Cardiac Rehabilitation Staffing: The Clinical Exercise Physiologist

POINT: Appropriate Utilization of the Clinical Exercise Physiologist

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Recent advances in the importance of cardiac rehabilitation (CR) as a treatment to improve quality of life and reduce morbidity and mortality are exciting. For approximately the initial 30 years of the highly structured, physician-supervised, and ECG-monitored era of CR, the primary attendees were those with a recent heart attack or coronary artery bypass surgery. In 2006, angina, percutaneous coronary intervention (PCI), valve surgery, and heart transplant were added to the Medicare coverage list for CR services (3). And recently, in 2014, heart failure was added (2). Thus, the potential participant population has grown tremendously over the past 10 to 15 years. Add to this a strong national association (American Association of Cardiovascular and Pulmonary Rehabilitation or AACVPR) and the increase in monitoring CR referral as a core quality performance measure (6), and it is reasonable to assume that the future of CR delivery is well-rooted.

The traditional model for CR staffing is often considered separately for the exercise training sessions and the lifestyle educational sessions. The typical exercise floor staff includes clinical exercise physiologists and registered nurses (RN). Occasionally, other clinical professionals, such as physical therapists, might also work in the CR exercise setting. Staffing for the education portion of CR, in addition to the aforementioned, might also include registered dietitians, pharmacists, and behavioral health specialists among others. In today's era of concern for cost, quality of care, and managed capitated healthcare, it is becoming increasingly important to utilize the limited resources throughout healthcare in an efficient and cost-effective manner. Consideration of a staffing change to primarily clinical exercise physiologists used during the exercise portion of CR may help to achieve this aim.

Today's traditional staffing model rose out of the development of the CR structure in the 1970s when the risk of an adverse event during exercise in the cardiac population was considered to be high. Most programs were affiliated with hospitals and/or physical education departments, and minimum competencies and standardized certifications were not yet established. Therefore, the placement of a RN with an exercise professional was the norm. Nurses could perform patient assessments, make clinical decisions during emergency situations, and often sought to gain exercise experience and certification. On the other hand, academic training of clinical exercise physiologists was in its fledgling stage, and thus these individuals did not possess strong clinical decision-making ability. This staffing concept remains in place today in many CR programs despite knowledge of the low risk of an adverse event in stable patients, even those with systolic heart failure. Current CR staffing is not directly dictated by CMS. The following is taken directly from the 2006 Centers for Medicare and Medicaid Services (CMS) decision memo for CR (3):

> **Staff**
>
> The program must be staffed by personnel necessary to conduct the program safely and effectively, who are trained in both basic and advanced life support techniques and in exercise therapy for coronary disease. The program must be under the direct supervision of a physician, as defined in 42 CFR § 410.26(a)(2) (defined through cross reference to 42 CFR § 410.32(b)(3)(ii), or 42 CFR § 410.27(f)).

It is obvious that properly trained and experienced RNs have a specialized skill set that lends itself to the assessment

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and educational components of CR. Many of these RNs have an interest in exercise, and since they lack formal training in nursing school in exercise physiology, they often seek to learn more about exercise and the normal and abnormal physiologic responses. In the past, nurses were allowed to sit for the American College of Sports Medicine's (ACSM) clinical exercise specialist certification (however, per ACSM, RNs are no longer allowed to sit for this exam/certification). However, a question might be whether a RN is a required staff person for CR versus other available potential staff who will also satisfy the requirements of the Centers for Medicare & Medicaid Services (2).

Today, well-established master's degree academic programs are preparing individuals as clinical exercise physiologists to work independently with a variety of clinical patients, including those with cardiovascular disease (1). These programs provide rigorous theoretical, practical, and internship experiences designed to provide students with the skills and abilities to make patient assessments both at rest and during exercise. Most of these programs specifically focus on cardiac and pulmonary diseases since these represent the majority of patients participating in clinically-based exercise programs. Thus, with a proper new-hire orientation process and preceptor-led experience, most of these graduates can provide the clinical oversight necessary for a CR program. Additionally, clinical exercise physiologists have demonstrated the ability to safely supervise exercise testing in high-risk populations, including pre-test assessment and clinical decision-making during the exercise test (4). And, the clinical exercise physiologist possesses a specific professional skill set through their academic and practical training (Table 1).

TABLE 1. CEP knowledge, skills, and abilities.

- Knowledge of acute and chronic physiologic adaptations to aerobic, anaerobic, resistance, and range-of-motion exercise.
- Ability to develop and alter exercise prescriptions for both the healthy and populations with chronic disease (e.g., cardiac diseases) and health conditions.
- Skills to assess patients before, during, and following an exercise bout to maintain a safe and effective exercise environment.

