



Reframing Cardiac Rehabilitation: A Preventive Cardiology Approach to Interdisciplinary Care

Abdallah. M. Saudi, MD, MPH, FASPC

Assistant Professor, SUNY Downstate Health Sciences University, United States.

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***Corresponding Author:** Abdallah. M. Saudi, MD, MPH, FASPC, Assistant Professor, SUNY Downstate Health Sciences University, United States.

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Abstract

For most people – especially in lay circles, the word rehab (rehabilitation) involves either some physical aspect such as physical therapy, occupational therapy or speech therapy, or coping with and recovering from some mental issue (drug rehab, etc.). However, there are other forms of rehabilitation related to specific body systems, medical specialties, or disease process that may include other types of therapy or clinical management. Examples include neurological, pulmonary, cardiac, and cancer rehabilitation. Regardless of the type, rehabilitation is usually a tailored, interdisciplinary approach designed to restore or improve function, quality of life, and prevent further downfall from a sustained injury, disease, or medical or surgical intervention. Cardiac rehabilitation, especially when integrated in a collaborative interdisciplinary effort, emerged as a significant tool for enhancing patient recovery (1) and improving cardiovascular outcomes (2). However, it remains limited and underutilized. This manuscript examines the role of patient-centered interdisciplinary collaboration within the broader framework of preventive cardiology. A framework that, when applied across the relevant tiers of clinical practice, will help bridge gaps and reduce barriers. Thus, the interdisciplinary model proposed in this manuscript stems from the model proposed for expanding preventive cardiology practice globally and making it more effective.

Key words: American heart association (AHA), American college of cardiology (ACC), American society of preventive cardiology (ASPC), automatic referrals, cardiac rehab (CR), cardiovascular disease / medicine, disability, European Association of preventive cardiology (EAPC / ESC), global burden of disease (GBD), interdisciplinary, low and middle-income countries (LMIC), morbidity, mortality, myocardial infarction (MI), noncommunicable diseases (NCDs), occupational therapy, prevention, preventive

cardiology, physical therapy, psychosocial factors, quality of life, rehabilitation, rehab deserts, speech therapy, utilization, virtual rehab (VCR),

Introduction

Cardiovascular diseases (CVD) have been the leading cause of mortality, and among the foremost causes of disability in most countries for over three decades (dating back to 1990) - according to the 'Global Burden of Disease' (GBD) study, 2021[1]. The more striking phenomenon noticed about this global challenge is the shifting of disease burden in low- and middle-income countries (LMIC) from communicable to noncommunicable diseases (NCDs), with 80% of CV-related deaths occurring in those countries (LMIC) [2]. During this same era, significant strides have been achieved in research on cardiovascular health - aiming at identifying modifiable risk factors for heart disease and setting the foundation for preventive cardiology [3]. Some of these studies are much older, long-term projects that continue to this day, such as the Framingham Heart Study (FHS) that began back in 1948 and produced about 6000 articles in leading medical journals [4]. On a parallel trajectory, similar strides were achieved in devising programs and initiatives by governmental and professional entities aimed at translating such research into practical benefit for reducing the burden of CVD. Such campaigns and initiatives include the Million Heart Initiative in 2022, which was aimed at averting 1 million cardiac events within 5 years [5]. These great initiatives formed the bases for many of the current guidelines for better cardiac care. Despite the impactful outcomes of such research, gaps remain and the challenge represented by an unyielding cardiovascular mortality persists. This creates opportunities for strengthening the research capacity – especially in low-income and underrepresented regions [3], as well as for considering other approaches.

One of those approaches is to use preventive cardiology itself as a tool and to develop it in such a way that it can be implemented on a large scale. Research in that regard seems to be nil, which is why we've undertaken this initiative, as will be explained below.

