UNC CHARLOTTE

Office of the Chancellor

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December 2, 2015

Dr. Chris Brown
Vice President for Research and Graduate Education
University of North Carolina
Post Office Box 2688
Chapel Hill, North Carolina 27515-2688

Dear Dr. Brown:

Enclosed is UNC Charlotte's request for authorization to plan a M.S. in Respiratory Care. The proposed program has grown out of changes in the Respiratory Care field and the increased demand for an advanced degree. The online nature of the proposed degree program provides opportunities to working Respiratory Therapists who seek expanding leadership opportunities and professional development. The proposed program builds on UNC Charlotte's existing B.S. in Respiratory Care and the expertise of our faculty in this area.

Thank you for your consideration of this request. Provost Joan Lorden or I would be pleased to respond to any questions that you may have.

Cordially,

Philip L. Dubois
Chancellor

cc: Joan F. Lorden, Provost and Vice Chancellor for Academic Affairs
Nancy Fey-Yensan, Dean, College of Health and Human Services
Courtney Thornton, Associate Vice President for Research and Graduate Education
Cody Thompson, Coordinator for Academic Planning

UNC CHARLOTTE

Office of Academic Affairs

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December 2, 2015

Dr. Chris Brown
Vice President for Research and Graduate Education
University of North Carolina
Post Office Box 2688
Chapel Hill, North Carolina 27515-2688

Dear Dr. Brown:

Enclosed is UNC Charlotte's Appendix A: Request for Authorization to Plan a M.S. in Respiratory Care. The proposal provides a summary budget which includes enrollment increase funding and tuition differential. UNC Charlotte is committed to funding the expenses for the degree as described by reallocating funds, if needed.

Thank you for your consideration of this request.

Sincerely,

Joan F. Lorden
Provost and Vice Chancellor for Academic Affairs

cc: Courtney Thornton, Associate Vice President for Research and Graduate Education
Cody Thompson, Coordinator for Academic Planning

APPENDIX A

UNIVERSITY OF NORTH CAROLINA

REQUEST FOR AUTHORIZATION TO PLAN A NEW DEGREE PROGRAM

THE PURPOSE OF ACADEMIC PROGRAM PLANNING: Planning a new academic degree program provides an opportunity for an institution to make the case for need and demand and for its ability to offer a quality program. The notification and planning activity to follow do not guarantee that authorization to establish will be granted.

Date: __December 1, 2015_____

Constituent Institution:

University of North Carolina Charlotte_____

CIP Discipline Specialty Title: Respiratory Therapy_____

CIP Discipline Specialty Number: _510908__ Level: B _____ M _X__ Res. Doc. _____ Prof. Doc. _____

Exact Title of the Proposed Program: Respiratory Care_____

Exact Degree Abbreviation (e.g., B.S., B.A., M.A., M.S., Ed.D., Ph.D.): __ M.S._____

Does the proposed program constitute a substantive change as defined by SACS? Yes X No

The current SACS Substantive Change Policy Statement may be viewed at:
http://www.sacscoc.org/pdf/081705/Substantive%20Change%20policy.pdf

If yes, please briefly explain.

As required by the Policy Statement on Substantive Change for Accredited Institutions of the Commission on Colleges, the University of North Carolina at Charlotte (UNC Charlotte) is required to submit a prospectus six months prior to the start date for this new degree programs.

Proposed date to enroll first students in degree program: *Month* _August____ *Year* __2017_____

1. Provide a summary of the status of this proposal in your campus review processes.

   a. List the campus bodies that reviewed and commented on this Appendix A proposal before submission to UNC General Administration. What were their determinations? Include any votes, if applicable.

      This proposal has been reviewed by Erik Wikstrom, Chair of the Graduate Committee of the Department of Kinesiology, Scott Gordon, Chair of the Department of Kinesiology, and Jane Neese, Associate Dean of the College of Health & Human Services. The proposal was reviewed and unanimously approved by the Graduate Committee of the Department of Kinesiology and by the Advisory Committee of the UNC Charlotte B.S. in Respiratory Therapy (BSRT) (November 19, 2014). The UNC Charlotte Respiratory Therapy Program Advisory Committee includes 8 well-respected physicians in Pulmonary, Pediatric and Critical Care Medicine from across North Carolina, department

managers from many of our employing hospitals, and representatives from several of our associate-level programs in the state (see Appendix 1).

b. Summarize any issues, concerns or opposition raised throughout the campus process and comment periods. Describe revisions made to address areas of concern.

The original proposal had specific tracks for management, education, research and specialty credentials; however the tracks would increase the need for additional human resources and dilute the number of students in each course. Thus the proposal was adjusted to add an internship and thesis that would allow for the specialization without adding several additional courses and the need for additional faculty positions.

2. Describe the proposed new degree program. The description should include:

a. A brief description of the program and a statement of educational objectives;

The Master of Science in Respiratory Care has been designed to meet the needs of working Respiratory Therapists who seek the education required to meet expanding responsibilities in education, research, management, and specialized advanced practice in the Respiratory Care industry. The M.S. in Respiratory Care is a 40-credit plan of study spanning two to three years. The program would be administered entirely online to the benefit of students engaged in professional development in North Carolina and other regions.

Respiratory Therapy (RT) has become more complex over the past 20 years and requires that Respiratory Therapists have a greater breadth and depth of knowledge. Respiratory Therapists need the ability to communicate more effectively in the inter-professional care team and serve as consultants in the delivery of respiratory support in the clinical environment. These expanded roles and expectations have led the American Association of Respiratory Care (AARC) to examine the future educational needs of the bedside RT and advocate that the entry level of the profession move from the associate to the baccalaureate level (Barnes, Kacmarek, Kageler, Morris, & Durbin, 2011, Appendix 2). The AARC established a task force to address the competencies needed at the bedside for Respiratory Therapists from 2015 onward. The 2015 and Beyond Task Force sponsored three conferences to solicit input and determine these competencies. The conclusion of the Task Force was that the baccalaureate degree should be the entry level for the profession. In order to meet these requirements, the RT profession will need graduate level Respiratory Therapists as managers, educators at associate and bachelor's level programs, and as advanced RT clinicians in acute care settings.

A graduate degree has already become the norm for managers of large RT departments in North Carolina. The AARC has published two White Papers on the need for more baccalaureate and graduate level programs in the country to meet this need (AARC, 2013, Appendix 3). There currently are no master's degree in Respiratory Care programs in North Carolina and there are only eight nationwide (see Survey of Existing Master's Programs, Appendix 4). Graduates of the online M.S. in Respiratory Care will fill the need for educators, researchers, managers and specialized clinical experts as the complexities of Respiratory Care continue to grow.

Objectives for the M.S. in Respiratory Care Program include the following:

- Analyze evidence from the pulmonary literature with evidence from other relevant health care disciplines to form a scientific foundation for advanced practice in Respiratory Care.
- Serve as educators in Respiratory Care as the profession moves to the entry-level baccalaureate.
- Serve as consultants in Respiratory Care in the clinical environment supporting physicians and nurses in the care of patients with pulmonary disease.
- Develop the ability to perform high quality research and disseminate research effectively in peer reviewed publications and professional conferences.
- Engage in culturally competent and ethically sound advanced practice.
- Advocate and participate in collaborative interdisciplinary efforts to improve health outcomes at the practice/organization, community, state and national levels.
- Demonstrate leadership in the improvement of patient outcomes, evidence-based practices, and transformation of health care delivery.

b. The relationship of the proposed new program to the institutional mission;

The new proposed program meets the university's goal to increase access to graduate study in health fields and enhance accessibility through the use of online programs. In improving health and wellness in North Carolina, UNC Charlotte will be providing the state's first program to advance the Respiratory Therapy profession to the graduate level. In the college, this new program will provide increased access to graduate study in the health professions. In addition, the M.S. in Respiratory Care will enhance the existing research opportunities in the Department of Kinesiology, the College of Health and Human Services, and the area hospitals. By developing connections with local and regional healthcare practitioners in Respiratory Care, Pulmonary and Critical Care Medicine, we will be advancing UNC Charlotte's mission as an urban research university.

The practice of Respiratory Care is quickly moving to the baccalaureate level as the entry point to the profession (AARC, 2013, Appendix 3) and we will need graduate level educators to provide that education and build a research enterprise. At the present time there are only eight master's programs in Respiratory Care with none in North Carolina, South Carolina or Virginia (see list of existing Respiratory Care Master's Programs, Appendix 4). The M.S. in Respiratory Care at UNC Charlotte would fill a regional void, particularly for those students seeking an in-state option for graduate studies. Students pursuing an M.S. in Respiratory Care would in turn become the future educators for those seeking the required bachelor's degree for entry into the field once the AARC's recommendations are in place.

c. The relationship of the proposed new program to existing programs at the institution and to the institution's strategic plan;

The existing UNC Charlotte BSRT was started in 2007 to help bring working Respiratory Therapists across North Carolina up from the associate to the baccalaureate level. The program is entirely online, and has been very successful at achieving the goal of enhancing each student's professional career in Respiratory Therapy. Beyond the need to meet the baccalaureate accreditation goals set forth by the AARC, the BSRT has provided motivated students with an opportunity to thrive. Research conducted by students was evaluated by faculty and an industry advisory board for consideration in the 2015 Capstone Awards. Student projects were evaluated not only on the quality of the research, but also on the ability to translate the findings into educational components for patients, hospitals, and other healthcare entities involved in Respiratory Care. The following projects were top award winners and honorees, and all have practical applications for the improvement of Respiratory Care in North Carolina and beyond:

- Ball, Shelia. "NIV and NAVA Use in Apnea of Prematurity at Levine Children's Hospital." Shelia did a prospective case control study on the use of a new mode of noninvasive ventilation in premature neonates. In the group treated with the new modality there was a significant reduction in the need for endotracheal intubation at Levine Children's Hospital in Charlotte.

- Bell, Vickie. "Establishment of a Pulmonary Rehabilitation Program in Wilkes County." Vickie did an analysis for the establishment of a Pulmonary Rehabilitation Program at Wilkes Medical Center to serve patients with chronic lung disease in two rural mountain counties of North Carolina. The hospital is moving forward with the program using this analysis.

- Williford, Lee. "NIV in Pediatrics: Experience at Duke University Hospital." Lee did a review of the experience with noninvasive ventilation in children at Duke University Hospital. This case series included over 100 children who were able to avoid intubation. It is being submitted for publication when the results are complete; it will be the largest series to date nationally.

These Capstone Award winning projects are indicative of the kind of research and implementation that can occur when professionals from across the state are able to bring their ongoing clinical experiences to a shared academic environment for collaborative consideration. The research being conducted in UNC Charlotte's BSRT program is improving the options for health care providers and patients in North Carolina. A bachelor's program that advances this kind of care creates a better pool of Respiratory Therapists to meet the needs of a more complex RT environment. A master's program with the same level of commitment to research and implementation, bridging the academic and clinical environments for future educators and managers, will create systemic improvement in the state of Respiratory Care.

An M.S. in Respiratory Care at UNC Charlotte supports the mission and strategic plan of the university to improve access, foster research, promote diversity and connect to the community as outlined in the 2016-2021 Academic Affairs goals within the UNC Charlotte Institutional Plan:

Student Access: The M.S. in Respiratory Care program would be provided online to working RTs allowing them to continue to work and advance their education. It would provide an opportunity for achieving an advanced degree that does not exist in North Carolina or the neighboring states. There is strong interest in a M.S. in Respiratory Care in the Charlotte region and across North Carolina. In a recent survey of current students and graduates of the UNC Charlotte BSRT Program, 320 surveys were distributed and 72.5% (n=230) responded that they would support the establishment of a M.S. in Respiratory Care Program at UNC Charlotte (see Appendix 5). In that survey 81.4% agreed or strongly agreed to the question: "Would you consider enrolling in a master's degree program at UNC Charlotte?" If a M.S. in Respiratory Care were available at UNC Charlotte, those students who were North Carolina residents would have an in-state tuition alternative to the seven online programs offered from out of state. Of note in that survey, 19 of UNC Charlotte's 79 (24%) graduates are currently enrolled in or have completed out of state programs or alternate master's degrees. The current BSRT would serve as a feeder for the proposed M.S. in Respiratory Care, as UNC Charlotte students would have the option for completing their master's degree within the institution. The M.S. in Respiratory Care will also provide opportunities for the existing educational programs in Respiratory Therapy, including the BSRT and Neurodiagnostics and Sleep Studies programs at UNC Charlotte. There are 14 associate-level programs in North Carolina with two that have add-on Sleep Programs. There are a total of 44 faculty in those programs, of which 35 have not yet completed a master's degree. Completing the educational continuum for Respiratory Care by implementing the M.S. in Respiratory Care allows students to achieve all levels of professional development within the state.

Research: There is a tremendous need for research in Respiratory Care. Chronic lower respiratory tract diseases are the third leading cause of death in the U.S., and North Carolina has a higher rate than the national average (Centers for Disease Control, 2012). There is a tremendous need for research in all aspects of these diseases and Respiratory Therapists are in an ideal place to assist with this research. Within the university, the M.S. in Respiratory Care program will be in a position to conduct collaborative research with other faculty and graduate students in the Department of Kinesiology as well as with other academic units within the College of Health and Human Services. Students in the master's program will be working Respiratory Therapists from the Charlotte region and across North Carolina. The M.S. in Respiratory Care will also function as a node for students wishing to share research endeavors from the regional healthcare systems where they are employed. This will provide the opportunity for additional research collaboration throughout the state. Our current BSRT students and potential M.S. in Respiratory Care students include leaders in Respiratory Care at Carolinas Healthcare System, Levine Children's Hospital, Vidant Forsyth Hospital, UNC Hospitals, Duke University Hospital, Cape Fear Valley Hospital, Mission Hospital, New Hanover Regional Medical Center, Vidant Hospital at East Carolina University, Wake Forest Baptist Health, and WakeMed Hospital to name a few. The network of research collaboration is clearly in place. The M.S. in Respiratory Care at UNC Charlotte would complete the connectivity for disseminating information throughout the clinical environments in the state.

Diversity and Community Outreach: Respiratory Therapists are among the most diverse group in the allied health professions. The Cecil G. Sheps Center for Health Services Research at UNC published a report in 2012 that showed a greater percentage of American Indian and African Americans within the

Respiratory Therapy community than any other allied health profession with the exception of LPNs (McGee, Fraher, Spero, Gaul, & Alcorn, 2012). For a variety of reasons, respiratory diseases are more frequent and often more severe in minority populations in the U.S. A graduate level RT would be better prepared to participate in patient education, smoking cessation programs, and chronic disease management in these individuals. As evidenced with our 2015 Capstone Award honorees, our BSRT students have implemented such programs in a variety of locations across North Carolina where resources haven't been available. Graduate level students would further these services and educational endeavors in getting services more widely distributed in underserved communities. As the program gains nationwide engagement, we will increase our ability to reach out to populations beyond North Carolina. As an example, one of our current undergraduate students, Brian Faix, works at The Johns Hopkins Hospital, and he recently was on a speaking and public engagement tour with national educators in Respiratory Therapy that visited the United Arab Emirates, Egypt and Ecuador to discuss Respiratory Therapy education.

d. Special features or conditions that make the institution a desirable, unique, or cost effective place to initiate such a degree program.

In our survey of Respiratory Care department managers throughout North Carolina, results showed significant support for developing the M.S. in Respiratory Care at UNC Charlotte (Appendix 7). The managers reported being pleased how the UNC Charlotte BSRT Program graduates have elevated the professionalism in their units. Initially, there was no pay differential for the BSRT. As we have produced more graduates, the hospitals have adjusted their clinical ladders to attract our students and graduates. As the standard bearer for professional development in Respiratory Care in North Carolina, UNC Charlotte is in a unique position to further the educational goals of the industry. The North Carolina Respiratory Care Board is promoting advanced education and issued a White Paper supporting baccalaureate and graduate education in North Carolina. A letter of support from the Executive Director of the North Carolina Respiratory Care Board is appended (Appendix 8). Recipients of graduate level education from UNC Charlotte would certainly reap professional benefits akin to those already enjoyed by students in the BSRT.

In addition to the overwhelmingly positive perception of the UNC Charlotte program among Respiratory Care managers throughout the state, the university and college have the technical infrastructure and experienced faculty for teaching online. The online structure is already in place and graduate students interested in education would become involved with projects and program faculty that would promote growth. The fact that the program is online would also allow us to attract part-time faculty who are experts in their content area and who could teach from their home or office in locales across the state and nation; several have already volunteered to serve in this capacity.

3. Provide documentation of student demand. Discuss the extent to which students will be drawn from a pool of students not previously served by the institution. Evidence of student demand should reflect likely applicant pools (local, regional, statewide, national, or global) and could include:

a. Surveys of potential enrollees (such as students or alumni of feeder programs, community college enrollees, etc.).

In August of 2014 we conducted an online survey of current students and graduates of the UNC Charlotte BSRT program (Appendix 5). Of the 320 surveys distributed, 232 BSRT graduates and students responded (72.5% response rate). Of those 232 who responded, 99.5% (231) indicated that they would support the development of a master's program at UNC Charlotte. 81.5% (189) of respondents agreed or strongly agreed with the statement: "Would you consider enrolling in a master's degree program in Respiratory Care at UNC Charlotte?" We also asked for preferences regarding online versus face-to-face courses. The majority of respondents preferred the online format. Additionally, the UNC Charlotte BSRT program had an exhibit at the North Carolina State Society of Respiratory Care meeting in Asheville in September 2014 and over 25 Respiratory Therapists expressed an interest in an M.S. in Respiratory Care at UNC Charlotte.

In 2015, we conducted a comprehensive survey of outgoing BSRT graduates (Appendix 6) with a section giving respondents an opportunity to explain their professional advancement goals in the field of Respiratory Care. The responses, in the graduates' own words, provide important perspective on the need for an in-state master's program at UNC Charlotte:

- *Please continue the efforts toward the on-line Master of Science in Respiratory Care degree. In my opinion, there are many practitioners simply waiting on this level of degree to be accessible. Kudos to all of the faculty at UNC-C for leading the way in RC education!!*

- *No improvements needed for the BSRT program. I hope that a masters degree program is strongly considered! Most of us taking this survey will need a Masters Degree to continue to further our positions into Leadership/Management.*

- *I look forward to the MSRT program. Both Samantha and I have talked about the program and would both enroll in the first class that it is offered. Thank you for everything. Your program literally changed my life. I do not say that lightly, but it did. It changed my life and I will be forever be grateful. W. Brent Holland, BSRT, RRT-NPS*

- *I think it is a well organized operation and runs very smoothly. A previous experience I had with an on line program was quite the opposite. The expectations of the students responsibilities is clear and professor response time to student communications is very expedient. I enjoyed my learning experience at UNC Charlotte and would not hesitate to recommend the program to anyone considering taking it. I am considering taking the Masters program if it becomes available.*

- *The BSRT program is solid. I enjoyed my time there as a student. It would be great to see the MSRT program and APRT program become approved.*

- *I enjoyed the program. It was well managed and I got so much more out of it than I expected. Dr. Coyle was always easily accessible and extremely generous. I just can't say enough good things about this program. The only reason I would not consider a Master's program would be the expense of again paying out of state tuition and not being able to earn back the money I would have to put into it at this stage in my career.*

As is evidenced by the comments above, we are meeting our overall goals for the program, achieving our student learning objectives, and our students are extremely interested in the master's option to advance their careers. Notably in the final quotation, the need for an in-state option for North Carolina Respiratory Therapists is clear.

When we surveyed our graduates in 2014, 22 out of a total of 131 had either enrolled in or completed graduate programs across the country. This response indicates that approximately 15 of our BSRT students would seek to enroll in our M.S. in Respiratory Care program each year, in addition to working professionals throughout the state and nation who represent the remainder of our potential market. The number of UNC Charlotte BSRT graduates entering the M.S. in Respiratory Care Program would be in addition to any students entering the M.S. in Respiratory Care from outside North Carolina as there are only eight other programs in the country and none in the Carolinas or Virginia.

b. Enrollment data from existing minor, concentration or certificate programs on your campus.

There are no minor, concentration or certificate programs beyond the BSRT program at UNC Charlotte. The enrollment in the BSRT program has increased in each of the past six years. Figure 1 below demonstrates the growth of the BSRT program thus far, with 200 graduates and 212 students currently enrolled. We are admitting 95 new students in Fall 2015.

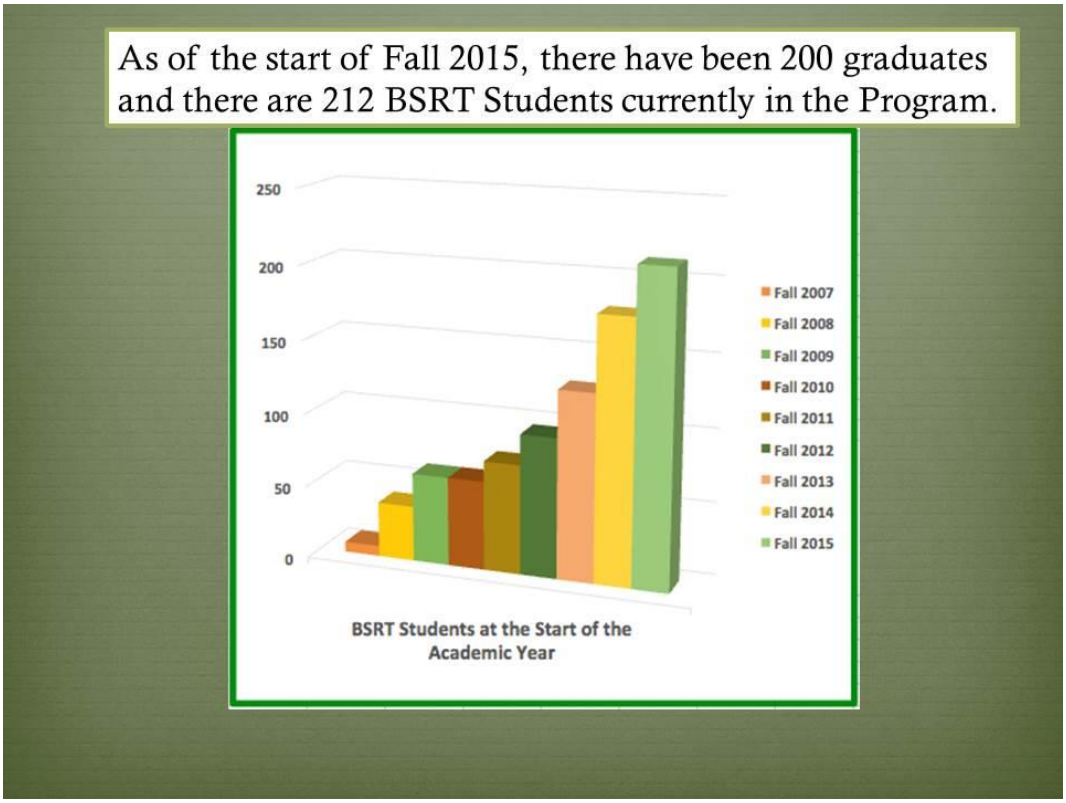

Figure 1: This figure describes the growth in the number of students actively enrolled in the UNC Charlotte BSRT at the beginning of each academic year since inception.

c. Enrollment data from similar programs in UNC, the state, or country.

There are no similar programs in North Carolina or in the surrounding states and the eight existing programs have not shared their data on enrollments; many of our graduates have entered the program at Northeastern University at a considerably higher cost than a potential in-state graduate program. See Appendix 4 for a list of the current programs in the U.S. and some of the details of those programs.

4. Provide evidence of societal demand and employability of graduates from as many of the following sources as feasible unless a good reason exists why such evidence cannot be obtained and similar evidence is presented from sources not listed here.

a. Labor market information (www.ncworks.gov) – Current and projected industry and occupational data by region and statewide from the NC Department of Commerce. Available data include (but are not limited to):

(1) Area, occupation, and industry profiles.

Modern healthcare is requiring clinical knowledge and expertise of the RT professional as they are called on to perform in: advanced clinical roles, leadership positions in management and education, partnerships with research initiatives, and patient assessment and critical thinking. In reaction to these trends, the national professional organization advocated for raising the entry-level degree to the baccalaureate level and increasing educational requirements for managers and educators to the graduate level. The AARC convened a series of three conferences from 2008 to 2010 designated the *2015 and Beyond Task Force* (Barnes, et al., 2011, Appendix 2). The resulting recommendation was that the profession advance to the BS level for new entry-level practitioners and existing educational programs develop ways to meet this need.

In a 2013 White Paper (see Appendix 3) the AARC clearly articulated the future for RT education:

> It is the position of the American Association for Respiratory Care that respiratory therapists seeking to practice in advanced clinical settings, in leadership roles, any professional educator roles be strongly encouraged to seek higher education at the master's or doctoral levels, demonstrating the value of advancing learning in their own organizations.
>
> The profession of Respiratory Care itself, the leadership of respiratory care departments and services, and most importantly the care of our patients will be advanced as our members themselves advance their qualifications through higher academic preparation. Academic institutions, which conduct respiratory therapy education should develop bachelor's, master's, and doctoral programs at this time to support the need for such higher education within the field of respiratory care. (p. 10)

This initiative has stimulated a rapid evolution in RT education and a greater need for master's level RTs to serve roles in education, management, research and expert clinical roles.

According to a Labor Market Services occupational profile (N.C. Works Online, 2014, Appendix 9) the labor market for Respiratory Therapists is very strong:

> The median annual wage for respiratory therapists [sic] was $55,870 in May 2012. Employment of respiratory therapists is projected to grow 19 percent from 2012 to 2022, faster than the average for all occupations. Growth in the middle-aged and elderly population will lead to an increased incidence of respiratory conditions such as emphysema, chronic bronchitis, and pneumonia. These respiratory disorders can permanently damage the lungs or restrict lung function…There were 193 job openings advertised online in North Carolina for Respiratory Therapists in September 30, 2014 (Jobs De-duplication Level 2)… There were 28 potential candidates in the workforce system [sic] that were looking for work as Respiratory Therapists in North Carolina. (p. 1)

(2) NC occupational and employment projections.

UNC Charlotte surveyed managers of large respiratory care departments in North Carolina in August of 2014 to gauge the need for a master's program in respiratory care in North Carolina (see Appendix 7). Twelve out of the 29 managers responded. Eighty three percent of the managers were in favor of starting a program; one was unsure and one was against the idea. For management positions in the larger hospitals in North Carolina such as Carolinas Healthcare System, UNC Chapel Hill and Duke University Hospital, a graduate degree is preferred. With one manager needed for every 40 clinical therapists, approximately 100 managers will need to get their master's degree in the state to accommodate the 4,500 licensed RTs in North Carolina.

Many of the tertiary care hospitals in North Carolina prefer to hire therapists who have an advanced clinical credential such as the Neonatal Pediatrics Specialist (NPS) or the Adult Critical Care Specialist (ACCS) (see job postings below). There will be a track in the M.S. in Respiratory Care for graduates to use their study to prepare for these advanced credentials to be competitive upon graduation.

The need for a master's degree for educators in the associate level programs will increase as AAS programs seek to become compliant with SACS Comprehensive Standard 3.7.1 (see Appendix 10), which will require that the educators in those programs have a master's degree or higher. Of the 46 Respiratory Therapy educators in North Carolina, only 10 have a master's degree or higher.

(3) Job postings.

The need for graduate level education in the field of RT is clearly evidenced by the job listings for upper level positions in Respiratory Care. Positions for educators, managers, and researchers all indicate a

requirement, or strong preference for a master's degree. Some examples of current listings include:

- Director of Clinical Education, Baton Rouge, LA.
- Program Director, Respiratory Therapy, Wingate, NC.
- Respiratory Therapist, U.S. Public Health Service.
- Respiratory Care Instructor, St. Augustine, FL.
- Supervisory Respiratory Therapist, Bethesda, MD.

As the AARC guidelines set out in the 2013 White Paper (see Appendix 3) become fully adopted, these upper level positions will necessitate a graduate degree.

(4) Economic and demographic indicators.

The United States Department of Labor, Bureau of Labor Statistics (BLS) reports that,

> Employment of respiratory therapists is projected to grow 19 percent from 2012 to 2022, faster than the average for all occupations. Growth in the middle-aged and elderly population will lead to an increased incidence of respiratory conditions such as emphysema, chronic bronchitis, and pneumonia. These respiratory disorders can permanently damage the lungs or restrict lung function. (BLS, 2014, Tab 6)

The report from the Bureau of Labor Statistics indicates that more jobs in the area of education to train therapists will be needed. Typically, instructors and faculty members with master's degrees are a preferred hire. Overall the health care industry is still very strong and is anticipated to maintain a healthy job outlook.

The report from the Bureau of Labor Statistics also indicates that job satisfaction with upward mobility within respiratory therapy is below average, which could be the lack of education and credentials to advance on the career ladder. There is a high priority for evidence based medicine in respiratory therapy and those skills would be further honed by completion of the graduate degree program. An analysis of national job descriptions shows that positions that demand a bachelor's degree are growing. In addition, the trend is that employers are starting seeking master's degrees for some positions, like some of the job postings linked below.

b. National occupational and industry projections (http://www.bls.gov/data/) – National, regional and state outlook for occupations, also including wage data.

Data from the United States Department of Labor, Bureau of Labor Statistics (BLS) reveals that employment opportunities are expected to grow in this sector:

> Employment of respiratory therapists is projected to grow 19 percent from 2012 to 2022, faster than the average for all occupations. Growth in the middle-aged and elderly population will lead to an increased incidence of respiratory conditions such as emphysema, chronic bronchitis, pneumonia, and other disorders that can permanently damage the lungs or restrict lung function. These factors will in turn lead to an increased demand for respiratory therapy services and treatments, mostly in hospitals and nursing homes. In addition, advances in preventing and detecting disease, improved medications, and more sophisticated treatments will increase the demand for respiratory therapists. Other conditions affecting the general population, such as smoking, air pollution, and respiratory emergencies, will continue to create demand for respiratory therapists. (BLS, 2014, Tab 6)

c. Wages and employment of graduates in North Carolina – Percentage of graduates of UNC programs employed in North Carolina and wages paid to graduates of UNC programs employed in North Carolina.

> There are very few M.S. in Respiratory Care graduates in North Carolina at this time. Those that do exist are educators in Associate of Applied Science (AAS) programs or managers in large tertiary care facilities in North Carolina. According to the Bureau of Labor Statistics database:
>
> > The median annual wage for respiratory therapists was $55,870 in May 2012. The median wage is the wage at which half the workers in an occupation earned more than that amount and half earned less. The lowest 10 percent earned less than $40,980, and the top 10 percent earned more than $75,430. (BLS, 2014, Tab 5)
>
> Master's level Respiratory Therapists would be higher than the top 10% figure expressed above. An example of this can be seen at Duke University Hospital, which is the employer of 28 students in the BSRT Program. According to Jhaymie Cappiello, RRT-ACCS, MSc, Clinical Educator, Duke's main hospital has approximately 136 Respiratory Therapists employed, of which four are described as master's degree preferred or required. The Clinical Respiratory Therapists at Duke University Hospital make $50,000 to $75,000 depending on experience, while the master's level positions pay $80,000 to $120,000 depending on experience. (Cappiello, J., personal communication, 2015).

d. Wages and employment of graduates nationally when these data becomes available (see http://www.doleta.gov/performance/pfdocs/wris2_status_state_optin.pdf) – Wages paid to graduates of UNC programs employed nationally (North Carolina partnership in WRIS2 forthcoming).

> While data from WRS2 is not available, a Respiratory Therapist with a master's degree will advance in his or her organization and move into the top 10% of income. This would bring them from the median of $57,200 to $75,430 based on 2012 data (Harlow, 2015).

e. Job-posting analyses.

Because there are very few master's level Respiratory Therapists, the job postings typically state that the master's degree is preferred, as is seen in qualification summaries for positions with the U.S. Public Health Service (USDHHS, 2015).

Respiratory Therapy baccalaureate programs require faculty to complete a master's degree. An example of this is found in the following job posting for an RT program instructor:

> Instructor – Respiratory Therapy Program, Baton Rouge, Louisiana.

Many job postings for specialty practice positions will require or prefer that applicants have advanced National Board of Respiratory Care credentials such as the Neonatal/Pediatric Specialist (NPS) or Adult Critical Care Specialist (ACCS). One track of the proposed M.S. in Respiratory Care Program would prepare students for specialty credentials and experience.

f. Projections from professional associations or industry reports.

According to a 2009 survey of Respiratory Therapy educational programs, while only 1.5% of Therapists enter the workforce at the master's level, 13.5% achieve a master's degree during the course of their careers (AARC, 2009). When considering that there are 119,300 full time Respiratory Therapists nationwide, this means that over 14,000 therapists will advance to the master's level and there are only eight M.S. in Respiratory Care programs, with a capacity of about 240 students per year, nationwide. Most RTs who want to advance their education with a master's degree have to do so in programs of study other than Respiratory Care.

In 2014, the AARC conducted another human resource survey of educational programs, and a trend is clearly visible that will lead to a shortage of qualified faculty for RT training at all levels. According to the AARC survey (2014, Appendix 11):

> The typical Program Director intended to remain involved in education for 10 to 11 years more. More specifically, just less than one quarter of program directors intended to leave within 5 years and another 25% intended to leave between years 6 and program directors will be out of education in a decade. (p. 40)

Just more than one-third of program directors reported that they had experienced difficulties when recently trying to recruit faculty. The reason cited most frequently was the fact that applicants for open positions did not meet the academic preparation requirements. Two-thirds of program directors cited salary as an impediment while just less than two-thirds indicated that they were looking for personnel with teaching experience, but could not find any. (p. 65)

Clearly, educators will be needed at all levels of RT training to fill the gaps projected in these surveys. An M.S. in Respiratory Care at UNC Charlotte would provide the industry with these much needed educators.

g. Data concerning employment and wages for graduates of a particular program area from the UNC alumni survey when this survey and data become available.

These data are not available at this time.

5. List all other public and private institutions of higher education in North Carolina currently operating programs similar to the proposed new degree program, including their mode of delivery.

a. Show a four-year history of enrollments and degrees awarded in similar programs offered at other UNC institutions (using the format below for each institution with a similar program); describe what was learned in consultation with each program regarding their experience with student demand and job placement. Indicate how their experiences influenced your enrollment projections.

This will be the first master's degree program in Respiratory Therapy in the state. There are only eight existing M.S. in Respiratory Care programs nationwide and none in NC or the adjacent states. We will be able to continue to collaborate with our own BSRT program and the existing associate degree programs at community colleges throughout the state.

Institution: There are no master's programs in Respiratory Care in North Carolina.

Program Title: Not Applicable

	(year)	(year)	(year)	(year)
Enrollment				
Degrees-awarded				

b. Identify opportunities for collaboration with institutions offering related degrees and discuss what steps have been or will be taken to actively pursue those opportunities where appropriate and advantageous.

There are no other M.S. in Respiratory Care programs located in North Carolina. We would be happy to collaborate with any that might arise.

c. Present evidence that establishment of this program would not create unnecessary program duplication.

There are no public or private M.S. in Respiratory Care programs located in North Carolina.

6. Are there plans to offer all or a portion of this program to students off-campus or online? If so,

a. Briefly describe these plans, including sites and method(s) of delivering instruction.

The coursework in the M.S. in Respiratory Care program will be entirely online using the existing technology infrastructure that supports the BSRT program. This will include the current learning management system for the university, synchronous classroom software such as Webex or GoToTraining, and didactic media presentation software such as Articulate or Adobe Presenter. The M.S. in Respiratory Care will not incur additional technology expenses, as we will utilize the software licenses in place supporting the BSRT program. We will develop all the new courses in the M.S. in Respiratory Care to meet Quality Matters Standards. This will provide high quality, accessible, student friendly interfaces to support the on-line education. Meeting Quality Matters standards will also provide an advantage in marketing the program.

Research work, clinical internships and practicums will be arranged by the students at facilities near them in cooperation with program faculty.

c. Indicate any similar programs being offered off-campus or online in North Carolina by other institutions (public or private).

There are no public or private M.S. in Respiratory Care programs in North Carolina. There are on-line options for North Carolina residents, but the cost is high. For example, we have several graduates of the UNC Charlotte BSRT Program enrolled at Northeastern University, which costs $743 per credit hour of $26, 730 for the full 36 credit program.

c. What is the estimated percentage of courses in the degree program that will be offered/available off-campus or online: 100%

d. Estimate the number of off-campus or online students that would be enrolled in the first and fourth years of the program:

First Year Full-Time ___16_____ *Part-Time* ___8_____

Fourth Year Full-Time _____30___ *Part-Time* ___24___

Note: If a degree program has not been approved by the Board of Governors, its approval for alternative, online, or distance delivery is conditioned upon BOG program approval. (400.1.1[R], page 3)

7. Estimate the total number of students that would be enrolled in the program during the first year of operation: *Full-Time* _____16___ *Part-Time* _____8_____

Estimate the total number of students that would be enrolled in the program during the fourth year of operation: *Full-Time* ___30_____ *Part-Time* _____24__

8. Will the proposed program require development of any new courses: Yes _X__ No_____

If yes, briefly explain.

We will have a total of 11 new courses developed for the program with five offered in the Fall, four offered in the Spring, and two offered in the Summer (See M.S. in Respiratory Care Plan of Study, Appendix 12). In addition we will utilize four courses that currently exist, adapting two of them to online delivery.

9. Will any of the resources listed below be required to deliver this program? (If yes, please briefly explain in the space below each item, state the estimated new dollars required at steady state after four years, and state the source of the new funding and resources required.)

a. New Faculty: Yes_ X__ No _____

We will require a total of 3 full time faculty with two added in the first year and one in the second year of the program.

b. Additional Library Resources: Yes _____ No __X__

c. Additional Facilities and Equipment: Yes _____ No __X__

d. Additional Other Program Support: Yes __X____ No _____
(for example, additional administrative staff, new master's program graduate student assistantships, etc.)

