Hiring Practices of Exercise Physiologist in Cardiac Rehabilitation Programs among Mid-Atlantic States in the United States

Allison Hope Bowersock, PhD[1], William Alexander Breeding, BS[1], Carmel Alexander Sheppard, BS[1]

ABSTRACT

Purpose: The purpose of this survey was to identify factors that may be influencing the appreciation of exercise physiology as a discipline as demonstrated by hiring practices in regional clinical settings.
Methods: A telephone survey was administered to 33 cardiac rehabilitation programs in 5 states in the Mid-Atlantic region of the United States (Kentucky, North Carolina, Tennessee, Virginia, and West Virginia).
Results: The distribution of nurses and exercise physiologists (EPs) employed by the 33 facilities varied by state, but overall there were 86 nurses and 55 EPs working among the surveyed facilities. Of the 33 surveyed facilities, 12 (36%) reported a preference for hiring nurses over EPs; only 4 (12%) reported a preference for hiring EPs over nurses. The remaining facilities (n = 17; 52%) reported no preference (n = 12; 36%) or that the decision depends on a variety of factors (n = 5; 15%). Several common themes were identified from respondents. These included that, compared to nurses, EPs have greater expertise in exercise prescription and better understanding of safe exercise progression for patients. However, nurses were believed to possess greater assessment and clinical skill with an emphasis on emergency response preparedness and greater general patient education skills.
Conclusion: Academic programs that prepare students for careers as EPs employed in clinical settings may benefit from additional coursework and internship site selection that focus on clinical assessment skills, emergency preparedness, and patient education to reinforce their work in an exercise science curriculum. *Journal of Clinical Exercise Physiology.* 2016;5(3):32–37.

Keywords: employment, education, qualifications

INTRODUCTION

There is ample evidence demonstrating the efficacy of exercise-based cardiac rehabilitation (CR; 9) and the positive impact of physical activity on the prevention and treatment of cardiovascular and pulmonary diseases and events (10). Reduction in and treatment of depression, improved cardiovascular function, and a reduction in the number of hospitalizations related to heart failure are a few of the clinical and psychosocial benefits associated with participation in supervised CR programs (8). In addition, patients with heart failure who participate in supervised exercise training over 10 years have less decline in exercise capacity and better survival compared with patients who do not participate (4). Thus, both the short-term and long-term benefits of CR program participation can be found throughout the literature (8). The American Heart Association and the American Association of Cardiovascular and Pulmonary Rehabilitation (AACVPR) define CR programs as those that "contain specific core components that aim to optimize cardiovascular risk reduction, foster healthy behaviors and compliance with these behaviors, reduce disability, and promote an active lifestyle for patients with cardiovascular disease" (2).

Historically, registered nurses (RNs) were hired with or instead of exercise physiologists (EPs) to address clinical skill needs given that the discipline of clinical exercise physiology was still in the developmental stages when CR models were forming in the 1970s (7). Currently, staff requirements

[1]Health and Exercise Science Program, Jefferson College of Health Sciences, Roanoke, Virginia

Address correspondence: Allison Hope Bowersock, PhD CSCS, ACSM EIM Level-I, 101 Elm Avenue, Roanoke, VA 24018; (540) 985-9943; ahbowersock@jchs.edu

for CR programs set by Centers for Medicare and Medicaid Services (CMS) outline job tasks, not specific job titles (or professionals), such as training in areas of life support and exercise therapy (5). The only staffing requirement specified by CMS is that CR programs are supervised by a physician. Among the 5 Mid-Atlantic states surveyed for this study, only North Carolina mandates that an "exercise specialist" be employed on the CR team, and the duties associated with this role are outlined as assessing exercise in consultation with the medical director followed by planning and evaluating exercise therapy (5). Thus, the lack of specification for CR programs by job title allows for variation in the interpretation of how programs are staffed. Even in the case of North Carolina, where an exercise specialist is a required staff member, this title is associated only with job tasks and not a minimum level of preparatory education, certification or training.

As EP students complete internship hours, naturally they are asking each other and their faculty if their exercise science degree is a suitable pathway for a career in CR (7,11) or if an additional set of skills, education, training, and/or background is needed (10,12). Such advice warrants further investigation into the job outlook of EPs in these settings as well as the reasons why an employer might consider nursing a preferable field of preparation in contemporary CR settings. Thus, the purpose of this qualitative study was to identify factors that may be influencing attitudes about EPs and hiring practices related to EPs in the Mid-Atlantic region of the United States.

