Providence Health Care
Heart Centre

PROMs and PREMs:
Opportunities for improving outcomes and health services

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UBC Division of Cardiology Research Rounds
Monday November 4, 2024

The value of PROMs and PREMs

What matters most to patients?

Ende et al. BMC Health Services Research (2021) 21:474
https://doi.org/10.1186/s12913-021-06459-4

BMC Health Services Research

RESEARCH ARTICLE Open Access

Understanding what matters most to patients in acute care in seven countries, using the flash mob study design

Eva S. van den Ende[1†], Bo Schouten[2†], Marjolein N. T. Kremers[3,4], Tim Cooksley[5], Chris P. Subbe[6,7], Immo Welchert[8], Louise S. van Galen[1], Harm R. Haak[3,4,9], John Kellett[10], Jelmer Alsma[11], Victoria Siegrist[12,13], Mark Holland[14], Erika F. Christensen[15,16], Colin A. Graham[17], Ling Yan LEUNG[17], Line E. Laugesen[18], Hanneke Merten[2], Fraz Mir[19], Rachel M. Kidney[19], Mikkel Brabrand[18,20†], Prabath W. B. Nanayakkara[1*†], Christian H. Nickel[13†] and on behalf of all local collaborators

Getting better/being in good health	Getting home	Having a diagnosis and a plan
Why? • To be with family • To pick-up like again	Why? • To take care of someone • To be in own space	Why? • To feel less anxious and uncertain

Table 2 Patient perspective: does your doctor know what matters most to you?

Does your doctor know what matters most?	No (%)
Yes	886 (48.1)
No [a]	861 (46.7)
No, but someone else from the health care professional team knows [a, b]	96 (5.2)

Patient-Reported Outcome Measurements (PROMs)

Patient-Reported Experience Measurements (PREMs)

Definition

- Measure patients' perception of their ***disease and treatment as it relates to their health status and health-related quality of life***
- Measure patients' perception of their ***experience of the health care*** they receive

Examples of Domains Measured

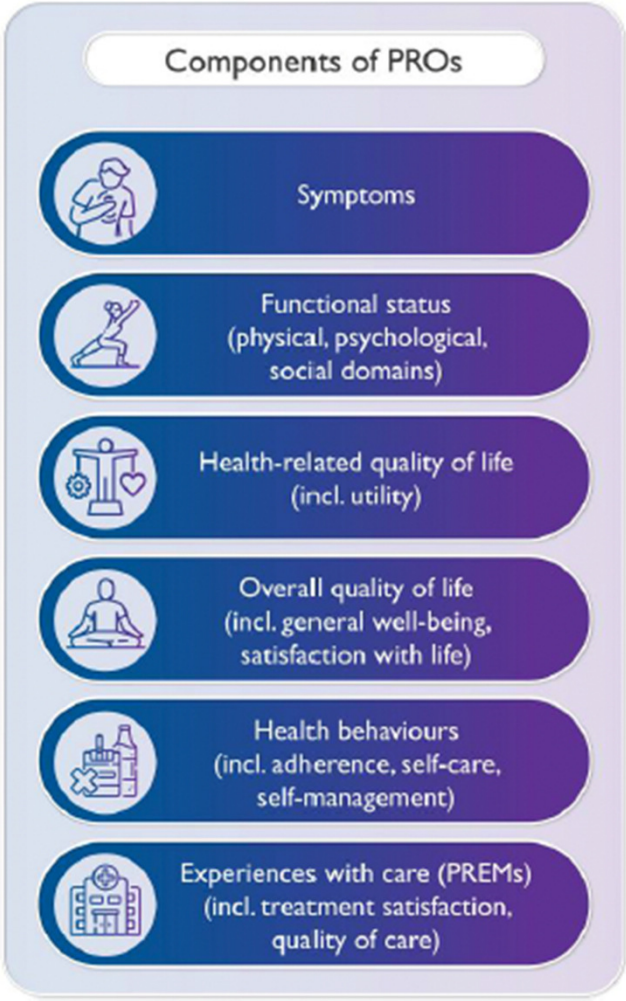
- Symptoms, pain/discomfort
- Physical, mental/emotional, social health status
- General quality of life
- Communication
- Involvement in decision-making
- Patient education

Source of Data

- ***The patient is the only source of data:*** Based on self-assessment
- Outcomes and experiences only known to the patient
- Use of validated questionnaires/tools selected to meet the goals of measurement
- No interference or interpretation from health care provider

Patient-reported outcomes:
When the patient is the only source of data

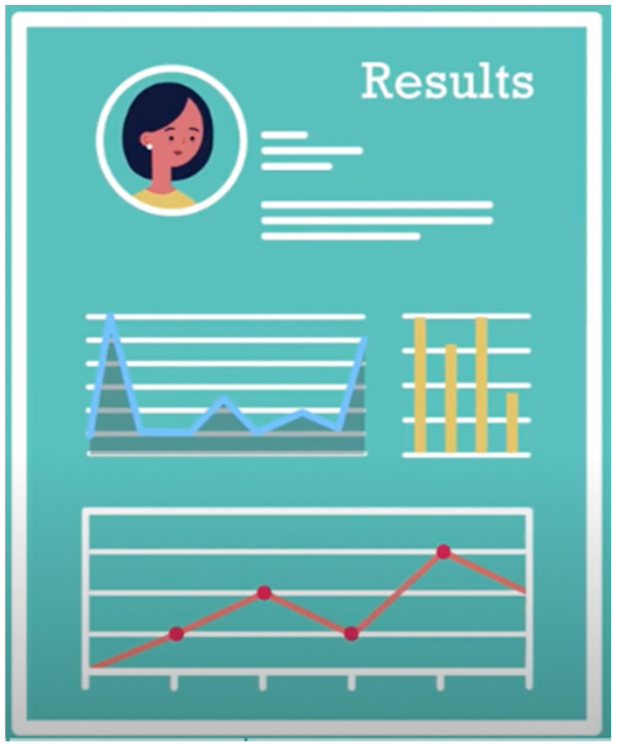
Any report of the status of a patient's health condition, health behaviour, or experience with healthcare that comes directly from the patient, without interpretation of the patient's response by a clinician or anyone else

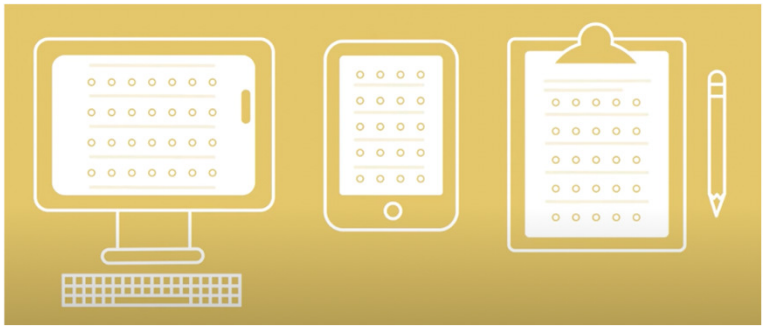


Moons et al., *Eur Heart J* 2023

Understanding PROMs: Validated measures

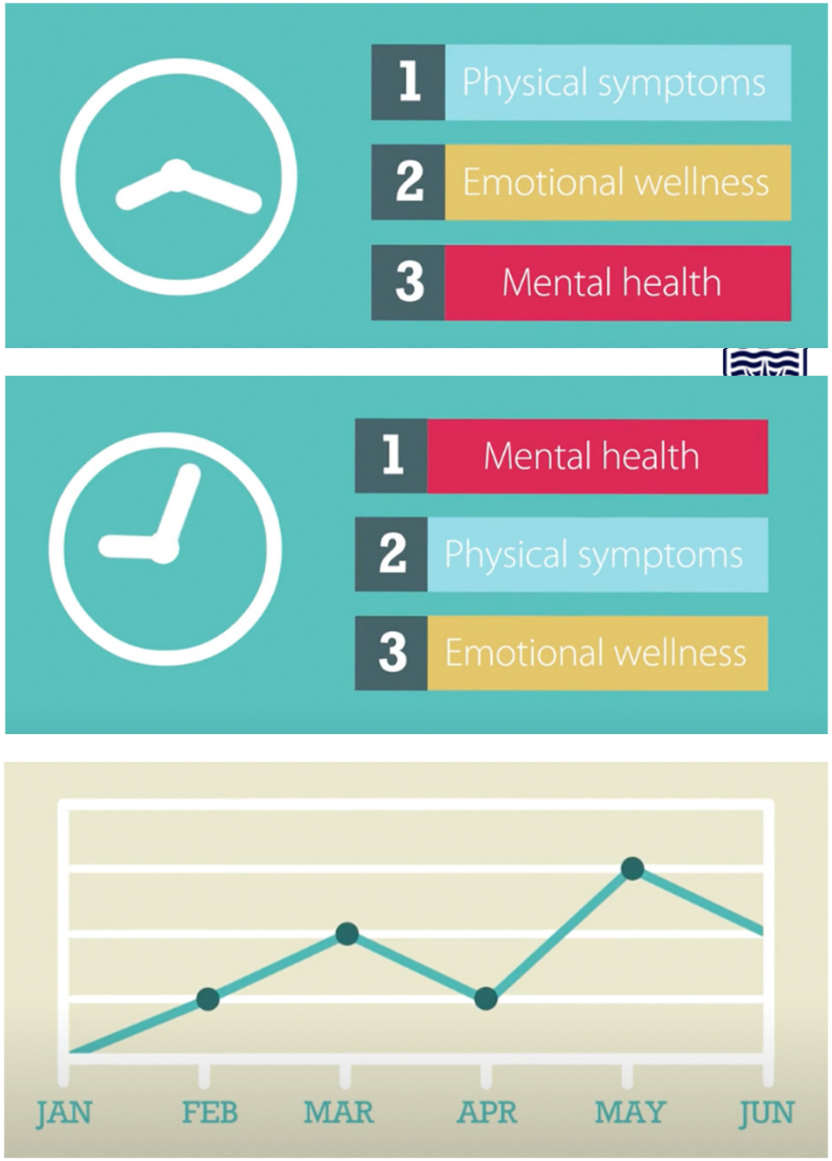
1. Provide a comprehensive picture of the impact of disease and treatment from the patient's perspective
2. Focus on symptoms and psycho-social concerns that are relevant to the patient
3. Capture key indicators of a patient's experience
    1. Physical symptoms
    2. Mental health
    3. Emotional wellness
    4. …