SUMMARY OF ESTIMATED ADDITIONAL COSTS FOR PROPOSED PROGRAM

INSTITUTION	***UNC Charlotte***
Degree(s) to be Granted	***M.S. in Respiratory Care***
Differential tuition requested per student per academic year	***$1,000***

PROJECTED ENROLLMENT

	Year 1	Year 2	Year 3	Year 4
Projected Full Time Student (1.0 FTE)	16	32	40	40
Projected Part Time Students (0.5 FTE)	8	16	24	24
Projected annual FTE students	24	48	64	64
Projected Student Credit Hours	360	720	960	960
Tuition Reimbursement (assumes all in-state)	$85,644	$171,288	$228,384	$228,384
Projected annual differential tuition	**$24,000**	**$48,000**	**$64,000**	**$64,000**
Tuition plus differential	**$109,644**	**$219,288**	**$292,384**	**$292,384**

PROPOSED BUDGET OF ADDITIONAL COSTS

	Year 1	Year 2	Year 3	Year 4
Full Time Teaching/Administration Faculty:				
AY1: 1 tenure track & 1 non-tenure**	$160,000	$164,800	$169,744	$174,836
AY2: 1 non-tenure**		$70,000	$72,100	$74,263
Stipends:				
1. DE Registration Coordination	$5,000	$5,000	$5,000	$5,000
2. Education Technology	$5,000	$5,000	$5,000	$5,000
3% Salary Increase for Faculty		$4,800	$7,044	$7,255
Recruitment	$3,500	$1,725		
Program Support: 1 administrative support associate	$36,000	$37,080	$38,192	$39,338
3% Salary Increase for Program Support Staff		$1,080	$1,112	$1,146
TOTAL ADDITIONAL COSTS	**$ 209,500**	**$ 283,605**	**$ 290,036**	**$298,437**

Note: 33% Fringe not included in the budget

***Based on $90,000 to attract a Ph.D.-prepared Respiratory Therapist for the tenured position and $70,000 to attract a non-tenure-track faculty member.*

10. Does the program require enrollment growth funding in order to be implemented and sustained? If so, can the campus implement and sustain the program should enrollment growth funding be unavailable? Letters of commitment should be provided.

The M.S. in Respiratory Care Program will seek enrollment growth funding to complement the support for the program. UNC Charlotte is committed to funding the expenses for the program should enrollment growth funding become unavailable. A letter of support from the Provost is attached.

11. For graduate programs only:

Does the program require a tuition differential or program specific fee in order to be implemented and sustained? Yes

a. If yes, state the amount of tuition differential or fee being considered, and give a brief justification.

The tuition differential of $500 per semester was calculated based on what additional revenue would be required to be budget neutral by year three of the program based purely on tuition revenue and not accounting for state appropriations. This number is reasonable for the working Respiratory Therapist who will likely be making in excess of $80,000 on completion of the M.S. in Respiratory Care Program. Since the current out of state options average $7,400 per semester and the UNC Charlotte program will be approximately $1,900 per semester, this was considered to be a reasonable surcharge to support program needs and allow for scholarships for deserving students. See chart below for existing M.S. in Respiratory Care program costs extracted from Appendix 4.

Costs at Existing Respiratory Masters Programs

	$ per Credit hour	Total cost	Credit Hours
Rush	$592	$21,312	36
Northeastern	$743	$26,730	36
Youngstown St.	$865	$33,726	39
Canisius	$765	$25,245	33
Univ of Mary	$530	$17,490	33
Loma Linda	$692	$40,136	58
Georgia St.	$1,223	$44,028	36
Average	$773	$29,810	39
Semester Cost UNC Charlotte		$1,903	
Semester Cost at Existing Programs		$7,452	

b. Can the campus implement and sustain the program if the tuition differential or program fee is not approved? Letters of commitment should be provided.

See attached letter from the Office of Academic Affairs.

12. For doctoral programs only:

a. Describe the research and scholarly infrastructure in place (including faculty) to support the proposed program.

b. Describe the method of financing the proposed new program (including extramural research funding and other sources) and indicate the extent to which additional state funding may be required.

c. State the number, amount, and source of proposed graduate student stipends and related tuition benefits that will be required to initiate the program.

13. List the names, titles, e-mail addresses and telephone numbers of the person(s) responsible for planning the proposed program.

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This request for authorization to plan a new program has been reviewed and approved by the appropriate campus committees and authorities.

Chancellor: Phil. J. Mohr **Date:** 9/8/15

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Appendix 1:

UNC Charlotte Respiratory Therapy Program Advisory Committee

The BSRT program at UNCC proudly presents our

Distinguished Advisory Board

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Appendix 2:

Transitioning the Respiratory Therapy Workforce for 2015 and Beyond
Barnes, Kacmarek, Kageler, Morris, & Durbin, 2011

Transitioning the Respiratory Therapy Workforce for 2015 and Beyond

Thomas A Barnes EdD RRT FAARC, Robert M Kacmarek PhD RRT FAARC, Woody V Kageler MD MBA, Michael J Morris MD, and Charles G Durbin Jr MD FAARC

The American Association for Respiratory Care established a task force in late 2007 to identify likely new roles and responsibilities of respiratory therapists (RTs) in the year 2015 and beyond. A series of 3 conferences was held between 2008 and 2010. The first task force conference affirmed that the healthcare system is in the process of dramatic change, driven by the need to improve health while decreasing costs and improving quality. This will be facilitated by application of evidence-based care, prevention and management of disease, and closely integrated interdisciplinary care teams. The second task force conference identified specific competencies needed to assure safe and effective execution of RT roles and responsibilities in the future. The third task force conference was charged with creating plans to change the professional education process so that RTs are able to achieve the needed skills, attitudes, and competencies identified in the previous conferences. Transition plans were developed by participants after review and discussion of the outcomes of the first two conferences and 1,011 survey responses from RT department managers and RT education program directors. This is a report of the recommendations of the third task force conference held July 12-14, 2010, on Marco Island, Florida. The participants, who represented groups concerned with RT education, licensure, and practice, proposed, discussed, and accepted that to be successful in the future a baccalaureate degree must be the minimum entry level for respiratory care practice. Also accepted was the recommendation that the Certified Respiratory

Therapist examination be retired, and instead, passing of the Registered Respiratory Therapist examination will be required for beginning clinical practice. A date of 2020 for achieving these changes was proposed, debated, and accepted. Recommendations were approved requesting resources be provided to help RT education programs, existing RT workforce, and state societies work through the issues raised by these changes. *Key words: respiratory care; respiratory therapist; manpower; education; training; competency; licensure; credentialing; accreditation; credentials; specialty; protocols.* [Respir Care 2011;56(5):681–690. © 2011 Daedalus Enterprises]

Introduction

In 2007 the American Association for Respiratory Care (AARC) established the "2015 and Beyond" task force. The charge to this task force was to determine the changes required by the profession of respiratory care to meet the evolving demands of the medical community and to position respiratory therapists (RTs) as a vital member of the medical community in 2015 and beyond.[1] The specific questions the task force was asked to address were:

- How will patients receive healthcare services in the future?
- How will respiratory therapy be provided?
- What knowledge, skills, and attributes will RTs need to provide care safely, efficiently, and cost-effectively?
- What education and credentialing systems are needed to provide this knowledge and these skills and attributes?
- How do we get from the present to the future with minimal impact on the respiratory therapy workforce?

The task force elected to address these questions through a series of 3 conferences. The first conference was held in the spring of 2008. The results of this conference[1] indicated that the RT of today barely resembles the RTs of the 1950s and 1960s, and the future role of the RT will most likely be different from today. Healthcare is going through dramatic changes, third-party payers are challenging payment for iatrogenic injury, the entire healthcare financial system is being debated, the focus of care is shifting from acute to chronic care, manpower issues are expected to affect all disciplines, the workforce is aging, and rapid introduction of innovation in the provision of medicine and information technology is expected to be the norm.[1]

Conference 2 was held in the spring of 2009. In this conference the attendees focused on identifying the competencies graduate and practicing RTs will need in 2015 and beyond.[2] The attendees identified 73 competencies in 7 majors areas: diagnostics, disease management, evidence-based medicine and respiratory care protocols, patient assessment, leadership, emergency and critical care, and therapeutics.[2]

SEE THE RELATED EDITORIAL ON PAGE 720

The third conference of this series was conducted on Marco Island, Florida, July 12–14, 2010. The goal of this conference was to determine what changes in the profession are necessary to position RTs to fulfill the roles and responsibilities identified in conference one and to ensure that future and practicing RTs acquire the competencies identified in conference two. It was postulated that changes would be needed in the RT education, accreditation, and credentialing processes to meet the needs identified from conferences one and two. This paper reports the results and recommendations formulated during the third "2015 and Beyond" conference.

Methods

The third conference started with a series of presentations (appendix 1, in the supplementary materials to this paper at http://www.rcjournal.com) designed to facilitate discussion and decision making from the 35 voting participants from 18 stakeholder organizations in attendance (appendix 2). Appendix 3 lists the stakeholder organiza-

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The authors have disclosed no conflicts of interest.

Supplementary material related to this paper is available at http://www.rcjournal.com.

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tions that were invited to participate in the conference by the "2015 and Beyond" task force. The task force members are listed in appendix 4. Pre-conference surveys of RT program directors, RT department directors, and deans of health science divisions were conducted in May of 2010 by the "2015 and Beyond" research group (appendix 5).

The first day of the conference began with presentations (appendix 1) that reviewed the conclusions and recommendations from the first 2 conferences.[1,2] These were followed by workforce data from the 2009 AARC Human Resources Study[3] and presentations of the results of 2 pre-conference surveys, which generated 1,011 responses from RT educators[4] and directors of respiratory care departments.[5] The survey questions included the competencies, education level, and credentials needed for entry into practice in 2015 and beyond. Three pre-conference surveys of deans who are members of the Association of Schools of Allied Health Professions, 2-year-college deans without RT programs, and deans with RT programs were not presented because of low response rate. The first conference day ended with an overview of the AARC's Medicare Part B Respiratory Therapy Initiative in the United States Congress.

The second day of the conference focused on generating, discussing, and accepting recommendations for change. We used voting key pads (eInstruction version 5.62.0090, Denton, Texas) to record and display voting on all proposals. A simple majority was used to approve all proposals made by conference attendees, with yes, no, and abstain votes recorded by a computer and the tally projected on the screen at the front of the room following the close of voting. On the third day of the conference, attributes used to evaluate recommendations and 11 recommendations to be forwarded to the AARC Board of Directors were reviewed again by the participants. Post-conference plans for a public hearing, an informational timeline, visits to stakeholder groups, and plans for publication of a conference paper were discussed by the conference participants before the conference adjourned. A public hearing on the recommendations accepted and approved by conference 3 participants was held the day after the conference adjourned.

Results

The overall goal of the conference was accepted and approved by the attendees. The attributes that transition recommendations needed to meet were approved by conference participants (Table 1). The voting results for recommendations presented and debated can be found in Table 2.

Conference Goal

The conference goal was to determine what changes in the profession are necessary to position RTs to fulfill the roles and responsibilities identified in conference one and to ensure that future and practicing RTs in 2015 and beyond acquire the competencies identified in conference two.

Table 1. Attributes That 2015 Transition Plans Must Meet

Maintain an adequate number of respiratory therapists throughout the transition.
Address unintended consequences, such as respiratory therapist shortages.
Require multiple options and flexibility in educating both students and the existing workforce. (eg, affiliation agreements, internships, special skills workshops, continuing education)
Require competency documentation options for new graduates.
Support a process of competency documentation for the existing workforce.
Assure that credentialing and licensure recommendations evolve with changes in practice.
Address implications of changes in licensing and credentialing.
Establish practical timelines for recommended actions.
Assure that emerging conference recommendations are supported by a plurality of the stakeholders in attendance.
Reflect the outcomes of the previous two 2015 and Beyond conferences.
Identify the agency most appropriate to implement identified elements.

Education

A single recommendation regarding RT education was accepted and approved by majority vote:

- That the AARC request the Commission on Accreditation for Respiratory Care to change, by July 1, 2012, accreditation standard 1.01 to read as follows:

1.01 The sponsoring institution must be a post-secondary academic institution accredited by a regional or national accrediting agency that is recognized by the United States Department of Education and must be authorized under applicable law or other acceptable authority to award graduates of the program a *baccalaureate or graduate* degree at the completion of the program. *Programs accredited prior to 2013 that do not currently offer a baccalaureate or graduate degree must transition to conferring a baccalaureate or graduate degree, which should be awarded by the sponsoring institution, upon all RT students who matriculate into the program after 2020.*

Credentials

Two specific recommendations regarding credentialing were approved:

- That the AARC recommends to the National Board for Respiratory Care (NBRC) on July 1, 2011, that the Certified Respiratory Therapist (CRT) examination be retired after 2014.

Table 2. Votes on Recommendations in the Third Conference

	Yes no. (%)	No no. (%)	Abstain* no.	Total no.
Approved				
Conference goal	28 (88)	4 (12)	2	34
Evaluation attributes	26 (84)	5 (16)	4	34
Education	20 (63)	12 (38)	3	35
Credentials	25 (76)	8 (24)	2	35
Licensure	28 (93)	2(7)	5	35
Transition of respiratory therapy workforce	28 (90)	3 (10)	0	31
Continuing education	31 (97)	1 (3)	0	32
Consortia and cooperative models	29 (100)	0 (0)	3	32
Budgetary resources	23 (96)	1 (4)	7	31
Promotion of career ladders	27 (100)	0 (0)	4	31
American Respiratory Care Foundation	25 (96)	1 (4)	4	30
Not Approved				
Two levels of practice	13 (41)	19 (59)	3	35
Licensure recommendation to chartered affiliates	2 (7)	28 (93)	5	35
Model career pathway	7 (25)	21 (75)	6	34

* American Association for Respiratory Care staff members did not vote on the recommendations.

- That the AARC recommends to the NBRC on July 1, 2011, that the multiple-choice examination components (CRT and Registered Respiratory Therapist [RRT] written) for the RRT examination should be combined after 2014.

Licensure

The following licensure recommendation was approved:

- That the AARC establish on July 1, 2011, a commission to assist state regulatory boards transition to the RRT requirement for licensure as an RT.

Transition of Respiratory Therapist Workforce

A number of recommendations regarding the existing workforce were approved:

- That the AARC Executive Office request that the AARC Board of Directors ask the appropriate existing sections to develop standards to assess competency of RTs in the workforce relative to job assignments of the RT.
- Standards should address the variety of work sites that employ RTs.
- Standards should address RT knowledge, skills, and attributes relative to the tasks being evaluated.

Continuing Education

The following recommendation regarding continuing education was approved:

- The AARC encourages clinical department educators and state affiliates' continuing-education venues to use clinical simulation as a major tactic for increasing the competency of the current workforce.

Consortia and Cooperative Models

The following recommendation regarding associate degree programs transitioning to baccalaureate degree programs was approved:

- That the AARC, in cooperation with the Commission on Accreditation for Respiratory Care, consider development of consortia and cooperative models for associate degree programs that wish to align with baccalaureate degree granting institutions for the award of the baccalaureate degree.

Budgetary Resources

The following recommendation regarding financial resources was approved:

- That the AARC provide budgetary resources to assist associate degree programs with the transition to baccalaureate level RT education.

Promotion of a Career Ladder

The following recommendation regarding a respiratory therapy career ladder was approved:

- That the AARC Board of Directors explores development and promotion of career ladder education options for the members of the existing workforce to obtain advanced competencies and the baccalaureate degree.

American Respiratory Care Foundation

The following recommendation regarding the foundation was approved:

- That the AARC request the American Respiratory Care Foundation to establish a restricted fund for donations to support the transition of associate degree programs to baccalaureate level RT education.

Recommendations Not Approved

The following recommendations considered by the Conference attendees were not approved:

- Two levels of practice, with details to follow.
- That the AARC recommend to chartered affiliates on July 1, 2011, that they recommend to their state regulatory board: (1) that the RRT credential be required to obtain a license to practice as an RT for all new applicants after 2012, and (2) that a provisional or limited license, effective for 3 years from the date of graduation from an RT program accredited by the Commission on Accreditation for Respiratory Care, be granted to all new applicants after 2012 who have passed the NBRC written registry examination but not the clinical simulation examination.
- That a model career pathway be developed by the AARC with the identified 2015 competencies incorporated into existing program levels but distinguishing between the competencies needed at each level (eg, Registry and Registry PLUS).

Discussion

Education

As defined in the results of the second "2015 and Beyond" conference,[2] the knowledge, skills, and attributes that future RTs will need exceed those of today's respiratory therapy program graduate. The education requirements of the graduate RT have not changed in 40 years, but the role of the RT has greatly expanded. The RTs of today are expected to perform therapeutic techniques, deliver medications, and operate medical devices that were not even available 20 years ago to evaluate and treat patients with increasingly complex cardiopulmonary disorders.[1,6] The RT of today is expected to assess and quantify the patient's cardiopulmonary status, to provide appropriate respiratory care by applying protocols, and to evaluate the medical and cost effectiveness of the care that RTs deliver.[2] The expectation is that in 2015 and beyond, in addition to an active role as a bedside care provider, all RTs will be consultants on how respiratory care should be provided. On patient rounds, RTs are expected to contribute to the discussion of goals and direction of therapy and to provide evidence supporting various approaches to respiratory care used in the intensive care unit. Specifically, RTs should possess the ability to discuss and recommend care for patients presenting with diseases that affect the respiratory system.[2]

RTs must achieve higher levels of education and training to respond to these increasing future demands projected by the "2015 and Beyond" task force conferences.[7,8] The attraction of respiratory therapy as a potential career choice to young people and adults has been partly due to its minimum education standard. The profession's current failure to demand an adequate entry-level education negatively affects the perception of the profession, suggesting a more technical and less professional career. Governmental agencies, legislators, third-party payers, and the military services all use the baccalaureate degree as the minimum education level that differentiates professions from technician groups.[9-11]

Educators are constantly challenged to expand their curriculums to prepare students for these new responsibilities.[12,13] These demands on RT curriculums will only increase in the future and will have a substantial impact on the education system. Associate degree RT programs are already stretched too thin to teach the knowledge, skills, and attributes that students need to enter the workforce today, let alone those needed in 2015 and beyond. In the pre-conference survey, 165 (47%) of the RT program directors indicated that because of state and institutional credit constraints for degree completion, they could not increase the credit hours in their curriculum. For example, the Texas Higher Education Coordinating Board restricts associate-degree RT programs to 72 semester hours of credit.[14] In the pre-conference survey of deans and directors of health science divisions with accredited RT programs, only 21 (30%) said that baccalaureate RT degree should be required for entry into the profession.[15] However, 46 (67%) of those respondents stated that a baccalaureate should be required after licensure for continued practice. The results of this survey lack validity because of the low response rate of 18% (75 of 411 colleges). The increased knowledge, new skills, and professional attributes simply cannot be easily taught in an already crowded 2-year curriculum. As medical science advances, it will be increasingly difficult for RT educators to add additional material to their curriculum. Too few associate-degree RT programs teach their students how to read and critique research, understand the statistical data, and search for evidence to support respiratory care practice. Evidence-

based medicine has become the standard for practice of all professions, and the graduate RTs must be proficient in the tenets of evidence-based medicine today and certainly by 2015 and beyond.[13]

The 2015 research group survey of RT program directors shows that evidence-based medicine and protocols, and leadership skills are not currently taught by the majority of associate-degree RT programs nor mastered by graduates.[4] Only 34% of associate-degree RT programs teach their students about evidence-based medicine and protocols, compared to 78% of baccalaureate RT programs.[4] The survey showed that 80% of baccalaureate RT programs teach students how to understand and critique published research, a necessary skill to practice evidence-based medicine, compared to 41% of associate-degree RT program.[4] Only one third of associate-degree RT programs teach students the meaning of general statistical tests, compared to over 78% of baccalaureate RT programs.

Changes in healthcare policy, regulation, and reimbursements have required RTs to adopt expanded roles, work more independently in settings across the continuum of care, and collaborate as partners in the healthcare delivery team. Sixty-three percent of baccalaureate RT programs teach students how to lead groups in care planning and facilitate collaboration, compared to only 52% of associate-degree RT programs.[4] Other areas where leadership is taught more often by baccalaureate RT programs than associate-degree RT programs are regulatory requirements of the healthcare system, financial reimbursement, and contributing to organizational teams for planning and collaborative decision making.[4]

Many associate-degree RT programs have had to increase from 2 years to 3 years to meet current needs and to prepare students to pass the CRT and RRT examinations.[4] Add a fourth year to a three-year associate-degree RT program and the student qualifies for a baccalaureate RT degree in many institutions. Requiring 3 years of coursework and only awarding an associate degree is grossly unfair to the student in these expanded associate degree programs.[4]

The "2015 and Beyond" conference 3 recommendations include a transition period of 10 years for associate-degree RT programs to make the arrangements necessary to be able to award baccalaureate RT degrees. Several senior colleges and universities have consortia agreements to award the baccalaureate degree in respiratory therapy to accredited baccalaureate RT programs located in academic medical centers and community colleges. Further, several accredited baccalaureate RT programs have online curriculums for associate degree RT students to complete requirements for a baccalaureate RT degree. These are proven methods for awarding a baccalaureate degree when the parent institution does not have baccalaureate degree granting authority. In addition, some community colleges are able to award baccalaureate degrees.[16-18]

Three conference recommendations were made to help associate-degree RT programs transition over 10 years to award a baccalaureate degree or higher in respiratory therapy. Development of consortia and cooperative models was recommended, because many currently accredited registry-eligible programs use this method to award baccalaureate degrees to their graduates. This recommendation is important because it is designed to show with time-tested models how associate degree RT programs, baccalaureate RT programs, and senior colleges can work together to reach a minimum baccalaureate degree entry level by 2020. Conference participants also requested that the AARC and the American Respiratory Care Foundation provide financial resources to help associate-degree RT programs transition to the point where they can award baccalaureate degrees directly or with a consortium agreement with a baccalaureate RT program or senior college. The AARC was requested by conference participants to ask the American Respiratory Care Foundation to establish a restricted fund for donations to help finance the transition of associate degree RT to baccalaureate RT programs.

The "2015 and Beyond" conference 3 heard pro and con arguments on the recommendation for transitioning to a baccalaureate RT degree entry level by 2020. Participants had no authority to vote on behalf of their respective agencies. The opposition position to change in education level is discussed below.

The RT profession has grown substantially over the past 50 years.[1] Its growth corresponds to an ever-increasing body of knowledge and technology, along with the skills required to serve patients in various settings.[1] However, the recommendation approved by the majority of attendees at conference 3 may not be feasible for many of the currently accredited RT programs. While all 3 "2015 and Beyond" conferences explored numerous issues related to increasing the RT education requirement to the baccalaureate level, they failed to discuss important aspects of the transition that could limit successful implementation:

- Transitioning from associate degree to baccalaureate degree by a secondary institution is politically charged and not likely to occur. Our nation's community colleges have played a major role in educating the respiratory care workforce. Currently there are 356 (87%) community college RT programs that award an associate degree, and their approximate enrollment is 6,230 RT students. Fifty-five programs (13%) award a baccalaureate RT degree, and most of these programs are at 4-year colleges.[3,4] While many current program directors may be interested in pursuing additional education opportunities for their students, there is no analysis that shows that 4-year institutions are willing to engage the transition and education of the respiratory care workforce from community colleges. Many 4-year colleges might be re-

luctant to invest in this workforce program if the return on investment is not profitable. In the states that allow baccalaureate degrees to be offered only in specified 4-year institutions, the current 2-year RT programs in community colleges would need to transition to this new standard. Additionally, due to force structure and degree requirements for its officers and enlisted corps, the current military programs are unlikely to be able to make the transition. Despite the fact that feasibility was accepted as an important attribute for any transition plan, this conference failed to assess the likelihood or cost involved in converting current 2-year programs or establishing new baccalaureate programs.

- The necessity of baccalaureate degree to maintain an entry level qualified workforce is disputed. The goal of the 3 conferences was to discuss the attributes for the future graduate RT, recommend competencies for future RTs, and identify the education pathway needed to reach this goal. However, there is a clear difference between recommended competencies and the required education level. Many of the competencies needed in 2015 and beyond are currently being taught in associate-degree RT programs, and additional education is not absolutely required for trained and competent RTs. There currently are numerous additional career pathways with additional skills for RTs to pursue that are recognized in the absence of a baccalaureate RT degree, including the Pulmonary Function Technologist, Neonatal/Pediatric Respiratory Care Specialist, and Certified Sleep Disorders Specialist. These specialties require additional education and on-the-job training, which is specialized training and not expected of the graduate RT. There is minimal and insufficient evidence that RTs with baccalaureate degrees are more prepared to enter the workforce than RTs with associate degrees, to undertake such a large-scale restructuring of the respiratory care education system.
- Increased competency based on increased education level is not proven. Current evidence does not suggest that additional education leads to a more qualified or competent RT. The NBRC study *Effects from Education Program Type on RRT Candidate Outcomes* demonstrated interesting characteristics of education level compared to pass rates on the CRT and RRT examinations.[19] Candidates who had earned a baccalaureate RT degree had a pass rate of 87% on the CRT, whereas associate degree holders had a pass rate of 79%. Candidates with a baccalaureate RT degree had a pass rate of 73% on the RRT, whereas those with an associate degree had a pass rate of 68%. Increasing the education level does not result in such large improvement in the examination pass rate. Before undertaking this transition, further consideration should be given to alternatives that will achieve the desired outcome: RTs who are prepared to be tomorrow's workforce. Examples of alternatives include:
  - Encouraging programs to affiliate with a 4-year college to allow students to continue with studies for a baccalaureate degree after earning an associate degree.
  - Continuing to support specialty certification that allows students to continue their education, with a focus on the needs for their specific job duties.
  - Developing an internship model through healthcare facilities, with a structured curriculum that allows the RT to take specialty examinations.

Credentials and Licensure

Graduate RTs are currently required to take 3 examinations to become an RRT.[2] First they must pass the CRT examination and be recognized as a Certified Respiratory Therapist. This examination is also used by most states as the state licensure examination. Upon successful completion of the CRT examination, the graduate RT is expected to take the RRT examination. The RRT examination is taken in 2 parts: a written multiple-choice examination, followed by a clinical simulation examination. While most graduates of RT programs take the CRT examination, a smaller percentage take the RRT examination. The current 2-tier credentialing system and state laws that require successful completion of only the CRT examination for licensure offer insufficient incentives to graduating RTs to demonstrate competency in areas tested by the RRT examinations. In 2003 the AARC, the Commission on Accreditation for Respiratory Care, and the NBRC recognized the RRT credential as the "standard of excellence" for RTs.

Both of the "2015 and Beyond" conference 3 recommendations on the appropriate credential to enter practice in 2015 stem from the widely held view that there is no difference in job duties between those holding the CRT and RRT credentials. In the pre-conference survey, RRT was selected over CRT as the credential that future graduates should earn to enter the profession by 81% of the RT department directors[5] and 68% of the directors of accredited RT programs.[4] A majority of the conference 3 participants believe that the scope of practice in 2015 will require the level of knowledge and critical thinking tested by the RRT examination. They were confident that the knowledge, skills, and attributes tested on the CRT examination, but not currently on the RRT examination, could easily be incorporated into the two RRT examinations. The vast majority felt that educators are now preparing students for the RRT examinations and that 2015 is the right time to require the RRT credential for entry into practice. The same question asked in the pre-conference survey[15] of deans and directors of health science divisions with ac-

credited RT programs found that 50 respondents (75%) favored the RRT being required to enter practice as an RT. In another pre-conference survey, of members of the Association of Schools of Allied Health Professions, 13 respondents (81%) indicated a baccalaureate or graduate degree should be required of RTs for licensure.[20] (Both of these surveys of deans had low response rates: 18% and 13%, respectively.) By 2015 the graduate RT must enter the profession demonstrating the confidence and skills required for practice at the registry level.[2] The American public should feel assured that patient care is given by the most competent and highly trained RT possible. Many RT educators and department directors surveyed prior to the conference stated that having 2 credentials (CRT and RRT) confuses the public, patients, and other healthcare colleagues who are not aware of the difference, primarily because CRTs and RRTs are assigned the same job responsibilities. The majority of conference participants believe that the respiratory therapy profession needs one level of credential (RRT), one education goal, and one expectation for competency of graduate RTs entering the workforce in 2015 and beyond. Of great concern to conference participants was the fact that the CRT credential was developed for 12-month training programs that will no longer exist in 2015. Any change in the credentialing system may require changes in some state regulations controlling who may deliver respiratory care.

Participants at the conference recognized the need to prepare for changes in state legislation and regulations regarding licensure of RTs to practice if the CRT examination is retired. Accordingly, the conference recommended that the AARC establish on July 1, 2011, a commission to assist state regulatory board transition to an RRT license. Many state licensure regulations currently state that the CRT or RRT is required for a license to practice. This type of regulatory language will accommodate grandfathered RTs with the CRT credential and also be able to license RRTs without the CRT credential.[21] Currently, the reference to the "entry level exam" means the CRT examination (but in most cases does not actually state it is the CRT examination, but simply the "entry level exam"). If the entry level were to become the RRT, most laws would not have to be amended. Most boards have fairly flexible regulatory authority and could shift over to the RRT exam if that were to become the entry level (including, presumably, some type of grandfather provision).[21] The purpose of the recommended AARC Licensure Commission is to develop models of regulatory language and to work with state licensure boards to make the transition needed by 2015.

Impact of Change on the Existing Workforce

As the expectations of the respiratory care entry level workforce change, increasing pressure will develop to assist existing practitioners to meet these new standards by documenting their success at acquiring the new competencies. Additional pressure will come from state licensing boards, and the public will demand that all healthcare professionals maintain evidence of continued basic competence throughout their professional careers. Time-limited medical specialty certification with required periodic recertification is now the standard for physicians and other professionals. While individuals already in the workforce are likely to be grandfathered, employers and the public will probably demand evidence of continued competence of all healthcare workers.[22]

Professional development, life-long learning, and validation of continued competence are the responsibility of each individual practitioner. A profession has a duty to define what its professionals should know and how they should act, and then provide continued education and documentation tools for its members to achieve those goals. This has traditionally been achieved in the form of scientific meetings, publications, and workshops, with or without an examination or certificate to demonstrate acquisition of the new knowledge. However, professional success depends on more than just knowledge: it requires acquiring new skills, new attitudes, and applying new knowledge to daily clinical practice. Employers are required to teach, test, and certify clinical competency with regard to required tasks of a particular job. The AARC should establish practice standards that include knowledge, skills, attitudes, judgment, abilities, experience, and ethics. The AARC should foster the development of tools to assess competence in all these areas throughout the duration of an RT's career. Clinical simulation techniques are useful for both teaching and assessing successful acquisition of new knowledge, skills, and attitudes in moving the current workforce members into the workforce of the future. Acceptance of the conference recommendation to elevate the entry level for RT practice to RRT will require individuals to achieve a higher level of problem-solving skills and pass a more comprehensive examination of clinical reasoning before entering into practice. Elimination of the current 3-examination system (also a recommendation of this third conference) will go a long way toward changing the expectations placed on students as they begin their education program, and will result in a different performance of successful program graduates throughout their professional careers.

Addressing Workforce Education Issues

The conference participants recommended that the AARC Executive Office and Board of Directors ask existing specialty sections to develop standards to assess and increase competency of RTs in the workforce relative to job assignments. The precedence of experienced RTs work-

Table 3. Recommendation Time Lines for Major Policy Changes and Effective Dates for Implementation

Recommendation	Change Timeline	Effective Date
Change Commission on Accreditation for Respiratory Care accreditation standard to require new programs after 2012 to offer a baccalaureate degree in respiratory therapy	July 1, 2012	January 1, 2013
Change Commission on Accreditation for Respiratory Care accreditation standard to require all accredited programs after 2020 to offer a baccalaureate degree in respiratory therapy	July 1, 2012	January 1, 2021
Retire National Board for Respiratory Care Certified Respiratory Therapist examination after 2014	July 1, 2011	January 1, 2015

ing in specialized areas such as neonatology and pediatrics, pulmonary function technology, sleep disorders, diagnostics, ground and air transport, long-term care, adult acute care, management, and education is well established.[2] Competency standards should address the variety of work sites that employ RTs and delineate the knowledge, skills, and attributes relative to the tasks needed in each specialty area.

Participants attending the conference requested that the AARC Board of Directors explore development and promotion of career ladder education options for the members of the existing workforce to obtain advanced competencies and the baccalaureate degree. This stems from the finding of the first conference that the roles and responsibilities of the RT workforce will change substantially in the near future, in response to major changes in the United States healthcare system.[1,2] The AARC must develop options for the current RT workforce to prepare for the new roles and responsibilities in 2015 and beyond. Further education and training in each of the 7 competency areas identified by the 2015 conference and in all the specialty areas need to begin immediately for the profession to ready by 2015.[1,2]

In the current and future education of RTs, the use of simulation undoubtedly will need to increase significantly. There are numerous capabilities, both in computer and human simulation, that may play a valuable role in RT education. One challenge in increasing the education requirement to the baccalaureate level may be in providing additional training opportunities. While the experience of direct patient care cannot be replaced, valuable knowledge and practice can be gained in the safety of the simulation environment. Many of the current capabilities of simulation were explored in "Respiratory System Simulations and Modeling."[23] MacIntyre categorized the simulation assets as: computerized simulation of patient signs and symptoms; computerized anatomic simulation and modeling of the respiratory system; and computerized physiologic simulation and modeling. Patient simulation systems include the full-size human patient simulator (to include ventilators) with modeling of upper-airway anatomy, breath sounds, respiratory system mechanics, and gas exchange. Airway simulation and modeling includes bronchoscopy simulation and 3-dimensional virtual bronchoscopy. Physiologic simulation and modeling can include respiratory system mechanics, distribution of ventilation, and gas exchange. Continued advances in this simulation technology can be directly applied to education of providers of mechanical ventilation.[24]

Simulation is already an effective clinical tool to train RTs and other medical providers in multiple clinical scenarios. The most frequent application has been in teaching basic resuscitation skills where use of human patient simulators is extensive and is shown to be superior to traditional teaching methods.[25] The use of mechanical ventilation simulators with medical residents for treatment of acute respiratory distress syndrome (ARDS) has demonstrated improvement in selecting proper ventilator settings.[26] Other specific respiratory therapy techniques, such as mini-bronchoalveolar lavage, are likewise effectively taught via simulation.[27] Preparation of the RT for work in the intensive care unit can be accomplished safely and effectively, and provide immediate feedback for individuals or a team, and clearly should be an integral part of any RT curriculum.[28] The value of simulation has been demonstrated in many different scenarios, such as trauma and the intensive care unit.[29] Given the current variety of simulation platforms and the expanding education needs of future RTs, simulation in didactic and clinical scenarios will be invaluable.

Summary

In response to major changes evolving in the United States healthcare system, the role and responsibilities of the RT workforce will change substantially. As predicted in the first conference, there will be increasing pressure for improved quality, reduced cost, and higher expectations of healthcare professionals. The second "2015 and Beyond" conference reached general agreement on entry-level competencies graduate RTs will need to succeed in this emerging healthcare environment. This third conference reached majority agreement on the need for a baccalaureate degree as the minimum entry education level and the RRT as the credential for beginning respiratory care practice. Discussion about how such changes would affect current program accreditation and migration, licensure, and the ex-

isting workforce led to recommendations that the AARC commit resources to support individuals and organizations in overcoming these challenges. Timelines (Table 3) to achieve these needed changes were proposed and accepted by a majority of the participants in this conference.

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Appendix 3:

Development of Baccalaureate and Graduate Degrees in Respiratory Care
American Association of Respiratory Care (AARC)

Development of Baccalaureate and Graduate Degrees in Respiratory Care

A White Paper From the AARC Steering Committee of the Coalition For Baccalaureate and Graduate Respiratory Therapy Education

Background

Introduction

Being a respiratory therapist in the 21 st century has become a highly complex occupation. The results of twenty years of expanded clinical research have empowered respiratory therapists with additional therapeutic techniques, medications, and medical devices used to evaluate and treat patients with increasingly complex cardiopulmonary disorders. Educators have been challenged to expand their curricula to prepare students for these new responsibilities. 1-9 Progressively more respiratory therapists are expected to assess and quantify their patient's cardiopulmonary status, to provide appropriate respiratory care by applying patient care protocols, and to evaluate the medical and cost effectiveness of their care. 10-12 Critical thinking, decision-making, and competence to perform these responsibilities have become expected of most therapists, and many roles of the advanced therapist have become expected at entry-level. 13-15

Respiratory therapists have often promoted the expansion of services in their communities, such as diagnosis and treatment of sleep disorders, health promotion and disease prevention patient education, pulmonary rehabilitation, disease specific case management, and life support outside of the intensive care unit. Changes in health care policy, regulation, and reimbursements have required therapists to adopt these expanded roles, work more independently in settings across the continuum of care, and collaborate as partners on the health care delivery team. Although experienced therapists have adapted well to the changing and increasing demands, problems have emerged:

- Producing new therapists with the knowledge and skills expected of a modern respiratory therapist has become increasingly difficult within the confinement of 2 years of post-secondary education. 16,17
- With less than a baccalaureate degree, respiratory therapists are often not recognized as professionals by government agencies, third party payers, the uniformed services, labor unions, and others.
- Recruitment of students has declined in recent years, creating severe shortages of therapists. 18-20
- Severe budget deficits have required some state governments to limit associate degree curricula in community colleges to 60 semester hours limiting what can be taught.

Historical Development

During the latter half of the 20 th century, the respiratory care profession evolved from an on-the-job trained workforce to a college educated and licensed profession. Consistent with this evolution, education and training of therapists began as apprenticeships, and hospital-based programs became organized and awarded certificates of study. The first on-the-job hospital-based inhalation therapy schools were unable to provide adequate numbers of graduates. By the mid-1960's new programs began in vocational-technical schools and the community colleges which mushroomed across the United States. Growth of educational programs in community and technical colleges helped fill the demand for therapists during years of unprecedented growth into the 1980's. Innovative educators with new teaching strategies were able to maximize the compact 2-year time-frame. As the educational needs of new therapists increased, the need for expanded curriculum shifted the responsibility for professional preparation of therapists to colleges and universities that awarded academic credit and degrees. Throughout this period, the demand for therapists exceeded the supply, and the pressure to meet workforce needs may have contributed to an artificially short course of study with artificially low academic awards as compared to other health professions.