The role of preventive cardiology (research initiative)

Back in November of last year (2025), a group of international researchers and I initiated a global, independent, and ongoing research project on "the Role of Preventive Cardiology in Reducing the Global Burden of Cardiovascular Disease" which was peer reviewed by the International Institute for Research and Development (IIRD) - conference on Medical Health and Science- 25 (ICOMHS-25) [6]. In the abstract presentation, we included a model for implementation as the project progressed. A key ingredient in that model was the promotion of interdisciplinary collaboration between preventive cardiology practitioners and various other healthcare services and professionals willing to participate in the global efforts aimed at improving heart health and protecting – as Di Cesare et al put it - the 'heart of the world' [2]. A notable example of such collaboration included in the model is manifested in cardiac rehabilitation – an important aspect of preventive cardiology.

A synopsis of the preventive cardiology model

In recent decades, Preventive Cardiology has emerged as an expanding field in CV medicine, addressing the challenges brought about by the persistent prevalence of CV disease despite all the dedicated efforts. Recent studies are even suggesting an alarming increase in cardiac morbidity and mortality, likely brought about by increases in CV risk factors such as overweight, T2DM, and metabolic syndrome, and by lack of adherence to the typically recommended lifestyle changes [7]. Hence, the need for a paradigm shifts in facing this challenge, and hence the need for further growth and development in the practice of preventive cardiology as a conceptual framework that spans the full continuum of preventive strategies at the primordial, primary, secondary and tertiary levels. This expanding field is overseen by professional organizations such as the American society of preventive cardiology (ASPC) [7], and the European association of preventive cardiology (EAPC), an offshoot of the ESC [8]. In addition to recommendations and guidelines set by prominent organizations such as the AHA, the ACC and others, these two preventive cardiology organizations promote their own standards and guidelines such as the ASPC manual of preventive cardiology [9], ASPC clinical practice statements [10], ASPC tools for patients [11], and the EAPC clinical practice guidelines [12].

Despite these strides in promoting the idea of a focused professional pathway, preventive cardiology, and its subfields like cardiac rehab, remain limited and underutilized. Significant gaps in training, standardization, and more importantly implementation exist in current practice. In addition, many of the approaches used thus far are fragmented and dedicated efforts are overshadowed by acute, intervention-focused cardiology [13].

The model proposed in the research initiative mentioned above targets those very limitations and challenges, by offering a more comprehensive approach and practical recommendations for implementation, including an educational curriculum for training fellows. The model revolves around engaging almost everyone, from patients to healthcare professionals to society at large, including policymakers, in developing a cardiovascular disease prevention continuum around the globe. This continuum, therefore, represents an invite or a call for all interested to join in this collective, ongoing effort. One important recommendation in the model is the interdisciplinary collaboration at the clinical practice level, especially for patients undergoing cardiac rehabilitation, which is the focus of this article.

Cardiac rehabilitation defined

As stated above, cardiac rehabilitation is typically part of preventive cardiology practice and, as such, it's aimed at preventing further complications resulting from current disease, associated risk, and medical interventions. It constitutes a variety of medical, physical, lifestyle, educational, and psychosocial support systems and services aimed at helping the cardiac patient recover, improve their quality of life, and reduce future risk of heart problems [14]. Candidates for cardiac rehab include patients who sustained a cardiac event or underwent a cardiac intervention / procedure. Examples of services include engaging the patient in an exercise program, dietary regimen, lifestyle modification program, and ensuring appropriate medication management. Cardiac rehabilitation programs can be both in-patient and out-patient and are part of a team-effort. They are usually offered at various cardiology centers or clinics, hospitals, and specialized institutions. Thus, the clinicians involved may include Preventive Cardiologists, nurses, NPs, PAs, PTs, STs, OTs, dietitians, nutritionists, exercise physiologists, social workers, and psychologists.

