

Quality Indicators for Virtual Cardiovascular Rehabilitation during COVID-19 and Beyond

PURPOSE OF THIS RESOURCE

- Provide guidance regarding program evaluation during COVID-19 using pragmatic indicators that align with CCS QI and a virtual CR program
- Provide general information regarding other variables/tools for consideration (e.g. QOL, self-efficacy) to support learning to inform CR planning that includes virtual care options beyond COVID-19.

Note - This resource is intended to supplement information regarding program evaluation as outlined in the Standards for Provision of Cardiovascular Rehabilitation in Ontario (2014).

CCS CR QUALITY PROGRAM (QUALITY INDICATORS) (Grace et al., 2014)

Where available, collect key data to assess virtual CR (vCR) against key pragmatic national quality indicators (QI).

References

Grace SL, Poirier P, Norris CM, et al., Pan-Canadian Development of Cardiac Rehabilitation and Secondary Prevention Quality Indicators. *Can J Cardiol.* 2014; 30: 945-948.

PRAGMATIC QUALITY INDICATORS

1. Eligible event type
2. Eligible event or referral date and vCR program start date to assess
 - CR-2b: CR wait time from referral to enrollment (days)
3. Education including self-management (yes or no)
 - CR-5: % patients in the CR program who received individual or group patient self-management education
4. Physical activity guideline target

- CR-20: % CR patients meeting the target amount of 150 minutes of physical activity per week at program completion
- 5. Increase in exercise capacity (Duke Activity Status Inventory)
 - “CR-17”: % CR patients who achieved 0.5 MET increase in their exercise capacity from before to after program
- 6. Adherence
 - CR-18: % prescribed CR (exercise) sessions completed by patient
- 7. Program completion
 - CR-37: % patients enrolled in CR who completed the program

CACPR REGISTRY (CARDIOLOGICA)

Description

The National registry, Cardiologica, is an integrated (no double data entry) virtual registry to inform and compare achievement of QIs nationally vs. your program. It is supported by the Canadian Association of Cardiac Prevention and Rehabilitation (CACPR). For more information, including pricing (free during COVID pandemic & negotiable thereafter) please contact Vuk Vuksanovic at info@qstatistic.com or 416-530-5834.

Additional tools that interface with Cardiologica include:

- Cardiologica EMR: A provider facing comprehensive CR patient management system
- Cardiology App: A patient facing progressive web that facilitates capture of exercise, anthropometrics, vitals, key questionnaires (such as assessment of anxiety & depression) that is synchronized with Cardiologica EMR

PHYSICAL ACTIVITY ASSESSMENT

DUKE ACTIVITY STATUS INDEX (DASI)

Description

The DASI is a 12-item questionnaire for self-report about activities of daily living that is used to estimate functional capacity.

For a PDF version of the DASI, please click the following link:

<https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=15&ved=2ahUKEwIU9bSD367pAhWKA0JHZLFDD0QFjAOegQIAhAB&url=https%3A%2F%2Fvo2k0qci4747qecaHF07gktt-wpengine.netdna-ssl.com%2Fwp-content%2Fuploads%2F2017%2F01%2FThe-DASI-Score-Sheet.pdf&usq=AOvVaw3etv8VvwY1dWh0vHiG56dx>

References

Hlatky MA, Boineau RE, Higginbotham MB, et al. A brief self-administered questionnaire to determine functional capacity (the Duke Activity Status Index). *Am J Cardiol* 1989;64(10):651-4. (restricted access)

Online calculator: <https://www.mdcalc.com/duke-activity-status-index-dasi#next-steps>

RARE SCORE (RISK OF ACTIVITY RELATED EVENT)

Description

This score is adapted from the AACVR risk stratification criteria and utilizes a simple point-based scoring system to estimate patient risk of experiencing an adverse event while participating in exercise training, based on the following 6 individual variables:

- Resting heart rate, resting blood pressure, functional capacity, ejection fraction, ischemic burden, and presence of arrhythmias. Each of the variables is assigned a value between 0-4 points, with the exception of heart rate and blood pressure, which have a maximum of 2 points.
- The RARE score is then determined by adding the points together for each of the 6 variables, with a total score between 0 and 20. Patients with a RARE score ≥ 4 are classified as high risk, and patients with a RARE score <4 are classified as low risk.

