemented for TKR
- Comprehensive data warehouse with a pipeline for data processing and sharing
- Benchmarks available at national level, comparison of clinical outcomes with international studies have been done
- Additional resources have been allocated to support value improvement initiatives. Results of initiatives were shared in local and overseas conferences
- There is a strong learning culture and sharing of best practices with other healthcare institutions in Singapore

Areas for exploration

- For elective TKR, to study impact of implant choice on outcomes and costs, potentially via value-based contracting
- For ischemic stroke, to consider incorporating PROMs and monitoring of longer-term outcomes
- Adoption of standard sets (e.g. ICHOM) to facilitate international benchmarking

Conclusion

The VBHC implementation matrix from EIT Health allowed SGH to recognize the good work implemented so far and at the same time identify potential improvements in implementation for the existing conditions. The matrix provides a comprehensive framework to guide and support clinical teams in implementing VBHC, and we intend to use it as part of the review process for implementation of new VDC conditions. With prospective employment of the matrix, OVBH will monitor if there is better project implementation in terms of both comprehensiveness as well as efficiency.

Acknowledgement

Reference
[1]EIT Health, Implementing Value-Based Health Care in Europe: Handbook for Pioneers (Director: Gregory Katz), 2020.

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