The CR program at Henry Ford Hospital has been in existence for more than 30 years. The hospital currently services approximately 45,000 patient visits between its phase 2 and 3 programs each year. The patient population, particularly in the urban center, includes highly complex (heart failure, left ventricular assist device, heart transplant) patients with multiple comorbidities. For the initial 15 to 20 years of the program, a traditional staffing model was employed with RNs working alongside clinical exercise physiologists (i.e., ACSM certified clinical exercise specialists) to deliver the exercise portion of CR. Due to tighter budgets, a low incidence of complex emergency situations, and excellent preparation of clinical exercise physiologists the program replaced its RN staff through attrition and has utilized a clinical exercise physiologist staffing model for the past 10 to 15 years. In 2013, the U.S. Department of Labor Bureau of Labor Statistics reported more than 2.6 million RNs employed in the United States, and the median income was $66,220 ($31.84 per hour). The same department reports the 2013 median income of exercise physiologists at $46,020, or about $20,000 per year less than a RN. This difference might be important, especially for CR programs threatened by budget issues. Also of note is that the Henry Ford Hospital's clinical exercise physiology staff responds (with physician back-up) to all medical emergency situations both in the CR program and throughout the medical fitness facilities in which these programs reside.

There are undoubtedly other possible changes to the delivery of CR that can address the efficiency and cost issues facing healthcare today. These include larger classes, improved risk stratification schemes, and home-based CR program models. But certainly if we are currently considering home-based exercise for current CR eligible patients who will subsequently exercise without direct supervision, a staffing model can be envisioned that frees RNs who are anticipated to become a scarcer commodity as they play an important role with the ongoing healthcare changes tied to the Affordable Care Act (5). Programs delivering CR might consider adopting a clinical exercise physiologist staffing model to address the efficiency and cost-effectiveness issues facing CR today.

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COUNTERPOINT: Want to keep playing in the sandbox? Change the game.

Karen Lui, RN, MS[1] and Mark Lui, MS[1]

The premise that there is one "ideal" or better qualified discipline to deliver cardiac rehabilitation (CR) is flawed. From its inception, the field of CR has recognized the comprehensiveness of treating heart disease with exercise and lifestyle changes (6,1). The interdisciplinary approach has proved to be effective and has generated strong scientific evidence and clinical outcomes. In fact, today the profession has evidence-based core components for programs (3) and aligned core competencies (5) for CR practitioners. Professional certification that encompasses these competencies that are specific to CR now exists. This new certification is intended to help ensure minimally acceptable qualifications for all disciplines practicing in this interdisciplinary field (2).

Even CMS (The Centers for Medicare and Medicaid Services) recognizes CR as an interdisciplinary service. The 2010 revision of the Medicare provision for CR mandated program components are "physician prescribed exercise, cardiac risk factor modification, psychosocial assessment, and outcomes assessment," while intentionally not referring to any specific discipline to provide this service (4).

Thirty-three years ago when we started in cardiac rehabilitation, a typical CR program was directed by a PhD exercise physiologist and employed a combination of master's prepared exercise physiologists, nurses, perhaps physical therapists (PT), a registered dietician, and a psychologist. This multidisciplinary approach was consistent with the current research of the day. In the 1980s, "Phase I" or inpatient CR did not emphasize the use of psychologists and registered dieticians due to shortened hospital stays and Medicare reimbursement changes. Gradually, hospital nursing departments took over CR and undergraduate exercise specialists replaced PhD and master's degree trained exercise physiologists. As a result, many CR programs operate exactly as they did in 1985. It could be argued that the frequency, intensity, and duration of exercise has been "watered down" and new modalities of exercise, such as class activities (aerobic dance, spin class etc.) and resistance training, have not been satisfactorily incorporated into the exercise prescription. Behavioral psychology updates such as perceived enjoyment, stage of change, self-efficacy, motivational interviewing, and wellness coaching have been ignored.

Should this model be eliminated in favor of one dominated by clinical exercise physiologists as it existed 33 years ago? Perhaps, but the reality needs to be examined. Nursing is a dominant department in most hospitals and will continue to control CR programs under the current reimbursement structure (Medicare fee-for-service paradigm). That is until a more effective or more cost-efficient model is proposed.

Clinical exercise physiologists need to develop and promote a more cost-effective model that is more accommodating of patient schedules and lifestyles. The eventual sustainable solution will be a maintenance ("Phase 3 and 4") self-pay model that partners with local community health centers, medical fitness association programs, YMCAs, or private gyms to develop a CR model. This approach would reduce the point-of-service cost of a CR visit to less than half the cost of the current model. Ironically, this may look much like U.S. CR programs of the 1970s and current Canadian CR programs that have prospered for many years. Outpatient capitation will most likely take effect and the fee-for-service model will transition to a value-based purchasing model. This process is already beginning to take place. Proposing an alternative model to chief financial officers of hospitals may help qualified clinical exercise physiologists have a more realistic chance of serving a leading role in the delivery of CR. Without a more economical model of delivery, change will not occur. Hospitals are currently examining strategies to adapt to reimbursement changes. The timing could be perfect.

