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CANADIAN CARDIOVASCULAR SOCIETY TOOLKIT: TRANSCATHETER AORTIC VALVE IMPLANTATION

2019



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THE CANADIAN CARDIOVASCULAR SOCIETY (CCS) TAVI TOOLKIT OVERVIEW

The TAVI toolkit has been developed in an effort to:

- Complement the CCS TAVI Quality Indicators (QIs);
- Improve the data quality of the CCS TAVI Quality Report by providing guidance, resources, and practice-ready strategies;
- Strengthen collaboration and on-going commitment to the CCS TAVI Quality Report initiative;
- Share resources and capitalize on local initiatives to accelerate national quality improvement; and
- Support clinicians and programs to optimize care.

This module introduces the framework used to develop a suite of individual modules built to augment the CCS TAVI Quality Indicators.





WAIT TIME QUALITY INDICATOR MODULE

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MODULE OVERVIEW

In this module, users are provided with:

- Key TAVI wait time definitions;
- Reasons for documentation;
- Key recommendations;
- Common questions and answers; and
- Examples of reporting of TAVI wait list activities.

Following review of this module, users will have a more thorough understanding of this **structural indicator** and be better equipped to document and interpret TAVI wait time information.

I. CCS QUALITY INDICATOR DEFINITION

The measurement of the wait time quality indicator aims to capture the trajectory from the day of referral to the completion of the procedure to reflect patients' experience of waiting.

Table I. TAVI Wait Time (CCS Quality Indicator)¹

TAVI WAIT TIME	
Description	Two components: I. TAVI Evaluation time, defined as time from referral to TAVI team to Heart Team decision. II. TAVI Procedural Wait time, defined as time from “Date of Heart Team decision” (i.e., consensus treatment recommendation for TAVI AND patient is ready, willing and able) to “Date of procedure”.
Numerator	The number of calendar days from time of receipt of referral at the TAVI program to the date and time of procedure.
Denominator	All patients who received TAVI during the given observation period.
Method of Calculation	Wait time calculated in days as follows: I. TAVI Evaluation Time: number of calendar days from the date of initial referral to the date of heart team decision for those patients accepted for TAVI II. TAVI Procedural Wait Time: number of calendar days from date of Heart Team decision to date of TAVI procedure
Sources of Data	Clinical data available from patient charts and TAVI Heart team discussion

To this end, three different time periods were selected:

Time 1: From referral to a heart team treatment decision [TAVI Evaluation Wait Time];

Time 2: From a heart team treatment decision to the procedure [TAVI Procedural Wait Time];

Total TAVI Wait Time: From referral to procedure (Time 1 + Time 2)