The efficacy and benefit of cardiac rehab

Cardiac rehab (CR) in the US and Canada goes back to the 1960s when it was used for in-patients who have suffered a myocardial infarction, and the aim was to progressively mobilize them, amid considerable criticism and controversy. Since then, it has become more widely accepted and expanded in eligibility to include other cardiac events sustained by both in-patients and out-patients, as well as post cardiac interventions and surgeries [15]. Current CR programs usually span up to 3 months, are medically supervised, and vary in design and approach.

As a secondary prevention program, the benefits of CR were established by multiple studies summarized by the CDC [16]. It is said to have reduced the risk of mortality by 35%-53% in the 5 years following an MI or a bypass surgery, and reduced cardiac-related mortality by 57%, as well as reducing hospital admissions. Furthermore, multiple studies show efficacy of existing CR programs at the clinical and functional endpoints, improving overall function and quality of life [17]. The key mechanism behind such positive outcomes is that CR addresses an aggregate risk of underlying cardiovascular compromise manifested by exercise intolerance, namely impaired cardiac output, vascular function, and skeletal muscle metabolism. These changes are not solely related to cardiac pathophysiology, but also to non-cardiovascular morbidity and aging [18].

The barriers and limitations of CR

Like other healthcare services, CR is limited and challenged by a multitude of factors inherent in the healthcare environment. Some of these barriers or challenges relate to patient participation and access, others to availability, healthcare management strategies and logistics. By addressing these challenges and eliminating them, the potential for maximizing the benefits of CR discussed above is likely to improve. Here is a breakdown of some of these barriers and strategies to overcome them:

- Logistics, inequities and disparities within the healthcare system: perhaps this represents the most objective group of barriers to tackle because it's in the hands of the healthcare system. Inadequate number of CR programs, disparities in geographical location, inequities related to access and insurance cost, and lack of referrals or underutilization are but few examples of this type of barriers. Chantry and colleagues have shown significant data detailing specific areas of shortcoming on the part of the healthcare system related to referrals and other limitations. Suggested strategies here include the use of automated referral system, home-based CR, and improving education [18]. However, as with almost all the barriers, serious intervention by policy makers would be one ultimate strategy.

- Patient-related barriers and demographics: racial, cultural, gender and other psychosocial factors are at also at play, usually leading to lack of participation and adherence. For example, an editorial in Contemporary OB/GYN showed significant CR barriers in women, some having to do with patient preferences of privacy or gender-related logistics. Thus, a possible strategy would be to respect such preferences and devise alternative forms of CR for them [18].

The cardiac rehab program

Although CR programs may vary in content, structure and approach, they usually entail three main components: 1. personalized exercise training to strengthen the heart – usually supervised by professional exercise experts or physical therapists; 2. lifestyle changes program involving patient education about risk factors such as smoking, smoking cessation, and heart-healthy diet; and 3. Patient counseling to address various mental and psychosocial issues, stress reduction and mental health [19]. Most of these programs use a team-based approach and last weeks to few months, with sessions spanning about one hour each. The program usually starts light and then increases in intensity [19].

Collaboration beyond the rehab program

For CR programs which are hospital-based, team collaboration is obviously expected. However, as discussed earlier, many of these programs, especially the ones that follow strict protocols unamenable to flexibility, face some of the challenges mentioned earlier. By contrast, the ones with a good degree of diversity, cultural competence and equity use a multidisciplinary approach that encompasses best practices and strategies to improve access and participation, such as telehealth, automated referrals, early outreach, and personalization, among others [20].

All that said, what we are proposing here is that by recognizing CR as an integral part of preventive cardiology, interdisciplinary collaboration would expand beyond the typical CR program to include all related healthcare delivery services each in their own location. This approach places the patient at the center of care. Patient's preferences would best be answered and their participation best ensured. Of course, this requires targeted, continuing education for healthcare professionals as well as preventive cardiology training for fellows.

Summary

CR is an essential pillar in post-event clinical management of cardiac patients. It should be ultimately supervised by a preventive cardiologist and tailored to encompass multidisciplinary services accessible to the patient. Thus, CR should be a process rather than a structure. Patient participation should be as early and as less demanding as possible. For this process to succeed, realistic planning, continued research and targeted education must be undertaken.