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REBUTTALS

Rebuttal from: Jonathan K. Ehrman, PhD, ACSM-CEP[1]

Attempting to determine qualified allied health staff for cardiac rehabilitation (CR) programs should always be based on individual knowledge and skills. It must be noted that a clinical exercise physiologist (CEP) who has been certified by the American College of Sports Medicine as a Clinical Exercise Specialist or Registered Clinical Exercise Physiologist has demonstrated at least minimal competency to work with patients in a CR program. This is not the case for registered nurses (RN) or physical therapists (PT) or any other allied health professional. That is not to say that an RN or PT does not have the ability to work with these patients in the CR setting, but rather that they have not demonstrated competency through a certification examination.

In today's era of tight budgets and declining reimbursement, hospitals will begin to look at services that either do not make much money (i.e., low profit margin) or those that financially operate in the red. While it's well understood that there are clear morbidity and mortality benefits of CR participation for patients who attend CR and that there are likely benefits of CR (e.g., reduced health care costs, regular socialization for those who live isolated) that are not routinely measured, the reality is that CR programs will likely be scrutinized to an increasing degree. Based on the fact that the wages paid to a CEP are likely lower than most other qualified allied health care professionals who work in CR (e.g., RNs and PTs), and that the CEP is fully qualified to work in the CR setting, it is likely in the best interest of CR programs to consider altering their staffing makeup to a predominance of CEPs.

A consideration with this suggestion is that of the staff who might be directly affected by staff adjustment. For instance, most RNs are in demand and have little difficulty finding employment. Those programs that do not make a pre-emptive adjustment in staffing may find that they have to quickly discontinue a RNs employment when program expenses are scrutinized. For those RNs who must work based on personal finances, this situation would leave them little opportunity to find satisfactory employment. They may have to settle for an undesired position. Those who are provided a longer time to their last day of employment in CR would have the luxury of time to find an employment position that is best suited for them.

CR remains a multi-disciplinary program that utilizes a variety of allied health care professionals. However, the morbidity and mortality benefits of CR are limited to the exercise training that is performed, and not to the lifestyle education (1). While most CR professionals believe that lifestyle education is the "right thing to do," it is not a mandatory portion of CR. So the notion that the CEP is well-suited to provide CR care is especially exemplified because the exercise training portion is most important. Other allied health professionals—including registered dieticians, pharmacists, and behavioral health specialists—can still provide patient education as needed. Utilization of these health care professionals in this manner may represent a more efficient use of their time and knowledge. This is particularly true for the RN. Time not on the exercise floor allows the RN time to perform nursing duties that cannot be performed by others. This is becoming increasingly important in the current era of a nurse rationing in inpatient and outpatient settings due to a shortage of available RNs.

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In conclusion, it is my belief that the reality of staffing efficiencies and tight budgets will eventually affect CR programs. These programs must be creative and a priori address these issues before they are forced to address them in a manner that is not in the best interest of the CR patients or employees. Now is the time to begin planning for this inevitable future.

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Rebuttal from: Karen Lui, RN, MS[1] and Mark Lui, MS[1]

The Counterpoint referred to establishing a new and more cost-effective model of delivery in cardiac rehabilitation (CR). This would help clinical exercise physiologists to provide an alternative to traditional Phase 2 and place exercise physiologists in a more prominent role in CR. Now a model is presented that would move traditional CR to the medical fitness facility setting. The model also moves CR to the growing trends in health care to be both value-driven and pay-for-performance.

The growing trend of $50 to $70 co-payments in Phase 2 CR programs is a barrier to utilization of this service. A growing number of patients are electing to not participate or, if they elect to sign up, they drop out after six to nine visits when they realize a cost of $150 to $200 per week. A primary goal of CR is to guide patients in changing multiple behaviors. Recognizing that this typically takes months rather than weeks, limiting CR to six or nine visits, as has occurred in physical and occupational therapy, renders early outpatient CR ineffective in assisting with positive behavior changes. Because CR requires time to affect change, a new reimbursement model that is value-driven and performance-measured is needed.

A proposed new cardiac rehabilitation reimbursement model would replace the $100 per visit fee for service payment with six monthly payments of $150 with a copayment to the patient of $50 per month. A copy of the individualized treatment plan (ITP) signed by the medical director with performance measures outlined as follows must accompany the request for the next 3 mo of payment. An additional 6 mo of payment may be requested if the ITP 6 mo performance measures are met. The quarterly and 6 mo performance measures are:

Quarterly Performance Measures
- Eight visits per month
- Increased duration of exercise of 5 min each month
- Increased MET capacity of 0.25 METs (Metabolic Equivalent of Task) each month
- Four topics of behavioral change addressed monthly

Six-Month Performance Measures
- Greater than 50 total visits
- Increased duration from initial by at least 30 min
- Increased MET capacity by at least 1.5 METs
- Appropriate score of depression or a pre-post drop in score
- Appropriate score of anger or a pre-post drop in score
- Appropriate score of anxiety or a pre-post drop in score
- Appropriate total cholesterol score or a pre-post drop in measured value
- Appropriate LDL score or a pre-post drop in measured value
- Appropriate HDL score or a pre-post rise in measured value
- Average systolic blood pressure <140 mm Hg
- Average diastolic blood pressure <90 mm Hg
- Cessation of smoking

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