METHODS

A telephone survey was administered to CR programs in 5 Mid-Atlantic states: Kentucky, North Carolina, Tennessee, Virginia, and West Virginia. These states were selected as geographically closest and/or most frequently used in job searches based out of Roanoke, Virginia. Facilities in these states were identified from the AACVPR website. Based on this information, 73 programs were identified and asked to participate in the survey. Of the 73 programs contacted, 33 (45%) participated in the survey by responding at the time of initial contact or returning communication via email or phone call.

The survey was used to gather data about the appreciation for and understanding of the EP role in CR settings, education and certification requirements for hiring EPs, hiring practices and projected recruitment of EPs in surveyed facilities, and differentiation between the roles of nurses and EPs. Two undergraduate senior health and exercise science students at Jefferson College of Health Sciences, located in Roanoke, Virginia, administered surveys over the phone to individuals at each site whose job responsibility included staffing and managing employees. A brief introductory script was rehearsed and agreed upon by the students before initiating calls to control for any potential variance in survey administration. Surveyed participants were invited to answer the survey over the phone at the time of the call or during a follow-up call if they were currently unavailable to complete the survey. Additionally, participants were given the option of completing the survey via email. The institutional review board at Jefferson College deemed this study exempt from review.

All facility representatives surveyed elected to answer the survey questions at the time of the original contact phone call. The following questions were asked during each survey:

1. What is the ratio of registered nurses (RNs) to exercise physiologists (EPs) in your cardiac rehabilitation practice?
2. Do you prefer to hire RNs or EPs?
3. What assets does an EP bring to your cardiac rehabilitation practice?
4. What assets does an RN bring to your cardiac rehabilitation practice?
5. Are you looking to hire EPs in the near future?

The survey questions were written in an open-ended manner that aimed to obtain answers to commonly asked questions in both the CR programs hosting exercise science students as interns as well as questions from potential exercise science students inquiring about job prospects in the field. Responses were recorded for each program and then aggregated by state.

RESULTS

Question 1: What is the ratio of registered nurses (RNs) to exercise physiologists (EPs) in your cardiac rehabilitation practice?

The number of RNs and EPs employed by the 33 facilities is shown in Figure 1. Overall, there were 86 RNs and 55 EPs working among the 33 surveyed facilities. Eight (24%) of the programs reported no EPs, 4 (12%) reported no RNs, and 1 (3%) reported neither an RN nor an EP (it was staffed by 1 respiratory therapist). Among the remaining 20 (61%) programs that reported both RNs and EPs on staff, 10 (50%) reported more RNs than EPs, 5 (25%) reported equal numbers of RNs and EPs, and 5 (25%) reported more EPs than RNs.

Only 1 program was surveyed in Kentucky. For states with more than 1 program surveyed that reported both RNs and EPs on staff, the overall mean RN to EP ratio was 2.2:1. The mean RN to EP ratio by state was 1.5:1 (North Carolina; n = 7), 1.2:1 (Tennessee; n = 4), 2.9:1 (Virginia; n = 6), and 4.5:1 (West Virginia; n = 2).