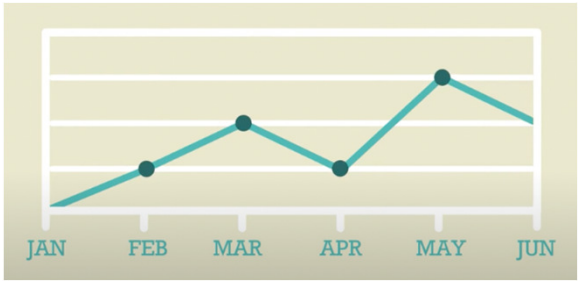


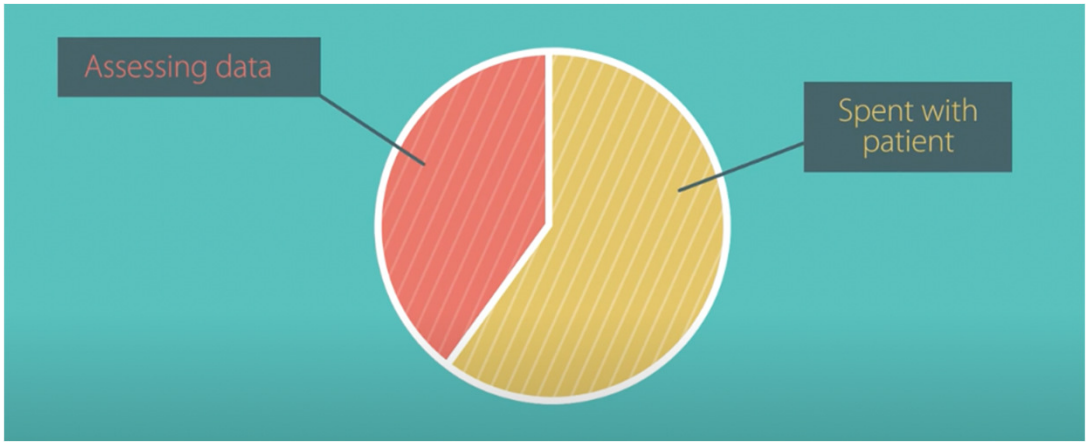
Understanding PROMs: Informing clinical care

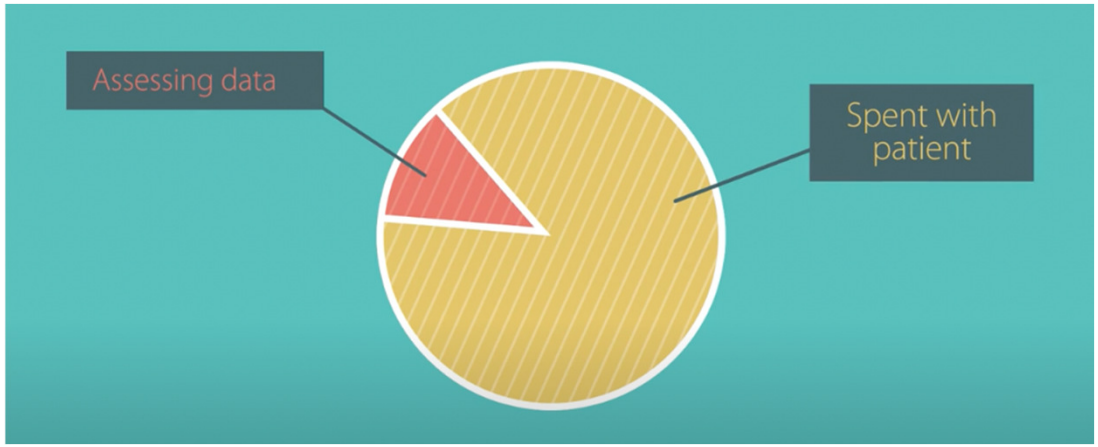
1. Offer real time information
2. Helps prioritize health concerns that matter most to the patient
3. Track response over time
4. Help HCPs deliver care that is responsive to patient needs



Understanding PROMs: Making the best of the consultation





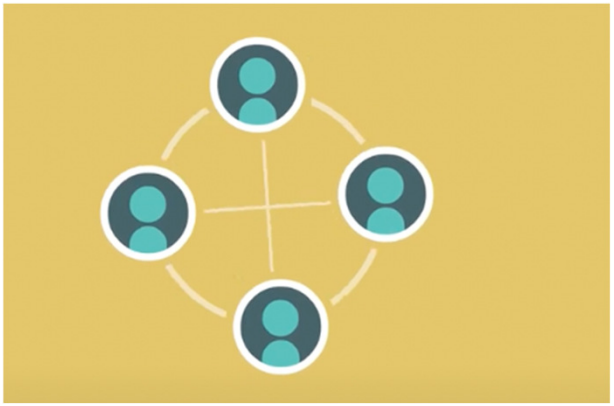


Why use PROMs?

Early identification and treatment of patient needs

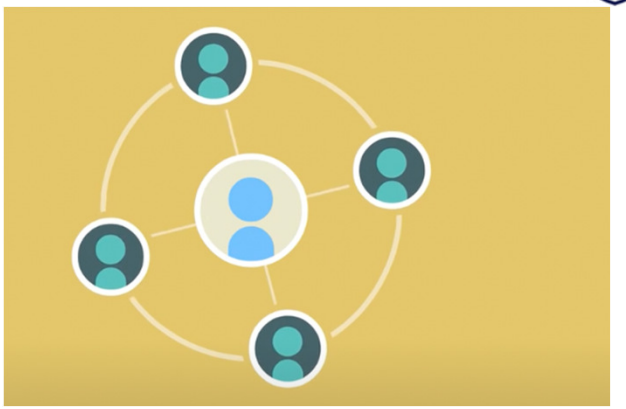
- ✓ Improve ability to detect worsening symptoms
- ✓ Provide information that may have otherwise been missed

Better coordination and multidisciplinary teamwork



- ✓ Reduce drop-out

Empowerment of patients to be active partners in their care



- ✓ Enhance shared decision-making
- ✓ Ensure voice of user is integrated in health planning, research and innovation

Lambert, 2010; Miller, 2016; Coulter 2010; Greenhalgh 2019; Moons et al., 2024

Why use PROMs?

1. More detailed understanding of a patient's symptoms and emotional state: Using validated measures with demonstrated sensitivity to change to guide the development of a personalized care plan
2. Standardize the symptom assessment process to enable clinicians to focus their time on symptom intervention – or at health system level to facilitate evaluation and planning, and drive system-wide improvement
3. Support health policy planning and research

Selection of validated instrument(s): Key principles

1. PROMs and PREMs must be **reliable, valid, precise and responsive tools** that accurately capture the domains of interest in the patient population

Reliability

Does the instrument provide a repeatable and consistent measurement?
- ✓ *Test-retest reliability?*

Validity

Does the instrument measure what it is meant to?
- ✓ *Content validity?*
- ✓ *Face validity?*
- ✓ *Criterion validity?*
- ✓ *Construct validity?*

Precision

Does the instrument discriminate between:
- ✓ *Patient groups?*
- ✓ *Health states?*
- ✓ *Treatments?*

Responsiveness

Is the instrument responsive to change when change is present?

Thompson et al., 2016; Kornowski et al., 2023; Creber et al., 2021

Selection of validated instrument(s): Key principles

2. PROMs and PREMs must be **acceptable** to patients

Kane et al., 2017; Davis et al., 2022

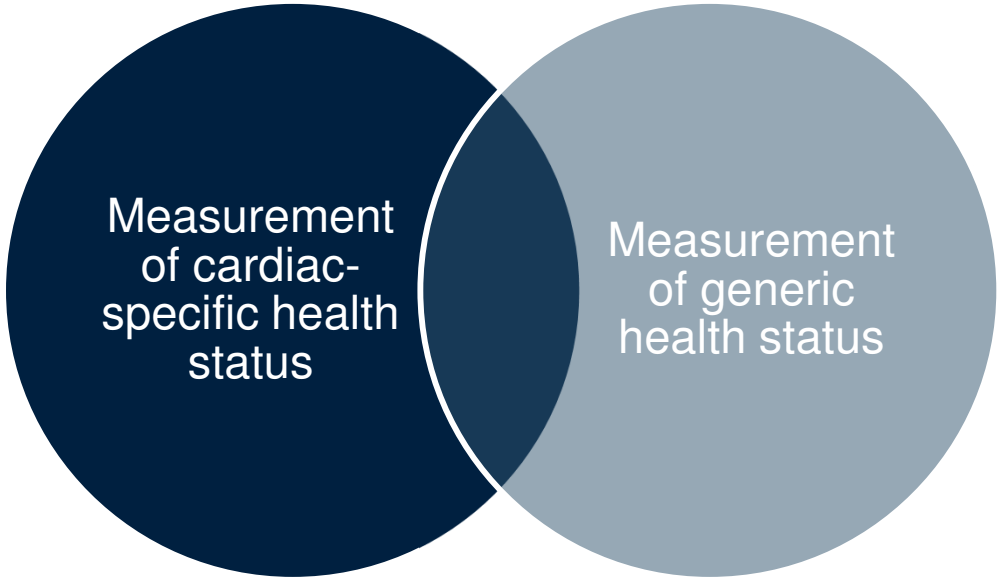
Selection of validated instrument(s): Key principles

3. PROMs and PREMs must be **integrated in health systems**

Kane et al., 2017; Davis et al., 2022

Capturing the domains of self-reported health in cardiac care

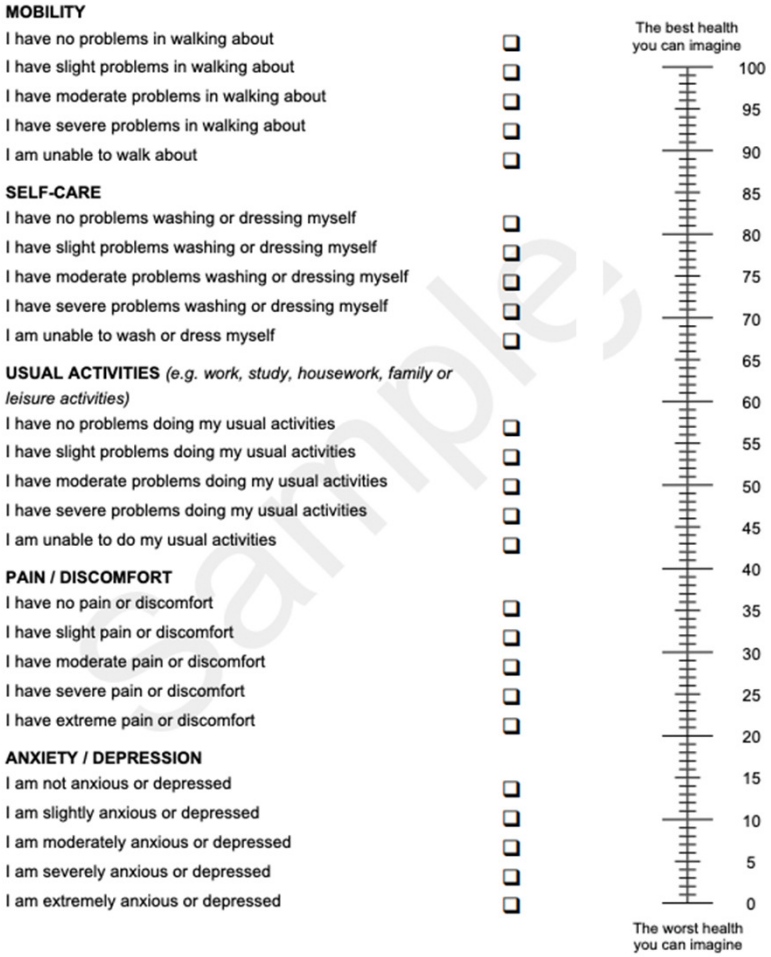
- ✓ *Specific to disease group*
- ✓ *Sensitive to detect clinically significant changes*
- ✓ *Content relevant to target group*
- ✓ *Cannot compare with general population*



