Comprehensive evaluation of a technology with expanding indications

INTRODUCTION
INESSS (Institut national d'excellence en santé et en services sociaux) has a government mandate to aid decision-making pertaining to the optimal use of transcatheter aortic valve implantation (TAVI) in Québec. As part of a comprehensive evaluation model, we have conducted systematic literature reviews and collected real world data since 2013. Provincial quality standards have recently been formulated via an interactive, deliberative process with clinical experts. Herein, we examine 4 years of TAVI in Québec in light of the new provincial standards.

METHODS FIELD EVALUATION
- All 6 Québec TAVI programs and all TAVI patients were included
- 4-year observation period: April 1, 2013 – March 31, 2017
- Data collection by review of hospital documentation according to specified definitions and Canadian Cardiovascular Society quality indicators (CCS QI), in collaboration with TAVI clinical teams
- Centralized secure website (REDCap) that allows access by clinical teams

LEARNING HEALTHCARE SYSTEM

ITERATIVE EVALUATION FRAMEWORK AT INESSS

Knowledge translation
Individual report card
Evidence
Real world
CLINICAL TEAMS
Quality standards
Audit and feedback

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Evidence
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Literature
Real world results for Québec: process and outcome quality indicators

Real world results for Québec: Patient characteristics

TAVI is recommended for patients at high surgical risk, conditional on an assessment of the procedural risks and each patient’s personal values and preferences. It is advisable to avoid performing TAVI on patients who are not likely to see an improvement in their life expectancy and quality of life. This refers to patients for whom, even if the procedure is successful, life expectancy is less than one year, or is anticipated that there is a low probability of improving quality of life.

Real world results for Québec: Patient characteristics

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<tbody>
<tr>
<td>Age, median years (25th - 75th percentile)</td>
<td>83 (78-86)</td>
<td>83 (78-87)</td>
<td>83 (77-87)</td>
<td>83 (76-86)</td>
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<tr>
<td>Atrial fibrillation</td>
<td>36%</td>
<td>40%</td>
<td>38%</td>
<td>36%</td>
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<tr>
<td>COPD</td>
<td>29%</td>
<td>27%</td>
<td>22%</td>
<td>22%</td>
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<tr>
<td>Previous PCI</td>
<td>37%</td>
<td>37%</td>
<td>36%</td>
<td>34%</td>
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<tr>
<td>Previous surgical AVR</td>
<td>6%</td>
<td>6%</td>
<td>7%</td>
<td>6%</td>
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<tr>
<td>NEMPA BAV</td>
<td>63%</td>
<td>66%</td>
<td>53%</td>
<td>64%</td>
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<tr>
<td>STS PROM, median % (25th - 75th percentile)</td>
<td>6 (4-9)</td>
<td>7 (4-9)</td>
<td>4 (3-7)</td>
<td>5 (3-7)</td>
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Volume of TAVI is increasing in Québec

TAVI continues to be used in very elderly patients with significant comorbidities who are at high risk of operative mortality

CONCLUSION
A comprehensive, long-term evaluation process of TAVI with feedback to centres is associated with improvements in processes of care and outcomes. In the present context of expanding clinical indications, we will continue to evaluate patient selection, processes and outcomes according to the newly-established provincial quality standards. This iterative approach facilitates continued evidence generation and decision-making for optimal use of an evolving intervention.

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Disclosures
I have not had an affiliation (financial or otherwise) with a commercial organization that may have a direct or indirect connection with the content of my presentation.

References

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Check out Québec’s newly-established TAVI quality standards at www.INESSS.qc.ca