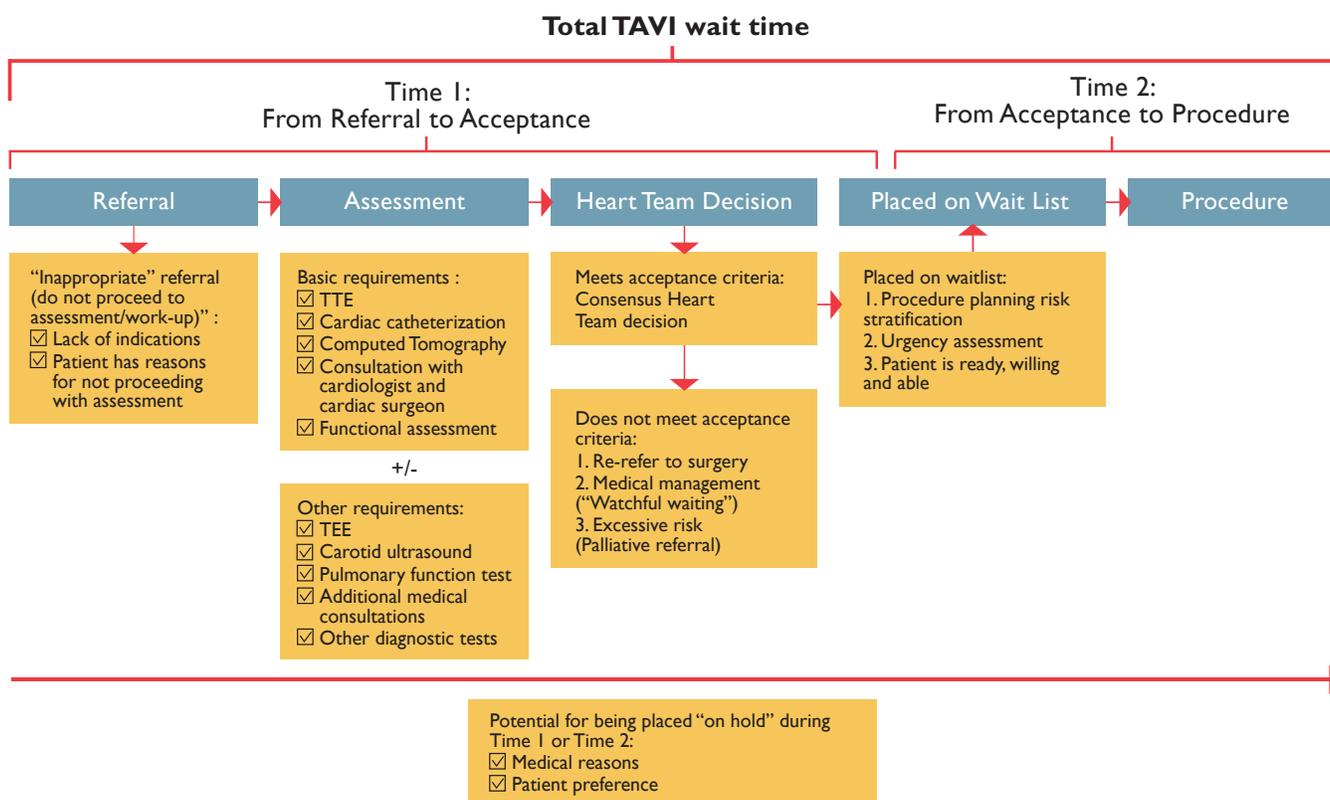


Figure 1. TAVI evaluation process²

2. OPPORTUNITIES AND CHALLENGES

Opportunities: The accurate and timely capture and reporting of wait times is essential to improve clinical wait list management, programmatic planning, and funding allocation. The availability of accurate and standardized measurement of wait times enables cross-regional comparisons and promotes equity of access to care across Canada.

Challenges: Canadian centres have reported the following challenges in monitoring and reporting of wait time:

- Lack of standardized definitions of wait time points
 - When is the patient "point of entry" into the TAVI program? When is a patient considered "referred for TAVI" along the continuum of chronic disease management and who is (are) the health care provider(s) involved?
 - What clinical activity captures the heart team's treatment decision?
- Inconsistent capture of clinical delays or patient choice
 - How do we measure delays associated with a patient being placed "on hold" due to personal needs or clinical status while under assessment or on the wait list?
- Coordination and delegation of responsibility for data capture
 - Whose job is it to document the time points, manage the wait list, and measure delays?
 - How can we report and examine deaths of patients who were undergoing assessment or waiting for the procedure?
 - How can we communicate wait time measures and outcomes to administration, funders, and policy-makers?

3. PRACTICAL TIPS AND BEST PRACTICES

Definitions

Date of Referral: The intent is to capture the date when a referral is made from a physician who knows the patient's clinical status (e.g., cardiologist, internist) and believes the patient may benefit from TAVI (i.e., referral is accepted). TAVI programs have different practices related to acceptance of a referral. For the purposes of wait time reporting, a referral can be provided in writing or verbally.

The definition can be adapted to two models of care:

1. If the TAVI program is centrally coordinated: Date on which the referral is received by the TAVI program (e.g., by the TAVI Coordinator);
2. If a TAVI physician manages referrals independently: Date when the TAVI physician receives the referral. If the program includes more than one physician, a single member of the team should be tasked with responsibilities for wait list activities and reporting. This physician is responsible for communicating the date of referral to the TAVI program in a timely manner. The TAVI program records the date of referral provided by the TAVI physician.

Date of Acceptance: The intent is to capture the date when the Heart Team has the necessary information required to recommend TAVI. It is assumed that the patient confirms shortly after that he or she is ready, willing, and able to undergo the procedure.