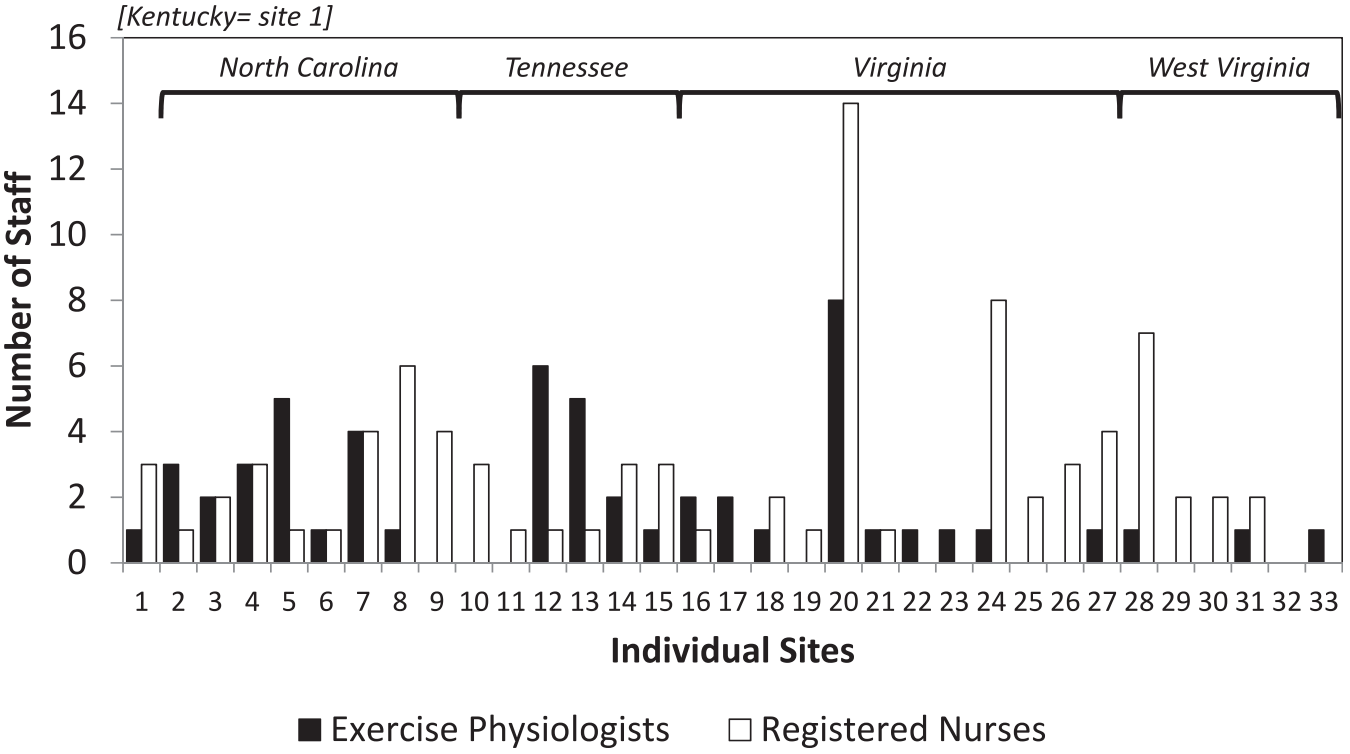
Question 2: Do you prefer to hire RNs or EPs?

Of the 33 surveyed facilities, 12 (36%) reported a preference for hiring RNs over EPs; only 4 (12%) reported a preference for hiring EPs over RNs. The remaining facilities (n = 17; 52%) did not have a preference for hiring one over the other (n = 12; 36%) or stated that the decision would depend on a variety of factors (n = 5; 15%). This varied by state (see Table 1).

Question 3: What assets does an EP bring to your cardiac rehabilitation practice?

Two common themes emerged among responses to this question. The majority of respondents reported that EPs

FIGURE 1. Number of registered nurses and exercise physiologists employed in 33 cardiac rehabilitation programs from 5 Mid-Atlantic states in the United States. Exercise physiologists were not employed at sites 9–11, 19, 25, 26, 29, and 30. Registered nurses were not employed at sites 17, 22, 23, and 33. Site 32 did not employ exercise physiologists or registered nurses.



brought greater expertise in exercise prescription (n = 20; 61%) followed by better understanding of safe exercise progression for patients (n= 4; 12%). Other responses included the assertion that most EPs have a master's degree, which gives them an edge; EPs have better knowledge of orthopedic limitations for patients; and EPs are better able to adapt to a large group of people in a short amount of time. One facility manager surveyed reported no familiarity with EPs or did not know what role(s) EPs may assume in CR. Table 2 lists comments provided by interview respondents.

Question 4: What assets does an RN bring to your cardiac rehabilitation practice?

Table 3 lists comments provided by respondents when asked what assets they thought an RN brought to his or her program. Again, 2 common themes emerged among most responses when asked what RNs bring to a practice. Most responses reflected the belief that RNs possess greater assessment and clinical skill with an emphasis on emergency response preparedness (n= 21; 64%). Next, greater general patient education skills (n= 8; 24%) were considered another strength of RNs in CR facilities. Other responses included the stated program-specific hiring requirements for the presence of RNs (n = 2; 6%). The same programs reported that RNs have "more adept clinical and emergency skills." Only one program specified licensure as a determinant of hiring RNs over EPs.

Question 5: Are you looking to hire EPs in the near future?

Of the 33 programs surveyed, 28 (84%) programs elected to respond whether or not they were looking to hire EPs in the near future. Most (n = 18; 64%) of the responding facilities said "yes" or "yes, provided the budget will support it"; only

TABLE 1. Number of responses to question 2: Do you prefer to hire registered nurses or exercise physiologists?

State	Sites Surveyed	Registered Nurse	Exercise Physiologist	No Preference	Depends
All surveyed	33	12	4	12	5
Kentucky	1	0	0	1	0
North Carolina	8	2	2	3	1
Tennessee	6	1	1	2	2
Virginia	12	6	0	5	1
West Virginia	6	3	1	1	1

TABLE 2. Participant responses illustrating common themes that emerged from question 3: What assets does an exercise physiologist (EP) bring to your practice?