Recognizing the need to plan for future change, during the 1990s the American Association for Respiratory Care organized educational consensus conferences and supported research on the future scope of practice and education of therapists. 21-23 These efforts contributed to the growing recognition of the need for an associate degree minimum academic preparation for entry-level therapists for 2002. As expectations accelerate for therapists to analyze and evaluate patient needs, to plan and provide care, to participate effectively on professional interdisciplinary teams, and to provide patient and caregiver education, the need to expand opportunities for baccalaureate and graduate education has become evident. 24 In recent years, respiratory care educational programs at the baccalaureate level have increased by 75% with 57 such programs identified in 2002.

Rationale

Profound and extensive changes have occurred regarding medicine's delivery systems, economic and governmental constraints, and societal expectations. Over time, the profession of respiratory care has adapted quickly to new technologies and practices which the founding fathers had never considered. 25,26 There has been the birth of critical care medicine, pulmonary rehabilitation, and neonatology, as well as advances in cardiovascular diagnostics, sleep-disorders, and emergency transport. The advent of therapist-driven protocols, emphasis on patient outcomes and evidence-based medicine reflect this continuing transformation into the 21 st century. 27,28 Consequently, respiratory care departments and educational programs have been required to constantly upgrade in order to keep pace with escalating demands on new graduates. Preparation of educated and skilled practitioners in adequate numbers has been a concern over most of the profession's first fifty years.

There has always been a core of baccalaureate degree programs, primarily at academic medical centers. In 1970 there were seven of these programs, and currently there are about sixty. The need for a greater number of baccalaureate and graduate respiratory care programs appears to be based on multiple evolutionary factors.

The clinical work has become more technically complex:

Respiratory care has evolved from conducting limited, task-based technical functions, to performing an array of services requiring more complex cognitive abilities and patient management skills. Consequently the body and complexity of knowledge and skills needed for

clinical practice continues to increase and shows no sign of abating. The National Board for Respiratory Care (NBRC) examinations have reflected this theme, and questions now emphasize higher levels of cognition beyond recall and application. Earlier versions of the examinations did not include technical advances such as pulse oximetry, noninvasive ventilation, and computer-interfaced medical hardware that are now considered to be routine.

There is a greater demand for respiratory care at alternate sites

There is an increasing level of non-technical professional abilities that reflect greater levels of responsibility, accountability and authority. 29 Respiratory care continues to incorporate more specialized and diverse services beyond the traditional bedside caregiver role and has moved to alternative care sites. Therapists are becoming more involved in public health, outpatient care, private office practice, end-of-life and palliative care, smoking cessation, home care and as case managers for asthma, COPD and cystic fibrosis clinics. Therapists are, and will continue to be, more involved in providing patient education, and coordinating care in cost-effective approaches and multiple settings. To meet these future needs, educational programs will need to move beyond traditional teaching in hospital wards and ICUs.

There is increased need for non-technical skills

Professional competence goes beyond developing skills to perform technical tasks. Patient care is interactive, humanistic, and impinges on affective and moral dimensions. Practice is now participatory and involves interpretation and deductive reasoning. 28 There is need to develop these additional skills. 29,30 Educational programs that incorporate the liberal arts allow students to face future medical delivery changes, wavering economies and an unsure job market. Meeting such challenges is more certain for practitioners with the ability to write well, speak clearly and think more critically. Some Department managers now look to employees that are caregivers, but also have skills to assist in management tasks, patient and staff development education, and research. The current and future health care environment is creating demand for coordinators and planners instead of only bedside caregivers. Therapists participating in formal teaching or staff development are required to achieve baccalaureate or graduate degrees.

There is a growing educational gap between respiratory care and other health professions

In a delivery system that is based on interdisciplinary teamwork, educational differences are important. Physical therapy, pharmacy, audiology and other professions have raised educational standards to baccalaureate or higher since the mid-1960's. For example, pharmacy has moved from the BPharm to the PharmD as the entry level within the past 10 years. Physical therapy has moved from the BS to the MS within about the same time frame, and will require the doctoral degree within a few years. Physician assistant studies have mandated a master's degree entry level, and occupational and physical therapy currently require a master's degree as entry level. The perception of respiratory care as a potential career choice by both young people and adults may be influenced by its minimum educational standards for entering clinical practice. 31 Failure to provide an adequate education level can negatively impact that perception, suggesting a more technical and less professional career. Governmental agencies, legislators, third-party payers, and the military services all use the baccalaureate degree as a method of professional recognition.

The AARC advocated an increase in the minimum education requirements a decade ago, 22,23 and the 1995 PEW Commission Report, Critical Challenges: Revitalizing the Health Professions for the 21 st Century, reiterated much of AARC report's findings. 32 The Commission spoke to

innovation, restructuring and flexibility in both practice and professional medical education. It also urged multi-skilling and streamlining of service delivery instead of continued specialization.

Most notable in this discussion was the PEW Commission's recommendations for nursing, which has maintained two levels of education (AS & BS) for one entry-to-practice credential as a registered nurse (RN). This has been reflected in respiratory cares' two levels of education, (AS & BS) for the registered respiratory therapist (RRT) credential. Among the recommendations for nursing are:

- Recognize the value of the multiple entry points to professional practice available to nurses through preparation in associate, baccalaureate and masters programs; each is different, and each has important contributions to make in the changing health care system.
- Consolidate the professional nomenclature so that there is a single title for each level of nursing preparation and service.
- Distinguish between the practice responsibilities of these different levels of nursing, focusing associate preparation on the entry level hospital setting and nursing home practice, baccalaureate on the hospital-based care management and community-based practice, and masters degree for specialty practice in the hospital and independent practice as a primary care provider. Strengthen existing career ladder programs in order to make movement through these levels of nursing as easy as possible.
- Encourage the expansion of the number of masters level nurse practitioner training programs by increasing the level of federal support for students.

For 30 years various groups within the nursing profession have repeatedly recommended the baccalaureate degree as the minimum registered nurse educational entry-level. The American Nursing Association has maintained this position since 1965. In 1996 24% of nurses held a diploma, 34% held an associate degree and 31% a BSN. Presently about 40% hold a baccalaureate or higher nursing degree. However, opposition from state nursing associations, physicians and hospital administrators has been blamed for the failure to adopt the recommendation. 33

Setting education levels for practice entry has been an economically, politically and emotionally charged issue for many medical professions. Future challenges will more likely be met by leveraging greater support for baccalaureate and graduate respiratory care education.

How Do We Move Ahead?

On January 10, 2003 the AARC issued a Landmark Statement on Education and Credentialing. To support a stronger profession, the AARC, CoARC, and NBRC have all approved a statement to encourage advanced education and credentialing for respiratory therapists. While reiterating their support for associate degree programs, the groups want to ensure the profession of respiratory care is positioned for the future by encouraging pursuit of advanced training, education and credentials by the individuals in this country practicing respiratory care.” 36

Respiratory Care: Advancement of the Profession Tripartite Statements of Support

The continuing evolution of the Respiratory Care Profession requires that every respiratory therapist demonstrate an advanced level of critical thinking, assessment and problem solving skills. These facilities are essential in today's health care environment not only to improve the quality of care but also to reduce inappropriate care and thereby reduce costs. Respiratory therapists are expected to participate in the development, modification and evaluation of care

plans, protocol administration, disease management and patient education. Accordingly, the agencies representing the profession (American Association for Respiratory Care), program accreditation (Committee on Accreditation for Respiratory Care), and professional credentialing (National Board for Respiratory Care) together support the following as essential for the continued growth and advancement of the profession.

- The RRT credential is the standard of excellence for respiratory therapists. Evidence-based research documents the value of critical thinking, problem solving and advanced patient assessment skills. Therefore we encourage all respiratory therapists to pursue and obtain the Registered Respiratory Therapist (RRT) credential. • We support the development of baccalaureate and graduate education in respiratory care and encourage respiratory therapists to pursue advanced levels of education.
- We have complete confidence in the professional credentialing system. The three agencies will cooperate in evaluating the results of national job analysis research to insure that the credentialing system remains current and appropriate as the profession evolves. We recognize the NBRC's obligation to administer job related, validated credentialing examinations based on the results of national job analysis research as mandated by the "Standards for Educational and Psychological Testing" (1999) published by the American Educational Research Association, American Psychological Association, and the National Council on Measurement in Education. Job analysis research is also guided by Section 1607.14 of the Technical Standards for Validity Studies from the Federal Government's Uniform Guidelines on Employee Selection Procedures. These guidelines are found within Title 29 – Labor within the Code of Federal Regulations (29CFR1607.14). In addition, the NBRC must maintain its compliance with the standards for accreditation of certification programs developed by the National Commission for Certifying Agencies (NCCA).
- The three agencies recognize the importance of effective recruitment and retention strategies to recruit and retain respiratory therapists for the health care workforce, and qualified respiratory therapy students. We encourage the use of existing resources available from the three agencies.
- The three organizations will cooperate in evaluating examination pass rates for entry level and advanced practice programs and for associate and baccalaureate degree programs to assure that the educational requirements for admission both to the educational programs and to the examination system are appropriate.
- We encourage the development of appropriate career ladders and pay differentials based on the advanced practice credential (RRT) and education beyond the Associate Degree.
- We strongly support faculty development activities specific to educational methodology. 37

As evidenced by this Tripartite statement it is clear that community colleges are, and will continue to be, important partners in providing respiratory care education. A plan that does not use the resources they can provide will be unnecessarily limited in scope. The AARC must facilitate the development of workable articulation and bridge agreements between community colleges and 4-year colleges. These articulations may take the form of moving students from an associate degree in respiratory therapy to a BSRT, or they may use a model where students receive two years of preparatory course work at a community college before transferring to a 4-year college to complete their bachelor's degree. Community colleges could also partner with 4-year colleges and graduate schools to provide sites for distance education. Other options for expanding baccalaureate and graduate education certainly exist and should be explored.

Currently respiratory care programs tend to have small class sizes but high fixed costs. Of the 12,183 students who graduated from advanced practitioner respiratory care programs during the

years 1998 through 2000, 1773 (14.6%) were at the baccalaureate level. 34 If we are to make it attractive for educational institutions to establish new baccalaureate and graduate programs, we must rethink this model. Models that can accommodate larger classes of baccalaureate level students without a substantial increase in program costs should be explored. Because laboratory and clinical courses are usually the limiting factor for enrollment, they should be the initial targets for remodeling. We must look to other therapy-based allied health professions that successfully accommodate large enrollments in their educational programs and examine how their approach might be adapted for respiratory therapy.

If the respiratory care profession is to move ahead we must make a concerted effort to increase the number of graduate programs. The demand for such programs will increase as we increase the number of baccalaureate program graduates. However, at present, the vast majority of respiratory therapists who seek graduate degrees must do so in another field such as education or physiology. We must develop more graduate degrees that are specific to respiratory care if we are to meet the need for clinical specialists, researchers, faculty, and professional leaders.

The need for graduate education in respiratory care

Currently, there are only a handful of graduate degree programs with majors in respiratory care in the U.S. Because of this, leadership training in clinical specialty areas, research, management, and education has been provided at the baccalaureate level or not at all. This has resulted in a dearth of qualified individuals able to fulfill the need for trained practitioners to teach, perform management and supervision, assist with research, and fulfill other professional leadership roles. Respiratory therapists with graduate education and training are needed to fill the demand for future educators, managers, researchers, and clinical specialists. A tremendous demand for respiratory care services is projected over the next fifteen years. This projected shortage is due to the aging of the population, increases in respiratory diseases (including asthma and COPD), increases in the general population, and advances in technology and treatment. Coupled with an increase in demand for services and personnel, the current generation of educators and leaders in respiratory care will be retiring. There is a major need for the respiratory profession to prepare advanced level respiratory therapists who have a foundation for leadership in the areas of education, management and supervision, and clinical practice. There are over 300 college or university-based respiratory care educational programs in the U.S. and approximately 2,700 respiratory therapists are employed as educators by colleges, universities, and health care agencies. Nationally, the vacancy rate for instructors/educators was 9.8% in year 2000, and graduates of the existing Master's degree programs in respiratory care are sought after by colleges and universities to fill faculty vacancies. In addition, about 11% of the respiratory care workforce is employed in management and supervision (11,685 FTEs in year 2000) and the anticipated demand for managers and supervisors is also expected to increase. 35

Graduate education in respiratory care is needed to advance the science and practice of respiratory care by providing a link between the sciences, clinical research and practice; increase knowledge within the discipline; provide for interdisciplinary collaboration and research; and train future faculty for the profession. The goals of graduate respiratory care educational programs may include:

- To prepare advanced level respiratory therapists for clinical practice.
- Provide leadership training in the areas of management, supervision, education and research.
- Develop clinical specialists in the areas of adult critical care, pediatric critical care, neonatal critical care, pulmonary function technology and cardiopulmonary diagnostics,

polysomnography, and other clinical areas, as needed.
- Prepare future faculty for college and university based respiratory care educational programs.
- Develop individuals who can formulate appropriate questions, organize and test hypotheses, and apply research results to the practice of respiratory care.
- Prepare clinical practitioners with advanced knowledge and skills in basic and clinical sciences.
- Prepare leaders, who are able to plan, develop, and deliver high quality, cost-effective health care services.

Conclusion

There is a need to increase the number of respiratory therapists with advanced levels of training and education to meet the demands of providing services requiring complex cognitive abilities and patient management skills. Therefore the AARC strongly encourages the continuing development of baccalaureate and graduate education in respiratory care, to include:

- Traditional BS degree programs
- Associate degree to baccalaureate degree articulation and bridge agreements with area community colleges
- Distance education for BS degree programs offered at the community college level
- Promotion of Master of Science in Respiratory Care degree programs for the development of leadership in the areas of management, education, research, and clinical specialization.

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Back

Position Statement of the American Association for Respiratory Care

Development of Baccalaureate and Graduate Education Degrees

The continually expanding knowledge base of today's respiratory care field requires a more highly educated professional than ever before. The realities of healthcare reform under the Patient Protection and Affordable Care Act place additional importance on higher education as the foundation for professional roles and reimbursement for professional services. Factors such as increased emphasis on evidence-based medicine, focus on respiratory disease management, demands for advanced patient assessment, and growing complexities of American healthcare overall, clearly mandate respiratory therapists achieve formal academic preparation commensurate with an advanced practice role.

American healthcare now requires respiratory professionals who can practice in a diversity of clinical settings, in leadership and educational settings, and who can function at a higher level of independence in clinical decision making for their patients. Professional respiratory therapists must be capable of supporting their patients through the maze of medical services and resources which are now available to them, educating patients regarding pathophysiology, diagnostic, treatment regimens and positive self-care for better outcomes and wellness.

Professional respiratory therapists must also prepare themselves for a broader role in community health, health promotion, health maintenance and coordination across the continuum of their patients' medical care.

It is the position of the American Association for Respiratory Care that practicing respiratory therapists and respiratory therapy students currently in training should be strongly encouraged to seek higher education beyond the associate degree entry-level to the bachelors' level, thereby preparing themselves for greater responsibility and greater independence of function over the decades ahead.

It is the position of the American Association for Respiratory Care that respiratory therapists seeking to practice in advanced clinical settings, in leadership roles, and in professional educator roles be strongly encouraged to seek higher education at the masters or doctoral levels, demonstrating the value of advanced learning in their own organizations.

The profession of Respiratory Care itself, the leadership of respiratory care departments and services, and most importantly the care of our patients will be advanced as our members themselves advance their qualifications through higher academic preparation. Academic institutions which conduct respiratory therapy education should develop bachelors', masters' and doctoral programs at this time to support the need for such higher education within the field of respiratory care.

Effective 04/2013

Appendix 4:

Existing Masters Programs in Respiratory Care
Fall 2014

Existing Masters Programs in Respiratory Fall 2014

Rush:
http://www.rushu.rush.edu/servlet/Satellite?MetaAttrName=meta_university&ParentId=1232912009676&ParentType=RushUnivLevel2Page&c=content_block&cid=1234192106374&level1-p=2&level1-pp=1143661516573&level1-ppp=1143661516573&pagename=Rush%2Fcontent_block%2FContentBlockDetail
Master of Science in Respiratory Care
Advanced Standing – specialized – credit for experience
119 quarter credit hours; 21 months; get 74 hours
$592/ credit hour
on campus
CRT RRT level entry…

Northeastern: http://www.cps.neu.edu/degree-programs/graduate/masters-degrees/masters-respiratory-care-leadership.php
Master of Science in Respiratory Care Leadership
45 credits
Tracks: Education, Research, Management
Online and on campus
$26, 730

Youngstown State: http://web.ysu.edu/bchhs/mrc
Master of Respiratory Care
39 credits
Tracks: Education, Management/Therapeutic and Monitoring
completely on-line
$16,863 per year for 12 to 16 hours
no GRE

Canisius: http://www.canisius.edu/masters-degree-in-respiratory-care/
Master of Science in Respiratory Care
33 credits: Credit by experience
on-line
Tracks: Therapeutics, Education
$765 per credit

University of Mary:
http://www.umary.edu/templates/template_degrees.php?degree=M.S.%20in%20Respiratory%20Therapy
Master of Science in Respiratory Therapy
$530 per credit

Loma Linda University: http://www.llu.edu/allied-health/sahp/cardio/rcmasters.page

Master of Science Respiratory Care
Has on-line or in class options
Tracks: Advanced Respiratory Care Science, Leadership, Research
58 credits
$692 per credit

Georgia State: http://respiratorytherapy.gsu.edu/academics/graduate/master-of-science-in-health-sciences/
Master of Science in Health Science
$1,223 per credit
on-line available
GRE waiver

University of Texas Medical Branch
School of Health Professions, Dept. of Respiratory Care
301 University Blvd.
Galveston, TX 77555-1146
Program Dir: Jon Nilsestuen, PhD, RRT, FAARC
Medical Director: Donald Prough, MD
Program Type: BA/BS with RRT to MHP with specialty in RT,
options for Management, Education, Research and Advanced Practice
Class Cap: 5 Begins: April
Tel: 409-772-5693
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E-mail: jnilsest@utmb.edu
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Appendix 5:

UNC Charlotte Master's Degree Program Survey 2014

UNCC Master's Degree Program Survey 2014 (232 results)

Download Results (Excel, CSV)
Share Results
Cross Tabulate Questions
Response Info | View Incomplete Responses
Clear Responses

Filter: Showing all responses... Create New Filters

Aggregate Results | Question Results | Individual Results

Print This

1) Are you a graduate of the UNC Charlotte BSRT Program or a current student (includes incoming juniors)? Graph this question

Option	# Responses	Response %
Graduate of the BSRT Program	79	34.05%
Current Student in the BSRT Program	153	65.95%
0 skipped this question [View]	Total responses **232**	100.00%

2) Would you favor the formation of a Master's Degree Program in Respiratory Care at UNC Charlotte? Graph this question

Option	# Responses	Response %
Yes	230	99.57%
No	1	0.43%
1 skipped this question [View]	Total responses **231**	99.57%

3) Would you consider enrolling in a Master's Degree Program in Respiratory Care at UNC Charlotte? Graph this question

Option	# Responses	Response %
Strongly Disagree	7	3.02%
Disagree	3	1.29%
Undecided	33	14.22%
Agree	41	17.67%
Strongly Agree	148	63.79%
0 skipped this question [View][View Comments (38)]	Total responses **232**	100.00%

4) UNC Charlotte is considering the formation of a Master's Degree Respiratory Care Program that would include a Masters of Science in Respiratory Care, which would be an on-line option to pursue study in Graph this question

Research, Education, Management or Advanced Credentials; and/or a Masters in Advanced Practice Respiratory Therapy that would combine on-line, classroom and clinical rotations to produce an Advanced Practice Respiratory Therapist. What type of Program would you prefer to pursue?

Option	# Responses	Response %
Masters of Science in Respiratory Care	59	25.65%
Masters in Advanced Practice Respiratory Therapy	45	19.57%
Both	126	54.78%
2 skipped this question [View][View Comments (46)]	Total responses **230**	99.14%

5) If you prefer an on-line Masters of Science in Respiratory Care, which concentration would appeal to you? Graph this question

Option	# Responses	Response %
Education	40	17.62%
Management	61	26.87%
Research	34	14.98%
Advanced Credential Track (ACCS, RPFT, NPS, RPSGT, COPD/Asthma Educator)	92	40.53%
5 skipped this question [View][View Comments (28)]	Total responses **227**	97.84%

6) Do you feel a Masters Degree would help you achieve your professional goals? Graph this question

Option	# Responses	Response %
Yes	215	93.07%
No	16	6.93%
1 skipped this question [View][View Comments (17)]	Total responses **231**	99.57%

7) Do you think a Master's Degree in Respiratory Care would allow you to advance in your workplace? Graph this question

Option	# Responses	Response %
Yes	182	79.82%
No	46	20.18%
4 skipped this question [View][View Comments (35)]	Total responses **228**	98.28%

8) Do you think achieving a Master's Degree would be financially rewarded in your workplace? Graph this question

Option	# Responses	Response %
Yes	137	60.09%
No	91	39.91%
4 skipped this question [View][View Comments (39)]	Total responses **228**	98.28%

9) Have you completed or enrolled in an Advanced Degree Program above the Baccalaureate Graph this question

level?

Option	# Responses	Response %
Yes	31	13.48%
No	199	86.52%
2 skipped this question [View][View Comments (17)]	Total responses **230**	99.14%

10) If you are a graduate of the UNC Charlotte BSRT Program, have you completed or enrolled in a Master's Degree Program or other advanced degree program? Graph this question

If affirmative describe the program in the comment box.

Option	# Responses	Response %
Yes	22	12.22%
No	158	87.78%
52 skipped this question [View][View Comments (52)]	Total responses **180**	77.59%

MSRC Survey Results: Comments

Would you consider enrolling?

I have finished my MHA, I do not know if I would go back for another master. Probably would go for Ph.D.

I've already looked into the one offered at GA State, but I would be more interested in one at UNC Charlotte!

Right now it's hard to imagine going back to school. I don't know if this would be worthwhile as there is no job market for this type position.

I just completed my Master's degree in Health Care Administration.

I think a degree in another area would be more beneficial. Because the field narrows your scope by so much I believe a masters in another area would open up more doors.

I would strongly be in favor but am currently in school for my MBA.

Would love to!

I am pursuing a master's degree in adult education

Would like to know what career paths that may open for me

Online option only, unable to come to Charlotte

Yes because it is very convenient.

Although currently enrolled in the Masters Respiratory Care Leadership program at NEU, I would have much preferred to do this in my home state.

Respiratory Care in itself has come so far, and so many RRT's are putting time, and effort in furthering a career that we have so much passion for. This is the time to shine. This is the most wonderful thing for respiratory therapists that want to go past BSRT, and to the PA level. I would sign up today if this were available. It's time for RRT's to be able to advance in the respiratory specialty, as nurses have been able to do. This profession is growing, and highly needed. This program would strengthen that need. I feel that it would hold a very high regard, and I can't think of anything I would rather master in.

I am already enrolled in a Master's Degree program at NEU. I would have definitely enrolled. Without hesitation, I would be thrilled at the opportunity to pursue a higher degree in respiratory care.

I am not interested in pursuing a Master's Degree period.

My only concern would be the ability to utilize this degree in the real-world setting...would there be opportunities to "use" the degree in the practice setting....similar to the Nurse Practitioner. If so, my answer would be Strongly Agree...I would hope hospital systems would "create" positions for this type of education.

I prefer a mid-level provider status

It's been a long time since I was in school. I need to see how well I handle online education before I make a decision.

There would be no doubt in my mind about enrolling.

The key for me personally is contingent on an advanced licensure.

The future of healthcare is going to demand a higher degree of higher learning

I would have to look at the cost compared to potential increased earnings. i.e. financial burden on my family.

I have already completed my Master's since graduating from UNC-C; however, I would have seriously considered the RC program at UNC-C.

I am one semester away from finishing a Master's Degree in Adult Education with a Certificate in Community College Instruction. If there were mid-level practitioner status that accompanied the Master's Degree in Respiratory Therapy, I would most certainly entertain the idea of applying.

I already have plans. I have been working on for my Master's Degree as a Physician's Assistant.

I'm already enrolled in a master's degree program; however, I would be potentially interested in an advanced practice degree (if future legislature in NC favored advanced practice RTs).

Yes! North Carolina is leading by example for the development of higher education for Respiratory Therapists.

I do not see the benefit of a Master's degree in Respiratory when there continues to be very little support from the NBRC and little to no representation in Congress. Why spend money on a degree that offers very little in return. It would certainly not warrant a pay raise to help offset the cost of earning a Master's in respiratory. A degree for Physician's Assistant would be offer more diversity within the medical field than a degree in respiratory where an RT would be limited.

I'm getting old, will need to move fast!

Yes, would love to be a part of this program, as would many of my coworkers

Respiratory Care is a growing field that is becoming more and more recognized. There is so much opportunity missed with this field because advancement is not readliy avaliable as it it for other professions such at nursing. UNCC provides an outstanding BSRT program in which I graduated from, so I would most certainly apply to the master's program.

I would be more inclined to think a master's would advance you in any company.
I have had a great experience getting my BSRT on line at UNCC. The program is well run and feedback very timely. I would anticipate the same degree of excellence in a Master's degree and would eagerly take it.

I truly enjoyed my experience in the BSRT program at UNC Charlotte. It was well designed and the faculty worked hard to ensure my success. The knowledge that I gained as a student has benefited me tremendously at my current job.

After I complete the BSRT it would be great to continue to obtain the Masters level in a field I am so passionate about.

MSRC, APRT or Both?

I believe both programs have their place but I would prefer the advanced practice option.

My question is when would a mid level practitioner in respiratory be relevant, would we be employable, and would pay match education and abilities?

I would be more interested in the Masters in Advanced Practice if we could do remote classroom and local clinical closer to my home due to the fact I have young children.

I strongly agree and hope that the advanced practitioner program is established and would definitely apply. The knowledge and skills required to give the patient care will only be enhanced by a program of this nature

Not sure I could juggle clinical and work to complete the advanced practitioner program. Just depends on number of clinical hours required. Love the education aspect as well.

Both are great options depending on one's professional future. For me, Online is more convenient.

Once again I don't know what type positions I could qualify for with this degree. It sounds like a great idea, but who will hire? I would have a hard time attending class and clinical. Although an advanced practitioner would appeal more to me.

It would be hard for me to do classroom

I think it would be important to introduce students to the management aspect of respiratory care. Budgets, human resource management, healthcare policies, reimbursement trends, etc... Topics that would prepare students to be directors or senior level administrators.

I hope it will have a strong management portion as well

I would prefer to have a Masters in Advanced Practice Respiratory Therapy, but would be willing to pursue both if the opportunity were available.

Would do both if advanced practice had an online option

Yes because it will open more doors for opportunity.

I prefer leadership, teaching and research. We are just getting started and hope our profession elevates to higher standards.

Would love to be able to obtain advanced practice respiratory therapist

Both programs are very intriguing!

My question with the advanced practice program, what avenues would you see this providing on the respiratory care arena in the state of NC?

I'm sure either program would incorporate and further advance the skills we use daily in critical respiratory care. I would sign up for either that was offered.

I personally would not be interested in clinical rotations

The only thing I hope it would be is an online program and then we could make arrangements for the clinical portion.

Currently enrolled MSRCL

I am personally more interested in the clinical option but if both were offered people would have more options

As the field is expanding and still evolving, both areas of concentration would offer individuals a choice in which direction they wanted to go with their higher education.

I would support both because both would be really important to our field. My goal is to be a PA or some sort of advanced critical RT because I love the clinical setting.

Since I function in the capacity of an Advanced Respiratory Therapist....I would choose Masters in Advanced Practice...but I feel both would be beneficial...

Anything that will build to a respiratory anesthesia (like CRNA for nurses), bridge for PA, and respiratory practitioner (like NP for nurses).

For me, I enjoy hands on critical care.

This is again dependent on the idea of an advanced practitioner becoming reality. I prefer the convenience of online courses

I feel the options to combine the programs or choose between the two would become available. I love bedside practice I also enjoy teaching.
I would love to know more about the advanced practice RT program but living 3.5 hours away might limit my availability for this program.

Depends on how many in classroom hours there are and how many clinical hours and where those would need to be done at

Both choices would give practitioners a choice that could match their interests.

I would prefer to pursue the Masters in Advanced Practice Respiratory Care, but it would also depend on if I was at a point in life to where I could be able to do the clinical part of the program.

I would enjoy both, HOWEVER the clinical and in class rotations would be a problem for me as a full time therapist, this is why I would personally choose masters of science in respiratory care.

If I were to do the program, I would want to do both.

Again, I will already have a master's degree by the Fall of 2015, so the advanced practice option would be most appropriate for my situation.

Would luv practice but working full time may be hard
My only worry with the Masters in Advanced Practice would be the inability of students to go into the classroom and do clinicals. Unless "classroom" is lectures held online and maybe the clinicals could be at their place of employment?

I am curious in the proposed curriculum in the Advanced Practice. I do live out of state so the Masters of Science with an emphasis in Education sounds very interesting.

The advanced practice I think I would enjoy more, but unless clinical time could be near home and still keep my job I may consider. I prefer hands on to book work.

Having just graduated from the BSRT program, I am undecided as to which path to take next. Both programs would be beneficial given the limited choices available for Respiratory Therapists to advance in the profession. There are many more opportunities for the nursing profession to advance.

I would be interested in research or education, I do not know if the community is read

I believe that I would rather attend the Masters in advanced Practice Respiratory Care because it is my understanding that this would allow the Respiratory Therapist to see Respiratory patients and function much like a PA for those types of patients. This is what I would be interested in more so than the education route.

Both programs but the master's of science in RT would be more practical and achievable in my current situation living over 3 hours from Charlotte.

On-line is convenient but if I could work it into my work schedule having the experience of clinical rotations and some classroom would be great.

Look at each program and what the Benefits of each would be before deciding

Concentration Preference

I feel that an online master's program would be best for those seeking to advance in an administrative capacity. The advanced credentials are already an option based on education and work experience. Adding some education courses to the online program would add value as well, administrators should be able to educate as well.

I currently have my ACCS credential and will continue obtain more
Education and management

Is it possible to get the degree and minor in one of the others? I would love the advanced credential but would also like to have a background in education. I think it would pair well together since most people who want an advanced credential would probably like to educate someone in the field.

I already have my ACCS. I was always interested in asthma education. Research and development would also be of interest to me, if there were jobs available.

Both Education and Advanced Credential Track

Management is also an additional area of concentration that would appeal to me.
And possibly education

I would love to do all.

I would prefer to remain in the clinical setting.

I'm sure with a master's, you could take any one of these routes. Most therapists already have advanced credentials, and some are not even BSRT level. Having an online approach would make work and family time easier. Educators are needed badly in all institutions and colleges. Any of these would be fine though.

Research

Actually all of them appeal to me.

Research and management would be tied for me

If I had a choice...both Education and Research....I am presently functioning as a Clinical Educator and practicing at the Advanced Practice level in my current job position....

Education would appeal as well.

I feel the options should be open Research and education are needed in our field to advance without nursing.

And management

I would honestly like for all (except for research) to be included.

Or possibly research.

The Advanced Credential Track also would be an option.

A concentration in management would be the most beneficial option for advancement at my current job.

I have always been interested in researching areas of COPD patients and exercise and other areas of the Resp. Field.

I would like to see a good mix of all of the above.

Would a Masters Degree help you achieve professional goals?

It would give me an advanced title, but at this point I'm not sure it would help until they make the position similar to a PA a reality.

In our current climate an advanced degree is a requirement for advancement. A BS is quickly becoming the minimum requirement.

I have recently received a career move due to acquiring a MHA

Yes, would need more information on job opportunities I would qualify for as opposed to just having my BSRT

very much so.

If there will be job opportunities

Absolutely....I actually need this level of education to further pursue my goals...I am ready for advancement now...but remain in my current position d/t only having achieved a BSRT (which I'm my happy to have obtained through the UNCC BSRT Program)..

only if advance practice builds to a higher skilled level

At this point I am not sure my BSRT will lead to increased opportunity.

Becoming a Mid-level has always been a personal dream/goal. To be recognized as a educated, independent thinker, and care giver

I feel like a Masters or Bachelors degree will not make much of a dent in my career as of now, I would like to think it would in the near future.

I most certainly hope that it will, seeing as though I am almost finished with one Master's Degree. I think this is a great opportunity for the profession, and in order for there to be significant change, there needs to be a starting point such as the development of the proposed Master's Degree Program.

I would like to be able to use an Advanced degree in my field or advance in the medical field

I would like to see respiratory have more involvement in structuring, research, and plan care of patients. I do not think at this point think masters would advance my professional goal unless masters provided me a job outside of the respiratory department.

A Master's Degree would allow me to advance in my profession by opening up significant more opportunities in education or management.

I would hope that having a Masters Degree would give not just me more opportunities but bring our field to the respected level it deserves.

Would it help you advance in the workplace?

At my current workplace, a small community hospital, in order to be a manager you must hold a bachelor's degree and a master's degree is preferred. Again my personal preference would be an advanced practice degree equivalent to a PA.

Yes, especially management opportunities.

The only way I see it could, would be if management positions opened up. Our department director is the only person that currently holds a Master's degree. I believe her degree is in

healthcare management or something like that. There are a few others currently pursuing a Master's.

Not specifically in my workplace, nursing rules when it comes to advancement. Many other organizations may offer opportunities for advancement.

As long as it has an emphasis on management

Not my workplace in Rural Virginia but perhaps somewhere else

Personally where I am currently employed my BSRT is not even recognized

If there will be job opportunities

Hopefully. But there are no guarantees

I would hope that all workplaces would reward a person whom took on a educational advancement to better themselves and the institution they would be working for.

Without question.

It would allow me to get out of the work place and even closer to patient care.

The future of healthcare is going to need advanced practitioners at bedside. Having a higher degree would open many doors. If the facility I am employed at would not recognize this I would have the degree and skill set to leave. (their loss)

Possibly. Not sure how it would compare to a degree in Healthcare Management. Or how it would be accepted compared to that degree.

Unfortunately not.

I am a manager and the highest level of respiratory care management at my facility.

I say yes, under the circumstances that legislation and practice changes to accompany the Master's Degree. As it stands now, aside from moving further up the career ladder, there is no incentive for a Master's Degree.

I don't feel at the moment I see an opportunity at my current place of employment for advancement, but maybe in the future.

I will already have a Master's degree and currently teach full-time. An advanced practice degree would allow me to advance - potentially - in a part-time RT job.

Earning a BSRT didn't mean much to MGT. I seriously doubt it would change with a Master's degree in respiratory.

Director and VP positions usually require MS or MBA.

However, it would allow me to advance at another facility.

I spoke with my manager about it. She said no but i think transferring to a different department. My masters would give me the advantage.

Not at my current employer

In educator positions would become available.

Small hospital with little/no room for advancement. It would be for personal fulfillment.

A Master's Degree would most definitely provide greater opportunities at my workplace. It would make me eligible for a director's position and possibly a Vice President position at some point.

On an education level or research

I would have to look for a hospital that would be able to have advancement for respiratory holding a masters degree.

Higher job opportunities are rare around my area (Fayetteville NC) and this area favors years of experience more than higher learning degrees. Until an RRT and BS degree is mandatory in our field I don't believe that further education is respected as it should be.

Pulmonary Rehab would greatly benefit as well.

Currently there is no difference in job descriptions at the place I work, but hopefully with more people advancing their career they will soon create a different job

Would a Masters Degree be rewarded in your workplace?

I feel that a master's degree would improve my earning potential by opening up other employment opportunities.

This is the big question

I am worried that it would not be since the current BSRT does not give us any increase.

No, Unfortunately, but maybe in time.

It's hard to say since no such position exists. You would be financially rewarded if you were promoted to a management position.

A masters degree that would place the RT in a provider/mid-level practitioner role would be associated with financial reward.

My institution doesn't not reward us for advanced degrees, however it does open doors to promotions and opportunities at other institutions.

Currently it is not

Should be.

When you have a true passion for respiratory care, the rewards in accomplishment and patient care seem to outweigh the money aspect in my opinion.

Only if it helps me to advance. I would probably not receive more money for the degree alone

I am not positive of this but would hope so

Hopefully, however at this time there is a possibility it will not. Most individuals in respiratory care planning to pursue a Master's degree are planning to get it in education or another area.

I think most workplaces would but it seems at mine the RT is a little undervalued. Hopefully, with the growing BSRT program the pathways to more advancements will open up.

Yes...only if positions were created for advancement....but No if I were to remain in my current role...the hospital system will need to recognize this level of education achieved and create positions...

Currently where I work advanced degrees are not recognized.

Absolutely not, at this point.
Not unless it lead to a promotion to a higher paid position. Otherwise, the pay scale would be the same.

In time they will be forced to become competitive in the healthcare work force.

Not real sure about doors to therthis one. Probably not the degree itself but it could open the door to other opportunities.

Unfortunately not.

I only answer no because my current position does not recognize individuals with higher degrees. I would have to obtain a high position in my department to realize any financial reward. A Masters Degree would help to achieve that higher position.

I wish it would! Along with my BSRT

I say yes, under the same circumstances as mentioned for the response in question 7.

I think definitely a Master's Degree would be financially rewarding in many places. My current position Respiratory and Nursing wages are pretty low compared to many other cities and states.

I will receive an increase in compensation for my first Master's degree. A second degree would not provide any additional monetary incentive.

No. Management's main concern is budget. Completing the BSRT program at UNCC did not earn a pay raise either.

If recognized in annual eval, could bump salary adjustment by a percent or two, but employer does not offer salary increase for advanced degree alone. May open door to additional consulting/adjunct opportunities.

Again, at another federal institute it would improve financial status.

Financially no. Only if outside of the respiratory department

I think it would be slightly rewarded but not nearly as much as a masters in nursing, just for an example

I don't think so. No increase in pay for BSRT

A Master's Degree would be financially rewarded at my current workplace if I have the opportunity to advance. It would not if I remain in my current position.

On an education level or research

Not in my area of living (Fayetteville NC) because after interviewing several places for a PRN job and asking questions about career advancement I hear the same thing from managers and directors which is we only pay for years of experience. Leaves me to believe that higher education AT THIS TIME in our field is not as respected as it should be. A degree is favored no more than years of experience.

What Advanced Degree have you completed or enrolled in?

I'm interested and have heard rumors that an advanced practice program may be coming to ECU which would allow me to attend without relocation.

I am pursuing a master's degree in adult education. Having pursued this degree would be the only reason that I would not consider a master's in respiratory care. This degree was not an alternative at the time I was seeking advanced degree options.