- Date on which the Heart Team makes a treatment recommendation for TAVI.
- **Best practice:** The TAVI Coordinator or other delegated team member contacts the patient to confirm that he/she wishes to be placed on the wait list, and is ready, willing, and able to have the procedure when scheduled.

Placed on Hold: The intent is to subtract the time when a patient's clinical status (e.g., hospitalization, clinical deterioration related to a health problem that delays TAVI) or personal needs (e.g., travel, family events) prevents the completion of the assessment or procedure. Time spent on hold (e.g., unavailable for care) can jeopardize accurate wait time reporting.

- **Best practice:** The time when placed "on hold" is subtracted from the time under assessment (between date of referral and date of acceptance), or from the time on the wait list (between the date of acceptance and date of procedure). A patient ought to be on the waitlist only when ready, willing, and able.

Date of Procedure: The intent is to capture the date when TAVI was performed. The date of admission can be different from the day of procedure.

The time points of TAVI patients' journey from referral to procedure are illustrated as follows:

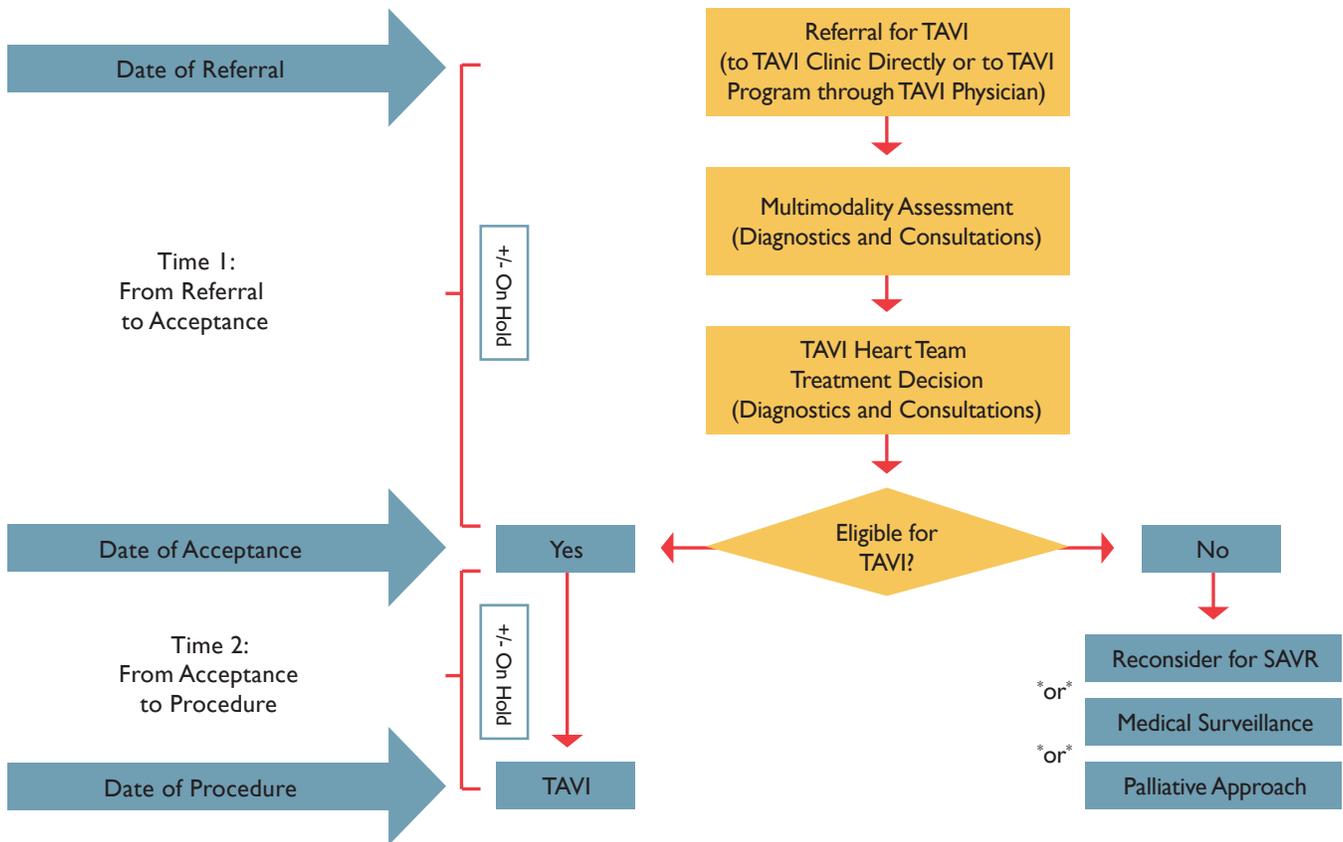


Figure 2. Standardized time points of TAVI patients' journey from referral to procedure (Adapted from CorHealth Ontario)

Treatment Decision

Canadian TAVI centres are encouraged to monitor the treatment decision for all patients referred for TAVI. If ineligible for TAVI, other options include a new or repeat referral for surgical aortic valve replacement, on-going medical surveillance (e.g., for asymptomatic patients), and referral for palliative approach to improve symptom management in cases where treatment is deemed futile.

Recommendations

- Consider central referral to TAVI program with engagement of a medical director [program cardiologist(s) and/or cardiac surgeon(s)] to optimize coordination of care;
- Adopt standardized definitions of time points;
- Consider a wait list management tool;
- Develop a regular wait list activity report shared routinely with clinicians, administrators and policy-makers;
- Monitor and report deaths under assessment and on wait list; and
- Consider monitoring treatment decision of all patients referred for TAVI to track case selection.

Wait Time Benchmarks

Wait times have consequences such as patient mortality, morbidity in the form of repeated hospitalizations, and functional deterioration. There is limited evidence to determine appropriate wait times based on clinical status and urgency. The updated CCS TAVI Position Statement (expected for release in 2019) will include recommended benchmarks from decision to procedure for in-patients and out-patients.

4. QUESTIONS AND ANSWERS

In our centre, patients are referred verbally from physician to physician, in person or by telephone. What is the date of referral?