- "EPs have more expertise in exercise physiology and know what tests need to be done."
- "EPs can recommend specific exercises for patients; they are not cookie-cutter."
- "EPs have stronger and better knowledge of exercise prescription and exercise in general."
- "EPs can prescribe exercise, provide leadership and guidance for patients."
- "EPs better understand what exercise does to the body and how to use exercise as medicine."
- "EP exercise knowledge base is stronger."
- "EPs can better design exercise prescription, [have] more background with exercise, and training, and keep up with trends and training styles better."
- "EPs bring detailed exercise prescription knowledge."

25% (n = 7) reported no plans to hire EPs or, due to budget constraints, could or would not be able to do so. Other responses categorized as "other" included "I would need more information about the scope of practice for EPs" and "We are going to hire a respiratory therapist, not an EP."

DISCUSSION

The present results highlight disparities in hiring attitudes and hiring practices of CR programs in the 5 surveyed states as well as a broader concern that advocacy efforts are needed to inform hiring managers of the academic preparation of EPs. These results reflect similar attitudes toward hiring tendencies among all facilities surveyed, such as prioritization of acute care and patient assessment skills, which are reportedly more frequently associated with RNs than EPs. Additionally, respondents used phrases like "nurses are more well-rounded" and further qualified that opinion with statements like RNs have "better experience in emergency situations" and "stronger clinical background and training." These beliefs would justify the higher ratio of RNs to EPs seen in most CR facilities as well as the higher percentage of RNs working in CR as reflected in the survey results. Programs with a higher proportion of RNs reported that RNs are better prepared, perhaps because of certification, so it may be that further education about the expertise of EPs is needed to change hiring practices.

Similar responses regarding EPs' lack of licensure were captured when managers were asked for additional comments regardless of hiring practices or ratio of RNs to EPs. For example, a manager in Virginia and a manager in North Carolina offered nearly identical recommendations in saying that without licensure, EPs would not be hired at the same rate as RNs. Additionally, several managers offered licensure as one of the benefits RNs bring to CR programs that EPs do not. Such responses were offered by the same managers interested in hiring EPs who appreciated the value of EPs, but the lack of licensure was considered a significant deterrent in their ability to make a case for hiring an EP during the budget planning process. It is important to note that licensure is not recommend by AACVPR (1) nor is it a CMS requirement for CR programs (4).

Interestingly, managers considering or planning to hire both RNs and EPs described the need as "a changing landscape" and responded that "both [RNs and EPs] are essential." Several managers were emphatic that RNs and EPs work collaboratively to effectively prescribe, supervise, and carry out patient care plans. These managers offered suggestions for students and existing professionals, such as "the problem with EPs is that they are not licensed like RNs" and "hospitals here don't hire EPs because they don't think they have enough education." Along these lines, many hiring managers did not understand the role and scope of knowledge EPs have, perhaps setting a subconscious bias toward

TABLE 3. Participant responses illustrating common themes that emerged from question 4: What assets does a registered nurse (RN) bring to your practice?"

- "RNs have a stronger and more in-depth clinical background."
- "Assessment skills, plans of care, and writing notes are usually better with RNs."
- "RNs have a wider scope of practice, broader patient assessment skills, and [are] more knowledgeable about diseases and illnesses."
- "RNs are better in emergency situations."
- "Most RNs know a lot about cardiac and pulmonary function and their emergency abilities are better."
- "RNs have a clinical background."
- "RNs are required here and have adept clinical skills."
- "Our policy says an RN must be present and Advanced Cardiovascular Life Support certified."
- "RNs are stronger in clinical skills and have a better understanding of medications and patient responses."

hiring RNs before EPs in certain programs. For example, one program in Tennessee cited the belief that in order to practice nursing, all nursing candidates must pass the same board examination. Similarly, programs in West Virginia and North Carolina cited liability requirements of the program, stipulating requirements for certain ratios of RNs to patients but no specific ratio of EP to RN or EP to patient. As previously mentioned, current requirements stipulate the skills required to staff a CR program, but there is no specific mention of an employee's area of study (4). In addition, although AACVPR previously recommended a specific patient to staff ratio for CR, this is not present in their most recent guidelines, and they do not provide recommendations regarding which health care professionals are most qualified to work in CR (1). Such comments should serve as an indication that considerable work is needed to educate health care providers and hiring managers on the academic preparation and scope of practice of EPs.