- ✓ *Suitable for the general population*
- ✓ *Not sensitive to detect disease-specific issues*
- ✓ *Can compare across groups*

Measurement tools: Generic health – EQ5D

Measurement of generic health status



Development:

- Index-based score
- 30+ years use and development
- Used extensively in health technology development and cost effectiveness studies

Versions:

- 5 items
- Available in >200 languages

Scales, sub-scales and scoring:

- Responses are converted into a single index score (utilities – preference-weighted health status assessments): 1= Best possible health to 0= worst health/death[10]
- Domains: Mobility, self-care, usual activities, pain/discomfort, anxiety/depression
- Visual analog scale (VAS): 0= worst imaginable health state to 100 (best imaginable health state)
- Available with 3 or 5 levels of responses

Dyer et al., *Health qual life outcomes*. 2010
Shaw et al., *Med Care* 2005

Measurement tools: Generic health – SF-36

Measurement of generic health status

Development:

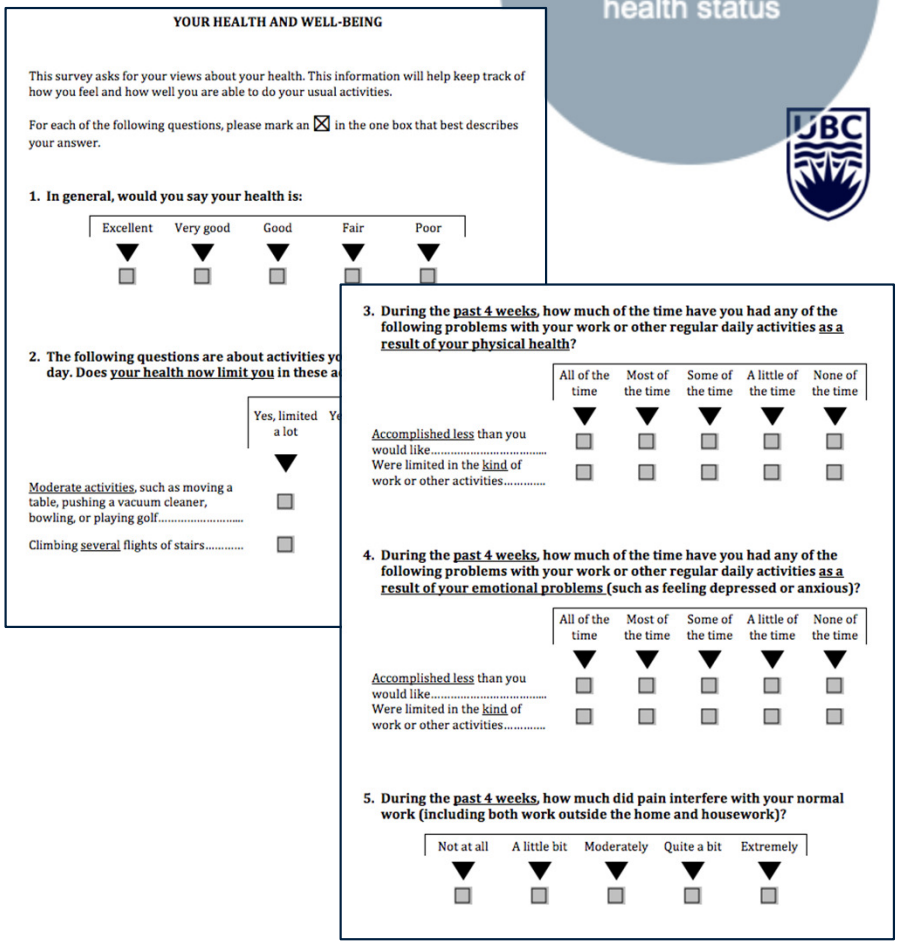
- Rand Corporation: Medical Outcomes Study Short Form

Versions:

- 36, 20 and 12-itent versions
- Validated in patients with cardiovascular disease

Scales, sub-scales and scoring:

- Domains: Physical functioning, role physical, bodily pain, general health, vitality, social functioning, role emotional, mental health
- Physical and mental component summary sub-scales with comparison to societal norms



YOUR HEALTH AND WELL-BEING

This survey asks for your views about your health. This information will help keep track of how you feel and how well you are able to do your usual activities.

For each of the following questions, please mark an ☒ in the one box that best describes your answer.

1. In general, would you say your health is:

Excellent | Very good | Good | Fair | Poor

2. The following questions are about activities yo… day. Does your health now limit you in these a…

Yes, limited a lot | Ye…

Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf……

Climbing several flights of stairs……

3. During the past 4 weeks, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

	All of the time	Most of the time	Some of the time	A little of the time	None of the time
Accomplished less than you would like……					
Were limited in the kind of work or other activities……					

4. During the past 4 weeks, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of your emotional problems (such as feeling depressed or anxious)?

	All of the time	Most of the time	Some of the time	A little of the time	None of the time
Accomplished less than you would like……					
Were limited in the kind of work or other activities……					

5. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?

Not at all | A little bit | Moderately | Quite a bit | Extremely

Ware et. al., *Med Care* 1992
Kiebzak et al., *Heart Lung* 2002
Falide et al., *J Clin Epid* 2000

Measurement tools: Kansas City Cardiomyopathy Questionnaire (KCCQ)

Measurement of cardiac-specific health status

Development:

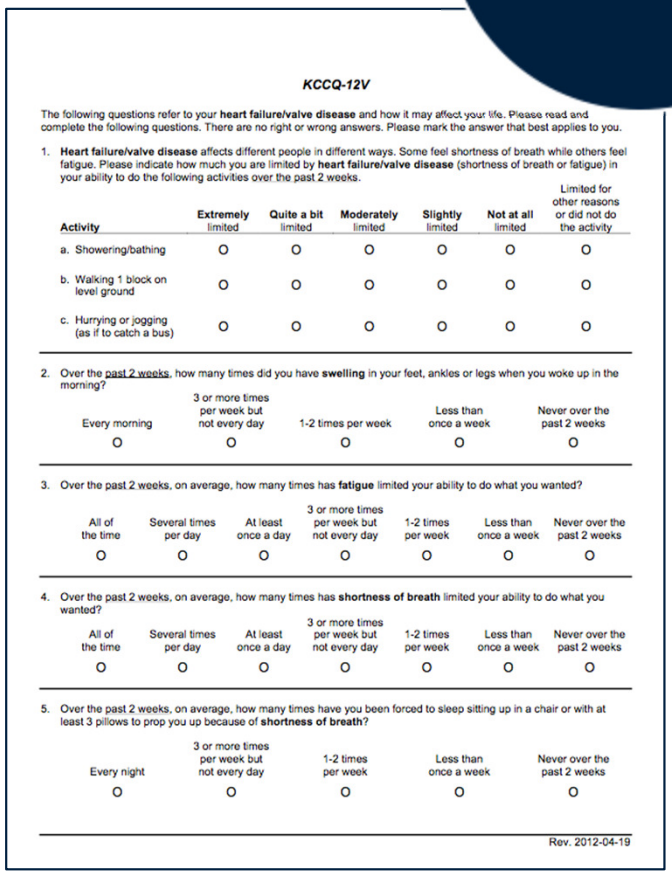
- Developed for patients with heart failure

Versions:

- Original: 23 items; Short version: 12 items
- Available in multiple validated translations

Scales, sub-scales and scoring:

- Overall score (KCCQ-OS): 0-100, higher scores indicate less symptom burden and better QOL
- Sub-scales:
  - 23-item: Physical function, social function, symptoms, self-efficacy and knowledge, QOL
  - 12-item: Physical limitation, symptom frequency, QOL, social limitations



KCCQ-12V

The following questions refer to your **heart failure/valve disease** and how it may affect your life. Please read and complete the following questions. There are no right or wrong answers. Please mark the answer that best applies to you.

1. **Heart failure/valve disease** affects different people in different ways. Some feel shortness of breath while others feel fatigue. Please indicate how much you are limited by **heart failure/valve disease** (shortness of breath or fatigue) in your ability to do the following activities over the past 2 weeks.

Activity	Extremely limited	Quite a bit limited	Moderately limited	Slightly limited	Not at all limited	Limited for other reasons or did not do the activity
a. Showering/bathing	O	O	O	O	O	O
b. Walking 1 block on level ground	O	O	O	O	O	O
c. Hurrying or jogging (as if to catch a bus)	O	O	O	O	O	O

2. Over the past 2 weeks, how many times did you have **swelling** in your feet, ankles or legs when you woke up in the morning?

Every morning	3 or more times per week but not every day	1-2 times per week	Less than once a week	Never over the past 2 weeks
O	O	O	O	O

3. Over the past 2 weeks, on average, how many times has **fatigue** limited your ability to do what you wanted?

All of the time	Several times per day	At least once a day	3 or more times per week but not every day	1-2 times per week	Less than once a week	Never over the past 2 weeks
O	O	O	O	O	O	O

4. Over the past 2 weeks, on average, how many times has **shortness of breath** limited your ability to do what you wanted?

All of the time	Several times per day	At least once a day	3 or more times per week but not every day	1-2 times per week	Less than once a week	Never over the past 2 weeks
O	O	O	O	O	O	O

5. Over the past 2 weeks, on average, how many times have you been forced to sleep sitting up in a chair or with at least 3 pillows to prop you up because of **shortness of breath**?