In this case, the referral is made to the TAVI program through the TAVI physician. It is the TAVI physician's responsibility to document and communicate the date of referral (i.e., date of physician to physician conversation, and acknowledgement that the TAVI physician accepts the referral) to the TAVI program. The intent is to capture the date the TAVI physician accepts the referral and begins the eligibility assessment.

How should the time points be documented for in-patients?

Similar to elective out-patients, the date of referral is the date a referring physician contacts a TAVI physician to request assessment for eligibility for TAVI. The date of acceptance is the date the TAVI physician or delegate documents that the Heart Team has made a treatment recommendation. It is assumed that the patient is ready, willing, and able to have the procedure at any point (i.e., all diagnostic tests are completed, and the patient has agreed to undergo the procedure).

How should the time points be documented if the patient is discussed repeatedly by the TAVI Heart Team?

The date of referral is the first date the referral is accepted by the program unless significant time has lapsed and the referral is considered a new repeat referral. The time points for a repeat referral are measured from the time the new referral is made (i.e., counts as a new patient encounter). The careful documentation of time "placed on hold" is particularly important for this group of patients.

Some of our referrals are inappropriate. For example, we might be asked to assess a patient who is asymptomatic or a low surgical risk patient, or is excessively frail and at end of life. These patients are not usually discussed by the Heart Team, based on the input of TAVI physicians. Should we capture Time 1 for this category of patient?

No. The intent is to capture the wait list activities of patients who will be discussed by the Heart Team. Some centres have managed this issue by formalizing physicians' acceptance of the referral (i.e., accepting the patient for assessment and treatment decision).

5. RESOURCES

The following resources are provided for reference only.



CorHealth Ontario uses the Wait Time Information System (WTIS) to track, monitor, and collect data on patients waiting for select cardiac procedures, including TAVI. The 'My Encounters' table within the WTIS (Figure 4) is a tool that hospitals can use to identify which patients are currently waiting for a procedure, what procedure they are waiting for, how long they have been waiting, and how that time compares to their Recommended Maximum Wait Time (RMWT). Each hospital has access to patients waiting for select cardiac procedures at their respective facility. With respect to TAVI, there is no accepted RMWT in Ontario and these fields are typically left blank.