To our knowledge, this was the first survey of its kind investigating not only hiring practices but also discipline-specific attitudes of health care professionals in hiring positions. With novelty, however, comes limitation. For instance, the survey used in this study has not been validated and reliability has not been assessed. Other limitations with the survey include omission of questions regarding academic preparation of EPs (bachelor's versus master's degree) as well as site participation in hosting EP student internships. Survey questions also did not ask about additional types of healthcare professionals that may have been employed or represented at each program (eg, respiratory therapists), nor did it specify whether the type of employment was full-time or otherwise. Additionally, these results may have limited generalizability as only 5 states and 33 programs were included in the survey. Also, although a script was used to minimize disparities among the telephone interviews, administration of surveys by 2 different individuals may have resulted in inter-reviewer variability. Finally, survey respondents were assumed to be truthful in their responses, and the assumption of truth is an inherent flaw as survey participants may have responded in such a way as to please the survey administrators who, as indicated in the survey script, were identified as undergraduate exercise science students.

SUMMARY

Although hiring practices and attitudes toward the EP discipline may vary by program and by geographic region, there is work to be done in preparation of and advocacy for EPs in helping enhance appreciation for the scope of practice that EPs bring to CR programs. Exercise science students interested in careers as clinical EPs and employment in clinical settings may benefit from completing additional coursework and selecting an internship site that focuses on clinical assessment skills, emergency preparedness, and patient education to reinforce their work in an exercise science curriculum. Employers who appreciate the role and value of EPs are receptive to hiring EPs, but advocacy efforts are needed to promote the academic preparation and score of practice of EPs.

REFERENCES

1. American Association for Cardiovascular and Pulmonary Rehabilitation. Guidelines for cardiac rehabilitation and secondary prevention programs. 5th ed. Champaign, IL: Human Kinetics; 2013
2. Balady G, Williams MA, Ades PA, Bittner V, Comoss P, Foody JM, FranklinB, Sanderson B, Southard D. Core components of cardiac rehabilitation/secondary prevention programs: 2007 update. Circulation. 2007;115:2675–82.
3. Belardinelli R, Georgiou D, Ciani G. 10-year exercise training in chronic heart failure: a randomized controlled trial. J Am Coll Cardiol. 2012:60,1521–8.
4. Centers for Medicare and Medicaid Services. Cardiac Rehabilitation and Intensive Cardiac Rehabilitation. In: US Department of Health and Human Services, ed 2010.
5. Centers for Medicare and Medicaid Services [Internet]. Decision memo for cardiac rehabilitation (CR) programs-chronic heart failure (CAG-00437N). Baltimore, MD: CMS. Available from: http://www.cms.gov/medicare-coverage-database/details/nca-decision-memo.aspx?NCAId=270. Accessed August 20, 2015.
6. Certification of Cardiac Rehabilitation Programs. 10A N.C. Admin Code 14F, 2000. http://reports.oah.state.nc.us/ncac/title%2010a%20-%20health%20and%20human%20services/chapter%2014%20-%20director,%20division%20of%20health%20service%20regulation/subchapter%20f/subchapter%20f%20rules.pdf
7. Dwyer GB, Cummings DM. Undergraduate academic preparation for employment as clinical exercise physiologist. Counterpoint: in preparation for a career in clinical exercise physiology diversity in undergraduate preparation best leads to success. Journal of Clinical Exercise Physiology. 2014;3(1):22–4.
8. Lavie CJ, Berry K, Arena R. Formal cardiac rehabilitation and exercise training programs in heart failure: evidence for substantial clinical benefits. J Cardiopulm Rehabil. 2013;33(4):209–11.
9. Lawler PR, Filion KB, Eisenberg MJ. Efficacy of exercise-based cardiac rehabilitation post-myocardial infarction: a systematic review and meta-analysis of randomized controlled trials. Am Heart J. 2011.162(4):571–84.
10. Lui K, Lui M. Cardiac rehabilitation staffing: the clinical exercise physiologist. Counterpoint: want to keep playing in the sandbox? Change the game. Journal of Clinical Exercise Physiology. 2015;4(1):36–7.
11. US Bureau of Labor Statistics [Internet]. Washington, DC: BLS. Athletic trainers and exercise physiologists. Available from http://www.bls.gov/ooh/healthcare/athletic-trainers-and-exercise-physiologists.htm. Accessed August 24, 2015.
12. Visich PS. Undergraduate academic preparation for employment as clinical exercise physiologist. Point: undergraduate degree in exercise scienc—a preferred path to working as a clinical exercise physiologist. Journal of Clinical Exercise Physiology. 2014;3(1);20–2.