Master of Science in Respiratory Care will start august 2014

I have not...but I have looked into Informatics at UNCC...beyond the Baccalaureate level...

I am considering options such as bridging to a BSRN and going on to NP or CRNA or even PA

I am very excited to have a opportunity to have an advanced degree

I plan to do so.

I am one semester away from graduating with a Master's Degree in Adult Education and a Certificate in Community College Instruction.

I have plans to start the enrollment process for an Advanced Degree in 2015 after I complete the Baccalaureate Program I am currently enrolled in.

I have not yet decided to pursue a Master's. Nor have I decided what graduate program to pursue.

I am currently looking at MHA and MBA programs

I'm currently in the process of taking pre-requisites in order to obtain a msn

Masters of public health at Lenoir Rhyne

I have two Masters of Science in Computer Information Systems and Management of Information Systems (concentration in security).

I am looking at options available post my graduation date of 2015.

Advanced Degrees for Graduates?

Masters in Health Administration

Masters in Public Health
I am finishing the executive master program at Chapel Hill for MHA

I am not currently enrolled but will definitely enroll in a Master's Degree Program in the future. I would like it to be a Master's Degree Program in Respiratory Care.

Master's in Health Administration from Ohio University. Completely on-line courses covering a variety of current trends in heatlhcare. A very good course, but like many online courses, very expensive.

MBA w/ concentration in healthcare management; online at Liberty University

Currently enrolled. Looking to continue with Master's degree in Respiratory Therapy.

Master's Adult Education at ECU

Have considered Liberty University for masters in business admin to be able to further my career into upper level management

Masters Respiratory Care Leadership

Health informatics will provide another opportunity to impact patient care at a different angle than I am accustomed to as a clinician.

But if this gets started, I will be enrolled in this one :)

Master of Science in Respiratory Care will start august 2014

I want to take the first step to achieve my masters in business management. But I would love to get my masters in respiratory.

Master of Science in Respiratory Care Leadership.

Liberty University Masters in Substance Abuse Counseling. I will start in January.

I have been waiting and hoping for an opportunity like this!

Currently working on completing my RN degree and continuing my education through a Masters in Nursing program. If this program had been available I would have simply achieved my Masters in RT.

Master of Science, Respiratory Care, Rush University, Chicago, Illinois

Not advance degree program, but working on Asthma Educator Certification

Please see the response to question 9. I am on pace to graduate from East Carolina University in December of this year. Had a Master's Degree program in respiratory therapy been created prior, I would have heavily considered obtaining a Master's Degree in respiratory therapy over Education, but now I am a bit more well-rounded academically because of the degree in a different discipline.

Masters of Health Education at WCU

Please see above. I would like to be an independent practitioner, be it in respiratory or nursing. I am currently enrolled in the program.

But looking to take advanced credentials within the year.

I have not decided the best educational path at this time that will increase both my professional opportunities and my salary. When I entered the BSRT program, my initial goal was to enroll in a Physician's Assistant program after completion of the BSRT program. This type of program would increase my skills and professional opportunities, and increase my salary significantly. However, these programs do not allow students to work. As the head of my household, I need to work at least part time. It would be wonderful to have the option of a program that would allow me to practice at the level of a Physician's assistant, Nurse Practitioner, or higher.

In the process of enrolling with NorthEastern

A masters in MHA

Appendix 6:

UNC Charlotte BSRT Program Graduate Survey 2015

BSRT Program Graduate Survey 2015 (78 results)

Download Results (Excel, CSV)
Share Results
Cross Tabulate Questions
Response Info | View Incomplete Responses
Clear Responses

Filter: Showing all responses... Create New Filters

Aggregate Results | Question Results | Individual Results

Print This

1) Graph this question

The overall goal of the UNC Charlotte BSRT Program is as follows: *"To provide graduates of first-professional degree programs with additional knowledge, skills, and attributes necessary to meet their current professional goals and prepare them for future professional practice expectations for respiratory therapists."*

Please select your level of agreement with the following statement:

The UNC Charlotte Baccalaureate Program met its primary goal in my education.

Option	# Responses	Response %
Strongly Disagree	3	3.85%
Disagree	0	0.00%
Undecided	0	0.00%
Agree	9	11.54%
Strongly Agree	66	84.62%
0 skipped this question [View]	Total responses **78**	100.00%

2) The program prepared you to assume new or expanded roles in your professional career. Graph this question

Option	# Responses	Response %
Strongly Disagree	2	2.56%
Disagree	3	3.85%
Undecided	5	6.41%
Agree	17	21.79%
Strongly Agree	51	65.38%
0 skipped this question [View]	Total responses **78**	100.00%

3) The coursework in the BSRT Program expanded your depth and breadth on knowledge in Graph this question

critical care and made you a more valued contributor to the clinical critical care team.

Option	# Responses	Response %
Strongly Disagree	2	2.56%
Disagree	0	0.00%
Undecided	1	1.28%
Agree	14	17.95%
Strongly Agree	61	78.21%
0 skipped this question [View]	Total responses **78**	100.00%

4) The BSRT program curriculum helped you develop more effective written and oral communication skills. Graph this question

Option	# Responses	Response %
Strongly Disagree	1	1.30%
Disagree	2	2.60%
Undecided	1	1.30%
Agree	12	15.58%
Strongly Agree	61	79.22%
1 skipped this question [View]	Total responses **77**	98.72%

5) The program curriculum prepared you to effectively access, interpret, and critically appraise relevant medical and other authoritative literature. Graph this question

Option	# Responses	Response %
Strongly Disagree	2	2.60%
Disagree	0	0.00%
Undecided	1	1.30%
Agree	12	15.58%
Strongly Agree	62	80.52%
1 skipped this question [View]	Total responses **77**	98.72%

6) The program curriculum prepared you to develop an original project or research proposal related to clinical practice, administration, and education associated with the respiratory therapy profession. Graph this question

Option	# Responses	Response %
Strongly Disagree	2	2.56%
Disagree	0	0.00%
Undecided	1	1.28%
Agree	21	26.92%
Strongly Agree	54	69.23%
0 skipped this question [View]	Total responses **78**	100.00%

7) The program curriculum promoted cultural diversity and encouraged you to respect the beliefs and values of all persons, regardless of cultural background, religion, age, or lifestyle. Graph this question

Option	# Responses	Response %
Strongly Disagree	1	1.28%
Disagree	2	2.56%
Undecided	3	3.85%
Agree	22	28.21%
Strongly Agree	50	64.10%
0 skipped this question [View]	Total responses **78**	100.00%

8) I feel more confident in my ability to communicate orally and in written format as a result of my completion of the UNC Charlotte BSRT Program? Graph this question

Option	# Responses	Response %
Strongly Disagree	1	1.28%
Disagree	3	3.85%
Undecided	2	2.56%
Agree	16	20.51%
Strongly Agree	56	71.79%
0 skipped this question [View]	Total responses **78**	100.00%

9) The program curriculum prepared you to effectively interpret pertinent clinical information, and made you more confident in making recommendations for appropriate clinical care. Graph this question

Option	# Responses	Response %
Strongly Disagree	1	1.30%
Disagree	2	2.60%
Undecided	0	0.00%
Agree	16	20.78%
Strongly Agree	58	75.32%
1 skipped this question [View]	Total responses **77**	98.72%

10) Completion of the UNC Charlotte BSRT Program allowed me to advance in the profession. Graph this question

Option	# Responses	Response %
Strongly Disagree	3	3.90%
Disagree	8	10.39%
Undecided	14	18.18%
Agree	19	24.68%
Strongly Agree	33	42.86%
1 skipped this question [View]	Total responses **77**	98.72%

11) Completion of the UNC Charlotte has contributed to my advancement in the Respiratory Therapy Profession in the following way:

Graph this question

Check all that apply.

	Applies to Me	Total
I have not advanced my career since participation in the BSRT Program.	27 (100.00%)	27
I secured a position in a hospital or facility in a position I prefer.	21 (100.00%)	21
I was promoted to a supervisory or management role.	19 (100.00%)	19
I acquired a position as an educator.	17 (100.00%)	17
I am contributing to clinical research at my hospital.	10 (100.00%)	10
I was selected for an Advanced Clinical Role.	9 (100.00%)	9
I achieved an Advanced Credential (e.g ACCS, NPS, RPFT etc).	10 (100.00%)	10
Other form of career advancement (please note type in Comment box below).	11 (100.00%)	11
5 skipped this question [View] [View Comments (27)]	Total responses **73**	93.59%

12) Have you enrolled in a Masters's Degree Program?

Graph this question

Option	# Responses	Response %
Yes	19	24.36%
No	59	75.64%
0 skipped this question [View][View Comments (18)]	Total responses **78**	100.00%

13) Have you completed a Master's Degree Program?

Graph this question

Option	# Responses	Response %
Yes	4	5.19%
No	73	94.81%
1 skipped this question [View][View Comments (6)]	Total responses **77**	98.72%

14) Would you consider enrolling in an on-line Masters of Science in Respiratory Care Degree Program at UNC Charlotte?

Graph this question

Option	# Responses	Response %
Yes	62	80.52%
No	15	19.48%
1 skipped this question [View]	Total responses **77**	98.72%

15) Would you consider enrolling in an Advanced Practice Respiratory Therapist Program at UNC Charlotte that would require a year of site-specific clinical work? Graph this question

Option	# Responses	Response %
Yes	53	68.83%
No	24	31.17%
1 skipped this question [View]	Total responses **77**	98.72%

16) What was your estimated annual salary before entering the UNC Charlotte BSRT Program. Graph this question

Option	# Responses	Response %
Less than $50,000	31	39.74%
$50,000 to $60,000	27	34.62%
$60,000 to $70,000	14	17.95%
$70,000 to $80,000	5	6.41%
Greater than $80,000	1	1.28%
0 skipped this question [View]	Total responses **78**	100.00%

17) What is your estimated annual salary now? Graph this question

Option	# Responses	Response %
Less than $50,000	19	24.68%
$50,000 to $60,000	27	35.06%
$60,000 to $70,000	13	16.88%
$70,000 to $80,000	15	19.48%
Greater than $80,000	3	3.90%
1 skipped this question [View]	Total responses **77**	98.72%

18) Participation in the BSRT program encouraged you to engage in lifelong learning. Graph this question

Option	# Responses	Response %
Strongly Disagree	0	0.00%
Disagree	5	6.58%
Undecided	2	2.63%
Agree	24	31.58%
Strongly Agree	45	59.21%
2 skipped this question [View]	Total responses **76**	97.44%

19) I encourage my colleagues to enroll in the UNC Charlotte BSRT Program. Graph this question

Option	# Responses	Response %
Strongly Disagree	1	1.28%
Disagree	1	1.28%
Undecided	2	2.56%
Agree	13	16.67%
Strongly Agree	61	78.21%
0 skipped this question [View]	Total responses **78**	100.00%

20) Please comment on any suggestions you have for improvement of the UNC Charlotte BSRT Program.

Option	# Responses	Response %
Responded	31	39.74%
Did not respond	47	60.26%
47 skipped this question [View]	Total responses **31**	39.74%
[View Responses]		

Question Comments

Back to Results

Hide empty responses

11)

Please comment on specifics of your professional advancement as it applies.

Filter: Showing all comments...

Respondent	Comment
Response 1	
Response 2	In my manager role, I have assumed additional responsibilities, such as Co-Leads of the hospitals Safety Committee and Emergency Management for the facility.
Response 3	Active contributant in our Infection Control committee due to my Capstone project involvement with VAE and the continuance of the practices intigrated into our departemnt for ventilator patients.
Response 4	
Response 5	Ability to apply for greater advancement.
Response 6	My capstone project was "on boarding" process for the STICU. In other words, how to make it easier for new team mate to assimilate into the STICU. My capstone paper was used as the foundation for the current "on boarding" process for the respiratory department. Some changes were made to accommodate other units. I received KEAP award helping develop a new employee process at CMC-Main. My time in the BSRT program gave me the learning tools I needed to implement this. So I am very grateful for everything I learned in the BRST program.
Response 7	
Response 8	
Response 9	I am in a supervisory position currently but completion of my BSRT has made me eligible for advancement.
Response 10	
Response 11	
Response 12	I hold a Lead Practitioner position. BSRT is highly preferred.
Response 13	Since graduation I had taken and passed my ACCS exam and currently working on my NPS. I also have taken a supervisor job in a level one trauma center in NC.
Response 14	I completed graduate school at UNC-Chapel Hill with a MHA and have advanced to a quality position improving our EHR.
Response 15	
Response 16	

Response 17	
Response 18	Became a lead at my current job
Response 19	The BSRT enabled me to assume the role of a Clinical Education Coordinator (that required a Master's degree). I have since completed my MS; however, I would not have been able to take the role unless I had a BS.
Response 20	The advancement in my career question is subjective. While I have not taken a different role, I feel that I have advanced in many ways. The education that I received has improved my ability to care for my pt's as well as mentoring other RTs.
Response 21	CHS is now requiring all middle management positions to obtain a Masters Degree in Business management in order to keep their position or advance. This is something I need in order to advance my career!
Response 22	
Response 23	I was promptly recruited to a competing hospital after graduation and rapidly promoted to Clinical Education Coordinator. I am enjoying this position very much, and the added responsibilities I have been given.
Response 24	
Response 25	
Response 26	
Response 27	
Response 28	
Response 29	
Response 30	
Response 31	
Response 32	Promoted to Program Director of respiratory program
Response 33	
Response 34	
Response 35	I now have the ability to proceed to a Master's program to further my career.
Response 36	Support Manager for Clinical Informatics
Response 37	
Response 38	
Response 39	
Response 40	Obtained NPS Credential. Was hired at Mission where I had been trying to get hired since graduating the AAS program. Also, I was hired as clinical coordinator for Southwestern Community College as a sole result of my BSRT education. Additionally, I was elected to serve on the NCSRC as a board member representing the Western District of North Carolina.
Response 41	Completed my career ladder level III
Response 42	
Response 43	
Response 44	
Response 45	I secured a position as an education coordinator with emergency services at Carolinas HealthCare System. Without the BSRT program...I don't believe this would have been possible.

	The BSRT program at UNCC helped prepare me to be an active participant in collaborating clinical knowledge in an interdisciplinary setting.
Response 46	
Response 47	I was offered and accepted a Clinical Research Coordinators Role at Duke University Medical Center
Response 48	
Response 49	
Response 50	
Response 51	
Response 52	Goal of ACCS this fall. No clinical advancement available at my facility.
Response 53	
Response 54	
Response 55	
Response 56	
Response 57	
Response 58	Went on to pursue my MPH
Response 59	
Response 60	
Response 61	Im not currently working due to the fact I have moved to Canada and going through their licensure process. I have no doubt that my BSRT will help me with my future career here in Canada.
Response 62	
Response 63	
Response 64	
Response 65	PLAN TO CONTINUE EDUCATION AT HIGHER LEVEL
Response 66	2 years after graduating I was promoted to a supervisory role in my dept.
Response 67	
Response 68	
Response 69	
Response 70	
Response 71	
Response 72	I received a promotion to Lead therapist in my department.
Response 73	
Response 74	
Response 75	
Response 76	
Response 77	I have not advanced in my career since graduation. However, being a graduate of the BSRT program at UNCC has opened the door to opportunities that I have applied for, where I would not have been eligible previously.

Response 78	

Individual Responses

Back to results

Filter: Showing all results...

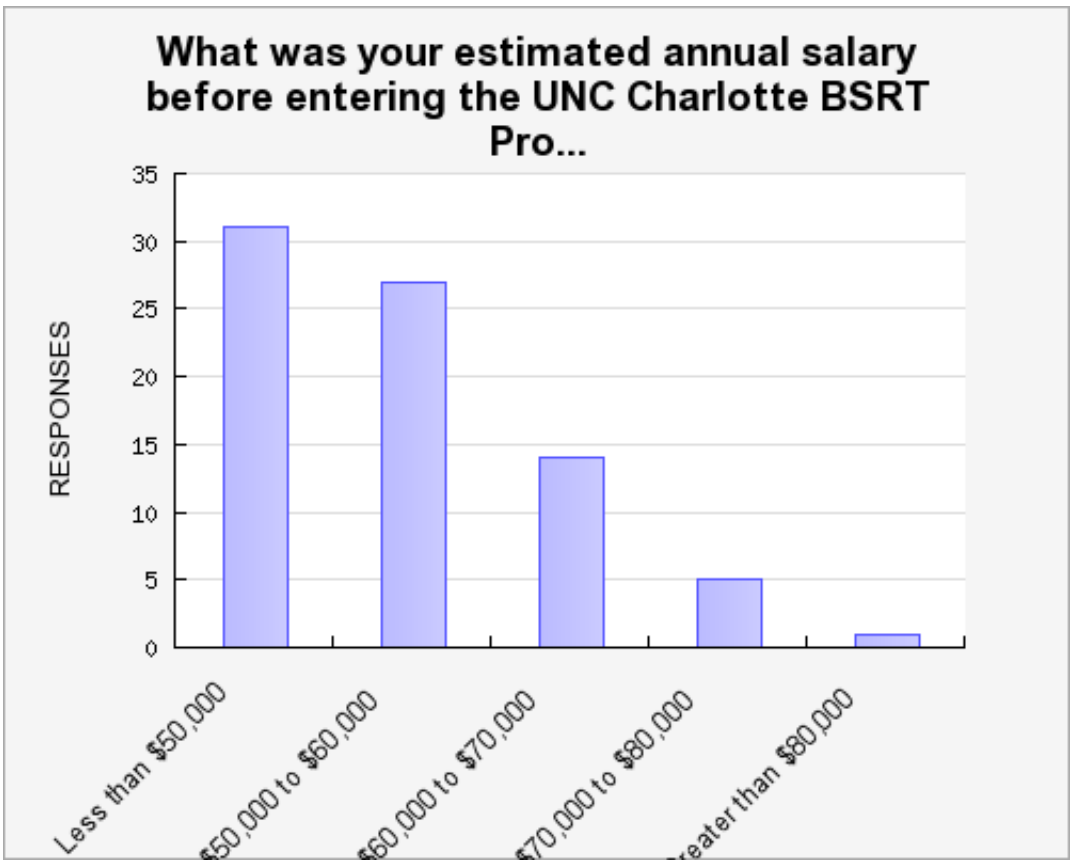
20) Please comment on any suggestions you have for improvement of the UNC Charlotte BSRT Program.

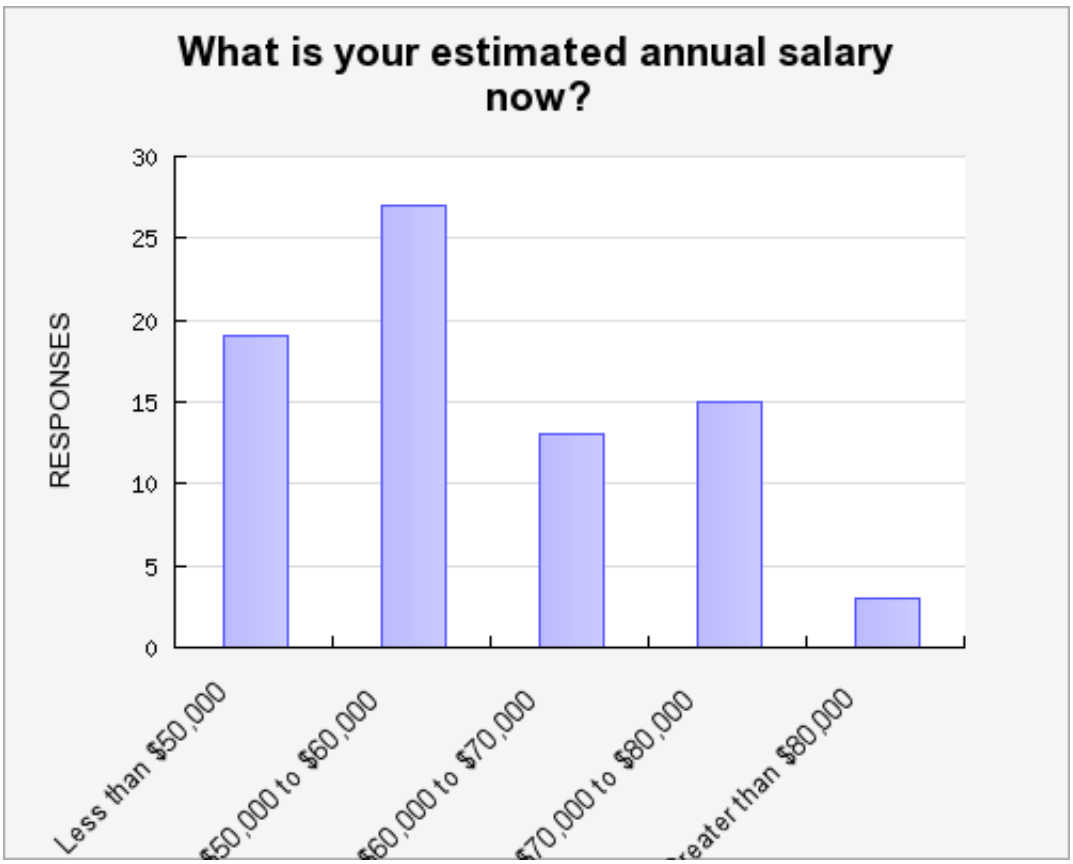
Response 1	Great program that encourages Respiratory Therapist to continue to pursue many opportunities as an RT. The support from Dr. Coyle was great. He is an asset to the world of respiratory therapy.
Response 2	
Response 3	
Response 4	N/A
Response 5	I graduated in 2013. I loved the program and referred many from Mission Health. We are developing a clinical ladder which education is one facet of the ladder.
Response 6	
Response 7	
Response 8	This is a wonderful program and takes your learning as a Respiratory Therapist to the next level. I learned so much during the program and look forward for the potential of a masters program.
Response 9	I would have enjoyed spending more time in pharmacology and pathophysiology. I appreciated instruction which was immediately applicable to my practice.
Response 10	
Response 11	During my time as a student in the BSRT program I didnt find anything that needed to be improved. The teachers were great with answering questions and the online system was easy to navigate through.
Response 12	I continue to encourage my co-workers and students to enroll in this program. I am interested in advanced practitioner and would love to work along with pulmonary or an ENT group.
Response 13	Most of the program focuses on adult care. I think some more new/peds cardiopulmonary would make a more rounded advanced RCP.
Response 14	I would like to help develop a respiratory informatics and quality course for the program.
Response 15	
Response 16	
Response 17	
Response 18	I would love to see a BSRT to a PA specializing in critical care.
Response 19	Please continue the efforts toward the on-line Master of Science in Respiratory Care degree. In my opinion, there are many practitioners simply waiting on this level of degree to be accessible. Kudos to all of the faculty at UNC-C for leading the way in RC education!!
Response 20	

Response 21	No improvements needed for the BSRT program. I hope that a masters degree program is strongly considered! Most of us taking this survey will need a Masters Degree to continue to further our positions into Leadership/Management.
Response 22	
Response 23	I enjoyed the program. It was well managed and I got so much more out of it than I expected. Dr. Coyle was always easily accessible and extremely generous. I just can't say enough good things about this program. The only reason I would not consider a Master's program would be the expense of again paying out of state tuition and not being able to earn back the money I would have to put into it at this stage in my career.
Response 24	
Response 25	
Response 26	
Response 27	
Response 28	
Response 29	
Response 30	
Response 31	
Response 32	
Response 33	
Response 34	
Response 35	It is a fantastic program. One of the best decisions I ever made. Thank you Dr. Coyle!
Response 36	Dr. Coyle has not only given the confidence about my Respiratory profession, he has encouraged me to continue with my education. He also instilled in our class to continue to learn in our profession and pursue any goals/dreams. I can never thank Dr. Coyle and UNCC enough for helping me achieve my goal.
Response 37	
Response 38	The only suggestion that I would have is for the text books to be included in the tuition cost.
Response 39	
Response 40	I look forward to the MSRT program. Both Samantha and I have talked about the program and would both enroll in the first class that it is offered. Thank you for everything. Your program literally changed my life. I do not say that lightly, but it did. It changed my life and I will be forever be grateful. W. Brent Holland, BSRT, RRT-NPS
Response 41	
Response 42	
Response 43	
Response 44	Add neonatal applications
Response 45	Great program...great professors and instructors...Dr. Coyle is a true leader and pioneer for the program...I have no recommendations....
	I think it is a well organized operation and runs very smoothly. A previous experience I had with an on line program was quite the opposite. The expectations of the students responsibilities is clear and professor response time to student communications is very expedient. I enjoyed my

Response 46	learning experience at UNC Charlotte and would not hesitate to recommend the program to anyone considering taking it. I am considering taking the Masters program if it becomes available.
Response 47	The online BSRT Program at UNC Charlotte was exactly what I was hoping for. After receiving my BSRT, I was able to achieve my goals and advance my career. The Clinical Associate Professors (specifically Joseph Coyle) was extremely helpful throughout the process. I would highly recommend this and any other RT program to all my colleagues.
Response 48	
Response 49	
Response 50	The BSRT program is solid. I enjoyed my time there as a student. It would be great to see the MSRT program and APRT program become approved.
Response 51	Great program, it allowed me to improve upon myself as a healthcare provider and as a professional.
Response 52	
Response 53	
Response 54	
Response 55	In my opinion this program was perfect for a working adult student. Thank you!
Response 56	
Response 57	
Response 58	
Response 59	
Response 60	
Response 61	
Response 62	
Response 63	None
Response 64	
Response 65	PROBABLY HARD TO DO BECAUSE OF STUDENT POPLULATION (WORKING FULL TIME) BUT I WOULD HAVE LIKED MORE SYNCHRONIZED ON-LINE TEACHING SESSIONS TOGETHER. ALSO I THINK WOULD HAVE BEEN HELFUL TO HAVE CLASS ON INTERNET USAGE - GOOGLE GROUPS, WEBPAGE, TEMPLATES, RESUME HELPS, ETC
Response 66	
Response 67	
Response 68	NA
Response 69	
Response 70	
Response 71	
Response 72	I would have enrolled in the Master's program at UNC Charlotte if it were available at this time.
Response 73	Na
Response 74	
Response 75	Great program!

Response 76	
Response 77	I have to say that I can not think of any improvements for the UNC Charlotte BSRT progam. The program is very well designed, in order to accomodate the average working adult.It is obvious how dedicated that the faculty and staff work to ensure the success of each of the students. My experience in the UNCC BSRT program has encouraged me to continue my education even further in a Master's Degree program.I currently haven't decided the best route to take at this time.
Response 78	


What was your estimated annual salary before entering the UNC Charlotte BSRT Pro...
RESPONSES
35
30
25
20
15
10
5
0
Less than $50,000
$50,000 to $60,000
$60,000 to $70,000
$70,000 to $80,000
Greater than $80,000


What is your estimated annual salary now?
RESPONSES
30
25
20
15
10
5
0
Less than $50,000
$50,000 to $60,000
$60,000 to $70,000
$70,000 to $80,000
Greater than $80,000

Appendix 7:

Survey of Managers of Respiratory Care Departments in North Carolina

Survey Of Managers of Respiratory Care Departments in NC re: MSRC

A survey was sent by e-mail to managers of large Respiratory Care Departments in North Carolina in August of 2014 regarding the need for a Master's Program in Respiratory Care in North Carolina. Twelve managers responded. Ten managers were in favor of starting a program; one was unsure and one was against the idea. Some of their comments are quoted below.

Questions:

1. Would you favor the formation of a Master's Degree Program in Respiratory Therapy in North Carolina that educated students in management, education, research and advanced clinical practice?

2. Would a Master's educated Respiratory Therapist be a valuable addition to your workforce?

3. Would achieving a Master's Degree in Respiratory Therapy make a Therapist more valuable as an employee?

4. Would a Master's level Therapist receive an increment in pay?

5. Could having Master's level therapists on staff increase the scope of services your department offers?

Results:

12 responded.
Question 1: 10 favor, 1 unsure, 1 no
Question 2: 10 say yes, 1 unsure, 1 no
Question 3: 10 say yes, 1 unsure, 1 no
Question 4: Mixed results; most think they would eventually. 3 clear yes, 2 clear no
Question 5: 8 yes, 3 unsure, 1 no

Comments:

◆ In order to continue to grow our profession, it only makes sense to offer a Master's Degree Program in Respiratory Therapy. As we continue to focus more on health and wellness initiatives, the need for highly trained therapists is essential to our success.

Anita Doster, MBA, RRT, RCP
Director, Respiratory Care
CMC-Union/CMC-Waxhaw
Carolinas HealthCare System
704-993-3271

◆ Would not favor a Master degree program. I would favor a Master degree program if it was directed at managing healthcare programs that include Respiratory Therapy and

they already exist. I think I will be in the minority.

John Paschal, RRT, RCP
Director of Cardiopulmonary Services
Central Carolina Hospital
1135 Carthage Street
Sanford, NC 27330
Tel: 919.774.2100, ext. 2390
Email: john.paschal@tenethealth.com

◆ ***Yes as the clinical expert in managing mechanically ventilated patients, involvement in research and just moving up the corporate ladder requires a master's degree. I envision a program like to this to fill up in no time; just as the BSRT did. This is long overdue***

Kathy Short, RRT, RN, FAARC
Director, Respiratory Care, ECMO and Pulmonary Diagnostics
UNC Hospitals
Chapel Hill, NC 27514
(919)-966-1336

◆ In short, I think this program is critically important to our demonstrating our value and expanding our reach into disease management, research, departmental/service line management, and education. My responses are posted with regard to each question you posed below. Please don't hesitate to give me a call to discuss.

Garry W. Kauffman, MPA, FACHE, RRT, FAARC
Director, Respiratory Care Services
Wake Forest Baptist Medical Center
gkauffma@wakehealth.edu
http://www.wakehealth.edu
Office: 336 713 2906
"We provide and advance excellent healthcare, embracing the healing presence of God."

Wake Forest Baptist Health

◆ I am happy that you are looking into this as our profession grows. We need a champion such as yourself to continue to grow the field of respiratory care. I have placed my comments below. Please let me know if I can ever be of any assistance.
A master's prepared respiratory therapist helps them understand the continuous needs of the profession while have the tools to find solutions to those problems.

Matthew S. Pavlichko, MS, RRT-NPS, RCP
Director, Cardiopulmonary Services
Levine Children's Hospital - Respiratory
Carolinas HealthCare System

◆ My heart is in total agreement and I support the clinical (PA) type program. I do believe the Masters prepared RCP would add to our professional growth. The management, education, research, and clinical practice tracks would add value. My suggestion is to strive for the clinical physician extender, and research type tracks first.

Charles Bangley
Respiratory Care Department Manager
Vidant Medical Center, ECU
Greenville, NC 27835

◆ Yes, the Associate Degree programs do not have the time to focus on the categories listed above, and most BS Programs do not have the ability to spend the "right amount of time" on them. Management and Education topics are basis essentials for leadership in our profession. Research by respiratory therapists is historically limited and as such, there is not enough scientific data to support a large majority of what we do as professionals. Advanced Practice is the logical next step for our profession.
Yes, it would better position therapists to become leaders in our profession, and provide them with the abilities to become more effective managers. Yes, in areas such as COPD or Asthma "navigators", case management/discharge planning, and possibly critical care consultants on some of the more difficult ICU patients. I also see this person being potentially hired by physicians to work within their office practice.

Garry Dukes, BS, RCP, RRT, FAARC
Business Operations Supervisor
CMC-NE, Respiratory Care Department
Carolinas HealthCare System
O: 704-403-4528
F: 704-403-1095

◆ I am in favor of such a program.
They would bring additional value to my workforce, more so, if they are recognized by the respective state boards as a higher functioning practitioner.

Christopher J. Meredith BS, RRT, RCP
Administrative Director
Respiratory Care Services,
Neurodiagnostics, an
Lung Nodule Clinic
Cape Fear Valley Health

◆ We are very pleased with the bachelors program students/graduates from the UNCC program we currently employ. They are raising the bar for all CarolinaEast RT staff. I would expect that would also be true for UNCC Masters level grads.

Chuck Kimball, MBA, RRT
Respiratory Services Manager

CarolinaEast Medical Center
2000 Neuse Blvd.
New Bern, NC 28560
252-633-8607

◆ Thank you for reaching out to me on this.
I support the APRT program- the vision is clear and I can see an APRT adding value to a physician's practice or in the hospital setting. I expect that the clinical rotations would be as intense as other mid-level provider programs- there will be a lot to prove with the first wave of graduates!
I have taken these two days to think about the MSRC program. I agree with you that this program will not be for everyone and it may not be "competitive/attractive enough" to someone considering an MBA/MHA. However, I do like the focus on education and research with the MSRC and can see that aligning with the APRT in some fashion.
Natasha Tyson
Carolinas Healthcare System

◆ This is the million dollar question. The greatest competition for respiratory therapists currently is the nurse practitioners and the PA's. As their numbers have grown as providers in the hospital the number of intubations and arterial line insertions etc. have decreased dramatically for the Duke RTs. I see this trend growing.I believe that a Master's program that can carve out a clinical niche that is similar would be welcome. Something like a respiratory PA.The pay and recognition part is a major problem. Currently if I have a RT with a BS degree I can give them one additional year of experience on the salary scale. With a master's I can give them 2 years of experience. This works out to a whopping .61 cents more per hour than an associate degree RT. Over the past 2 years I have hired 2 graduates from the master's degree program thru Rush. They both left after 1 year to go into teaching and research. It makes sense that someone with the commitment and enthusiasm to get a master's degree is not going to have long term job satisfaction performing routine RT procedures. They will want more autonomy and complexity in their jobs. Obviously I don't have an answer. The degree may give us more leadership options outside of the hospital setting.

Janice J Thalman, MHS-CL, RCP, FAARC, Director, Respiratory Care Services, Duke Hospital

◆ **I think it would be valuable to have a Master's Degree Program in NC.**
Kerry Lamb, RRT, MBA
Director Respiratory Care and Neurodiagnostics Lab
New Hanover Regional Medical Center

Appendix 8:

Letter of Support
William L. Croft, Executive Director, North Carolina Respiratory Care Board

Dr. Joe Coyle,

As you know, the Respiratory Care profession spent several years studying the future trends in the profession. In fact, the American Association for Respiratory Care established a task force in late 2007 to identify likely new roles and responsibilities of respiratory therapists (RTs) in the year 2015 and beyond. A series of three conferences was held between 2008 and 2010. The results of this study revealed that respiratory therapists are expected to participate in the development, modification and evaluation of care plans, protocol administration, disease management and patient education. Furthermore, respiratory therapists are expected to assess and quantify their patient's cardiopulmonary status, to provide appropriate respiratory care by applying patient care protocols, and to evaluate the medical and cost effectiveness of their care.

Critical thinking, decision-making, and competence to perform these responsibilities have become expected of most therapists, and many roles of the advanced therapist have become expected at entry-level. In fact, the continued growth and development of the profession requires that every respiratory therapist demonstrate an advanced level of critical thinking, assessment and problem solving skills. These skills are essential in today's health care environment not only to improve the quality of care, but also to reduce inappropriate care and thereby reduce costs. In fact, a highly trained respiratory care practitioner with a master degree could be used to fill the needs in education, management, and research, but they can help in the oncoming shortage of physician extenders such as physician assistants and nurse practitioners.

Consider the findings by the Rand Corporation published in the November issue of *Health Affairs.* Their study results propose that the expected shortage of physicians could be alleviated through expanding patient-centered healthcare settings (staffed by a team of healthcare professionals) and the roles of physician assistants and nurse practitioners. Respiratory therapists trained at the same degree level as PA's and NP's could help alleviate the oncoming shortage of primary care providers that is expected from the Patient Protection and Affordable Care Act's mandate to help 32 million Americans obtain health insurance by the year 2019. This potentially adds 32 million new individuals to the current health care system according the Association of American Medical Colleges. Forecasts reveal that as more and more Americans become insured and seek healthcare, physician shortage could soar as high as 45,000 doctors by the year 2025.

Since the completion of the AARC and Rand studies, evidence based practice, higher acuity patients, and increased technological advances in procedures and equipment have all continued to expand. It has become clear that we need to educate our future workforce in skills beyond those currently being included in an associate and baccalaureate degree levels. Therefore, a graduate program is needed to train respiratory professionals as licensed physician extenders with highly sophisticated skills in the respiratory field. As an educator for the twenty years, I envision a graduate program in respiratory care that focuses on the advances the science and practice of respiratory care by; increasing

knowledge within the discipline with an emphasis critical thinking and problem solving skills; providing a link between the sciences, research and best practice determinations; providing for interdisciplinary collaboration and research while focusing on interactions with other healthcare professionals; and training future faculty for the profession.

Thank you for your continued support of the respiratory care community. I will be glad to assist you in any way possible with your continuing efforts to improve the practice of respiratory care in this state by offering a master degree in respiratory therapy to develop physician extenders with specialized skills. You have my full support in this matter as the Executive Director of the NC Respiratory Care Board.

Sincerely,

William L. Croft, PhD, RRT, RCP
Executive Director
The North Carolina Respiratory Care Board
1100 Navaho Drive, Suite 242
Raleigh, North Carolina 27609
Phone: (919) 878-5595
Fax: (919) 878-5565
E-mail: bcroft@ncrcb.org

Appendix 9:

Occupational Profile for Respiratory Therapists in North Carolina

Occupational Profile for Respiratory Therapists in North Carolina.

Respiratory Therapists - Assess, treat, and care for patients with breathing disorders. Assume primary responsibility for all respiratory care modalities, including the supervision of respiratory therapy technicians. Initiate and conduct therapeutic procedures; maintain patient records; and select, assemble, check, and operate equipment.

Respiratory therapists care for patients who have trouble breathing—for example, from a chronic respiratory disease, such as asthma or emphysema. Their patients range from premature infants with undeveloped lungs to elderly patients who have diseased lungs. They also provide emergency care to patients suffering from heart attacks, drowning, or shock.

Respiratory therapists held about 119,300 jobs in 2012. Most respiratory therapists work in hospitals. Others may work in nursing care facilities or travel to patients' homes.

Respiratory therapists typically need an associate's degree, but some have bachelor's degrees. Respiratory therapists are licensed in all states except Alaska; requirements vary by state.

The median annual wage for respiratory therapists was $55,870 in May 2012.