My Encounters

Procedure: Other | Status: Open | Accepting HCP: [] Unspecified [x] All | Create List

WITH RMWT: 0 WITHIN | 0 APPROACHING | 0 BEYOND | WITHOUT RMWT: 0 UP | 595 NP | 595 ALL

Display: OPEN, Other, All, All

WLEID	Patient	HCI	Procedure	Accepting Physician	RMWT	Days Over	Wait Time	Priority	DART - F	DART - T	C	A
100055804	VersionFour_Cito		TAVI		0	0						⚠
100056202	VersionFive_Jason		TAVI		0	0						⚠

Figure 3. Example of reporting of wait list activities (CorHealth Ontario)³
Please Note: The data is fictional and is presented for illustration purposes only.

Cardiac Services BC (CSBC) reports wait list activities for transfemoral and non-transfemoral TAVI every fiscal period for each provincial site and the province as a whole. Although there is no established recommended maximum wait time for TAVI, CSBC has adopted reporting standards applied to surgical valve replacement to support planning and coordination. The reporting is routinely accompanied by a description of context and an expectation that each site is monitoring and managing each patient’s wait time in light of his or her clinical status with appropriate queuing.

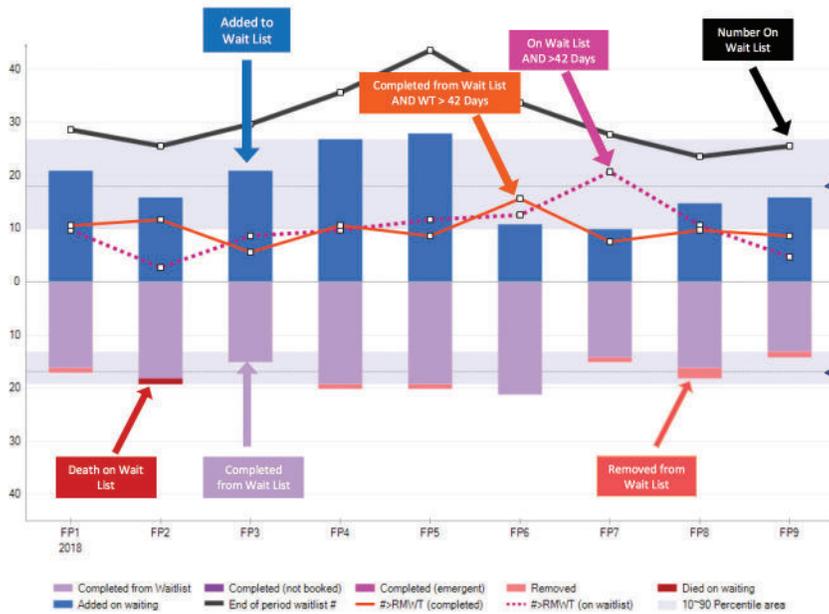


Figure 4. Example of reporting of wait list activities (Cardiac Services BC)⁴
Please Note: The data is fictional and is presented for illustration purposes only.

The CSBC Wait List Activity Report contains multiple variables that enable the monitoring of “real time” data in addition to temporal trends.

- Data is presented by fiscal period;
- The **Blue Bars** represent the count of patients who were *added to the wait list* (accepted for TAVI and ready, willing, and able);
- The **Black Line** represents the count of patients who were *on the wait list* on the last day of the fiscal period;
- The **Pink Dotted Line** represents the number of patients who were *on the wait list and were exceeding a target wait time (<42 days)* on the last day of the fiscal period;
- The **Lilac Bars** represent the count of *elective out-patients who were removed from the wait list* (procedures completed or removed from wait list for clinical or personal reasons);
- The **Peach Bars** (below the Lilac Bars) represent the count of *urgent in-patients who were removed from the wait list*;
- The **Orange Line** represents the count of *procedures completed on patients who were exceeding the target wait time (< 42 days)* on the day of their procedure (indicator of appropriate queuing);
- The **Red Bars** represent the count of *patients who died on the wait list*.

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SOURCES

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