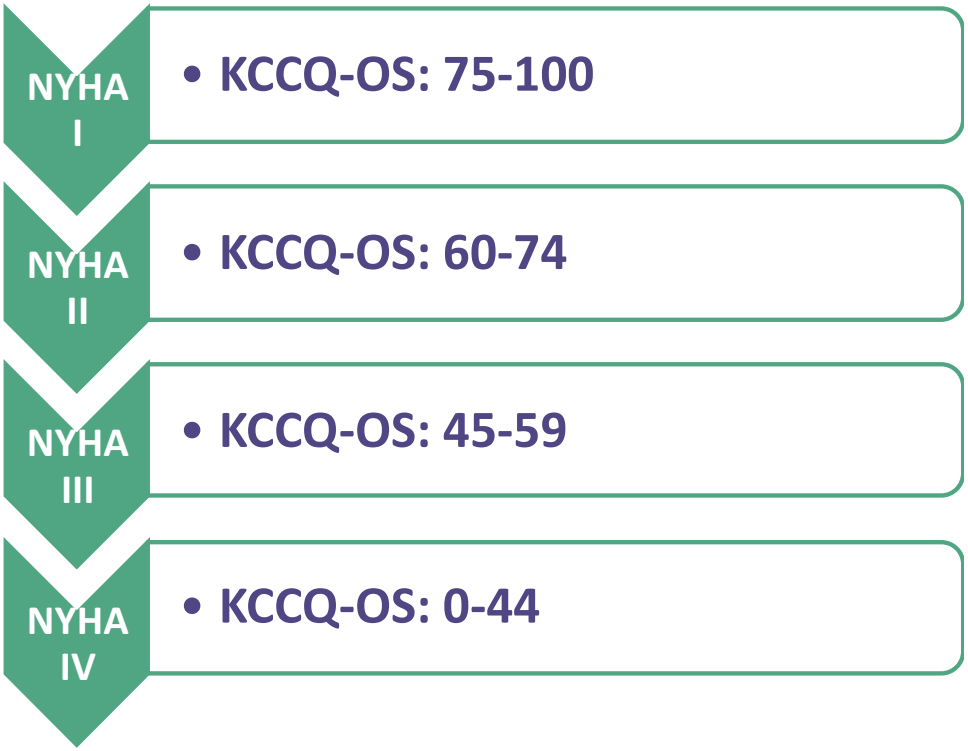
Every night	3 or more times per week but not every day	1-2 times per week	Less than once a week	Never over the past 2 weeks
O	O	O	O	O

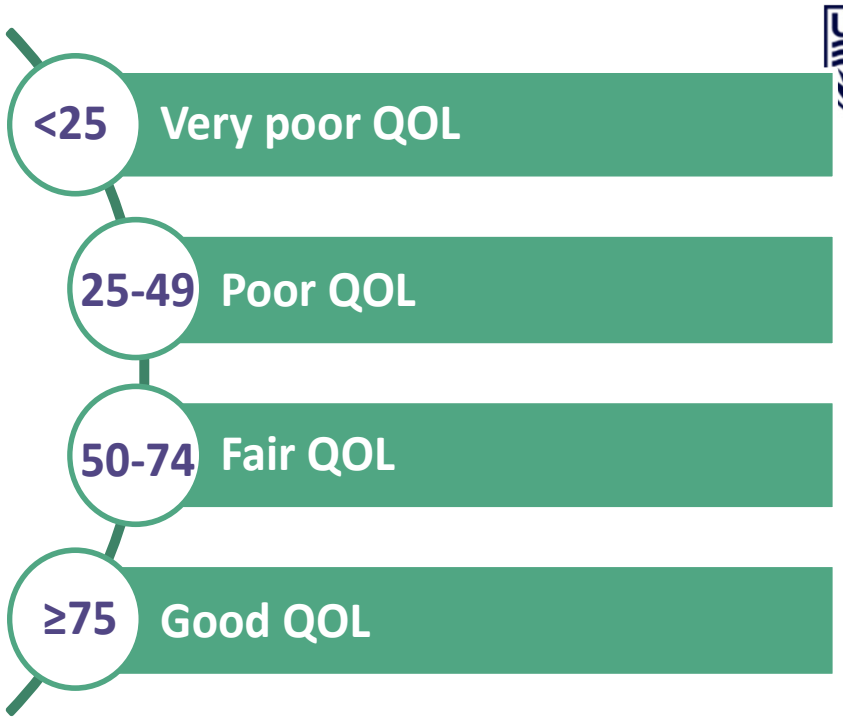
Rev. 2012-04-19

Spertus et al., *Circ Cardiovasc Qual Outcomes.* 2015
Arnold et al., *Circ Heart Failure i2013*

KCCQ: Psychometric properties

Correlates with clinical assessment

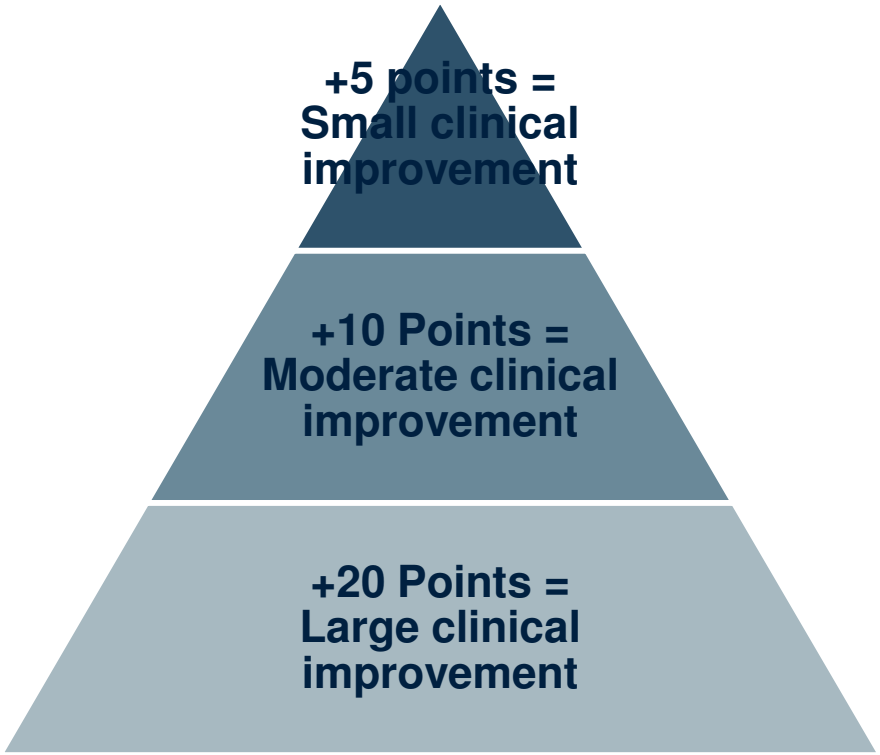




Spertus et al., *Circ Cardiovasc Qual Outcomes.* 2015
Arnold et al., *Circ Heart Failure i2013*

KCCQ: Psychometric properties

Clinically important differences



JACC STATE-OF-THE-ART REVIEW

Interpreting the Kansas City Cardiomyopathy Questionnaire in Clinical Trials and Clinical Care

JACC State-of-the-Art Review

John A. Spertus, MD, MPH,[a] Philip G. Jones, MS,[a] Alexander T. Sandhu, MD, MS,[b] Suzanne V. Arnold, MD, MHA[a]

KCCQ: Psychometric properties

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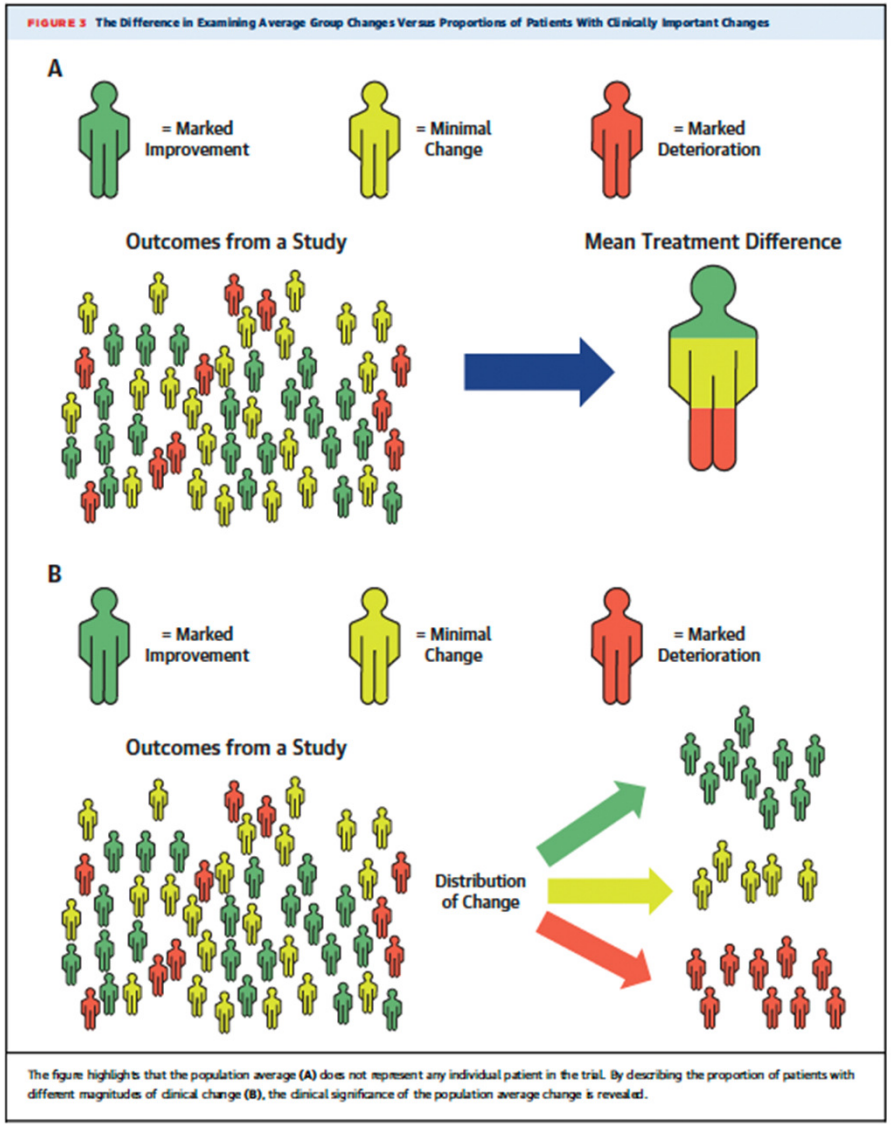


Integrating PROMs in research and registry-based evaluation

Reducing the risk of “disconnect” in health care

Clinician-Reported Outcomes

Will they live longer?

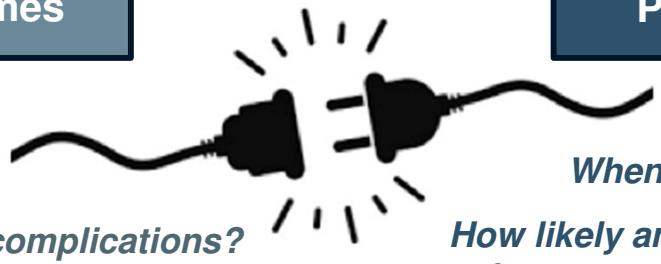
How long will the valve last?

What is their risk for in-hospital complications?

How likely are they to experience delirium?

What is their risk for a new pacemaker?