Employment of respiratory therapists is projected to grow 19 percent from 2012 to 2022, faster than the average for all occupations. Growth in the middle-aged and elderly population will lead to an increased incidence of respiratory conditions such as emphysema, chronic bronchitis, and pneumonia. These respiratory disorders can permanently damage the lungs or restrict lung function.

Compare the job duties, education, job growth, and pay of respiratory therapists with similar occupations.

Learn more about respiratory therapists by visiting additional resources, including O*NET, a source on key characteristics of workers and occupations.

There were 98 job openings advertised online in North Carolina for Respiratory Therapists on September 30, 2014. There are also 14,217 job openings advertised online for the related occupation group of Healthcare Practitioners and Technical Occupations in North Carolina on September 30, 2014.(Jobs De-duplication Level 1).

There were 193 job openings advertised online in North Carolina for Respiratory Therapists in September 30, 2014(Jobs De-duplication Level 2).

The counties with the highest number of job openings advertised online in North Carolina for Respiratory Therapists on September 30, 2014 are Mecklenburg County(24), Cabarrus County(12), Anson County(7), Durham County (7), Buncombe County (6), Union County(6), Forsyth County (4), Haywood County (3), Iredell County (3), and Surry County (3) (Jobs De-duplication Level 1).

The following is a list of occupations related to Respiratory Therapists and the number of job openings advertised online for them in North Carolina on September 30, 2014; Registered Nurses(4,272)(*O*NET), Licensed Practical and Licensed Vocational Nurses(1,221)(*O*NET), Occupational Therapists(1,211)(*SOC4), Physical Therapists(881)(*SOC4), Medical Assistants(330)(*O*NET), Physical Therapist Assistants(251)(*O*NET), Surgical Technologists(123)(*O*NET), Respiratory Therapists(98)(*N/A), Radiologic Technologists(94)(*O*NET), Emergency Medical Technicians and Paramedics(73)(*O*NET), Diagnostic Medical Sonographers(59)(*O*NET), Dental Assistants(46)(*O*NET), Dietetic Technicians(38)(*O*NET), Acute Care Nurses(24)(*O*NET),

Radiation Therapists(19)(*O*NET), Neurodiagnostic Technologists(18)(*O*NET), Cardiovascular Technologists and Technicians(16)(*O*NET), Recreational Therapists(10)(*SOC4), Respiratory Therapy Technicians(9)(*O*NET), Occupational Health and Safety Technicians(5)(*O*NET), Medical Appliance Technicians(4)(*O*NET), Radiologic Technicians(3)(*O*NET) , and Low Vision Therapists, Orientation and Mobility Specialists, and Vision Rehabilitation Therapists(1)(*SOC4) (Jobs De-duplication Level 1).

There were 28 potential candidates in the workforce system that were looking for work as Respiratory Therapists in North Carolina. There were also 2,826 potential candidates in the workforce system that were looking work for in the related occupation group of Healthcare Practitioners and Technical Occupations in North Carolina.

The counties in North Carolina where the highest potential candidates in the workforce system were looking for work as Respiratory Therapists were Wake County, North Carolina (6), Catawba County, North Carolina (5), Mecklenburg County, North Carolina (5), Wilson County, North Carolina (4), Caldwell County, North Carolina (4), Lincoln County, North Carolina (4), Cleveland County, North Carolina (3), Cumberland County, North Carolina (3), Alexander County, North Carolina (3), and Burke County, North Carolina (3) . There are 5 candidates who stated they would work anywhere in the state.

The following is a list of occupations related to Respiratory Therapists and how many candidates in the workforce system were looking for work in that occupation in North Carolina; Medical Assistants (766)(*O*NET), Registered Nurses (393)(*O*NET), Licensed Practical and Licensed Vocational Nurses (314)(*O*NET), Dental Assistants (185)(*O*NET), Emergency Medical Technicians and Paramedics (147)(*O*NET), Surgical Technologists (54)(*O*NET), Radiologic Technologists (44)(*O*NET), Acute Care Nurses (32)(*O*NET), Cardiovascular Technologists and Technicians (29)(*O*NET), Respiratory Therapists (28)(*N/A), Recreational Therapists (23)(*SOC4), Physical Therapist Assistants (21)(*O*NET), Radiologic Technicians (19)(*O*NET), Diagnostic Medical Sonographers (18)(*O*NET), Dietetic Technicians (18)(*O*NET), Occupational Health and Safety Technicians (16)(*O*NET), Occupational Therapists (6)(*SOC4), Medical Appliance Technicians (6)(*O*NET), Physical Therapists (5)(*SOC4), Therapists, All Other (4)(*SOC4), Low Vision Therapists, Orientation and Mobility Specialists, and Vision Rehabilitation Therapists (3)(*SOC4), Radiation Therapists (3)(*O*NET), Respiratory Therapy Technicians (2)(*O*NET) , and Neurodiagnostic Technologists (1)(*O*NET).

There were 28 potential candidates in the workforce system that were looking for work as in Respiratory Therapists. There were also North Carolina job openings advertised online for in Respiratory Therapists on 98. This indicates that there were September 30, 2014 potential candidates per job advertised online.(Jobs De-duplication Level 1).

The counties in North Carolina with the lowest number of potential candidates in the workforce system for each job opening advertised online for Respiratory Therapists in North Carolina on September 30, 2014 are; Mecklenburg County, North Carolina (.42) , Cabarrus County, North Carolina (.58) , Anson County, North Carolina (.86) , Buncombe County, North Carolina (1) , Union County, North Carolina (1) , Durham County, North Carolina (1) , Haywood County, North Carolina (2) , Iredell County, North Carolina (2.67) , Orange County, North Carolina (3) , Sampson County, North Carolina (3) (Jobs De-duplication Level 1).

The following is a list of occupations related to Respiratory Therapists and how many candidates in the workforce system were looking for work in that occupation in North Carolina and how many jobs were available in that occupation; Medical Assistants (Candidates: 766 - Jobs: 330 - O*NET), Registered Nurses (Candidates: 393 - Jobs: 4,272 - O*NET), Licensed Practical and Licensed Vocational Nurses (Candidates: 314 - Jobs: 1,221 - O*NET), Dental Assistants (Candidates: 185 - Jobs: 46 - O*NET), Emergency Medical Technicians and Paramedics (Candidates: 147 - Jobs: 73 - O*NET), Surgical Technologists (Candidates: 54 - Jobs: 123 - O*NET), Radiologic Technologists (Candidates: 44 - Jobs: 94 - O*NET), Acute Care Nurses (Candidates: 32 - Jobs: 24 - O*NET),

Cardiovascular Technologists and Technicians (Candidates: 29 - Jobs: 16 - O*NET), Respiratory Therapists (Candidates: 28 - Jobs: 98 - N/A), Recreational Therapists (Candidates: 23 - Jobs: 10 - SOC4), Physical Therapist Assistants (Candidates: 21 - Jobs: 251 - O*NET), Radiologic Technicians (Candidates: 19 - Jobs: 3 - O*NET), Diagnostic Medical Sonographers (Candidates: 18 - Jobs: 59 - O*NET), Dietetic Technicians (Candidates: 18 - Jobs: 38 - O*NET), Occupational Health and Safety Technicians (Candidates: 16 - Jobs: 5 - O*NET), Occupational Therapists (Candidates: 6 - Jobs: 1,211 - SOC4), Medical Appliance Technicians (Candidates: 6 - Jobs: 4 - O*NET), Physical Therapists (Candidates: 5 - Jobs: 881 - SOC4), Radiation Therapists (Candidates: 3 - Jobs: 19 - O*NET), Low Vision Therapists, Orientation and Mobility Specialists, and Vision Rehabilitation Therapists (Candidates: 3 - Jobs: 1 - SOC4), Respiratory Therapy Technicians (Candidates: 2 - Jobs: 9 - O*NET), and Neurodiagnostic Technologists (Candidates: 1 - Jobs: 18 - O*NET) (Jobs De-duplication Level 1).

There is no data available for North Carolina.

The most common minimum education requirement on job openings advertised online for Respiratory Therapists in North Carolina on September 30, 2014 is a Vocational School Certificate with 39.13% of the total specified. The second most common requirement is a Bachelor's Degree with 39.13% of the total specified. (Jobs De-duplication Level 1).

The most common education level of potential candidates in the workforce system that are looking for work as Respiratory Therapists in North Carolina on September 30, 2014 is a High School Diploma or Equivalent with 3.57% of the total specified. The second most common level is a 1 to 3 Years at College or a Technical or Vocational School with 7.14% of the total specified.

The most common minimum experience requirement on job openings advertised online for Respiratory Therapists in North Carolina on September 30, 2014 is More than 10 Years with 80% of the total specified. (Jobs De-duplication Level 1).

The most common experience level of potential candidates in the workforce system that are looking for work as Respiratory Therapists in North Carolina on September 30, 2014 is More than 10 Years with 64.29% of the total specified. The second most common level is 5 Years to 10 Years with 21.43% of the total specified.

The most recent State Occupational Employment Statistics (OES) survey estimates that the Median hourly wage for Respiratory Therapists in North Carolina, in 2013 was 25.20. The Median annual wage or salary was $52,580.

An analysis of 527 the number of job openings advertised online for the related occupational group of Healthcare Practitioners and Technical Occupations (no data available for Respiratory Therapists) in North Carolina that posted a wage indicated that the median posted hourly wage was 30.60 on September 30, 2014. The median annual wage or salary was $63,648 per year.

The most common desired salary of potential candidates in the workforce system that are looking for work as Respiratory Therapists in North Carolina on September 30, 2014 is $35,000 - $49,999 with 33.33% of the total specified. The second most common level is a $50,000 - $64,999 with 29.63% of the total specified.

The counties in North Carolina with the highest 2013 Median Annual Wage for individuals employed as Respiratory Therapists were Carteret County (59,190), Onslow County (55,625), Guilford County (55,101), Catawba County (54,274), Mecklenburg County (52,908), Lenoir County (51,660), New Hanover County (51,463), Forsyth County (50,716), Craven County (50,478), and Lee County (50,074).

The following is a list of occupations related to Respiratory Therapists and their 2013 Median Annual Wage in North Carolina; Acute Care Nurses ($58,490), Cardiovascular Technologists and Technicians ($61,240), Dental Assistants ($36,620), Diagnostic Medical Sonographers ($63,420), Dietetic Technicians ($25,500), Emergency Medical Technicians and Paramedics ($31,130),

Licensed Practical and Licensed Vocational Nurses ($41,530), Low Vision Therapists, Orientation and Mobility Specialists, and Vision Rehabilitation Therapists ($76,230), Medical Appliance Technicians ($42,300), Medical Assistants ($28,860), Neurodiagnostic Technologists ($34,920), Occupational Health and Safety Technicians ($45,860), Occupational Therapists ($76,230), Physical Therapist Assistants ($55,300), Physical Therapists ($78,650), Radiation Therapists ($73,840), Radiologic Technicians ($34,920), Radiologic Technologists ($52,690), Recreational Therapists ($43,190), Registered Nurses ($58,490), Respiratory Therapy Technicians ($41,110), Surgical Technologists ($38,130), Therapists, All Other ($40,570), and Respiratory Therapists ($52,580).

The following is a list of 2011 Median Annual Wage for Respiratory Therapists in North Carolina by industry. Consumer Goods Rental ($40,932), Employment Services ($53,110), General Medical and Surgical Hospitals ($51,750), Health and Personal Care Stores ($49,719), Home Health Care Services ($47,880), Nursing Care Facilities (Skilled Nursing Faci ($48,896), Offices of Other Health Practitioners (Confidential), Offices of Physicians ($48,520), Outpatient Care Centers (Confidential), Professional and Commercial Equipment and Sup ($46,949), Residential Intellectual and Developmental Di (Confidential), and Specialty (except Psychiatric and Substance A ($54,038).

The estimated number of Respiratory Therapists employed in North Carolina in 2010 was 3,270. It is projected that in 2020 there will be 3,950. This represents an annual average growth rate of 1.9% percent, faster than the percent growth rate for all occupations in North Carolina.

There is no distribution data available for Respiratory Therapists by workforce area.

There is no data available for North Carolina.

Growth plus replacement needs for Respiratory Therapists in North Carolina are estimated to average about 130 openings per year from 2010-2020. Of these estimated 130 openings per year, 54% percent are due to growth (new positions) and 46% percent are due to replacements (workers leaving this occupation). This compares with all occupations in North Carolina where 34% percent of annual openings are due to growth (new positions) and 66% percent of annual openings are due to replacements (workers leaving this occupation). These figures do not take into account how many workers will be competing for these openings.

There is no distribution data available for Respiratory Therapists by workforce area.

There is no data available for North Carolina.

The industry with the highest estimated employment for Respiratory Therapists in North Carolina for 2010 was Industry Group (3 digit) Hospitals with 89.3% percent of the total employment. The next largest industry for this occupation was Industry Group (3 digit) Ambulatory Health Care Services with 2% percent of the total employment. The third largest was Industry Group (3 digit) Health and Personal Care Stores with 1.6% percent of the total employment.

Appendix 10:

SACSCOC Faculty Credentials Guidelines

Southern Association of Colleges and Schools
Commission on Colleges
1866 Southern Lane
Decatur, Georgia 30033-4097

FACULTY CREDENTIALS

- Guidelines -

Comprehensive Standard 3.7.1 of the *Principles of Accreditation* reads as follows:

> The institution employs competent faculty members qualified to accomplish the mission and goals of the institution. When determining acceptable qualifications of its faculty, an institution gives primary consideration to the highest earned degree in the discipline. The institution also considers competence, effectiveness, and capacity, including, as appropriate, undergraduate and graduate degrees, related work experiences in the field, professional licensure and certifications, honors and awards, continuous documented excellence in teaching, or other demonstrated competencies and achievements that contribute to effective teaching and student learning outcomes. For all cases, the institution is responsible for justifying and documenting the qualifications of its faculty.

When an institution defines faculty qualifications using faculty credentials, institutions should use the following as credential guidelines:

a. Faculty teaching general education courses at the undergraduate level: doctorate or master's degree in the teaching discipline or master's degree with a concentration in the teaching discipline (a minimum of 18 graduate semester hours in the teaching discipline).

b. Faculty teaching associate degree courses designed for transfer to a baccalaureate degree: doctorate or master's degree in the teaching discipline or master's degree with a concentration in the teaching discipline (a minimum of 18 graduate semester hours in the teaching discipline).

c. Faculty teaching associate degree courses not designed for transfer to the baccalaureate degree: bachelor's degree in the teaching discipline, or associate's degree and demonstrated competencies in the teaching discipline.

d. Faculty teaching baccalaureate courses: doctorate or master's degree in the teaching discipline or master's degree with a concentration in the teaching discipline (minimum of 18 graduate semester hours in the teaching discipline).

e. Faculty teaching graduate and post-baccalaureate course work: earned doctorate/terminal degree in the teaching discipline or a related discipline.

f. Graduate teaching assistants: master's in the teaching discipline or 18 graduate semester hours in the teaching discipline, direct supervision by a faculty member experienced in the teaching discipline, regular in-service training, and planned and periodic evaluations.

Approved: College Delegate Assembly, December 2006

North Carolina Association for Respiratory Educators
2014-15

Program	Address	Program Director	DCE	Faculty Instructor	Faculty Instructor
Carteret Community College	3505 Arendell Street Morehead City, NC 28557	Trish Miller, BS, RRT,RPFT, RCP 252-222-6169 millert@.carteret.edu	David Roach, BS, RRT, RCP 252-222-6171 roachd@.carteret.edu	Laurie Freshwater, MA, RRT, RPFT, RCP (Dean, Health Sciences) 252-222-6281 freshwaterl@.carteret.edu	Lynwood Goff, RRT, RCP 252-633-8603 lynwoodgoff@yahoo.com
Catawba Valley Community College	2550 Highway 70 SE Hickory, NC 28602	Cathy Bitsche, EdS, RRT-NPS, RCP 828-327-7000 ext. 4391 cbitsche@cvcc.edu	Jason Elder, BS, RRT, RCP 828-327-7000 ext 4083 jelder@cvcc.edu	Robin Ross, MS, RRT, RCP (Dean, Health and Public Services) 828-327-7000 ext 4462 rross@cvcc.edu	
Catawba Valley Community College ***(Polysomnography Program)***	2550 Highway 70 SE Hickory, NC 28602	Sarah Hoffman, R-PSGT 828-327-7000 ext. 4517 shoffman@cvcc.edu			
Central Piedmont Community College	PO Box 35009 Charlotte, NC 28235	Lorraine Brodziak, BA, RRT, RCP 704-330-6795 lorraine.brodziak@cpcc.edu	Jeffrey Ruiter, BSRT, RRT, RCP 704-330-6081 jeffrey.ruiter@cpcc.edu	Tina Harper, RRT, RCP tina.harper@cpcc.edu 704-465-9653	Cherri Crabtree cherri.crabtree@cpcc.edu
Durham Technical Community College	1637 Lawson Street Durham, NC 27703	Audrey Kern, BA, RRT, RCP 919-536-7233 ext 8119 kerna@durhamtech.edu	Janiemarie Baker, RRT, RCP 919-536-7233 ext. 8124 bakerj@durhamtech.edu	Diane Usher, RRT, RCP 919-536-7233 ext 8109 usherd@durhamtech.edu	Andrew Teears, RRT, RCP 919-536-7233 ext 8110 teearsa@durhamtech.edu
Edgecombe Community College	225 Tarboro Street Rocky Mount, NC 27801	Ralph Webb, RRT, RCP 252-446-0436 ext. 330 webbrd@edgecombe.edu	Tim King, RRT, RCP 252-446-0436 ext. 369 kingt@edgecombe.edu		
Fayetteville Technical Community College	2201 Hull Road Fayetteville, NC 28303	John Holloman, RRT, RCP 910-678-8316 hollomaj@faytechcc.edu	Kecie Thompson, RRT, RCP 910-678-9869 thompsok@faytechcc.edu		
Forsyth Technical Community College	2100 Silas Creek Parkway Winston-Salem, NC27103	John Sherman, BSRT, RRT-ACCS-NPS, RCP 336-757-3320 jsherman@forsythtech.edu	Cynthia Wiggins, MS, RRT, RCP 336-734-7422 cwiggins@forsythtech.edu	Daniel Williams, BSRT, RRT-ACCS-NPS, RCP 336-734-7444 dwilliams@forsythtech.edu	

Program	Address	Program Director	DCE	Faculty Instructor	Faculty Instructor
Pitt Community College	PO Drawer 7007 Greenville, NC 27835-7007	Wendy Ayscue, M.A.Ed., RRT, RCP (Dept Chair – RT and Polysomnography) 252-493-7378 wayscue@email.pittcc.edu	Rusty Sugg, BAS, RRT-NPS, RCP 252-493-7379 wsugg@email.pittcc.edu	Kendall Commodore, RRT RCP 252-493-7619 kcommodore@email.pittcc.edu	Donna Neal, PhD, RRT, RCP (Dean, Health Sciences) 252-493-7309 dneal@email.pittcc.edu
Pitt Community College ***(Polysomnography Program)***	PO Drawer 7007 Greenville, NC 27835-7007	Sandra Mathis, BA, RPSGT, RLVT 252-493-7759 smathis@email.pittcc.edu	Bruce Warrender, BSRT, RRT, RPSGT 252-493-7523 bwarrender@email.pittcc.edu		
Robeson Community College	5160 Fayetteville Road Lumberton, NC 28358	Kelli Heustess, RRT, RCP 910-272-3400 kheustess@robeson.edu	Danyelle Miray, RRT, RCP 910-272-3399 dmiray@robeson.edu	Windy Lewis wlewis@robeson.edu	
Rockingham Community College	PO Box 38 Wentworth, NC 27375-0038	Vickie Chitwood, MS,RRT, RCP (Allied Health Department Chair) 336-342-4261 ext. 2341 chitwoodv@rockinghamcc.edu	John Flynt, RRT, RCP 336-342-4261 ext. 2337 flyntj5149@rockinghamcc.edu	Kim Clark, EdD, RRT, RCP clarkk9305@rockinghamcc.edu	
Sandhills Community College	2200 Airport Road Pinehurst, NC 28734	Leslie Williams, BS, RRT, RCP 910-695-3991 williamsl@sandhills.edu	Kathy Chaffee, RRT, RCP 910-246-4949 chaffeek@sandhills.edu		
Southwestern Community College	447 College Drive Sylva, NC 28779	Samantha Campbell, RRT, RCP 828-339-4472 s_campbell@southwesterncc.edu	Brent Holland, RRT, RCP 828-298-4441 brentholland1@gmail.com		
Stanly Community College	141 College Drive Albemarle, NC 28001	Judy Adrian, BHS, RRT-NPS, RCP 704-991-0268 jadrian7439@stanly.edu	Amy J. Witschey, BSRT, RRT, RCP 704-991-0276 awitschey1649@stanly.edu	Ashlyn B. Isenhour, RRT, RCP aisenhour7250@stanly.edu	
Wilkes Community College	P.O. Box 120 Wilkesboro, NC 28697	Billy Woods, MA, RRT, RCP 336-838-6496 billy.woods@wilkescc.edu	John Gleeson, RRT, RP 336-838-6472 john.gleeson@wilkescc.edu		
UNC-Charlotte	9201 University City Blvd. Charlotte, NC 28223-0001	Joe Coyle, MD 704-687-0859 jcoyle7@uncc.edu		Lanny Inabnit, MSc, RRT-ACCS/NPS, RCP 704-687-1855 linabnit@uncc.edu	Mike Troxel mtroxel2@uncc.edu

Associate Members

Member	Hospital	Address	Phone	Email
Erin Sterling	MissionHealth			erin.sterling@yahoo.com

Appendix 11:

American Association for Respiratory Care
Human Resource Survey of Educational Programs 2014

confidential

AARC Human Resource Survey of Education Programs

AMERICAN ASSOCIATION FOR RESPIRATORY CARE

Prepared by

Robert C. Shaw, Jr., PhD, Program Director

and

Jennifer L. Benavente, BA/BEd, Research Assistant

Psychometrics Department

www.goAMP.com

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INTRODUCTION

American Association for Respiratory Care (AARC) surveys before the year 2000 survey focused exclusively on acute care hospitals. This human resource study of respiratory therapy education programs is the fourth sponsored by the AARC for the respiratory care profession. The primary objectives of the education program study were to collect information about the size of the programs, faculty and student characteristics, compensation information, and programmatic content, trends, and challenges.

Opportunities to respond to the survey were sent unsolicited to potential respondents. Potential respondents chose whether to respond. Therefore, the sample was composed of volunteers.

The Results section roughly parallels the sequence of items as they were presented in the survey. Where applicable, the specific survey item that pertained to the analysis is listed. Contents of the survey are presented in Appendix A.

METHODS

A survey of this population was completed in 2009, so the instrument from that study was the starting point for development of an instrument for this study. AARC Associate Executive Director-Education, Shawna Strickland, PhD, RRT-NPS, RRT-ACCS, AE-C, FAARC revised and added items to bring the instrument to its final form after consulting with stakeholders.

Survey sampling began with a listing of 417 accredited education programs provided by the Commission on Accreditation for Respiratory Care (CoARC). Contents of the email invitation are shown in Appendix B. Members of the Education Section of AARC members were informed of the study and encouraged to respond in an email blast from the AARC. The direct solicitation and the membership blast messages included a link that directed each recipient to the survey where he or she submitted responses.

Survey invitations were sent on June 24, 2014 with a survey deadline of July 25, 2014. Reminders were sent on July 11, 2014. A decision was made to extend the original deadline. On July 28, potential respondents were alerted to the fact that the survey would remain available until August 8.

Responses are summarized in the Results section of this report. The IBM SPSS Statistics version 20.0 software package was used to analyze survey responses for this study.

RESULTS

The number of responses and the number of accredited programs in each region are shown in Table 1. Of the 417 email invitations sent, 254 programs returned usable surveys in time for analysis. This represents a response rate of 60.9%. Nine emails were returned as Undeliverable, so the corrected response rate was 62.3% (254/408).

Demographics

1. **What is the zip code for this program?**

These responses were recoded to answer the question, "What is the percent of respondents for each state?"

Responses from 48 states are shown in the following table.

Table 1. Survey Responses and All Schools by State

		Survey Responses				All Schools	
		Frequency	Percent	Valid Percent	Cumulative Percent	Frequency	Percent
	AK	0	.0	.0	.0	0	.0
Valid	AL	2	.8	.8	.8	6	1.4
	AR	9	3.5	3.7	4.5	12	2.7
	AZ	6	2.4	2.4	6.9	7	1.6
	CA	23	9.1	9.3	16.3	38	8.6
	CO	2	.8	.8	17.1	4	.9
	CT	6	2.4	2.4	19.5	5	1.1
	DC	0	.0	.0	19.5	1	.2
	DE	2	.8	.8	20.3	2	.5
	FL	16	6.3	6.5	26.8	26	5.9
	GA	7	2.8	2.8	29.7	15	3.4
	HI	1	.4	.4	30.1	1	.2
	IA	5	2.0	2.0	32.1	6	1.4
	ID	0	.0	.0	32.1	0	.0
	IL	7	2.8	2.8	35.0	14	3.2
	IN	5	2.0	2.0	37.0	11	2.5
	KS	7	2.8	2.8	39.8	9	2.0
	KY	5	2.0	2.0	41.9	14	3.2
	LA	3	1.2	1.2	43.1	10	2.3
	MA	3	1.2	1.2	44.3	6	1.4
	MD	7	2.8	2.8	47.2	6	1.4
	ME	1	.4	.4	47.6	2	.5
	MI	6	2.4	2.4	50.0	13	2.9
	MN	3	1.2	1.2	51.2	5	1.1
	MO	4	1.6	1.6	52.8	12	2.7
	MS	5	2.0	2.0	54.9	8	1.8
	MT	1	.4	.4	55.3	2	.5
	NC	9	3.5	3.7	58.9	14	3.2

		Survey Responses				All Schools	
		Frequency	Percent	Valid Percent	Cumulative Percent	Frequency	Percent
	ND	2	.8	.8	59.8	3	.7
	NE	2	.8	.8	60.6	4	.9
	NH	1	.4	.4	61.0	1	.2
	NJ	4	1.6	1.6	62.6	7	1.6
	NM	2	.8	.8	63.4	6	1.4
	NV	2	.8	.8	64.2	3	.7
	NY	13	5.1	5.3	69.5	14	3.2
	OH	12	4.7	4.9	74.4	22	5.0
	OK	3	1.2	1.2	75.6	7	1.6
	OR	1	.4	.4	76.0	4	.9
	PA	16	6.3	6.5	82.5	25	5.7
	RI	2	.8	.8	83.3	2	.5
	SC	3	1.2	1.2	84.6	7	1.6
	SD	1	.4	.4	85.0	2	.5
	TN	4	1.6	1.6	86.6	11	2.5
	TX	17	6.7	6.9	93.5	36	8.1
	UT	2	.8	.8	94.3	7	1.6
	VA	3	1.2	1.2	95.5	8	1.8
	VT	1	.4	.4	95.9	1	.2
	WA	1	.4	.4	96.3	5	1.1
	WI	3	1.2	1.2	97.6	7	1.6
	WV	4	1.6	1.6	99.2	7	1.6
	WY	2	.8	.8	100.0	1	.2
	Total	246	96.9	100.0		442*	100.0
Missing	System	8	3.1				
Total		254	100.0				

*Note: The total in this column exceeds the number of invitations because some programs had satellite programs located in communities outside the community in which the main program was located.

Figure 1 shows that program directors from California, Texas, Pennsylvania, and Florida provided the largest numbers of responses. 3% of program directors refused to give zip code information. Although it is possible that program directors from the following states just skipped the item about zip code, the following states and districts may not be represented in these survey results: Alaska, District of Columbia, and Idaho.

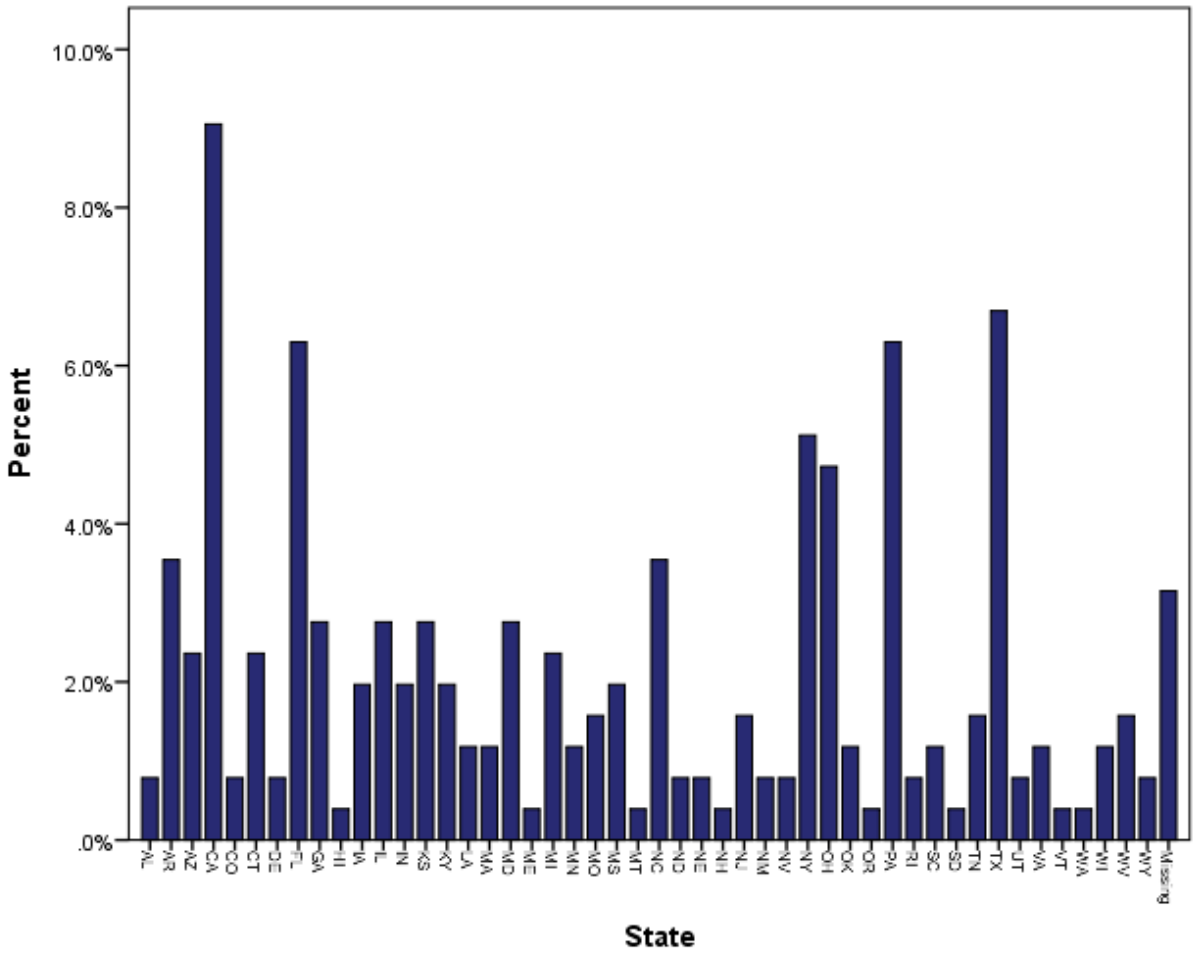


Figure 1. Distribution of responses by State

Information for each program about the state in which each program was located were recoded to answer the question, "What is the percent of respondents for each region?" Tables 2 and 3 were produced so we could compare percentages between the population and study sample.

Table 2. Distribution of schools by region

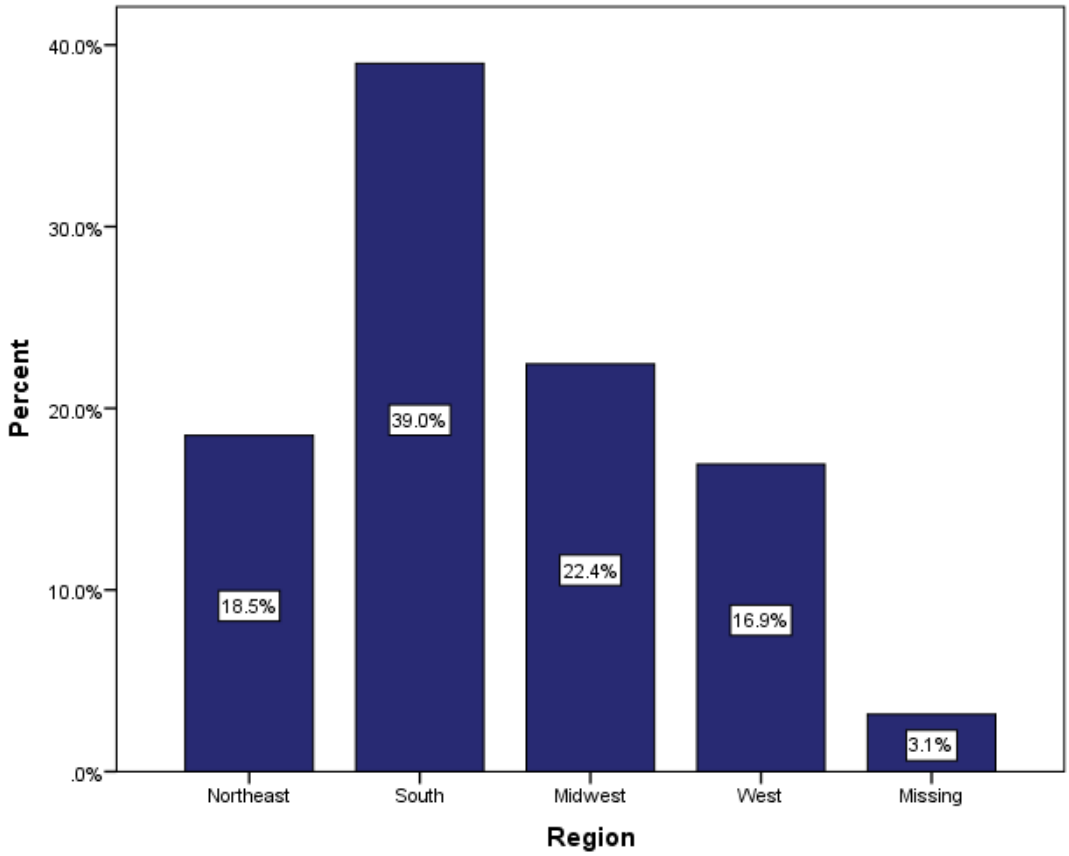
	Frequency	Percent	Cumulative Percent
Northeast	62	17.3	17.3
Midwest	112	31.2	48.5
South	126	35.1	83.6
West	59	16.4	100.0
Total	359	100.0	

Northeast – MA, RI, NH, ME, VT, CT, NJ, NY, PA
Midwest – OH, IN, MI, WI, IL, IA, MN, SD, ND, MO, KS, NE
South – DC, DE, MD, VA, MV, NC, SC, GA, FL, AL, TN, MS, KY, LA, AR, OK, TX
West – MT, CO, WY, ID, UT, AZ, NM, NV, CA, HI, OR, WA, AK

Table 3. Distribution of survey responses by region

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Northeast	47	18.5	19.1	19.1
	South	99	39.0	40.2	59.3
	Midwest	57	22.4	23.2	82.5
	West	43	16.9	17.5	100.0
	Total	246	96.9	100.0	
Missing	System	8	3.1		
Total		254	100.0		

Northeast – MA, RI, NH, ME, VT, CT, NJ, NY, PA
Midwest – OH, IN, MI, WI, IL, IA, MN, SD, ND, MO, KS, NE
South – DC, DE, MD, VA, MV, NC, SC, GA, FL, AL, TN, MS, KY, LA, AR, OK, TX
West – MT, CO, WY, ID, UT, AZ, NM, NV, CA, HI, OR, WA, AK



Northeast – MA, RI, NH, ME, VT, CT, NJ, NY, PA
Midwest – OH, IN, MI, WI, IL, IA, MN, SD, ND, MO, KS, NE
South – DC, DE, MD, VA, MV, NC, SC, GA, FL, AL, TN, MS, KY, LA, AR, OK, TX
West – MT, CO, WY, ID, UT, AZ, NM, NV, CA, HI, OR, WA, AK

Figure 2. Distribution by region

Table 4. Distribution by census division*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	New England	14	5.5	5.7	5.7
	Middle Atlantic	33	13.0	13.4	19.1
	South Atlantic	51	20.1	20.7	39.8
	East South Central	16	6.3	6.5	46.3
	West South Central	32	12.6	13.0	59.3
	East North Central	33	13.0	13.4	72.8
	West North Central	24	9.4	9.8	82.5
	Mountain	17	6.7	6.9	89.4
	Pacific	26	10.2	10.6	100.0
	Total	246	96.9	100.0	
Missing	System	8	3.1		
Total		254	100.0		

* Divisions were designated by the US Census.
New England – MA, RI, NH, ME, VT, CT
Middle Atlantic – NJ, NY, PA
South Atlantic – DE, DC, MD, VA, WV, NC, SC, GA, FL
East South Central – KY, TN, MS, LA
West South Central – LA, AR, OK, TX
East North Central – OH, IN, MI, WI, IL
West North Central – IA, MN, SD, ND, MO, KS, NE
Mountain – MT, CO, WY, ID, UT, AZ, NM, NV
Pacific – CA, HI, WA, AK