References

Lacombe SP, LaHaye SA, Hopkins-Rosseel D, Ball D, Lau W. Identifying patients at low risk for activity-related events: the RARE Score. *J Cardiopulm Rehabil Prev*. 2014 May-Jun;34(3):180-7. (insert link to document as in the guidance memo)

OTHER PATIENT OUTCOMES FOR CONSIDERATION

PATIENT ACTIVATION MEASURE (PAM)

Description

The PAM assesses a persons' knowledge, skills, and confidence for self management in chronic disease. It is a self-administered questionnaire with 13 items representing health statements. Each statement has a 4-point rating scale from 'disagree strongly' to 'agree strongly'. Scores range from 0-100, which can be segmented into 1 of 4 progressively higher levels of activation.

Permission to use the PAM and current scoring information must be obtained from Insignia Health: <https://www.insigniahealth.com/products/pam-survey>

References

Hibbard JH, Stockard J, Mahoney ER, Tusler M. Development of the Patient Activation Measure (PAM): conceptualizing and measuring activation in patients and consumers. Health Serv Res 2004; 39: 1005-26

QUALITY OF LIFE- CANTRIL LADDER SCALE

Description

The Cantril self-anchoring striving scale or in short, the Cantril-ladder, is an instrument to measure people's attitudes towards their life and its components in various respects. A single item self-report (global) indicator of well-being derived from the scale of Cantril (Dr. Hadley Cantril, 1965). The original scale contains a ladder with 11 steps, and the end points of the scale are defined by the respondents in terms of their best and their worst life experience.

The scale is displayed as a latter with 10 rungs, and although format may vary, the instructions are typical: "Here is a ladder representing the 'Ladder of Life". The top ladder represents the BEST possible life for you. The bottom represents the WORST possible life for you. On which step of the ladder do you feel you stand at this time? (ladder-present) and where you think you will be in about 5 years from now (ladder-future).

The Gallop organization as also identified specific groups based on ladder current and future scores as either: Thriving, Struggling or Suffering. Details can be found at: <https://news.gallup.com/poll/122453/understanding-gallup-uses-cantril-scale.aspx>

References

Sandu KE, Lindquist RA, Treat-Jacobson D, Savik K. Health-related Quality of Life and Subjective Neurocognitive Function Three Months After Coronary Artery Bypass Surgery. Heart Lunt 2008; 37(3): 161-72

CARDIAC SELF-EFFICACY (CSE)

Description

The self-administered, 13 item scale asks patients to rate 'how confident are you that you know you can...' in 2 dimensions (control symptoms (8 items) and maintain functioning (5 items))

Responses use a 5-point Likert scale from 0 (not at all) to 4 (completely confident). (Sullivan et al., 1998). For a list of the items on the questionnaire, please Table 2 in Sullivan et al., 1998.

Some studies indicate 3 dimension (control symptoms (4 items) control illness (3 items) and maintain function (6 items). (Fors et al., 2015)

References

Sullivan MD, LaCroix AZ, Russo J, et al. Self-efficacy and self-reported functional status in coronary heart disease: a six-month prospective study. *Psychosom Med* 1998; 60: 473-478
Fors A, Ulin K, Cliffordson C, Ekman I, Brink E. The Cardiac Self-Efficacy Scale, a useful Tool with Potential to Evaluate Person-Centred Care. *Eur J Cardiovasc Nurs* 2015; 14(6): 536-43.

PROMIS[®] SELF-EFFICACY FOR MANAGING CHRONIC CONDITIONS (PROMIS-SE)

Description

A computer adaptive test (CAT) of an instrument that assesses 5 behavioural domains of self-efficacy related to managing a chronic condition: daily activities, emotions, medication and treatments, social interactions, and symptoms.

The full scale has the following number of items per each domain:

- Daily symptoms (n=25), emotions (n=26), medications and treatments (n=27), social interactions (n=24), symptoms (n=27). The eight-item short form has 8 items per each domain and the four-item short form has 4 items per each domain.
- In the Computerized Adaptive Test (CAT), individual item responses determine the selection of subsequent items from the item bank for each domain. Respondents are required to answer a minimum number of 4 and a maximum number of 12 items to obtain scores for that domain.

References

Gruber-Baldini AI, Velozo C, Romero S, Shulman LM. Validation of the PROMIS[®] Measures of Self-Efficacy for Managing Chronic Conditions. *Qual Life Res* 2017; 26(7): 1915-1924

Lee MJ, Romero S, Celozo CA, Gruber-Baldini AL, Shulman LM. Multidimensionality of the PROMIS self-efficacy measure for managing chronic conditions. *Qual Life res* 2019; 28: 1595-1603