Are they at risk for readmission?



Patient-Reported Outcomes

Will I feel better?

When will I be able to return to work?

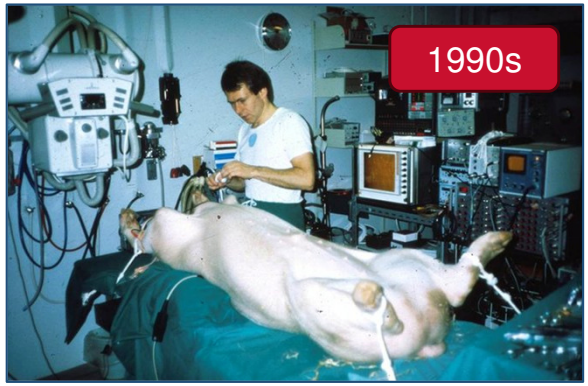
How likely am to experience depression after my valve procedure?

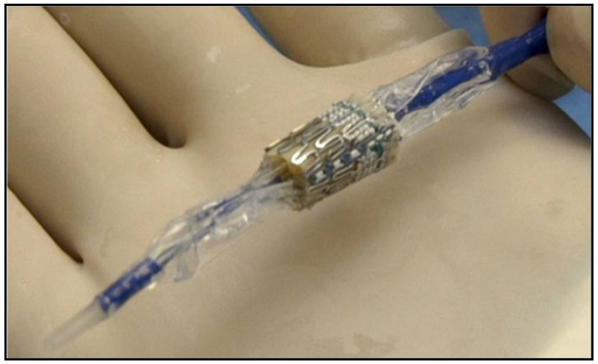
How soon will I be able to look after my spouse?

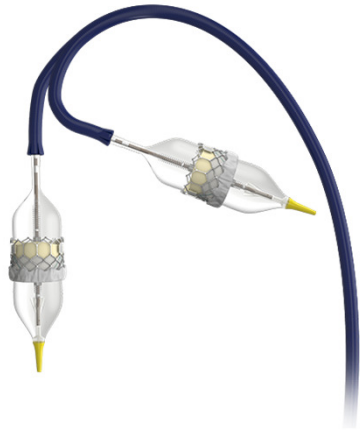
How long will it take for me to feel well?

Will I have pain?

Paradigm shift in the treatment of heart valve disease







Circulation
JOURNAL OF THE AMERICAN HEART ASSOCIATION
American Heart Association. Learn and Live.

2006

Percutaneous Aortic Valve Implantation Retrograde From the Femoral Arte

John G. Webb, Mann Chandavimol, Christopher R. Thompson, Donald R. Ricci, Ronald G. Carere, Brad I. Munt, Christopher E. Buller, Sanjeevan Pasupati and Samuel Lichtenstein

Circulation 2006, 113:842-850: originally published online February 6, 2006
doi: 10.1161/CIRCULATIONAHA.105.582882
Circulation is published by the American Heart Association. 7272 Greenville Avenue, Dallas, TX 72514
 Print ISSN: 0009-7322. Online ISSN: 1524-4539

Circulation
JOURNAL OF THE AMERICAN HEART ASSOCIATION
American Heart Association. Learn and Live.

Transapical Transcatheter Aortic Valve Implantation in Humans : Initial Clinical Experience

Samuel V. Lichtenstein, Anson Cheung, Jian Ye, Christopher R. Thompson, Ronald G. Carere, Sanjeevan Pasupati and John G. Webb

Circulation 2006, 114:591-596: originally published online July 31, 2006
doi: 10.1161/CIRCULATIONAHA.106.632927
Circulation is published by the American Heart Association. 7272 Greenville Avenue, Dallas, TX 72514
 Print ISSN: 0009-7322. Online ISSN: 1524-4539

M&M Program Rounds: “the valve went well”

- Mr. David R. admitted for elective TF TAVI; General anaesthesia and TEE
- **Successful TAVI**
- Significant dysphagia after extubation
- Delayed oral hydration and nutrition; Swallowing assessment positive for dysphagia
- Slow to mobilize and delayed transfer out of critical care; Weight loss and deconditioning due to poor oral intake
- Discharge on POD6
- On-going dysphagia at home; Required insertion of temporary feeding tube
- At 30-day, reported *“My heart is just fine. My worse problem is that now, I can’t swallow real food. It’s like I’ve lost so much"*

2010

M&M Program Rounds: "the valve went well"

2010

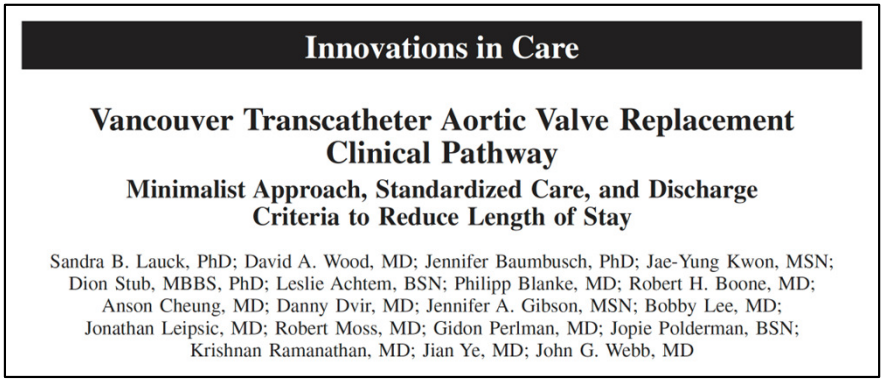
- *Mrs. Parminder S. admitted for elective TF TAVI*
- *General anaesthesia with extubation in procedure room*
- *Bedrest x 8 hours (overnight)*
- *Restless due to back pain; treated with low dose hydromorphone*
- **Successful TAVI**
- *Incontinent while on bedrest; Limited oral intake*
- *Delirium POD1*
- *Delayed discharge from critical care*
- *Slow to mobilize; Deconditioned*
- *Ready for discharge on POD8; Unable to return home due to care needs; Transfer to intermediate care home*

Goals of the Vancouver TAVI Clinical Pathway

TAVI Patient Journey

Same-day admission	Minimalist Procedure	Accelerated Reconditioning	Safe Transition Home
Discharge plan Clear expectations	Local anaesthesia Avoidance of invasive lines	4-hour bedrest Hydration and nutrition	Discharge criteria Discharge plan

*"**Get it right** for every patient at every touch point every time"*



Innovations in Care

Vancouver Transcatheter Aortic Valve Replacement Clinical Pathway

Minimalist Approach, Standardized Care, and Discharge Criteria to Reduce Length of Stay

Sandra B. Lauck, PhD; David A. Wood, MD; Jennifer Baumbusch, PhD; Jae-Yung Kwon, MSN; Dion Stub, MBBS, PhD; Leslie Achtem, BSN; Philipp Blanke, MD; Robert H. Boone, MD; Anson Cheung, MD; Danny Dvir, MD; Jennifer A. Gibson, MSN; Bobby Lee, MD; Jonathan Leipsic, MD; Robert Moss, MD; Gidon Perlman, MD; Jopie Polderman, BSN; Krishnan Ramanathan, MD; Jian Ye, MD; John G. Webb, MD

2016

THE UNIVERSITY OF BRITISH COLUMBIA

3M TAVR

Multimodality
Multidisciplinary
but
Minimalist

Centre for Heart Valve Innovation
St. Paul's Hospital, Vancouver

Using ***existing technology, up to date knowledge*** (objective anatomical and functional screening, procedural expertise) and a ***standardized clinical pathway*** to facilitate ***NEXT DAY DISCHARGE HOME*** and ***optimal outcomes***

To provide a rigorous assessment of the efficacy, feasibility and safety of the Vancouver Clinical Pathway in patients undergoing elective TF TAVR with a balloon expandable transcatheter heart valve

Centre for Heart Valve Innovation
St. Paul's Hospital, Vancouver

JACC: CARDIOVASCULAR INTERVENTIONS VOL. 12, NO. 5, 2019
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The Vancouver 3M (Multidisciplinary, Multimodality, But Minimalist) Clinical Pathway Facilitates Safe Next-Day Discharge Home at Low-, Medium-, and High-Volume Transfemoral Transcatheter Aortic Valve Replacement Centers

The 3M TAVR Study

3M TAVR Study Design

To evaluate the efficacy, feasibility and safety of next day discharge home in patients undergoing balloon expandable transfemoral TAVR utilizing the Vancouver 3M Clinical Pathway

Patients with severe symptomatic AS undergoing elective transfemoral TAVR

↓

Considered at increased surgical risk by the Heart Team

↓

Vancouver 3M Clinical Pathway
(n = 400)
Meets all general, anatomical, functional, and peri-procedural exclusion criteria

↓

Primary Outcomes: All-cause mortality and **major stroke** (modified Rankin Scale of 2 or more) at 30 days AND the **proportion of patients who are discharged the next day**

↓

Secondary Outcomes: each component of the primary endpoint; death or non-fatal stroke at 1 year; 30 day major vascular complications/life-threatening bleed/hospital readmission/repeat procedure for valve related dysfunction/stage 3 acute kidney injuries (AKIN classification); periprocedural MI, conversion to GA/intubation; KCCQ and SF-12 at 2 weeks, 30 days, and 1 year

The Vancouver Multidisciplinary, Multimodality, but Minimalist Clinical Pathway Facilitates Safe Next Day Discharge Home at Low, Medium, and High Volume Transfemoral Transcatheter Aortic Valve Replacement Centres: The 3M TAVR Study

David A Wood MD, Sandra Lauck PhD, John Cairns MD, Karin Humphries DSc, and John G Webb MD on behalf of the 3M TAVR Study Investigators

Centre for Heart Valve Innovation, St. Paul's and Vancouver General Hospital

University of British Columbia

13 North American centres
N = 411 patients

Vancouver: Dr. D. Wood, Dr. J. Webb, Dr. R. Cook, S. Lauck PhD
Edmonton: Dr. R. Welsh, Dr. B. Tyrell
Calgary: Dr. F. Al-Qoofi
Hamilton: Dr. J. Velianou, Dr. M. Natarajan
Sunnybrook: Dr. H. Wijeysundera, Dr. S. Radhakrishnan
St. Michael's: Dr. C. Buller, Dr. M. Peterson
Hôpital du Sacré-Coeur de Montréal: Dr. P. Genereux, Dr. D. Palisaitis
Centre Hospitalier de L'Universite de Montreal: Dr. JB. Masson
Toronto General: Dr. Eric Horlick, Dr. M. Osten
Institut de Cardiologie de Montreal: Dr. A. Asgar
Columbia University Medical Center: Dr. T. Nazif, Dr. S. Kodali, Dr. M. Leon
Emory University Medical Center: Dr. V. Thourani, Dr. V. Babaliaros