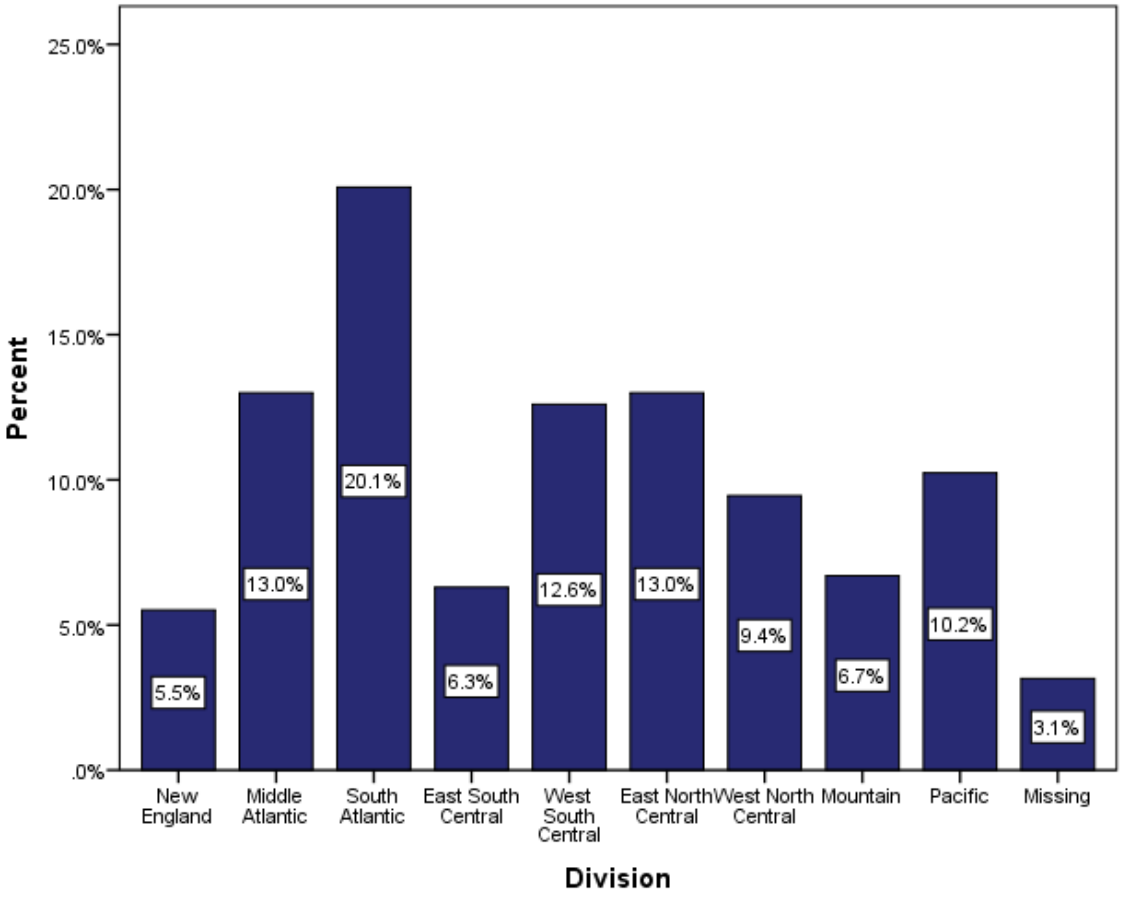


Figure 3. Distribution by division

2. What best describes the type of institution in which the program is sponsored?

Table 5. Funding source

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Public (taxpayer and tuition supported)	194	76.4	76.4	76.4
	Private (tuition and endowment supported)	26	10.2	10.2	86.6
	Public/Private consortium	5	2.0	2.0	88.6
	Proprietary (for-profit)	29	11.4	11.4	100.0
	Total	254	100.0	100.0	

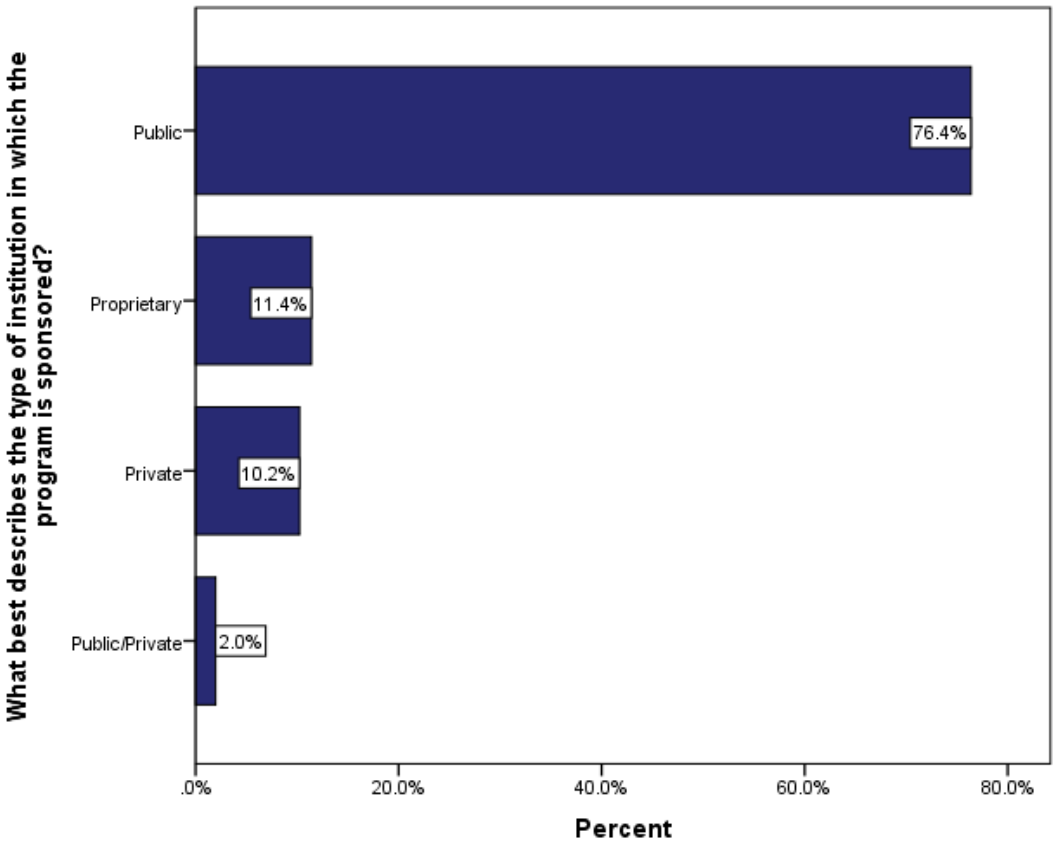


Figure 4. Funding source

3. Within what type of institution is your program based?

Table 6. Distribution by institution type

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2-year Community/Vocational College	191	75.2	75.5	75.5
	4-year College/University	62	24.4	24.5	100.0
	Total	253	99.6	100.0	
Missing	System	1	.4		
Total		254	100.0		

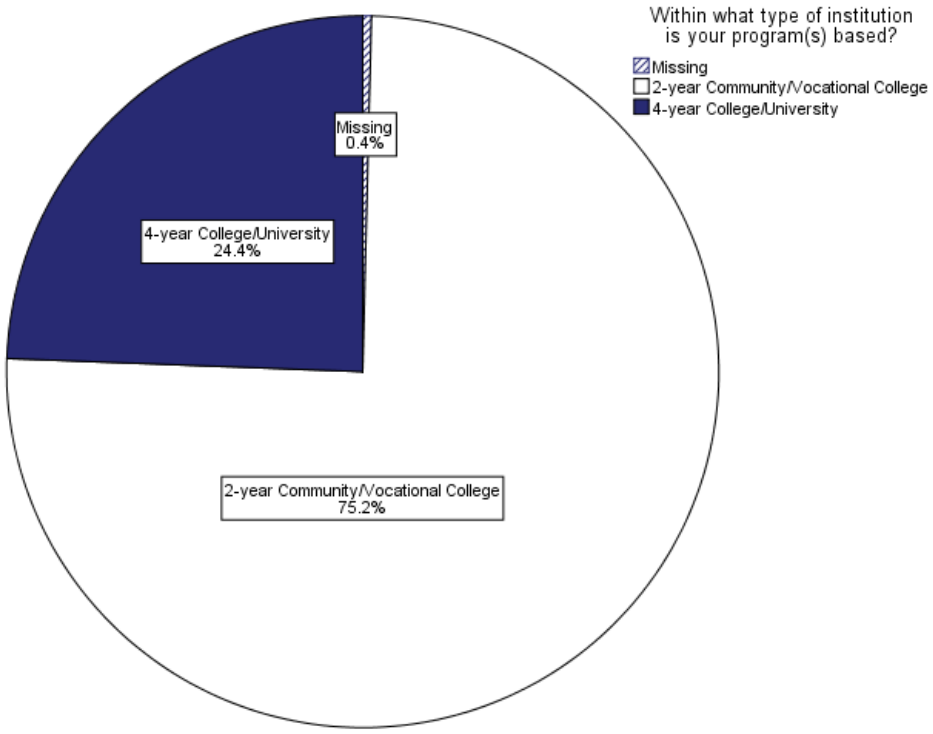


Figure 5. Distribution by institution type

Table 7. Crosstabulation of factors describing institution type

		Within what type of institution is your program(s) based?		Total
		2-year Comm / Vocational College	4-year College/Uni.	
What best describes the type of institution in which the program is sponsored?	Public (taxpayer and tuition supported)	156	37	193
	Private (tuition and endowment support)	6	20	26
	Public/Private consortium	1	4	5
	Proprietary (for-profit)	28	1	29
Total		191	62	253

Crosstabulation results displayed in Table 7 indicated that a typical education program was located within a public institution from which 2-year degrees were conferred to graduates.

4. Can graduates from your program earn an Associate's degree?

Graduates from 88% of programs had the option to receive an Associate's degree. The percentage of programs located in 2-year institutions was only 75.5% in Table 6, so some programs located in 4-year institutions were awarding Associate's degrees to graduates.

Table 8. Distribution by availability of Associate's degree

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	223	87.8	87.8	87.8
	No	31	12.2	12.2	100.0
	Total	254	100.0	100.0	

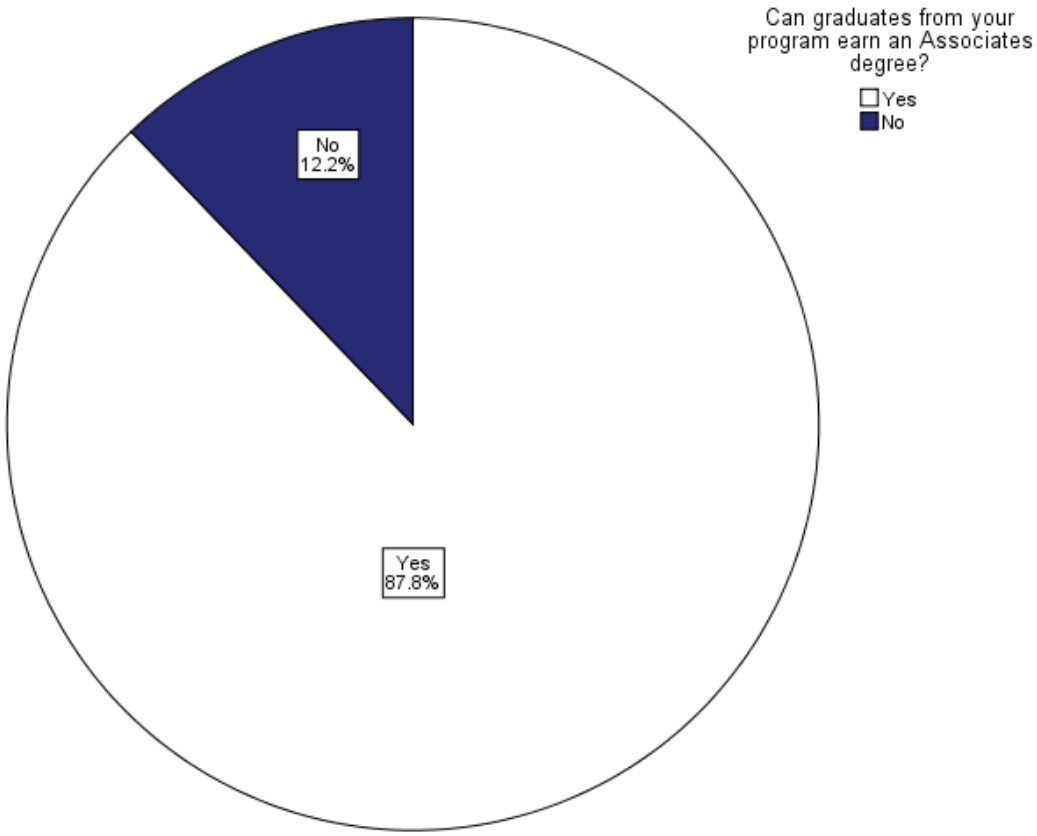


Figure 6. Distribution by availability of Associate's degree

5. Can graduates earn a Baccalaureate degree directly from your program OR through an agreement with another institution?

Only about a quarter of the programs were located in 4-year institutions according to Table 6, so responses summarized in Table 9 indicated that a substantial number of programs had found pathways for their graduates to eventually achieve Baccalaureate degrees.

Table 9. Distribution by availability of Baccalaureate degree

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	161	63.4	63.4	63.4
	No	93	36.6	36.6	100.0
	Total	254	100.0	100.0	

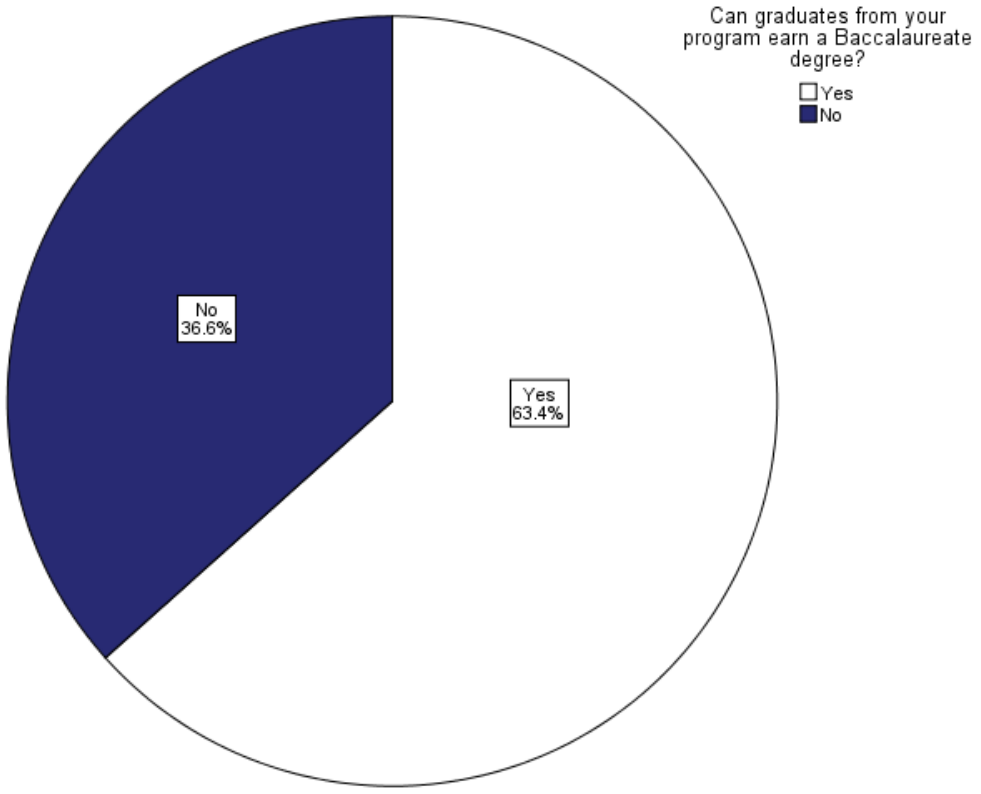


Figure 7. Distribution by availability of Baccalaureate degree

6. What type of Baccalaureate degree does your program offer?

The first point to note about Table 10 is that the cases that were described were the subset of programs through which a graduate could achieve a Baccalaureate degree. The online route was the most frequently occurring type of program through which a graduate could earn a Baccalaureate degree through an agreement with another institution. Among programs that directly conferred Baccalaureate degrees, most were located on campus and were entry to practice programs.

Table 10. Baccalaureate degree types

	Direct From My Institution			Through an Agreement		
	Responses		Percent of Cases	Responses		Percent of Cases
	N	Percent		N	Percent	
Entry to Practice	53	17.8%	33.8%	30	10.1%	19.1%
Online	39	13.1%	24.8%	72	24.2%	45.9%
On Campus	61	20.5%	38.9%	43	14.4%	27.4%
Total	153	100.0%	51.3%	145	100.0%	48.7%

* The percentage was based on the number of people who responded to this question.
**Respondents were allowed to select multiple responses.

7. Can graduates from your program earn a Master's degree?

According to Table 11, about 14% of respondents had indicated that respiratory therapy program graduates could earn Master's degrees. This is a noticeably large percentage since there were only three programs conferring Master's degrees to graduates of their professional programs. A program located in an institution that had a graduate school could have affirmatively responded to this item even though the program did not confer a Master's degree to its graduates.

Table 11. Distribution by availability of Master's degree

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	36	14.2	14.3	14.3
	No	216	85.0	85.7	100.0
	Total	252	99.2	100.0	
Missing	System	2	.8		
Total		254	100.0		

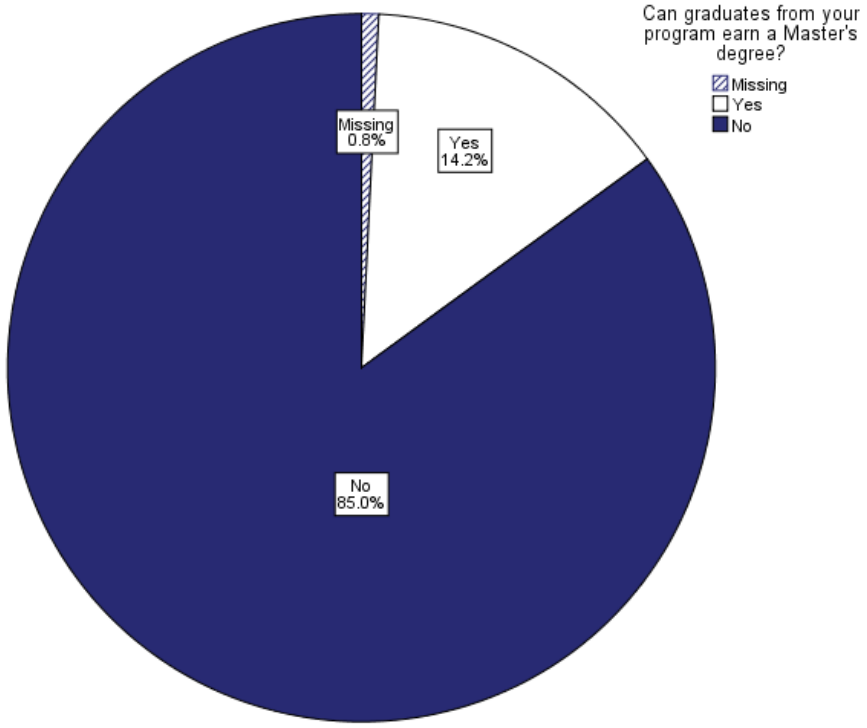


Figure 8. Distribution by availability of Master's degree

8. **Does your institution have plans to seek an articulation agreement with another institution through which students may earn a Baccalaureate degree?**

Among the programs that did not already have articulation agreements or directly conferred Baccalaureate degrees, Table 12 indicated that 63.3% had plans to seek such agreements with other institutions. The other 36.7% of programs had no such plan. As a percentage of the whole sample of 254 programs, the 33 programs that had no plans to seek articulation agreements was small (13%).

Table 12. Distribution by plans to seek articulation agreement

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	57	22.4	63.3	63.3
	No	33	13.0	36.7	100.0
	Total	90	35.4	100.0	
Missing	System	164	64.6		
Total		254	100.0		

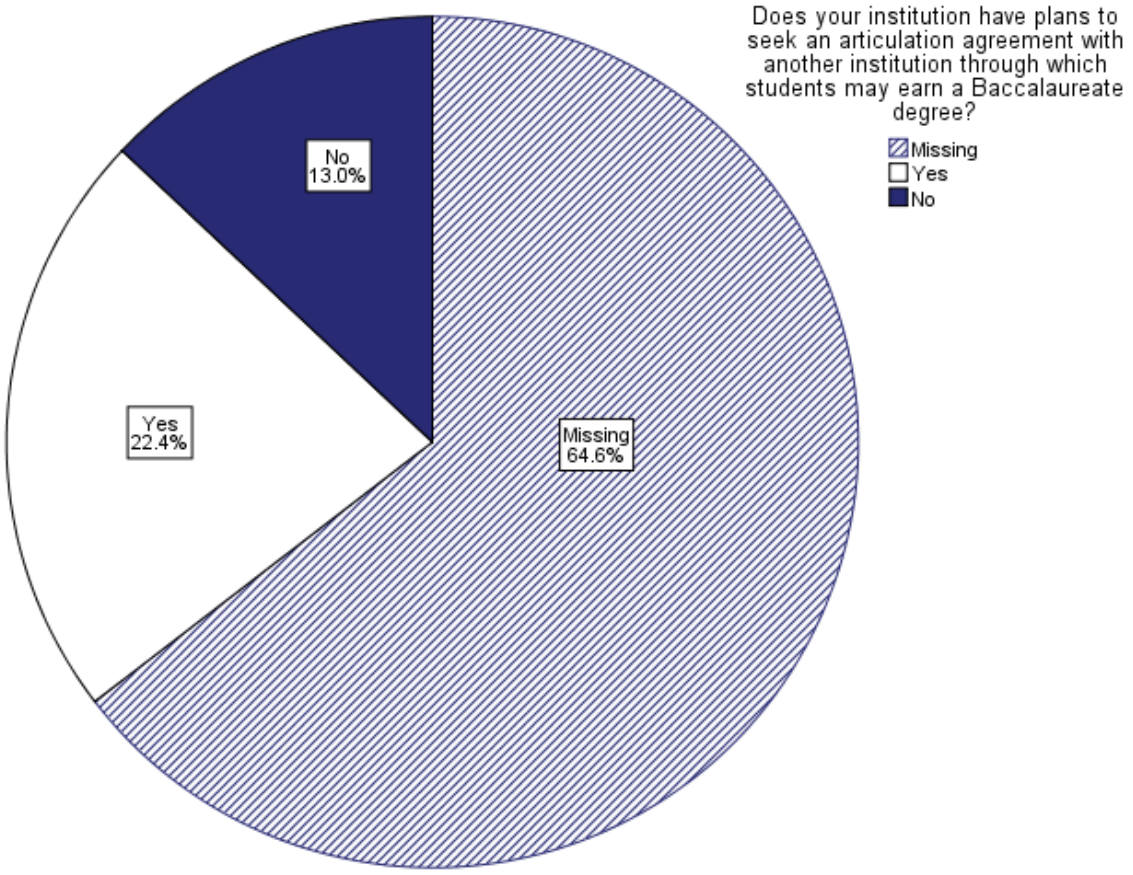


Figure 9. Distribution by program type

FTEs

9. **How many FTEs were assigned to the following positions within the program during the 2009 academic year?**

10. **How many FTEs were assigned to the following positions within the program during the 2013 academic year?**

11. **How many FTEs will be assigned to the following positions within the program during the 2017 academic year?**

Program Directors

Table 13 showed some significantly different means for program director FTEs among these three points in time – 2009, 2013, and 2017. Comparisons were made in Table 14, which indicated that the mean value for 2017 and mean value for 2013 were significantly higher than the 2009 value. The difference between 2013 and 2017 values was not significant.

Table 13. Program Director FTEs during the 2009, 2013, and 2017 Academic Years

	N							
	Valid	Missing	Mean	Std. Error of Mean	Median	Std. Deviation	Minimum	Maximum
Program Director FTEs 2009	231	23	.9489	.01394	1.0000	.21180	.00	1.40
Program Director FTEs 2013	231	23	.9939	.00396	1.0000	.06013	.40	1.40
Program Director FTEs 2017	231	23	.9827	.01013	1.0000	.15394	.00	2.00

F=5.271, df=2,692, p=.005, eta squared=.015

Table 14. Mean difference between Program Director FTEs during the 2009, 2013, and 2017 Academic Years

(I) Year	(J) Year	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
2009	2013	-.04502*	.01443	.002	-.0734	-.0167
	2017	-.03377*	.01443	.020	-.0621	-.0054
2013	2009	.04502*	.01443	.002	.0167	.0734
	2017	.01126	.01443	.436	-.0171	.0396
2017	2009	.03377*	.01443	.020	.0054	.0621
	2013	-.01126	.01443	.436	-.0396	.0171

* The mean difference is significant at the 0.05 level.

Directors of Clinical Education

As had been observed for program directors, there had been a significant increase in FTEs for directors of clinical education between 2009 and 2013.

Table 15. Director of Clinical Education FTEs during the 2009, 2013, and 2017 Academic Years

	N		Mean	Std. Error of Mean	Median	Std. Deviation	Minimum	Maximum
	Valid	Missing						
Director of Clin Ed FTEs 2009	230	24	.9478	.01417	1.0000	.21488	.00	1.40
Director of Clin Ed FTEs 2013	231	23	.9957	.00854	1.0000	.12981	.00	2.00
Director of Clin Ed FTEs 2017	231	23	.9740	.01145	1.0000	.17401	.00	2.00

F=4.624, df=2,691, p=.010, eta squared=.013

Table 16. Mean difference between Director of Clinical Education FTEs during the 2009, 2013, and 2017 Academic Years

(I) Year	(J) Year	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
2009	2013	-.04611*	.01521	.003	-.0760	-.0163
	2017	-.02620	.01521	.085	-.0561	.0037
2013	2009	.04611*	.01521	.003	.0163	.0760
	2017	.01991	.01519	.190	-.0099	.0497
2017	2009	.02620	.01521	.085	-.0037	.0561
	2013	-.01991	.01519	.190	-.0497	.0099

* The mean difference is significant at the 0.05 level.

Instructors

Although the mean value for FTEs in the instructor category had moved from 1.8 in 2009 to 2.0 in 2013, statistical significance testing showed that the difference likely would not be observed in the population.

Table 17. Instructor FTEs during the 2009, 2013, and 2017 Academic Years

	N		Mean	Std. Error of Mean	Median	Std. Deviation	Minimum	Maximum
	Valid	Missing						
Instructor FTEs 2009	201	53	1.8233	.13446	1.0000	1.90634	.00	9.90
Instructor FTEs 2013	215	39	2.0091	.13363	1.4000	1.95934	.00	9.90
Instructor FTEs 2017	214	40	2.1514	.14073	1.6000	2.05866	.00	9.90

F= 1.432, df= 2,629, p=.240, eta squared=.004

Months of Service

12. Please indicate the months of service per year for each position.

Program Directors

Table 18. Descriptive Statistics for months of service for Program Directors

N		Mean	Std. Error of Mean	Median	Std. Deviation	Minimum	Maximum
Valid	Missing*						
215	39	11.47	.065	12.00	.956	9	12

* Four responses indicating the program director served for 5 or fewer months per year were excluded from analysis.

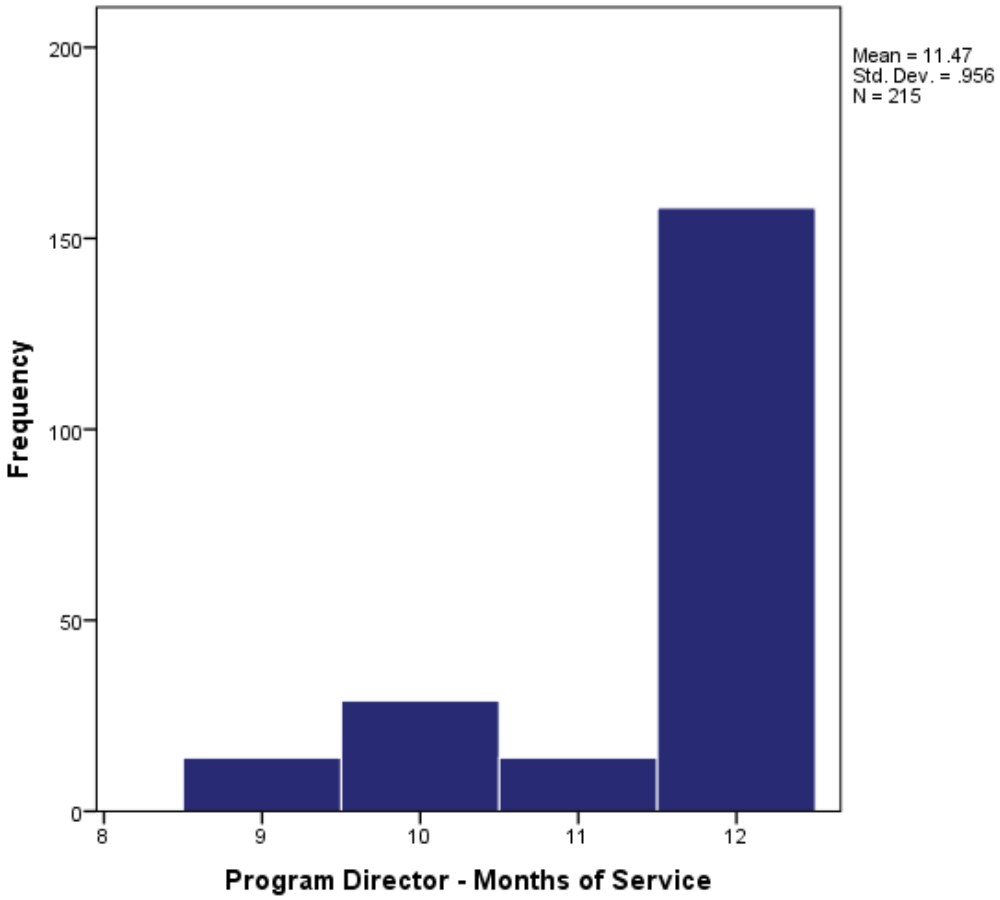


Figure 10. Distribution of months of service for Program Directors

Directors of Clinical Education

Table 19. Descriptive Statistics for months of service for Directors of Clinical Education

N		Mean	Std. Error of Mean	Median	Std. Deviation	Minimum	Maximum
Valid	Missing*						
213	41	11.28	.076	12.00	1.113	9	12

* Five responses indicating the director of clinical education served for 8 or fewer months per year were excluded from analysis.

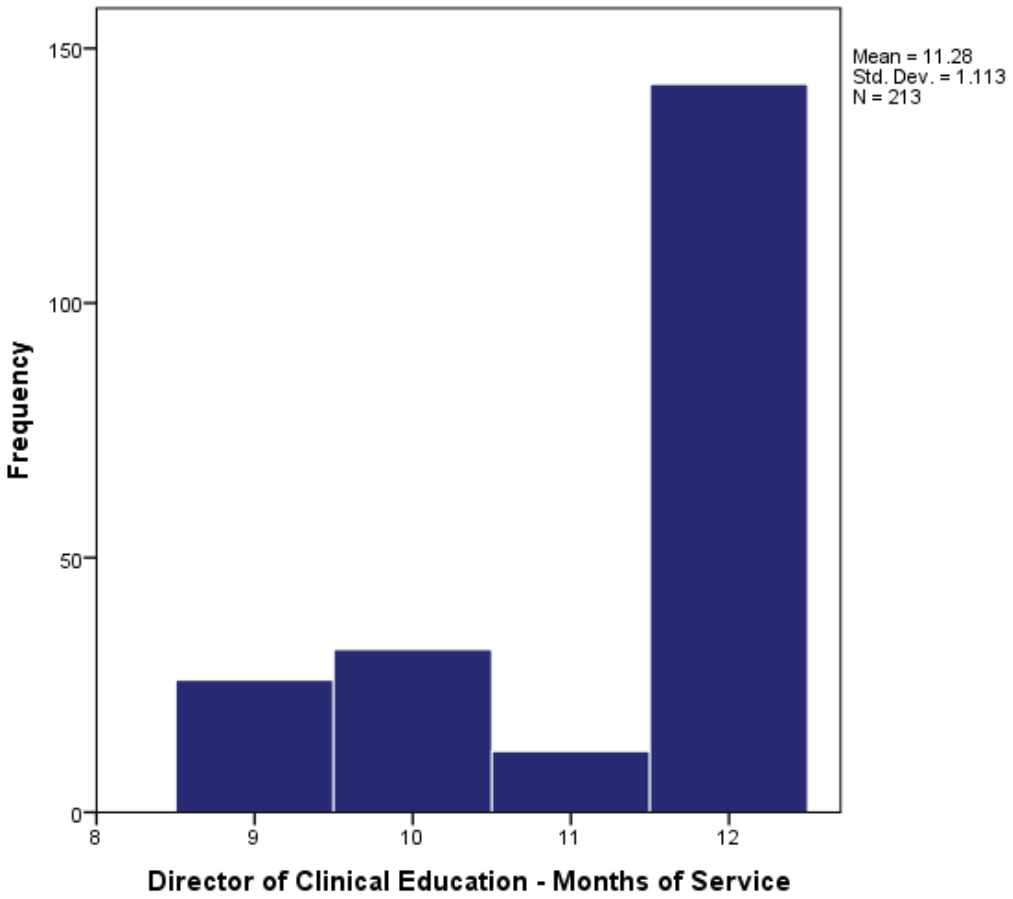


Figure 11. Distribution of months of service for Directors of Clinical Education

Faculty Members

As had been observed for the program director and the director of clinical education, faculty provided 9, 10, 11, or 12 months of service. Median values of 10 and 11 indicated that most had a month or two off from their faculty responsibilities.

Table 20. Descriptive Statistics for months of services for Faculty Members 1-10

	N							
	Valid	Missing	Mean	Std. Error of Mean	Median	Std. Deviation	Minimum	Maximum
Faculty Member 1	175	79	9.96	.203	11.00	2.692	1	12
Faculty Member 2	130	124	9.79	.250	11.00	2.849	1	12
Faculty Member 3	97	157	9.55	.315	10.00	3.099	1	12
Faculty Member 4	69	185	9.25	.364	10.00	3.022	1	12
Faculty Member 5	53	201	9.53	.406	10.00	2.952	1	12
Faculty Member 6	38	216	8.66	.535	10.00	3.298	2	12
Faculty Member 7	29	225	8.76	.635	10.00	3.419	1	12
Faculty Member 8	21	233	9.71	.633	10.00	2.901	4	12
Faculty Member 9	14	240	10.93	.355	12.00	1.328	9	12
Faculty Member 10	10	244	11.10	.379	12.00	1.197	9	12

Summary for Months of Service

Attending particularly to the median values for Program Directors, Directors of Clinical Education, and Faculty Members 1 through 10, a pattern emerged. Program Directors and Directors of Clinical Education tended to work for 12 months each year. Other faculty members tended to work for something less than 12 months each year.

Hours Contracted Per Week

13. Please indicate the hours contracted per week for each position.

Working less than 40 hours in a week was typical for faculty members 1 through 10. Working 40 hours per week was typical for program directors and directors of clinical education.

Table 21. Descriptive Statistics for hours contracted per week for Program Directors, Directors of Clinical Education, and Faculty Members 1-10

	N							
	Valid	Missing	Mean	Std. Error of Mean	Median	Std. Deviation	Minimum	Maximum
Program Director	205	49	38.60	.249	40.00	3.567	20	40
Director of Clinical Ed	203	51	38.40	.275	40.00	3.918	18	40
Faculty Member 1	171	83	27.82	1.035	35.00	13.540	2	40
Faculty Member 2	129	125	24.10	1.267	20.00	14.393	1	40
Faculty Member 3	96	158	20.86	1.389	19.00	13.611	1	40
Faculty Member 4	68	186	17.63	1.489	16.00	12.278	1	40
Faculty Member 5	53	201	17.06	1.686	15.00	12.275	1	40
Faculty Member 6	37	217	13.92	1.755	12.00	10.678	2	40
Faculty Member 7	28	226	13.32	1.686	12.00	8.920	2	36
Faculty Member 8	20	234	15.10	2.312	15.00	10.341	2	36
Faculty Member 9	13	241	15.77	3.083	15.00	11.114	2	36
Faculty Member 10	9	245	13.56	3.424	12.00	10.273	2	36

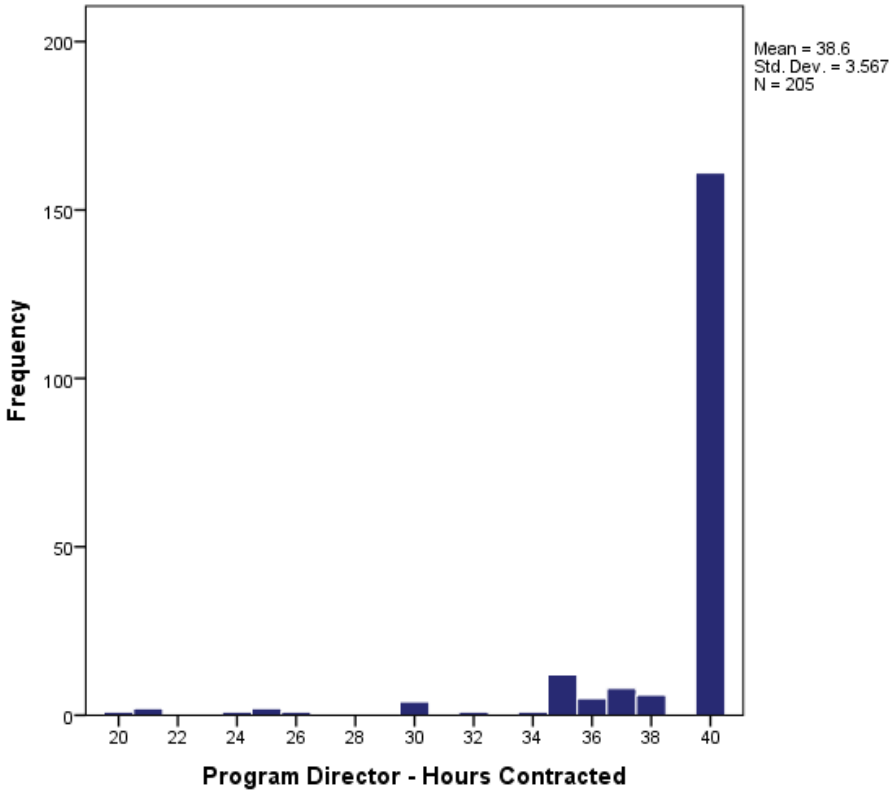


Figure 12. Distribution of hours contracted per week for Program Directors

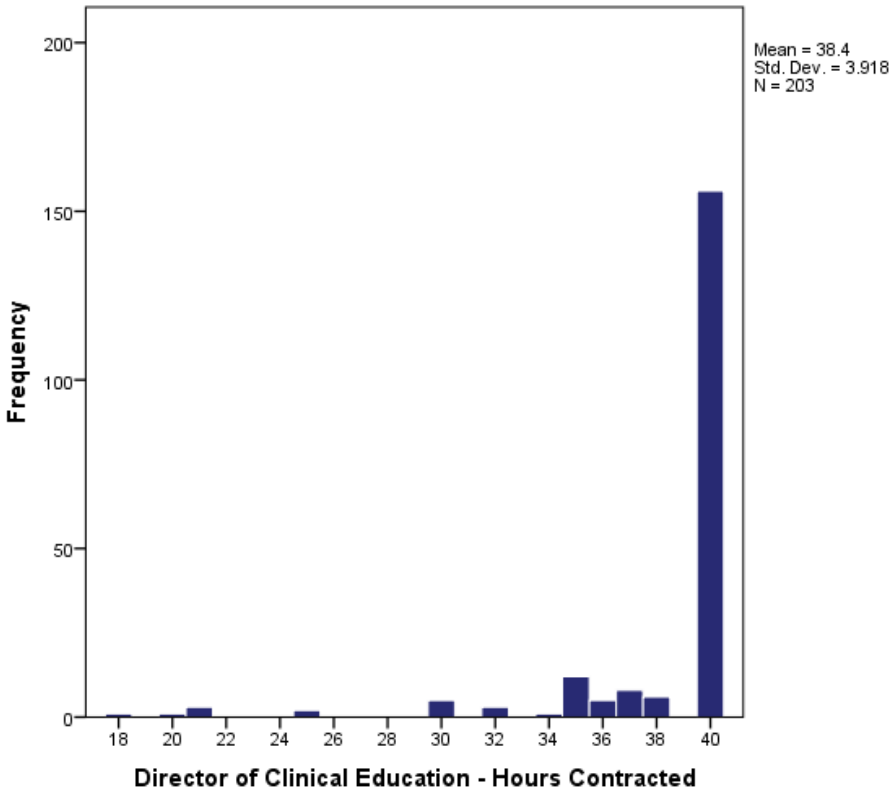


Figure 13. Distribution of hours contracted per week for Directors of Clinical Education

Academic Rank

14. Please indicate the academic rank for each position.

The majority of persons in the positions of program director and director of clinical education were designated with the traditional faculty titles of *assistant professor*, *associate professor*, and *professor*. The majority of persons in the positions of faculty member 1 through 10 were designated with the faculty title of *instructor*.