References

1. Ibrahim alhariqui, et al. (2024). Interdisciplinary approaches to cardiac rehabilitation, SJMPH, <https://saudijmph.com/index.php/pub/article/view/321>
2. Rod Taylor, et al, The role of cardiac rehabilitation, Springer Nature, 2021, <https://pmc.ncbi.nlm.nih.gov/articles/PMC8445013/>
3. Mensah, G, Roth, G, Fuster, V. (2019). The Global Burden of Cardiovascular Diseases and Risk Factors: 2020 and Beyond. *JACC*, 74 (20) 2529–2532. <https://doi.org/10.1016/j.jacc.2019.10.009>
4. Mariachiara Di Cesare, et al, (2024). The heart of the World, Global Heart, <https://pmc.ncbi.nlm.nih.gov/articles/PMC10809869/>
5. Maha Inam, et al, global CV research, 2023, Current Cardiol Rep. <https://scholars.aku.edu/en/publications/global-cardiovascular-research-gaps-and-opportunities/>
6. NIH, NHLBI, the Farmingham Heart Study, <https://www.nhlbi.nih.gov/science/framingham-heart-study-fhs>
7. CDC, “Million Hearts”, <https://millionhearts.hhs.gov/about-million-hearts/index.html>
8. Abdallah Saudi, MD, MPH, et al: The role of preventive cardiology in reducing the global burden of cardiovascular disease, peer-reviewed abstract, ICMHS, RefNo:/RRT/00015329, 11/30/2025
9. Charles German, et al, Defining Preventive Cardiology, American journal of preventive cardiology, vol 12, 2022. <https://doi.org/10.1016/j.ajpc.2022.100432>
10. Peploi MF, Abreu Albus, et al, (2019). update on cardiovascular prevention in clinical practice, *EJPC*, 27(2): 181-205. doi:10.1177/2047487319893035
11. ASPC preventive cardiology manual, 2026, <https://www.aspconline.org/aspc-manual-of-preventive-cardiology>
12. ASPC clinical practice statements, 2026, <https://www.aspconline.org/aspc-clinical-practice-statements>
13. ASPC tools for patients, 2026, <https://www.aspconline.org/tools-for-patients>
14. EAPC (ESC) clinical practice guidelines, 2021-2026, <https://www.escardio.org/communities/associations/eapc/>
15. Anum Saeed, et al, cardiovascular disease prevention pathways: the status quo and future directions, *AJPC*, 2020, <https://pmc.ncbi.nlm.nih.gov/articles/PMC8315632/>
16. AHA: What is cardiac rehabilitation? <https://www.heart.org/en/health-topics/cardiac-rehab/what-is-cardiac-rehabilitation/>
17. Abdulla Damluji, et al, benefits of cardiac rehabilitation, *Circulation*, vol 137#2, 2025, <https://www.ahajournals.org/doi/10.1161/CIRCRESAHA.125.325705>
18. CDC, evidence of impact for CR, 2026, <https://hdsbpc.cdc.gov/s/article/Evidence-of-Impact-for-Cardiac-Rehabilitation>
19. Current challenges in CR, 2021, <https://pmc.ncbi.nlm.nih.gov/articles/PMC7749053/>
20. Celeste Krewson, significant barriers to CR in women, contemporary OB/GYN, 2025, <https://www.contemporaryobgyn.net/view/significant-barriers-to-cardiac-rehabilitation-reported-in-women>
21. AHA, what is CR? 2024, <https://www.heart.org/en/health-topics/cardiac-rehab/what-is-cardiac-rehabilitation>
22. Tod Brown, et al, core components of CR programs, *circulation*, 2024, <https://www.ahajournals.org/doi/10.1161/CIR.0000000000001289>