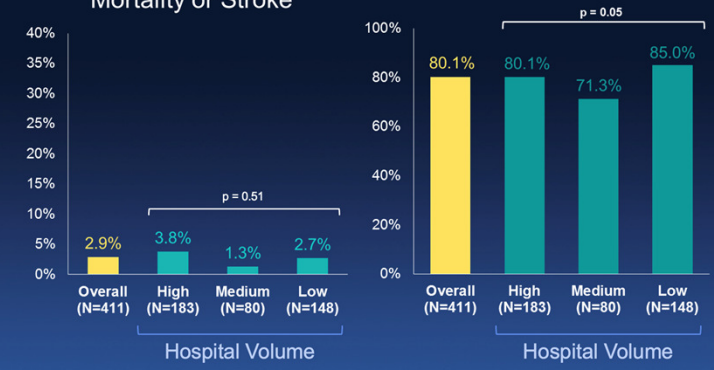
(Submitted for expedited review, JACC, 2017)

Vancouver TAVR Clinical Pathway

Minimalist Peri-Procedure Approach	Facilitated Post-Procedure Recovery	Criteria-Driven Discharge
Procedure Room Cath Lab or Hybrid OR **Access and Closure** Percutaneous **Equipment** Peripheral IV Radial artery monitoring No urinary catheter No PA catheter Temporary Pacemaker removed in procedure room **Anesthesia** Local anesthesia with no or minimal procedural sedation **Echocardiogram** TTE peri or post procedure	**Monitoring** Vital Signs: Q15 x4, Q30 x2 ECG, eGFR, CBC on admission and POD1 Removal of all remaining lines < 2 hours **Facilitated Recovery** Bedrest x 4 hours Nurse-led mobilization Hydration, nutrition, elimination **Communication** Multidisciplinary communication to maintain pathway Patient and family education Implementation of pre-procedure discharge plan	**Monitoring** Review of TTE Absence of: persistent conduction delay vascular access complications laboratory contraindications **Facilitated Recovery** Return to baseline mobilization Absence of elimination issues Return to baseline hydration **Communication** Multidisciplinary agreement of safety for discharge Review discharge plan with family Review follow-up appointments

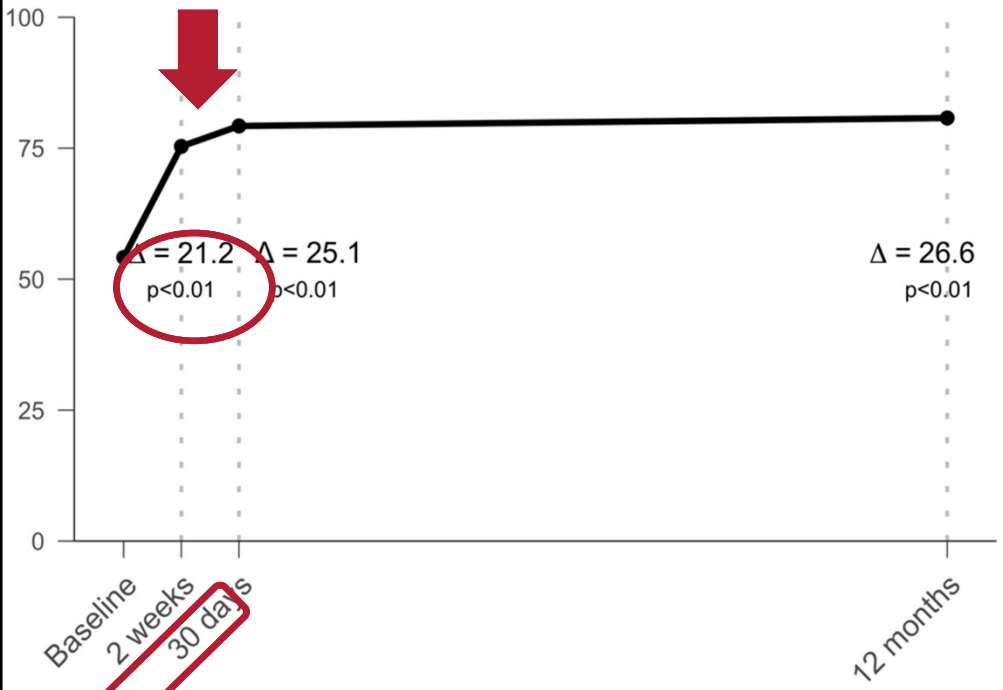
PATIENT JOURNEY

Primary Endpoint

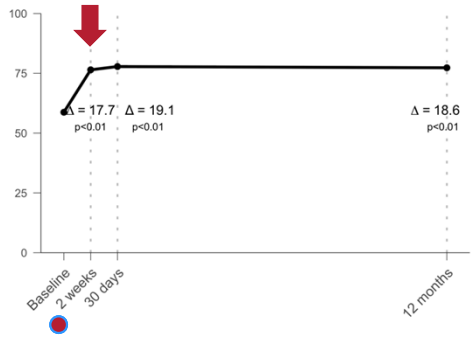


Temporal changes in QOL: KCCQ

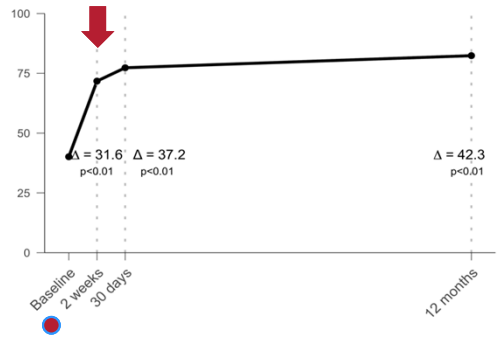
Overall Summary Score



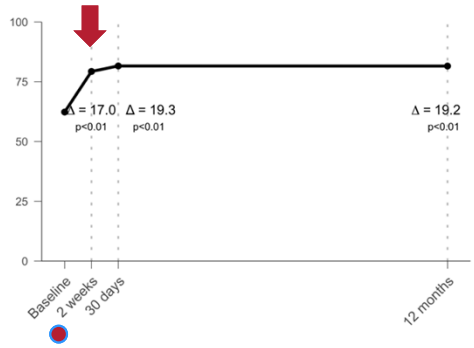
Physical Limitations



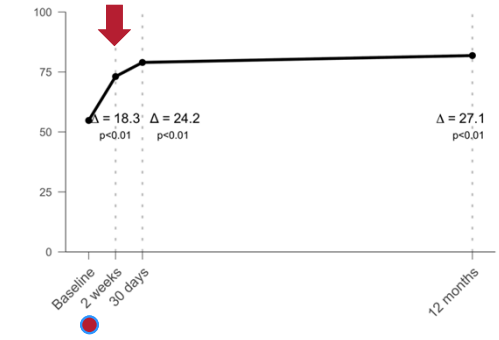
Quality of Life



Total Symptoms



Social Limitations

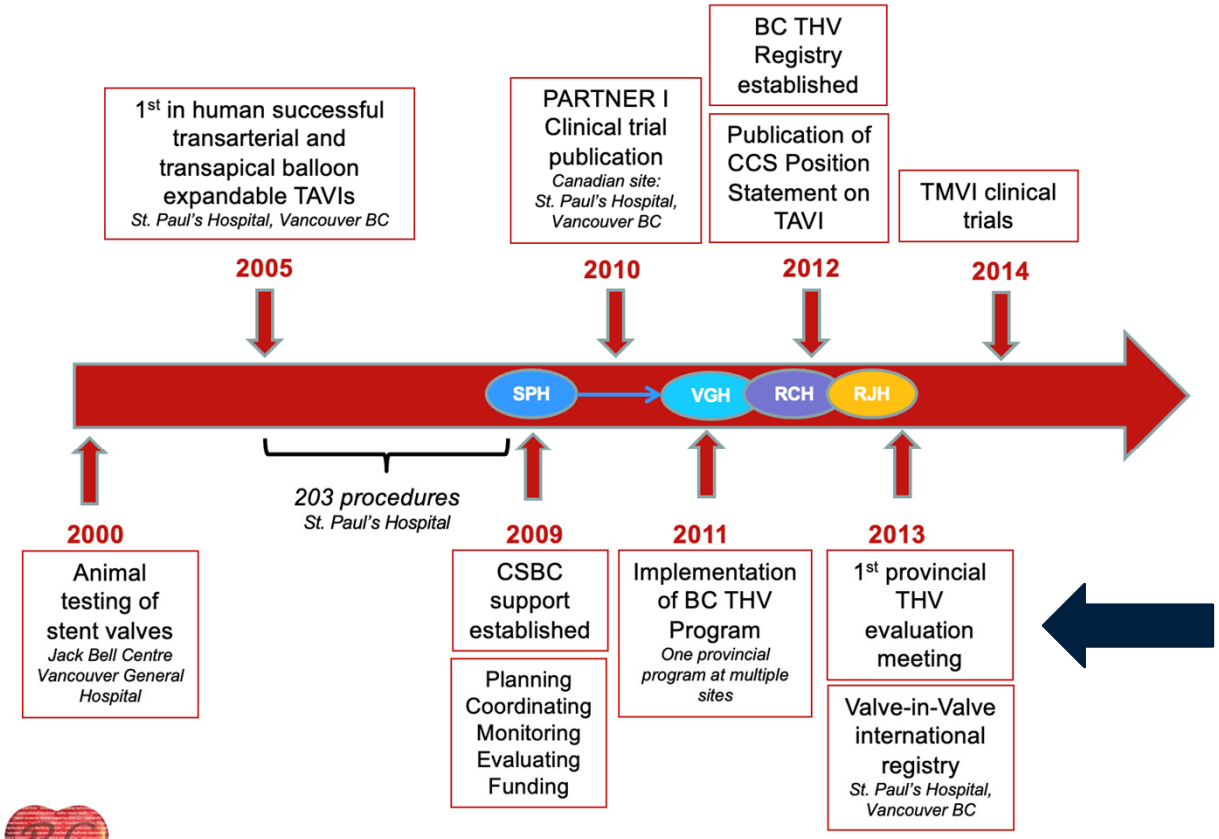


Good outcome analysis

Cohort	Time Point	N	Patients with good outcome*	Crude proportion	95% CI
Alive Patients #	2 weeks	289	213	73.7%	68.2, 78.7
	30 days	279	218	78.1%	72.8, 82.8
	12 months	253	208	82.2%	76.9, 86.7
All Patients$	2 weeks	317	226	71.3%	66.0, 76.2
	30 days	307	230	74.9%	69.7, 79.7
	12 months	277	208	75.1%	69.6, 80.1

Baseline KCCQ: Single significant predictor of poor outcome at all time points

The BC THV Program: Early days of health policy



Canadian Journal of Cardiology xx (2012) xxx

Society Position Statement

Transcatheter Aortic Valve Implantation: A Canadian Cardiovascular Society Position Statement

