UK Transcatheter Aortic Valve Implantation (UK TAVI) Registry

Overview of Quality Improvement (QI) metrics

1. Annual centre volume

QI Metric Description/Name	**Annual centre volume**
Why is this important?	Outcomes from TAVI are associated with the number of cases that the centre undertakes
QI theme	Safety
What is the standard to be met?	Above ≥ 200 cases
Key references to support the metric	• Volume-outcome relationship with transfemoral transcatheter aortic valve implantation (TAVI): insights from the compulsory German Quality Assurance Registry on Aortic Valve Replacement (AQUA)[1] • Procedural Volume and Outcomes for Transcatheter Aortic-Valve Replacement[2] • Effect of institutional transcatheter aortic valve replacement volume on mortality: A systematic review and meta-analysis[3]
Numerator	Total number of TAVI cases submitted
Denominator	Not applicable

2. Non-general anaesthesia

QI Metric Description/Name	**Non-general anaesthesia**
Why is this important?	The use of local anaesthetic is associated with reduced procedure time, reduced need for intensive care beds, quicker recovery, reduced length of stay and better reported patient experience.
QI theme	Effectiveness

What is the standard to be met?	≥ 90% of cases
Key references to support the metric	• Optimising the Transcatheter Aortic Valve Implantation Pathway. A delivery guide based on work from James Cook University Hospital, South Tees NHS Foundation Trust[4] • Extended Statement by the British Cardiovascular Intervention Society President Regarding Transcatheter Aortic Valve Implantation[5]
Numerator	Number of TAVI procedures undertaken with local anaesthetic
Denominator	All TAVI cases where data on anaesthesia are reported

3. Percutaneous access

QI Metric Description/Name	**Percutaneous access**
Why is this important?	The use of percutaneous access is associated with lower a risk of haematoma and infection, lower need for blood transfusion, shorter procedure time and shorter hospital stay and is preferred if feasible.
QI theme	Effectiveness
What is the standard to be met?	≥ 90% of cases
Key references to support the metric	• A comparative study between surgical cut down and percutaneous closure devices in management of large bore arterial access[6]
Numerator	Number of TAVI procedures undertaken with percutaneous access
Denominator	All TAVI cases undertaken where access route is reported

4. Trans-femoral access

QI Metric Description/Name	Trans-femoral access
Why is this important?	Transfemoral access is the safest approach for TAVI where this is feasible
QI theme	Safety
What is the standard to be met?	≥ 90% of cases
Key references to support the metric	• Transcatheter aortic valve implantation via percutaneous alternative access routes: outcomes[7] • Comparison of Transfemoral versus Transsubclavian/Transaxillary access for transcatheter aortic valve replacement: A systematic review and meta-analysis[8]
Numerator	Number of TAVI procedures undertaken with femoral access
Denominator	All TAVI cases undertaken where access route is reported

5. Discharge of elective patients

QI Metric Description/Name	Discharge of elective patients
Why is this important?	Safe early discharge is associated with more efficient resource utilisation
QI theme	Effectiveness
What is the standard to be met?	Length of stay (LOS) – Median of 3 days
Key references to support the metric	• The Effect and Relationship of Frailty Indices on Survival After Transcatheter Aortic Valve Replacement[9] • Extended Statement by the British Cardiovascular Intervention Society President

	Regarding Transcatheter Aortic Valve Implantation[5]
Numerator	Proportion of patients discharged at each time point
Denominator	All patients where length of stay is available

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