Program Directors

Table 22. Distribution of academic rank for Program Director

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Instructor	60	23.6	27.3	27.3
	Associate Professor	32	12.6	14.5	41.8
	Assistant Professor	36	14.2	16.4	58.2
	Professor	43	16.9	19.5	77.7
	Does Not Apply	49	19.3	22.3	100.0
	Total	220	86.6	100.0	
Missing	System	34	13.4		
Total		254	100.0		

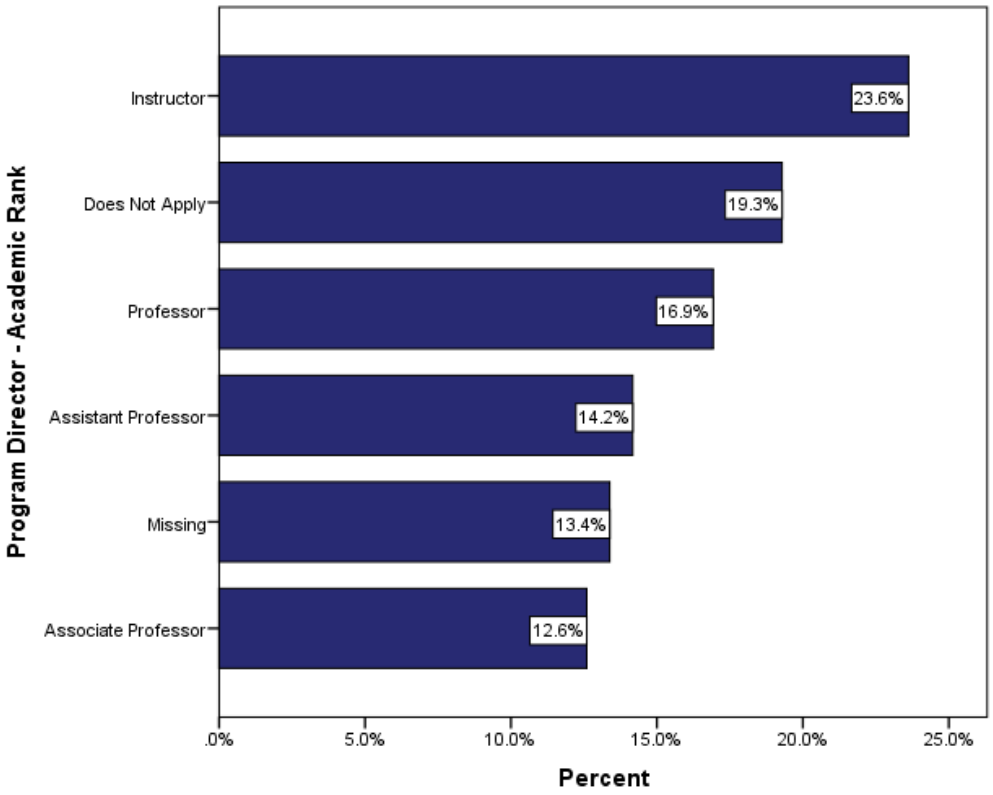


Figure 14. Distribution of academic rank for Program Directors

Directors of Clinical Education

Table 23. Distribution of academic rank for Directors of Clinical Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Instructor	91	35.8	41.6	41.6
	Associate Professor	38	15.0	17.4	58.9
	Assistant Professor	21	8.3	9.6	68.5
	Professor	24	9.4	11.0	79.5
	Does Not Apply	45	17.7	20.5	100.0
	Total	219	86.2	100.0	
Missing	System	35	13.8		
Total		254	100.0		

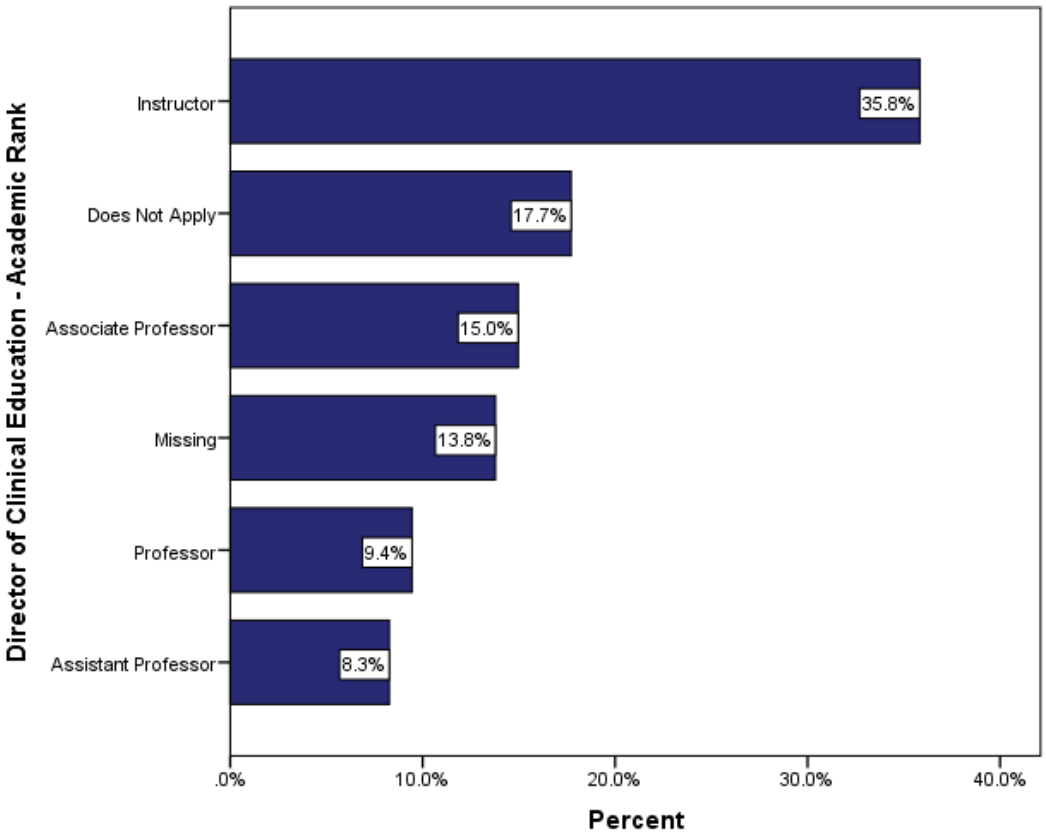


Figure 15. Distribution of academic rank for Directors of Clinical Education

Faculty Members

Table 24. Distribution of academic rank for Faculty Member #1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Instructor	96	37.8	53.3	53.3
	Associate Professor	20	7.9	11.1	64.4
	Assistant Professor	10	3.9	5.6	70.0
	Professor	20	7.9	11.1	81.1
	Does Not Apply	34	13.4	18.9	100.0
	Total	180	70.9	100.0	
Missing	System	74	29.1		
Total		254	100.0		

Table 25. Distribution of academic rank for Faculty Member #2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Instructor	74	29.1	54.0	54.0
	Associate Professor	14	5.5	10.2	64.2
	Assistant Professor	5	2.0	3.6	67.9
	Professor	7	2.8	5.1	73.0
	Does Not Apply	37	14.6	27.0	100.0
	Total	137	53.9	100.0	
Missing	System	117	46.1		
Total		254	100.0		

Table 26. Distribution of academic rank for Faculty Member #3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Instructor	50	19.7	49.5	49.5
	Associate Professor	10	3.9	9.9	59.4
	Assistant Professor	4	1.6	4.0	63.4
	Professor	2	.8	2.0	65.3
	Does Not Apply	35	13.8	34.7	100.0
	Total	101	39.8	100.0	
Missing	System	153	60.2		
Total		254	100.0		

Table 27. Distribution of academic rank for Faculty Member #4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Instructor	40	15.7	55.6	55.6
	Associate Professor	4	1.6	5.6	61.1
	Assistant Professor	1	.4	1.4	62.5
	Professor	2	.8	2.8	65.3
	Does Not Apply	25	9.8	34.7	100.0
	Total	72	28.3	100.0	
Missing	System	182	71.7		
Total		254	100.0		

Table 28. Distribution of academic rank for Faculty Member #5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Instructor	31	12.2	56.4	56.4
	Associate Professor	5	2.0	9.1	65.5
	Assistant Professor	1	.4	1.8	67.3
	Does Not Apply	18	7.1	32.7	100.0
	Total	55	21.7	100.0	
Missing	System	199	78.3		
Total		254	100.0		

Table 29. Distribution of academic rank for Faculty Member #6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Instructor	20	7.9	52.6	52.6
	Associate Professor	5	2.0	13.2	65.8
	Does Not Apply	13	5.1	34.2	100.0
	Total	38	15.0	100.0	
Missing	System	216	85.0		
Total		254	100.0		

Table 30. Distribution of academic rank for Faculty Member #7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Instructor	17	6.7	58.6	58.6
	Associate Professor	2	.8	6.9	65.5
	Does Not Apply	10	3.9	34.5	100.0
	Total	29	11.4	100.0	
Missing	System	225	88.6		
Total		254	100.0		

Table 31. Distribution of academic rank for Faculty Member #8

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Instructor	14	5.5	66.7	66.7
	Associate Professor	1	.4	4.8	71.4
	Does Not Apply	6	2.4	28.6	100.0
	Total	21	8.3	100.0	
Missing	System	233	91.7		
Total		254	100.0		

Table 32. Distribution of academic rank for Faculty Member #9

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Instructor	9	3.5	64.3	64.3
	Associate Professor	1	.4	7.1	71.4
	Professor	1	.4	7.1	78.6
	Does Not Apply	3	1.2	21.4	100.0
	Total	14	5.5	100.0	
Missing	System	240	94.5		
Total		254	100.0		

Table 33. Distribution of academic rank for Faculty Member #10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Instructor	7	2.8	70.0	70.0
	Associate Professor	1	.4	10.0	80.0
	Does Not Apply	2	.8	20.0	100.0
	Total	10	3.9	100.0	
Missing	System	244	96.1		
Total		254	100.0		

The largest percentage of the 1,096 faculty described in Table 34 held the academic rank of Instructor within public institutions. Just less than one out of every three faculty were classified in this way. The next largest group were those from public institutions for which a traditional academic title did not apply.

Table 34. Academic rank by institution type

		What best describes the type of institution in which the program is sponsored?				
		Public	Private	Public / Private	Proprietary (for-profit)	Total
Instructor	Count	330	45	14	120	509
	% of Total	30.1%	4.1%	1.3%	10.9%	46.4%
Associate Professor	Count	99	24	1	9	133
	% of Total	9.0%	2.2%	0.1%	0.8%	12.1%
Assistant Professor	Count	69	7	0	2	78
	% of Total	6.3%	0.6%	0.0%	0.2%	7.1%
Professor	Count	81	7	1	10	99
	% of Total	7.4%	0.6%	0.1%	0.9%	9.0%
Does Not Apply	Count	204	32	0	41	277
	% of Total	18.6%	2.9%	0.0%	3.7%	25.3%
Total	Count	783	115	16	182	1096
	% of Total	71.4%	10.5%	1.5%	16.6%	100.0%

Highest Level of Education

15. Please indicate the highest degree for each position.

Figure 16 showed that the largest subgroup of Program Directors had earned a Master's degree. The next largest group had earned a Baccalaureate degree. These two subgroups accounted for approximately 70% of program directors.

Program Directors

Table 35. Distribution of post-secondary degrees for Program Directors

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Associates	1	.4	.5	.5
	Baccalaureate	60	23.6	27.4	27.9
	Masters	95	37.4	43.4	71.2
	Masters+30 or Specialist	26	10.2	11.9	83.1
	Doctorate	37	14.6	16.9	100.0
	Total	219	86.2	100.0	
Missing	System	35	13.8		
Total		254	100.0		

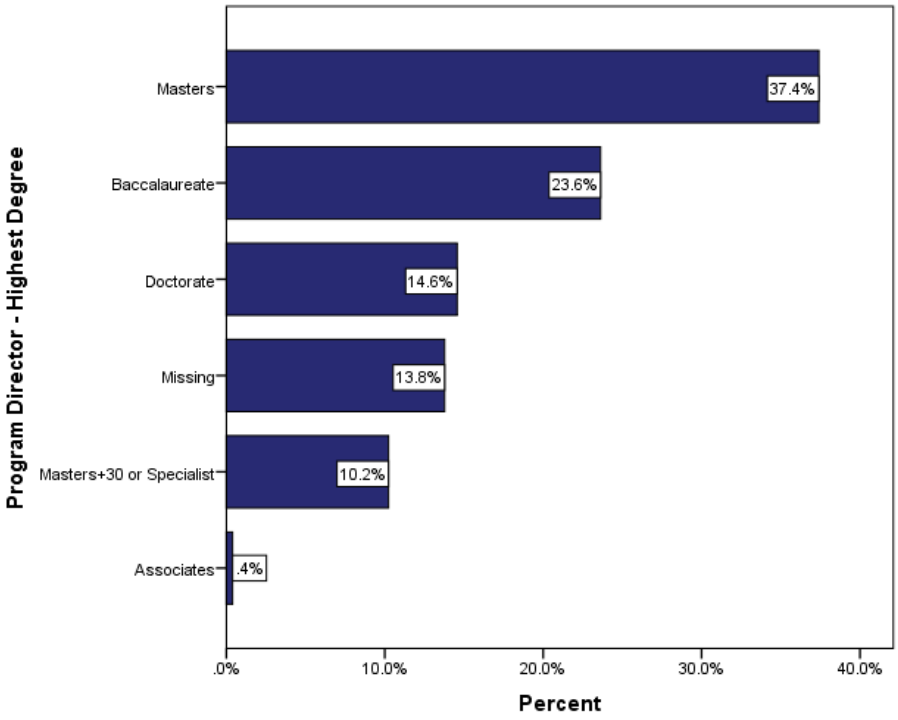


Figure 16. Distribution of post-secondary degrees for Program Directors

Directors of Clinical Education

Baccalaureate and Masters degrees dominated among the Directors of Clinical Education. The number of such directors with Baccalaureate and Masters degrees was nearly equal.

Table 36. Distribution of post-secondary degrees for Directors of Clinical Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Associates	5	2.0	2.3	2.3
	Baccalaureate	97	38.2	44.5	46.8
	Masters	100	39.4	45.9	92.7
	Masters+30 or Specialist	9	3.5	4.1	96.8
	Doctorate	7	2.8	3.2	100.0
	Total	218	85.8	100.0	
Missing	System	36	14.2		
Total		254	100.0		

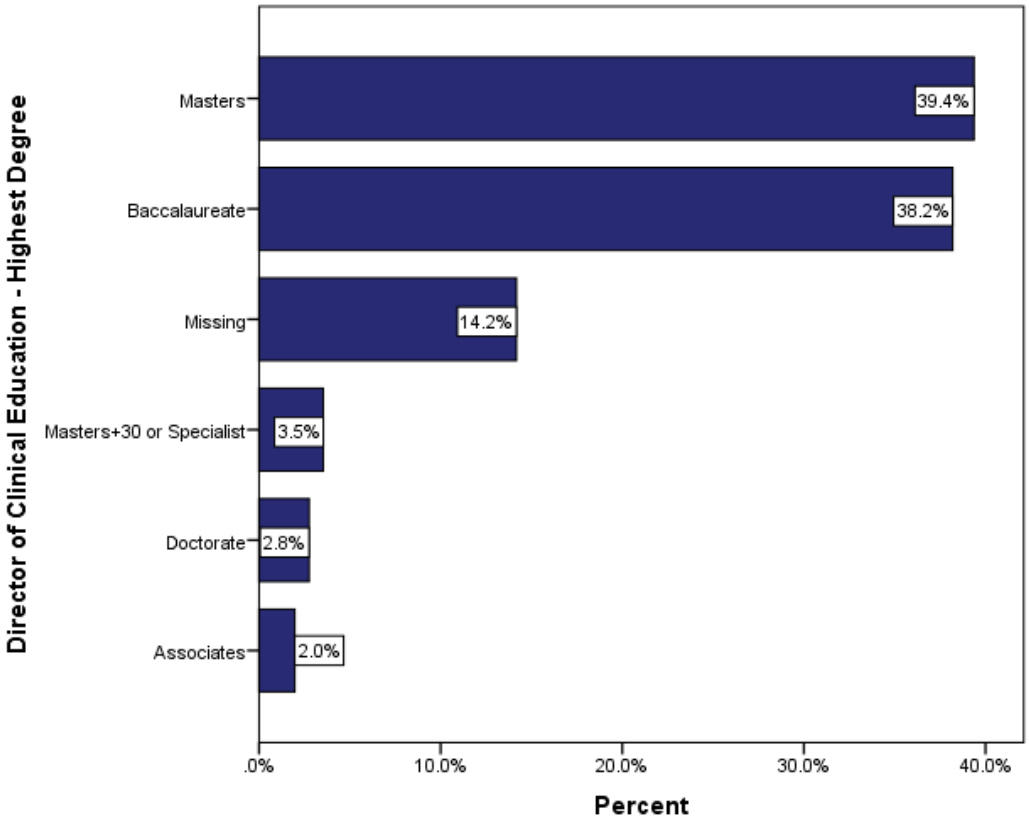


Figure 17. Distribution of post-secondary degrees for Directors of Clinical Education

Faculty Members

Associates and Baccalaureate degrees were dominant among faculty members 2 through 10. The tendency was different for persons designated as faculty member #1, who dominantly held Baccalaureate and Masters degrees.

Table 37. Distribution of post-secondary degrees for Faculty Member #1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Associates	37	14.6	20.8	20.8
	Baccalaureate	67	26.4	37.6	58.4
	Masters	60	23.6	33.7	92.1
	Masters+30 or Specialist	3	1.2	1.7	93.8
	Doctorate	11	4.3	6.2	100.0
	Total	178	70.1	100.0	
Missing	System	76	29.9		
Total		254	100.0		

Table 38. Distribution of post-secondary degrees for Faculty Member #2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Associates	41	16.1	30.4	30.4
	Baccalaureate	54	21.3	40.0	70.4
	Masters	34	13.4	25.2	95.6
	Masters+30 or Specialist	2	.8	1.5	97.0
	Doctorate	4	1.6	3.0	100.0
	Total	135	53.1	100.0	
Missing	System	119	46.9		
Total		254	100.0		

Table 39. Distribution of post-secondary degrees for Faculty Member #3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Associates	38	15.0	38.4	38.4
	Baccalaureate	38	15.0	38.4	76.8
	Masters	17	6.7	17.2	93.9
	Masters+30 or Specialist	3	1.2	3.0	97.0
	Doctorate	3	1.2	3.0	100.0
	Total	99	39.0	100.0	
Missing	System	155	61.0		
Total		254	100.0		

Table 40. Distribution of post-secondary degrees for Faculty Member #4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Associates	32	12.6	45.7	45.7
	Baccalaureate	30	11.8	42.9	88.6
	Masters	6	2.4	8.6	97.1
	Masters+30 or Specialist	2	.8	2.9	100.0
	Total	70	27.6	100.0	
Missing	System	184	72.4		
Total		254	100.0		

Table 41. Distribution of post-secondary degrees for Faculty Member #5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Associates	23	9.1	44.2	44.2
	Baccalaureate	24	9.4	46.2	90.4
	Masters	4	1.6	7.7	98.1
	Doctorate	1	.4	1.9	100.0
	Total	52	20.5	100.0	
Missing	System	202	79.5		
Total		254	100.0		

Table 42. Distribution of post-secondary degrees for Faculty Member #6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Associates	23	9.1	63.9	63.9
	Baccalaureate	10	3.9	27.8	91.7
	Masters	3	1.2	8.3	100.0
	Total	36	14.2	100.0	
Missing	System	218	85.8		
Total		254	100.0		

Table 43. Distribution of post-secondary degrees for Faculty Member #7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Associates	16	6.3	57.1	57.1
	Baccalaureate	10	3.9	35.7	92.9
	Masters	2	.8	7.1	100.0
	Total	28	11.0	100.0	
Missing	System	226	89.0		
Total		254	100.0		

Table 44. Distribution of post-secondary degrees for Faculty Member #8

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Associates	13	5.1	61.9	61.9
	Baccalaureate	7	2.8	33.3	95.2
	Masters	1	.4	4.8	100.0
	Total	21	8.3	100.0	
Missing	System	233	91.7		
Total		254	100.0		

Table 45. Distribution of post-secondary degrees for Faculty Member #9

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Associates	9	3.5	64.3	64.3
	Baccalaureate	4	1.6	28.6	92.9
	Doctorate	1	.4	7.1	100.0
	Total	14	5.5	100.0	
Missing	System	240	94.5		
Total		254	100.0		

Table 46. Distribution of post-secondary degrees for Faculty Member #10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Associates	6	2.4	60.0	60.0
	Baccalaureate	4	1.6	40.0	100.0
	Total	10	3.9	100.0	
Missing	System	244	96.1		
Total		254	100.0		

Educational Responsibility

16. Please indicate the educational responsibility for each staff member.

Among those who responded to this question, nearly 40% indicated that the program director only had responsibility for facilitating didactic educational activities. The rest of the program directors also facilitated clinical teaching as part of their responsibilities.

Table 47. Distribution of educational responsibility for Program Director

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Clinical	1	.4	.5	.5
	Didactic	85	33.5	39.2	39.6
	Clinical and Didactic	131	51.6	60.4	100.0
	Total	217	85.4	100.0	
Missing	System	37	14.6		
Total		254	100.0		

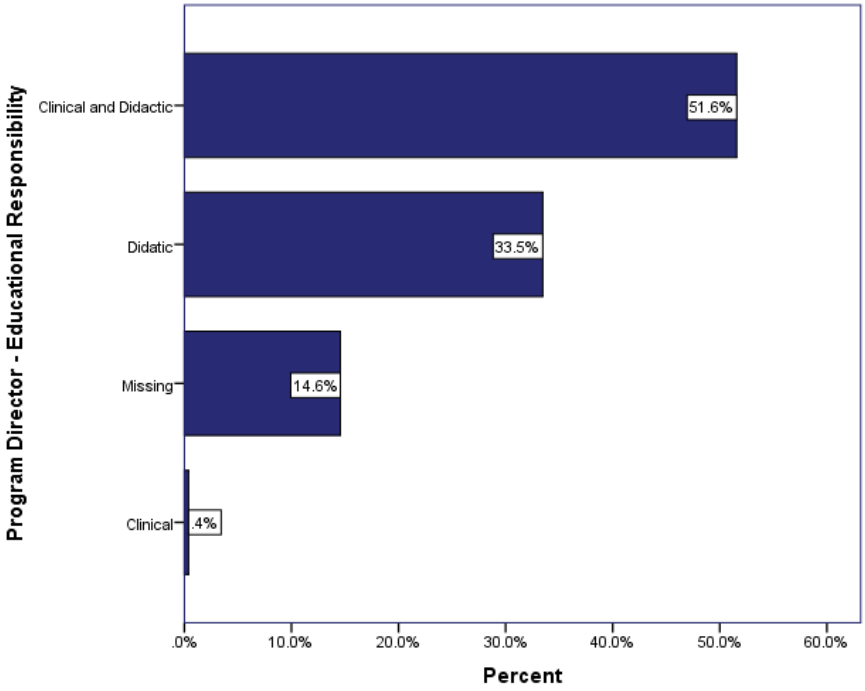


Figure 18. Distribution of educational responsibility for Program Directors

Table 48. Distribution of educational responsibility for Directors of Clinical Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Clinical	21	8.3	9.8	9.8
	Didactic	15	5.9	7.0	16.7
	Clinical and Didactic	179	70.5	83.3	100.0
	Total	215	84.6	100.0	
Missing	System	39	15.4		
Total		254	100.0		

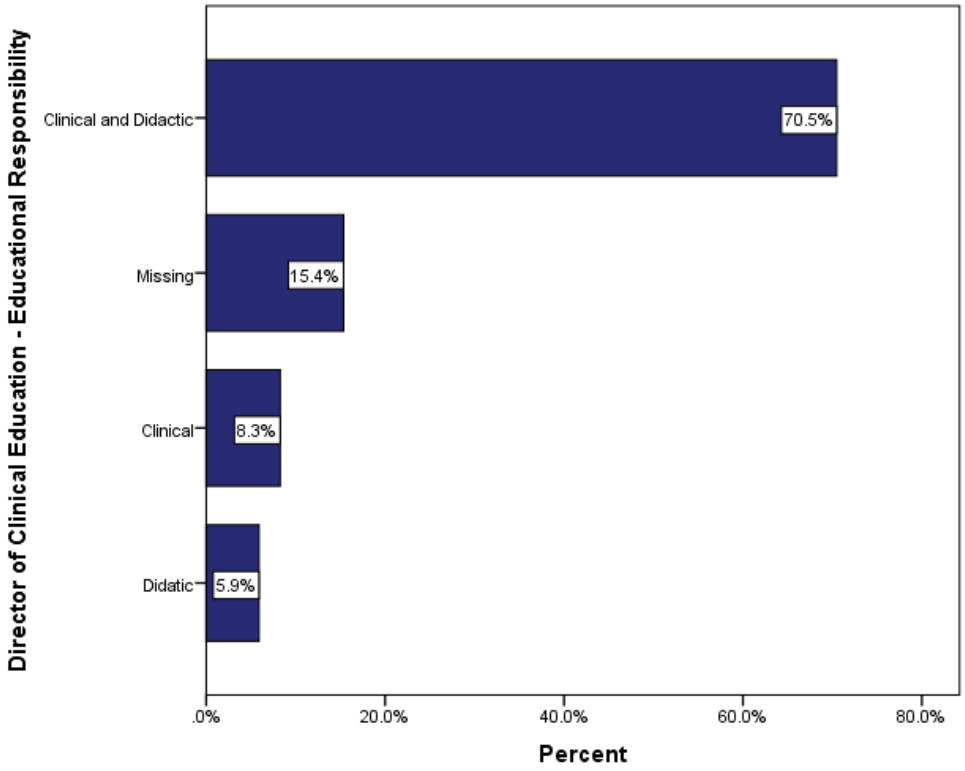


Figure 19. Distribution of educational responsibility for Directors of Clinical Education

The remaining tables in this section indicated that certain faculty were likely to only have clinical responsibilities or only have didactic responsibilities.

Table 49. Distribution of educational responsibility for Faculty Member #1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Clinical	36	14.2	20.1	20.1
	Didactic	56	22.0	31.3	51.4
	Clinical and Didactic	87	34.3	48.6	100.0
	Total	179	70.5	100.0	
Missing	System	75	29.5		
Total		254	100.0		

Table 50. Distribution of educational responsibility for Faculty Member #2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Clinical	48	18.9	35.0	35.0
	Didactic	31	12.2	22.6	57.7
	Clinical and Didactic	58	22.8	42.3	100.0
	Total	137	53.9	100.0	
Missing	System	117	46.1		
Total		254	100.0		

Table 51. Distribution of educational responsibility for Faculty Member #3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Clinical	44	17.3	44.0	44.0
	Didactic	24	9.4	24.0	68.0
	Clinical and Didactic	32	12.6	32.0	100.0
	Total	100	39.4	100.0	
Missing	System	154	60.6		
Total		254	100.0		

Table 52. Distribution of educational responsibility for Faculty Member #4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Clinical	38	15.0	53.5	53.5
	Didactic	18	7.1	25.4	78.9
	Clinical and Didactic	15	5.9	21.1	100.0
	Total	71	28.0	100.0	
Missing	System	183	72.0		
Total		254	100.0		

Table 53. Distribution of educational responsibility for Faculty Member #5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Clinical	36	14.2	67.9	67.9
	Didactic	5	2.0	9.4	77.4
	Clinical and Didactic	12	4.7	22.6	100.0
	Total	53	20.9	100.0	
Missing	System	201	79.1		
Total		254	100.0		

Table 54. Distribution of educational responsibility for Faculty Member #6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Clinical	29	11.4	78.4	78.4
	Didactic	4	1.6	10.8	89.2
	Clinical and Didactic	4	1.6	10.8	100.0
	Total	37	14.6	100.0	
Missing	System	217	85.4		
Total		254	100.0		

Table 55. Distribution of educational responsibility for Faculty Member #7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Clinical	25	9.8	86.2	86.2
	Didactic	2	.8	6.9	93.1
	Clinical and Didactic	2	.8	6.9	100.0
	Total	29	11.4	100.0	
Missing	System	225	88.6		
Total		254	100.0		

Table 56. Distribution of educational responsibility for Faculty Member #8

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Clinical	20	7.9	95.2	95.2
	Didactic	1	.4	4.8	100.0
	Total	21	8.3	100.0	
Missing	System	233	91.7		
Total		254	100.0		

Table 57. Distribution of educational responsibility for Faculty Member #9

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Clinical	14	5.5	100.0	100.0
Missing	System	240	94.5		
Total		254	100.0		

Table 58. Distribution of educational responsibility for Faculty Member #10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Clinical	10	3.9	100.0	100.0
Missing	System	244	96.1		
Total		254	100.0		

Annual Earnings

17. Please provide the annual earnings for positions paid by the program.

The grand mean of annual earnings across all faculty described in this study was $49,875.

Table 59. Annual earnings ($) across academic position

	N		Mean	Std. Error of Mean	Std. Deviation	Minimum	Maximum
	Valid	Missing					
Program Director	190	64	77732.88	1326.446	18283.793	41000	150000
Director of Clinical Education	186	68	65487.22	1091.847	14890.805	37000	110000
Faculty Member 1	146	108	46137.25	2312.894	27946.801	900	110000
Faculty Member 2	106	148	37561.79	2756.656	28381.509	490	90614
Faculty Member 3	76	178	32639.66	3298.821	28758.455	980	98000
Faculty Member 4	53	201	24825.23	3472.215	25278.107	2000	90688
Faculty Member 5	41	213	24378.22	3790.018	24267.953	2000	83200
Faculty Member 6	27	227	19472.67	3708.908	19272.053	1000	70000
Faculty Member 7	22	232	17663.68	3301.233	15484.155	1890	66528
Faculty Member 8	16	238	17201.56	4220.197	16880.788	1600	66528
Faculty Member 9	11	243	19648.09	5193.085	17223.515	3500	66528
Faculty Member 10	8	246	15072.63	2492.875	7050.915	2400	28000

There was a strong indicator in Tables 60 and 61 that tenure status affected salaries of respiratory care faculty.

Table 60. Annual earnings ($) by tenure status

Faculty earned tenure?	N		Mean	Std. Error of Mean	Median	Std. Deviation	Min	Max
	Valid	Missing						
Yes	124	34	77356.52	1644.693	75000.00	18314.529	37000	139000
No	580	94	45208.56	1244.993	50000.00	29983.412	490	150000

Table 61. t-Test for Annual earnings ($) by tenure status

	Levene's Test for Equality of Var		t-test for Equality of Means						
								95% Confidence Interval of the Difference	
	F	Sig	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Diff	Lower	Upper
Equal variances not assumed			15.59	284.50	.000	32147.958	2062.771	28087.729	36208.187

Effect size (r^2) = .461
Where: $r^2 = t^2 / (t^2 + df)$

Title within the program exerted a strong effect on annual earnings. Each mean shown in Table 62 was significantly different than each of the other mean values.

Table 62. Annual earnings ($) by title

	N		Mean	Std. Error of Mean	Median	Std. Deviation	Min	Max
	Valid	Missing						
Program Director	190	64	77732.88	1326.446	75000.00	18283.793	41000	150000
Director of Clin Ed	186	68	65487.22	1091.847	62682.00	14890.805	37000	110000
Faculty	506	2034	33675.38	1237.521	24570.00	27837.350	490	110000

F=288.759, df=2,881, p=.000, eta squared=.397

Table 63. Mean differences in annual earnings ($) by title

(I) positionrecode	(J) positionrecode	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Program Director	Director of Clin Ed	12245.664*	2449.087	.000	7438.92	17052.40
	Faculty	44057.498*	2020.208	.000	40092.50	48022.49
Director of Clin Ed	Program Director	-12245.664*	2449.087	.000	-17052.40	-7438.92
	Faculty	31811.834*	2035.940	.000	27815.96	35807.70
Faculty	Program Director	-44057.498*	2020.208	.000	-48022.49	-40092.50
	Director of Clin Ed	-31811.834*	2035.940	.000	-35807.70	-27815.96

* The mean difference is significant at the 0.05 level.

The academic degree held by each faculty member exerted a large effect on annual earnings. Each mean shown in Table 64 was significantly different than each of the other mean values.

Table 64. Annual earnings ($) by degree

	N		Mean	Std. Error of Mean	Median	Std. Deviation	Min	Max
	Valid	Missing						
Associates	168	76	24377.40	1795.406	14336.00	23271.117	980	111000
Baccalaureate	314	89	44907.13	1561.939	51000.00	27677.635	490	113426
Masters	275	47	63473.25	1459.763	65000.00	24207.426	900	120000
Specialist/PhD	98	11	73828.24	2634.242	75000.00	26077.667	2250	139000

F=114.121, df=3,854, p=.000, eta squared=.287

Table 65. Mean differences in annual earnings ($) by degree

(I) degreerecode	(J) degreerecode	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Associates	Baccalaureate	-20529.735*	2444.925	.000	-25328.53	-15730.94
	Masters	-39095.852*	2504.623	.000	-44011.81	-34179.89
	Specialist/PhD	-49450.845*	3251.133	.000	-55832.02	-43069.67
Baccalaureate	Associates	20529.735*	2444.925	.000	15730.94	25328.53
	Masters	-18566.117*	2112.458	.000	-22712.35	-14419.88
	Specialist/PhD	-28921.110*	2959.595	.000	-34730.07	-23112.15
Masters	Associates	39095.852*	2504.623	.000	34179.89	44011.81
	Baccalaureate	18566.117*	2112.458	.000	14419.88	22712.35
	Specialist/PhD	-10354.994*	3009.100	.001	-16261.12	-4448.87
Specialist/PhD	Associates	49450.845*	3251.133	.000	43069.67	55832.02
	Baccalaureate	28921.110*	2959.595	.000	23112.15	34730.07
	Masters	10354.994*	3009.100	.001	4448.87	16261.12

* The mean difference is significant at the 0.05 level.

Table 66 showed that programs offering the Baccalaureate degree to graduates tended to pay their faculty significantly more than those that only offered an Associate degree or had an Associate degree as an option with a Baccalaureate degree. However, the F test associated with the comparison of mean values fell just short of the threshold necessary to label these values as significantly different.

Table 66. Annual earnings ($) by degree offered

	N		Mean	Std. Error of Mean	Median	Std. Deviation	Min	Max
	Valid	Missing						
Associates Only	316	98	48228.48	1689.126	55000.00	30026.555	490	116000
Baccalaureate Only	150	21	55105.65	2784.976	63000.00	34108.851	1000	139000
Associates and Baccalaureate	413	151	49413.26	1442.173	56000.00	29308.426	900	150000

F=2.722, df=2,878, p=.066, eta squared=.006

Table 67 shows that the average salary paid to faculty in a four-year institution was significantly higher than the salary paid to faculty in a two-year institution.

Table 67. Annual earnings ($) by institution type

institution	N		Mean	Std. Error of Mean	Median	Std. Deviation	Min	Max
	Valid	Missing						
2-year Comm/Voc College	637	228	47955.84	1200.202	55000.00	30291.738	490	150000
4-year College/Univ	240	42	55128.57	1970.892	60000.00	30532.922	1000	139000

Table 68. t-Test for annual earnings ($) by institution type

	Levene's Test for Equality of Variances		t-test for Equality of Means						
								95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	1.288	.257	-3.12	875	.002	-7172.735	2299.296	-11685.51	-2659.96

Effect size (r^2) = .011
Where: $r^2 = t^2 / (t^2 + df)$

Tables 69 and 70 showed that faculty within programs that were characterized as public/private consortiums were the highest paid subgroup. There was no significant difference between salaries paid to faculty in public/private consortiums and proprietary programs. Faculty in programs within proprietary institutions earned significantly more than faculty in public institutions. The difference in faculty salaries between public and private institutions was not significant.

Because the public/private consortium group was the smallest of these subgroups, some caution should be used in inferring that a difference exists in the population. Adding to this caution is the fact that the effect size was very small.