John Webb, MD, FRCPC,[a] Josep Rodés-Cabau, MD, FRCPC,[b] Stephen Fremes, MD, FRCSC,[c] Philippe Pibarot, DVM, PhD,[b] Marc Ruel, MD, FRCSC,[d] Reda Ibrahim, MD, FRCPC,[e] Robert Welsh, MD, FRCPC,[f] Christopher Feindel, MD, FRCSC,[g] and Samuel Lichtenstein, MD, FRCSC[a]

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[b] Quebec Heart and Lung Institute, Quebec City, Quebec, Canada
[c] SunnyBrook Hospital, Toronto, Ontario, Canada
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The BC THV Program: Early days of health policy

JACC: CARDIOVASCULAR INTERVENTIONS
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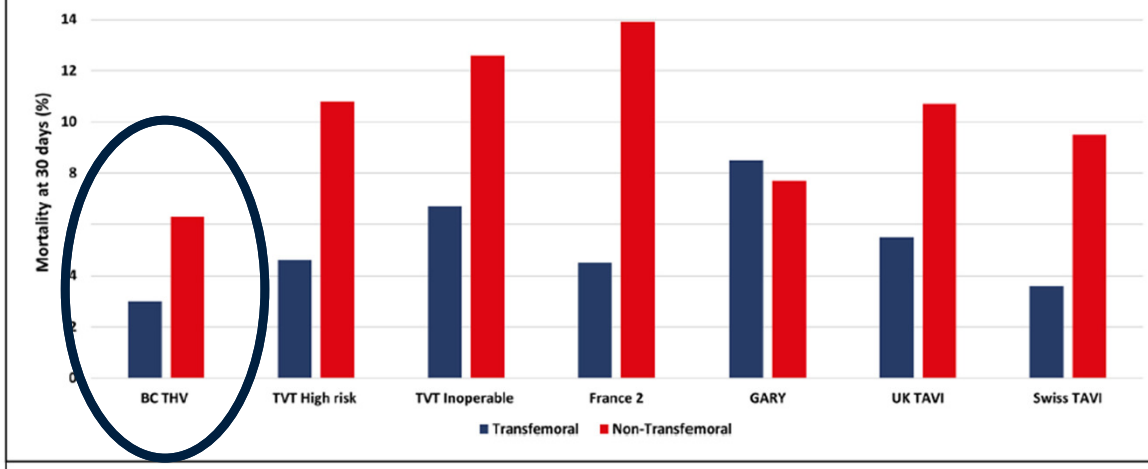
VOL. 8, NO. 15, 2015
ISSN 1936-8798/$36.00
http://dx.doi.org/10.1016/j.jcin.2015.09.017

Regional Systems of Care to Optimize Outcomes in Patients Undergoing Transcatheter Aortic Valve Replacement

Dion Stub, MBBS, PhD,*† Sandra Lauck, PhD,*†§ May Lee, MSc,‖ Min Gao, MD, PhD,‖ Karin Humphries, DS
Albert Chan, MD,‡¶ Anson Cheung, MD,*‡ Richard Cook, MD,*‡# Anthony Della Siega, MD,** Jonathon Leips
Jay Charania, MD,¶ Danny Dvir, MD,*‡ Tim Latham, MD,¶ Jopie Polderman, BSN,§ Simon Robinson, MBCh
Daniel Wong, MD,¶ Christopher R. Thompson, MD,*‡ David Wood, MD,*‡# Jian Ye, MD,*‡ John Webb, MD

FIGURE 1 30-Day Mortality in International High-Risk Transcatheter Aortic Valve Replacement Registries



BC = British Columbia; GARY = German Aortic Valve Registry; TAVI = transcatheter aortic valve implantation; THV = transcatheter heart valve.

The BC THV Program: Early days of health policy

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EDITORIAL COMMENT

Balancing Optimal Outcomes With Access to Care

It Can Be Done!*

Michael Mack, MD

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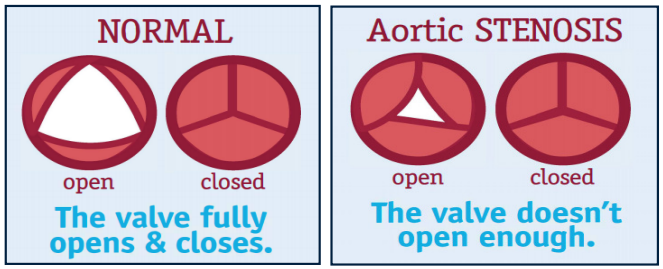
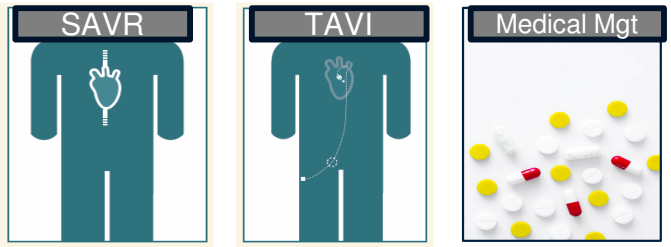
...lent outcomes achieved province-wide demonstrated the potential benefits of a regional system of care.

The authors and the health care authorities in British Columbia are to be congratulated for such a rational and thoughtful approach to health care, balancing first and foremost superior outcomes with expanded access to care, which is a not insignificant issue in this elderly population living across a large geographic area.

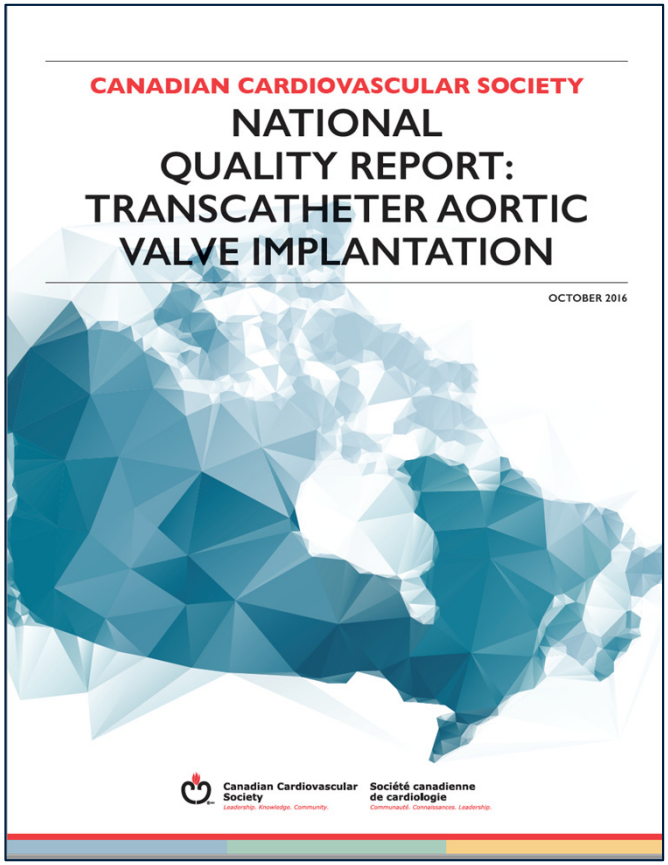
One is left however, wanting to know more details

Building the BC THV Registry:

Clinician vs. patient-reported outcomes the management of aortic stenosis

	Clinician-Reported Outcomes	Patient-Reported Outcomes
Living with Aortic Stenosis 	• Mortality on wait list • Timing of treatment • Hospitalization rate	• Symptoms • Activities of daily living • Mobility • Social and mental/emotional health
Choosing the Right Treatment 	• 30-day, 1-year and long term mortality • 30-day and 1-year readmission • Length of stay • New pacemaker	• Change in symptoms, ADLs, mobility, social, and mental/ emotional health • Rate of recovery • Pain

PROMs and health policy: Canada



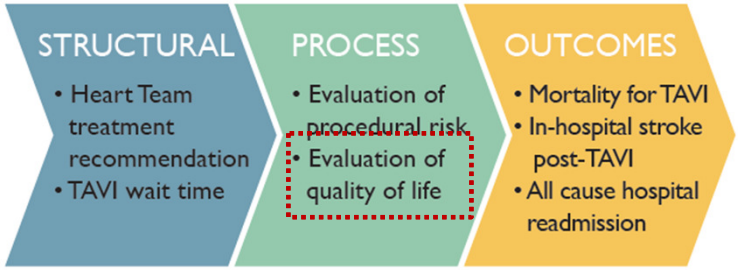


Figure 1. Structural, process and outcome quality indicators for TAVI in Canada.

EVALUATION OF QUALITY OF LIFE					
	Ontario (N=396)	Québec (N=294)	British Columbia (N=270)	Alberta, Manitoba, New Brunswick, Nova Scotia (N=162)	Canada (N=1,122)
KCCQ and EQ5D* (mean and range, %)					
Pre-TAVI	0.0	0.0	97.8 (80.6-100)	60.1 (0-100)	31.9 (0-100)
Post-TAVI	0.0	0.0	21.5 (6.5-25.9)	55.8 (0-100)	12.4 (0-100)

PROMs and health policy: BC

PROMs and BC health policy (2016)

KCCQ, Health Thermometer, and EQ-5D for TF-TAVI Patients

	Baseline		30 Day		1 Year	
	N	Median (IQR)	N	Median (IQR)	N	Median (IQR)
KCCQ [1-100]	320	42.3 (28, 60)	310	75.3 (53, 88)	68	80 (57, 90)
Health Thermometer [1-100]	251	60 (45, 75)	302	70 (50, 80)	67	80 (60, 85)
EQ-5D [0-1]	279	0.7 (0.6, 0.8)	304	0.8 (0.7, 0.9)	65	0.8 (0.7, 0.9)

Cardiac Services BC
An agency of the Provincial Health Services Authority

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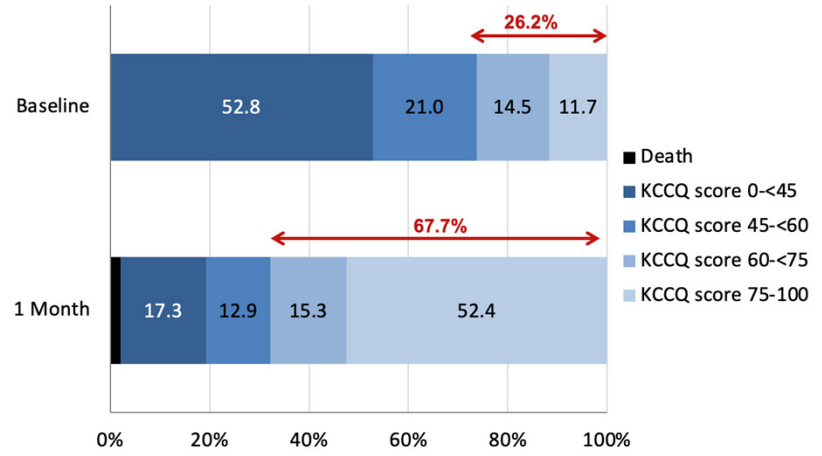
KCCQ Score at Baseline and 1 Month for TF TAVI (N=248)



Note: Only include patients with complete data. There were 243 TF TAVI patients who had KCCQ score at baseline and 1 month, and 5 patients were dead at 1 month.

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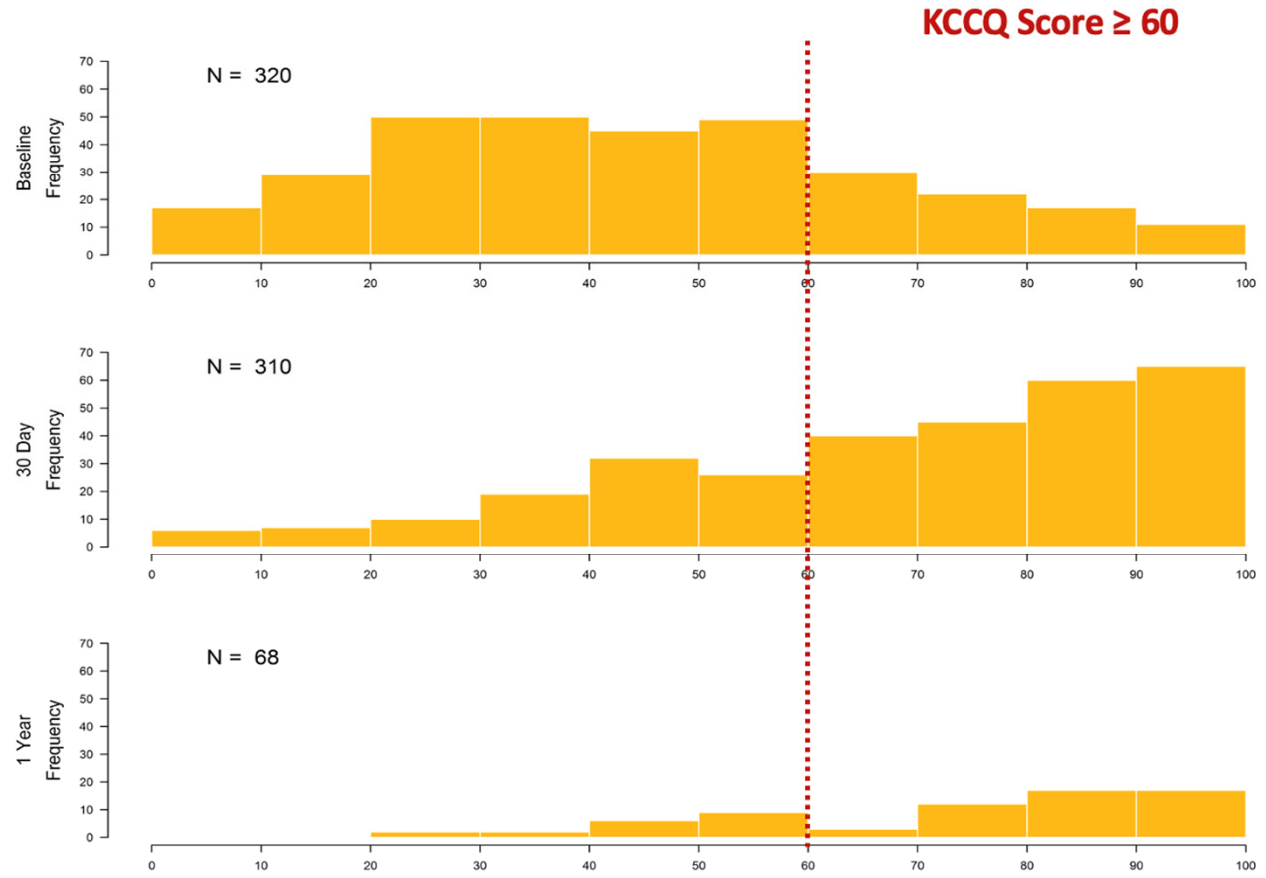
Distribution of KCCQ Score at Baseline and Follow-up for TF TAVI



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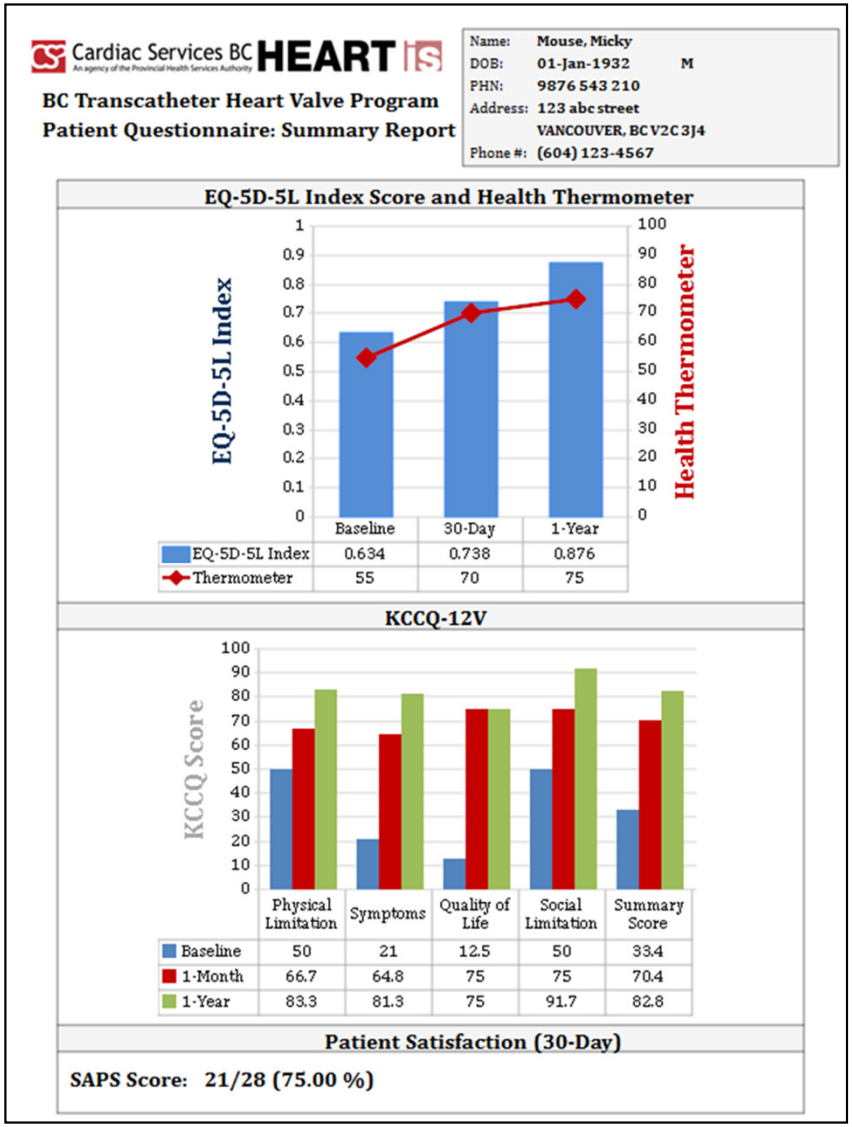
Clinical PROM Report

Cardiac Services BC

Goal: Integrate PROMs and PREMs in provincial THV programs to:

1. Inform treatment decision
2. Augment follow-up program
3. Strengthen evaluation



Cardiac Services BC HEART

BC Transcatheter Heart Valve Program
Patient Questionnaire: Summary Report

Name: Mouse, Micky
DOB: 01-Jan-1932 M
PHN: 9876 543 210
Address: 123 abc street
VANCOUVER, BC V2C 3J4
Phone #: (604) 123-4567

EQ-5D-5L Index Score and Health Thermometer

	Baseline	30-Day	1-Year
EQ-5D-5L Index	0.634	0.738	0.876
Thermometer	55	70	75

KCCQ-12V

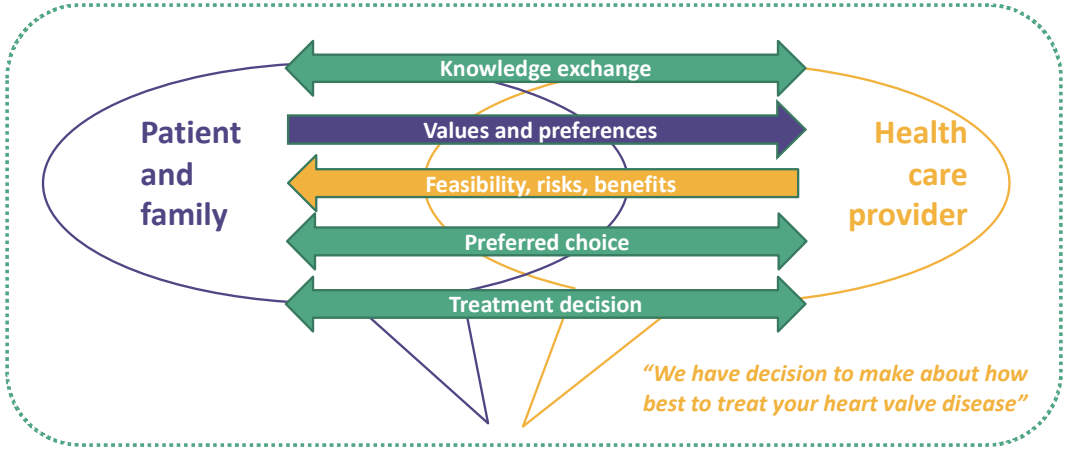
	Physical Limitation	Symptoms	Quality of Life	Social Limitation	Summary Score
Baseline	50	21	12.5	50	33.4
1-Month	66.7	64.8	75	75	70.4
1-Year	83.3	81.3	75	91.7	82.8

Patient Satisfaction (30-Day)

SAPS Score: 21/28 (75.00 %)

Accelerating knowledge translation: Implementation of PROMs and PREMs in cardiac care

Shared decision-making and PROMs/PREMs



Shared decision-making and decision aids:
Ask what matters to patients

PROMs and PREMs:
Measure what matters to patients

Moving the strategic plan forward

Improving cardiac care in BC:
Paying attention to patient reported outcomes and experiences

Phase 1:

1. Determine optimal implementation blueprint to overcome barriers for collection and use of PROMs and PREMs.
2. Evaluate PROM/PREM blueprint implementation and ability to extract data for use including linkage with administrative data.

Faculty of Medicine Strategic Investment Fund (SIF)

The purpose of the Strategic Investment Fund (SIF) is to encourage members of the Faculty of Medicine (FoM) to advance the Faculty's strategic goals outlined in its strategic plan, Building the Future: 2021-2026. The SIF will invest up to $1M per year to support new and innovative projects that result in impactful and sustainable outcomes.

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