Table 69. Annual earnings ($) by institution type

institution1	N		Mean	Std. Error of Mean	Median	Std. Deviation	Min	Max
	Valid	Missing						
Public	630	193	47386.16	1241.736	55000.00	31167.336	490	139000
Private	101	16	51268.02	3038.916	58000.00	30540.731	1200	111000
Public/Private Consortium	16	0	71870.00	3185.442	71900.00	12741.770	51300	102400
Proprietary	132	61	58579.20	2252.558	63000.00	25879.918	1500	150000

F=8.016, df=3,868, p=.000, eta squared=.027

Table 70. Mean differences in annual earnings ($) by institution type

(I) institution1	(J) institution1	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Public	Private	-3881.860	3229.684	.230	-10220.69	2456.97
	Public/Private Consortium	-24483.840*	7628.134	.001	-39455.42	-9512.26
	Proprietary	-11193.037*	2884.381	.000	-16854.15	-5531.92
Private	Public	3881.860	3229.684	.230	-2456.97	10220.69
	Public/Private Consortium	-20601.980*	8107.829	.011	-36515.04	-4688.92
	Proprietary	-7311.177	3983.480	.067	-15129.47	507.11
Public/Private Consortium	Public	24483.840*	7628.134	.001	9512.26	39455.42
	Private	20601.980*	8107.829	.011	4688.92	36515.04
	Proprietary	13290.803	7976.571	.096	-2364.64	28946.25
Proprietary	Public	11193.037*	2884.381	.000	5531.92	16854.15
	Private	7311.177	3983.480	.067	-507.11	15129.47
	Public/Private Consortium	-13290.803	7976.571	.096	-28946.25	2364.64

* The mean difference is significant at the 0.05 level.

Table 71 indicated that there were no significant regional differences in annual earnings.

Table 71. Annual earnings ($) by region

region	N		Mean	Std. Error of Mean	Median	Std. Deviation	Min	Max
	Valid	Missing						
.	7	1920	44270.00	11240.596	56000.00	29739.821	1890	75000
Northeast	156	54	49813.40	2597.660	58000.00	32444.768	900	150000
South	326	100	49389.62	1634.124	55000.00	29504.880	1560	139000
Midwest	189	23	48201.11	2294.091	56000.00	31538.530	490	123781
West	204	69	52440.25	2088.023	59500.00	29822.929	1100	116000

Northeast – MA, RI, NH, ME, VT, CT, NJ, NY, PA
Midwest – OH, IN, MI, WI, IL, IA, MN, SD, ND, MO, KS, NE
South – DC, DE, MD, VA, MV, NC, SC, GA, FL, AL, TN, MS, KY, LA, AR, OK, TX
West – MT, CO, WY, ID, UT, AZ, NM, NV, CA, HI, OR, WA, AK
F=0.695, df=3,874, p=.555, eta squared=.002

Summary of Effects on Annual Earnings

Whether faculty had achieved tenure exerted a large effect (46%) on annual earnings, which was associated with a $32,148 difference. Job title likewise was associated with a large effect (40%) on annual earnings, particularly for the difference ($44,057) between program directors and regular faculty and for the difference ($31,811) between directors of clinical education and regular faculty.

The degree achieved by program directors, directors of clinical education, or regular faculty members exerted a large effect (29%) on annual earnings. The largest of these differences was $49,451 between persons who had achieved a Specialist/PhD and those who had achieved an Associate's degree. However, even the difference ($20,530) between Baccalaureate and Associate was impressive.

The effect size was small for the difference ($7,173) in annual earnings that could be attributed to whether a person was employed in a 2-year college or 4-year college. Another small effect was observed for differences between four types of institutions – public, private, public/private consortium, and proprietary. These differences can be observed in Table 70.

Tenure

18. If any current or potential program faculty wanted to seek tenure within your institution, could a tenure-track position be made available to them?

Responses to this survey item indicate that just less than 30% of programs could offer tenure to their faculty.

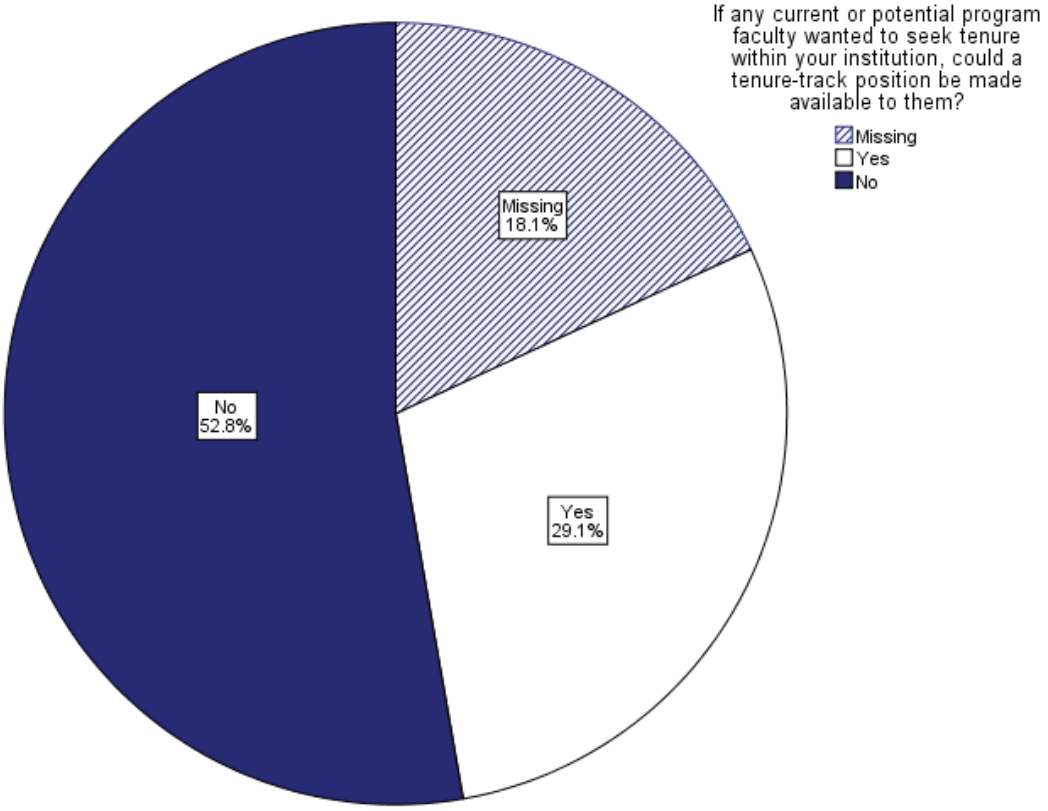


Figure 20. Distribution of tenure track availability

Offering tenure is even less likely for faculty who work in 2-year colleges.

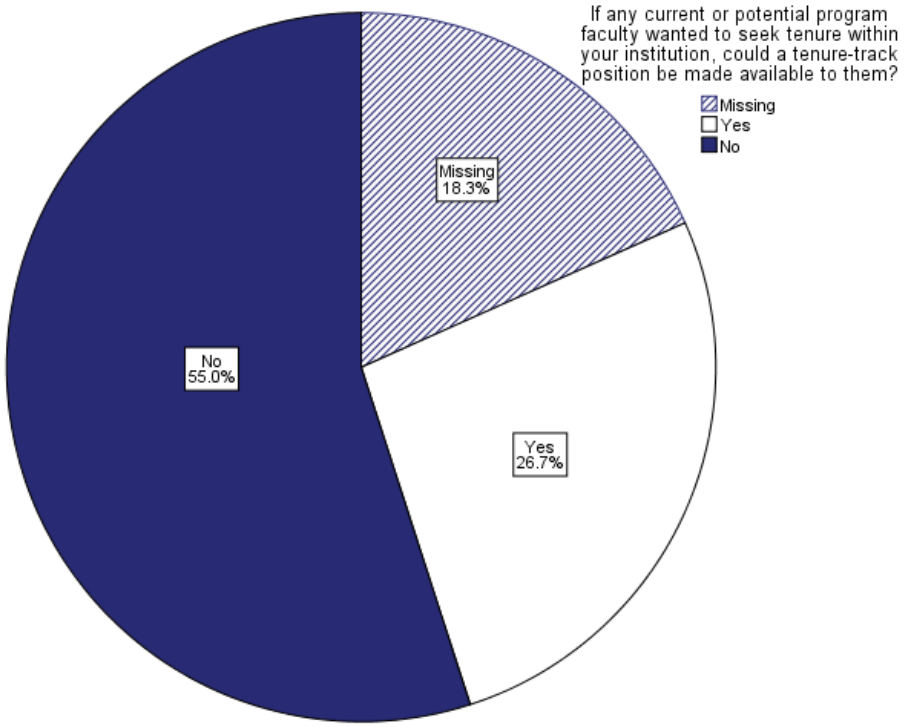


Figure 21. Distribution by tenure for respondents from 2-yr community/vocational colleges

Offering tenure to faculty is more likely in 4-year colleges, but still less than half of such programs can offer tenure.

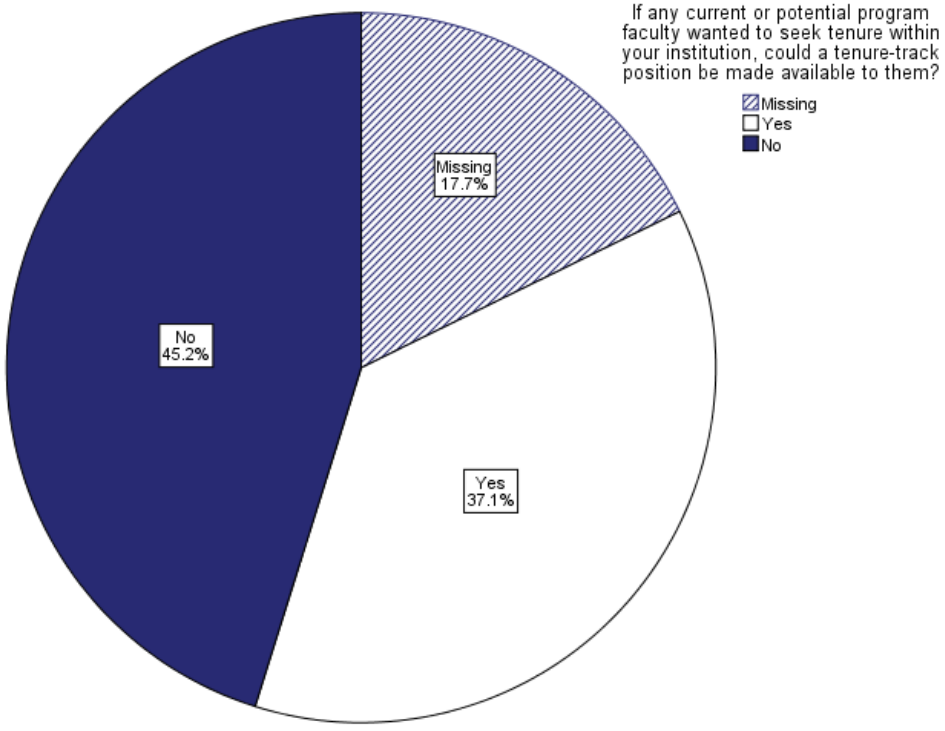


Figure 22. Distribution by tenure for respondents from 4-yr colleges/universities.

19. Please indicate the tenure status of each position.

Table 72. Distribution of valid percentage of education staff who have earned tenure

	Valid Percent
Program Director	39.9
Director of Clin Ed	27.1
Faculty Member #1	18.7
Faculty Member #2	6.1
Faculty Member #3	7.4
Faculty Member #4	2.1
Faculty Member #5	2.6
Faculty Member #6	0.0
Faculty Member #7	4.3
Faculty Member #8	0.0
Faculty Member #9	0.0
Faculty Member #10	0.0

Table 73. Distribution of valid percentage of education staff at 2-yr community / vocational colleges who have earned tenure

	Valid Percent
Program Director	43.4
Director of Clin Ed	33.3
Faculty Member #1	18.7
Faculty Member #2	7.6
Faculty Member #3	4.3
Faculty Member #4	2.8
Faculty Member #5	3.3
Faculty Member #6	0.0
Faculty Member #7	5.0
Faculty Member #8	0.0
Faculty Member #9	0.0
Faculty Member #10	0.0

Table 74. Distribution of valid percentage of education staff at 4-yr colleges / universities who have earned tenure

	Valid Percent
Program Director	31.3
Director of Clin Ed	10.6
Faculty Member #1	18.6
Faculty Member #2	3.1
Faculty Member #3	13.6
Faculty Member #4	0.0
Faculty Member #5	0.0
Faculty Member #6	0.0
Faculty Member #7	0.0
Faculty Member #8	0.0
Faculty Member #9	0.0
Faculty Member #10	0.0

20. Please indicate how long the faculty member in the following job titles intends to remain in respiratory care education.

The typical Program Director intended to remain involved in education for 10 to 11 years more. More specifically, just less than one quarter of program directors intended to leave within 5 years and another 25% intended to leave between years 6 and 10 according to Table 69. Nearly half of program directors will be out of education in a decade.

Returning to Table 68, Directors of clinical education were expected by the typical program director to remain 4 years beyond the point when the program director had left. Likely, this reflects a succession plan in which the director of clinical education moves into the program director role.

Table 75. Intended Duration to Remain in respiratory care education by academic position

	N		Mean	Std. Error of Mean	Median	Std. Deviation	Min	Max
	Valid	Missing						
Program Director	166	88	10.89	.578	11.00	7.450	1	34
Director of Clin Ed	168	86	14.57	.639	15.00	8.286	1	41
Faculty Member #1	120	134	13.40	.782	11.00	8.563	1	41
Faculty Member #2	84	170	14.62	1.013	11.00	9.280	2	41
Faculty Member #3	59	195	15.03	1.060	16.00	8.143	1	31
Faculty Member #4	39	215	15.36	1.536	11.00	9.590	1	36
Faculty Member #5	30	224	15.47	1.613	16.00	8.835	1	36
Faculty Member #6	23	231	13.26	1.679	11.00	8.052	2	26
Faculty Member #7	19	235	14.53	2.138	11.00	9.318	2	31
Faculty Member #8	13	241	12.77	1.892	11.00	6.821	4	21
Faculty Member #9	10	244	9.30	1.375	8.50	4.347	4	16
Faculty Member #10	7	247	10.00	2.400	6.00	6.351	4	21

Program Directors

Table 76. Intended Duration for Program Directors to Remain in Respiratory Care Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-5	40	15.7	24.1	24.1
	6-10	42	16.5	25.3	49.4
	11-15	41	16.1	24.7	74.1
	16 or more	43	16.9	25.9	100.0
	Total	166	65.4	100.0	
Missing	System	88	34.6		
Total		254	100.0		

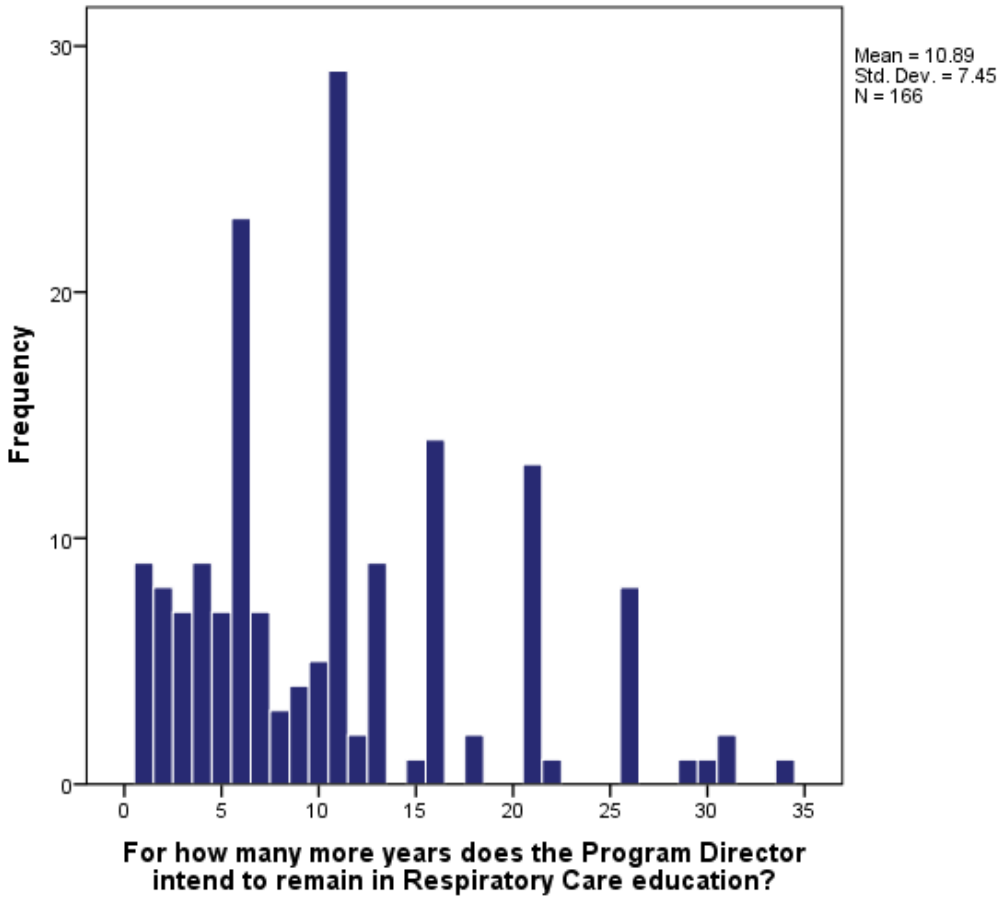


Figure 23. Intended Duration for Program Directors to Remain in Respiratory Care Education.

Directors of Clinical Education

Table 77 shows that nearly one-half of the Directors of Clinical Education should remain in education for at least 16 more years. About 30% of Directors of Clinical Education will be out of education in the next decade.

Table 77. Intended Duration for Directors of Clinical Education to Remain in Respiratory Care Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-5	27	10.6	16.1	16.1
	6-10	20	7.9	11.9	28.0
	11-15	37	14.6	22.0	50.0
	16 or more	84	33.1	50.0	100.0
	Total	168	66.1	100.0	
Missing	System	86	33.9		
Total		254	100.0		

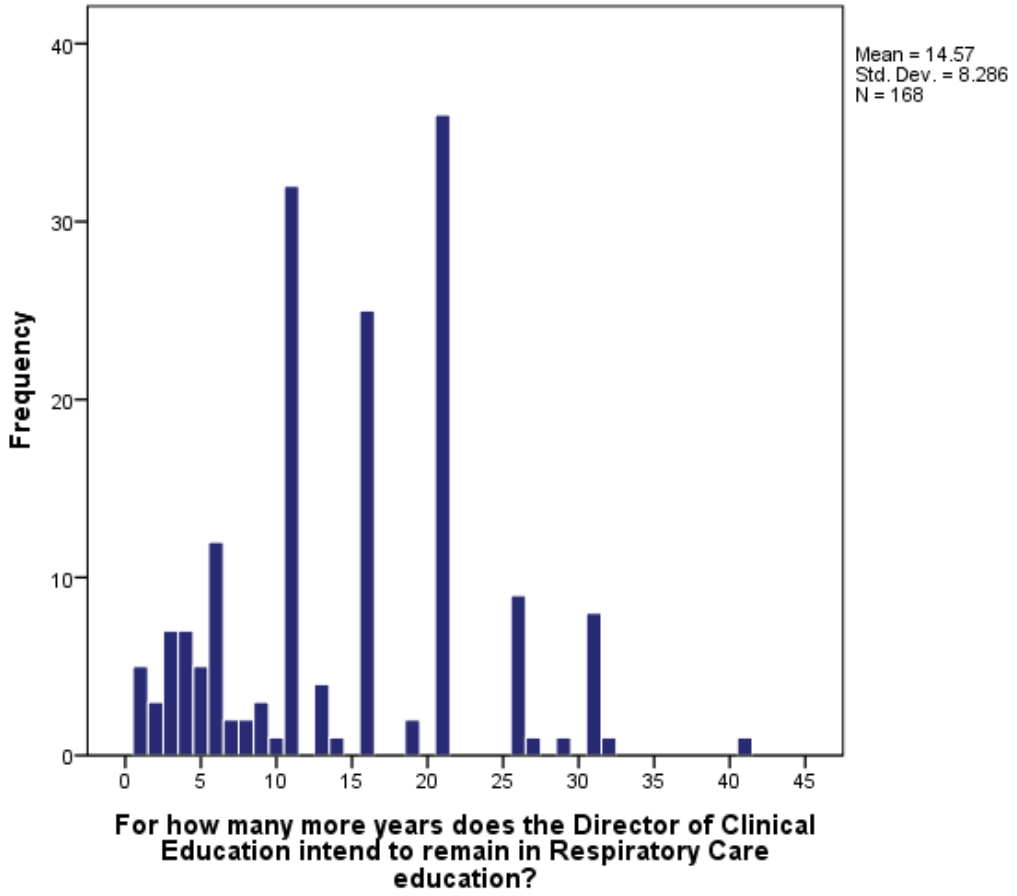


Figure 24. Intended Duration for Directors of Clinical Education to Remain in Respiratory Care Education

Faculty Members

The following set of tables showed that a majority of junior faculty will be involved in education for more than a decade.

Table 78. Intended Duration for Faculty Member #1 to Remain in Respiratory Care Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-5	21	8.3	17.5	17.5
	6-10	23	9.1	19.2	36.7
	11-15	28	11.0	23.3	60.0
	16 or more	48	18.9	40.0	100.0
	Total	120	47.2	100.0	
Missing	System	134	52.8		
Total		254	100.0		

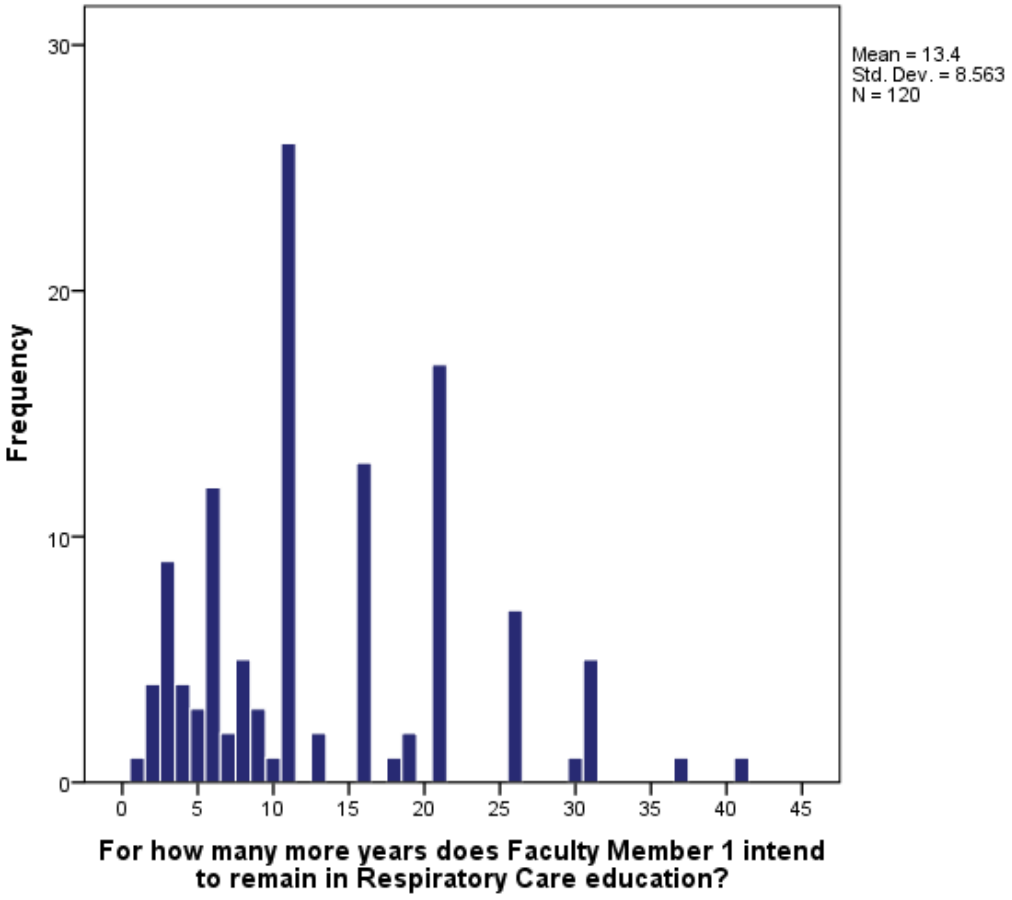


Figure 25. Intended Duration to Remain in Respiratory Care Education for Faculty Member #1

Table 79. Intended Duration for Faculty Member #2 to Remain in Respiratory Care Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-5	12	4.7	14.3	14.3
	6-10	16	6.3	19.0	33.3
	11-15	17	6.7	20.2	53.6
	16 or more	39	15.4	46.4	100.0
	Total	84	33.1	100.0	
Missing	System	170	66.9		
Total		254	100.0		

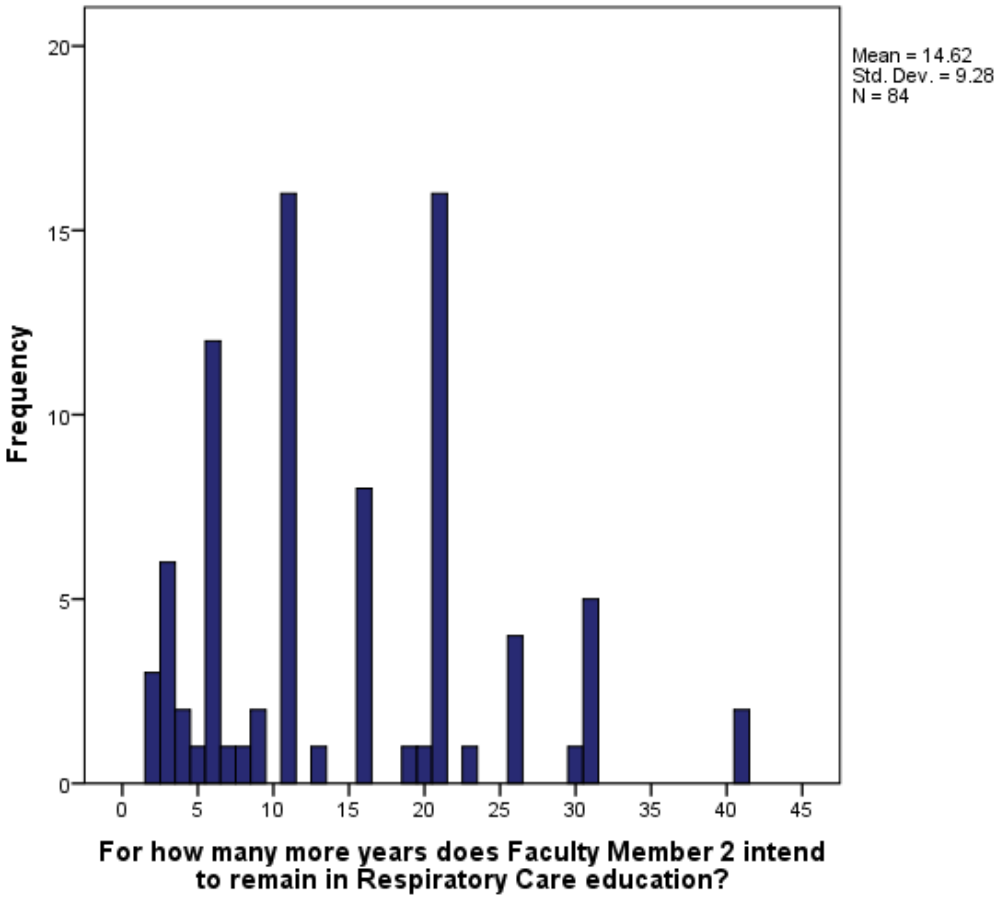


Figure 26. Intended Duration to Remain in Respiratory Care Education for Faculty Member #2

Table 80. Intended Duration for Faculty Member #3 to Remain in Respiratory Care Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-5	8	3.1	13.6	13.6
	6-10	6	2.4	10.2	23.7
	11-15	14	5.5	23.7	47.5
	16 or more	31	12.2	52.5	100.0
	Total	59	23.2	100.0	
Missing	System	195	76.8		
Total		254	100.0		

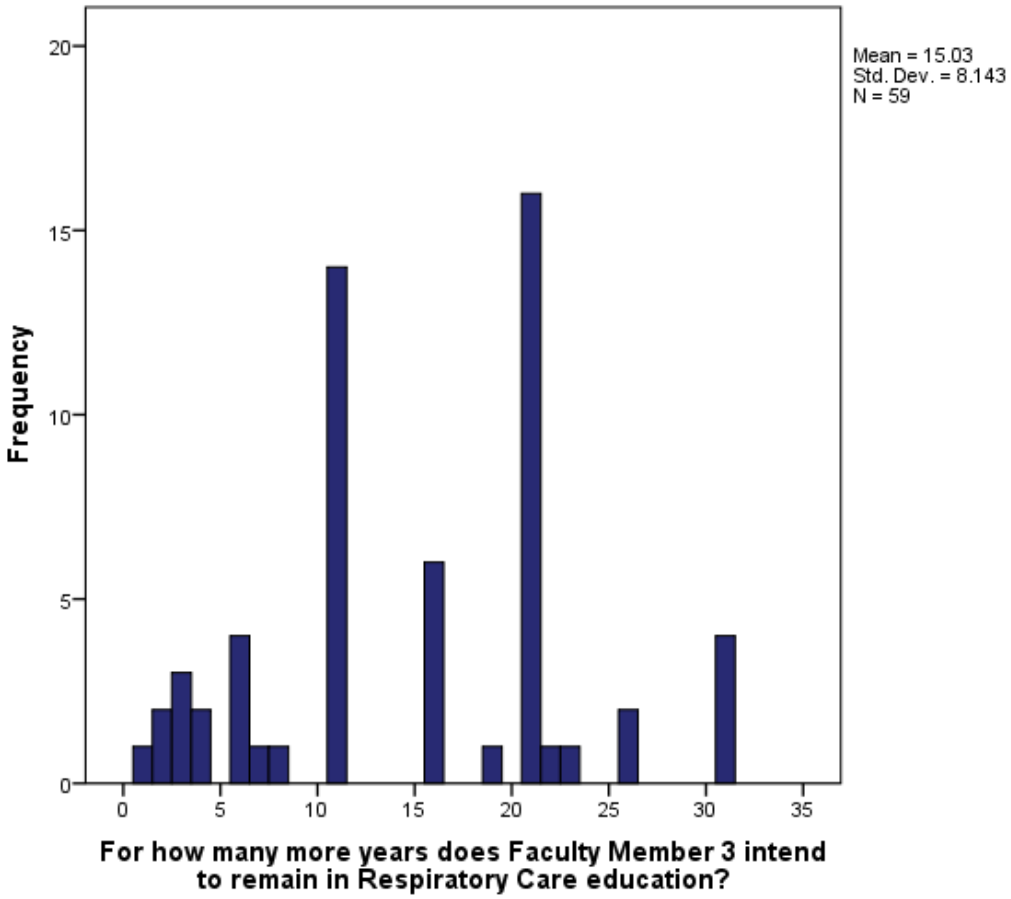


Figure 27. Intended Duration to Remain in Respiratory Care Education for Faculty Member #3

Table 81. Intended Duration for Faculty Member #4 to Remain in Respiratory Care Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-5	4	1.6	10.3	10.3
	6-10	9	3.5	23.1	33.3
	11-15	7	2.8	17.9	51.3
	16 or more	19	7.5	48.7	100.0
	Total	39	15.4	100.0	
Missing	System	215	84.6		
Total		254	100.0		

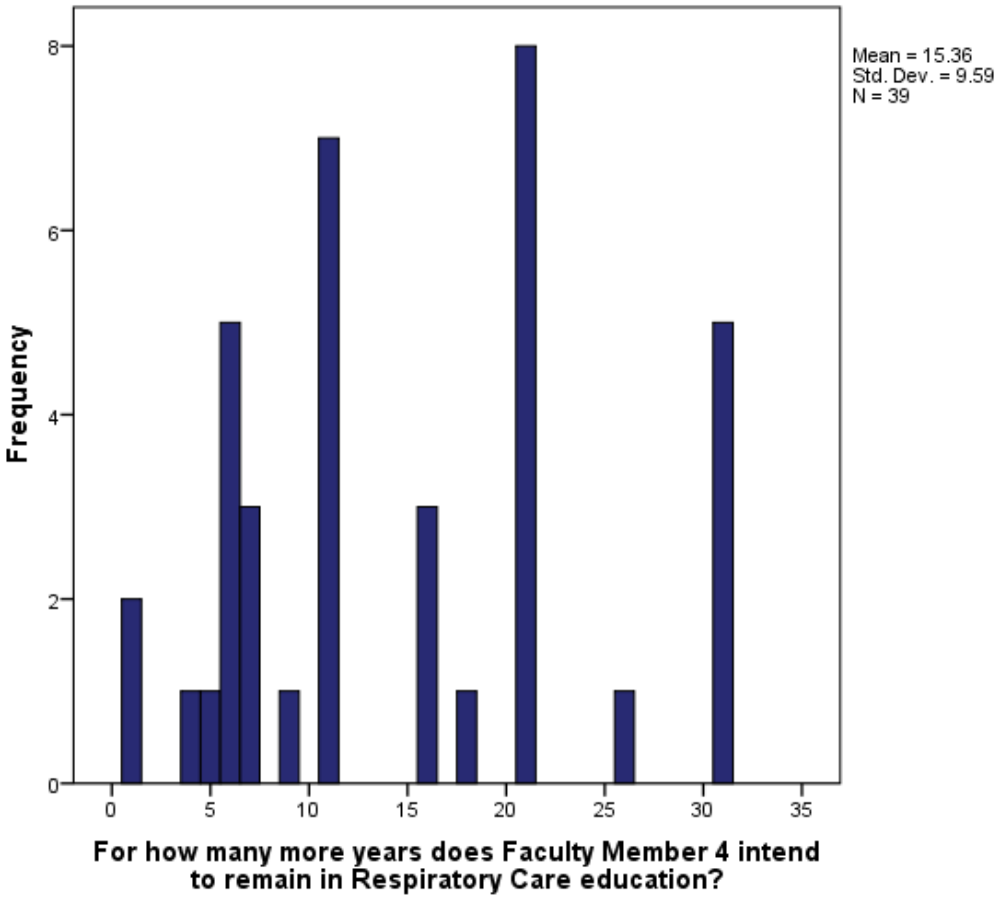


Figure 28. Intended Duration to Remain in Respiratory Care Education for Faculty Member #4

Table 82. Intended Duration for Faculty Member #5 to Remain in Respiratory Care Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-5	2	.8	6.7	6.7
	6-10	7	2.8	23.3	30.0
	11-15	5	2.0	16.7	46.7
	16 or more	16	6.3	53.3	100.0
	Total	30	11.8	100.0	
Missing	System	224	88.2		
Total		254	100.0		

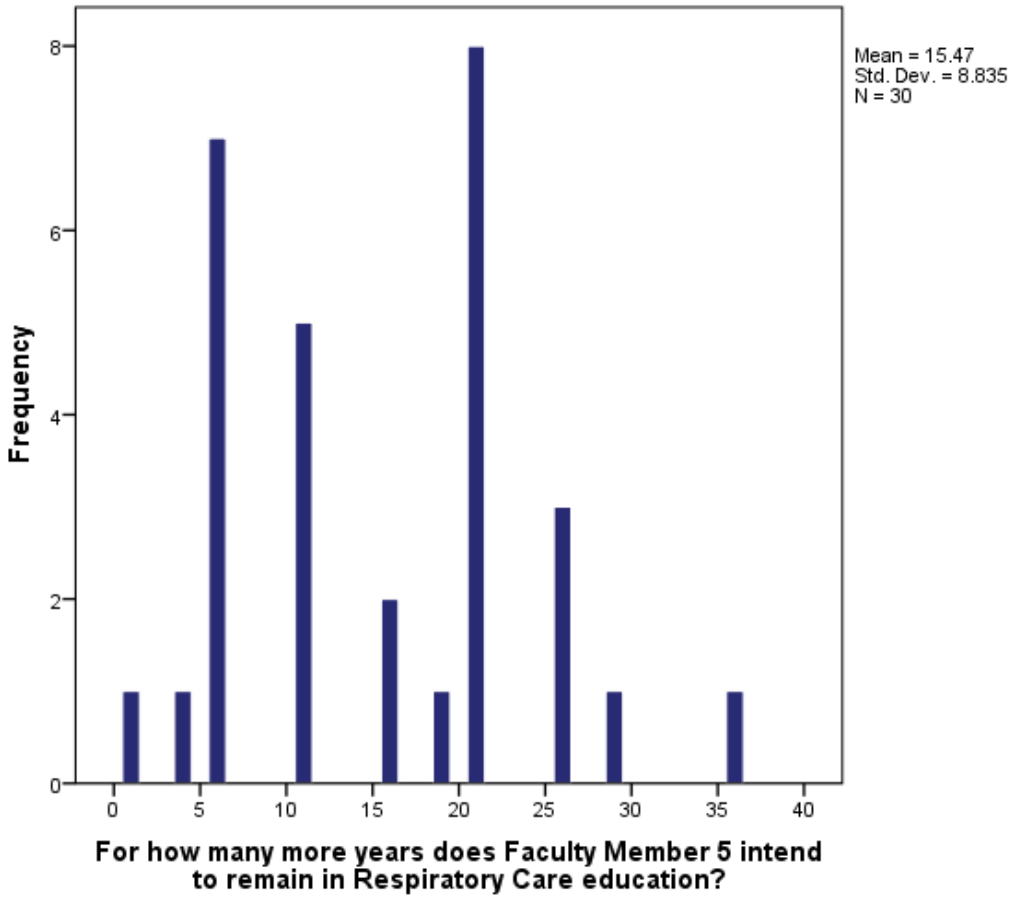


Figure 29. Intended Duration to Remain in Respiratory Care Education for Faculty Member #5

Table 83. Intended Duration for Faculty Member #6 to Remain in Respiratory Care Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-5	3	1.2	13.0	13.0
	6-10	5	2.0	21.7	34.8
	11-15	6	2.4	26.1	60.9
	16 or more	9	3.5	39.1	100.0
	Total	23	9.1	100.0	
Missing	System	231	90.9		
Total		254	100.0		

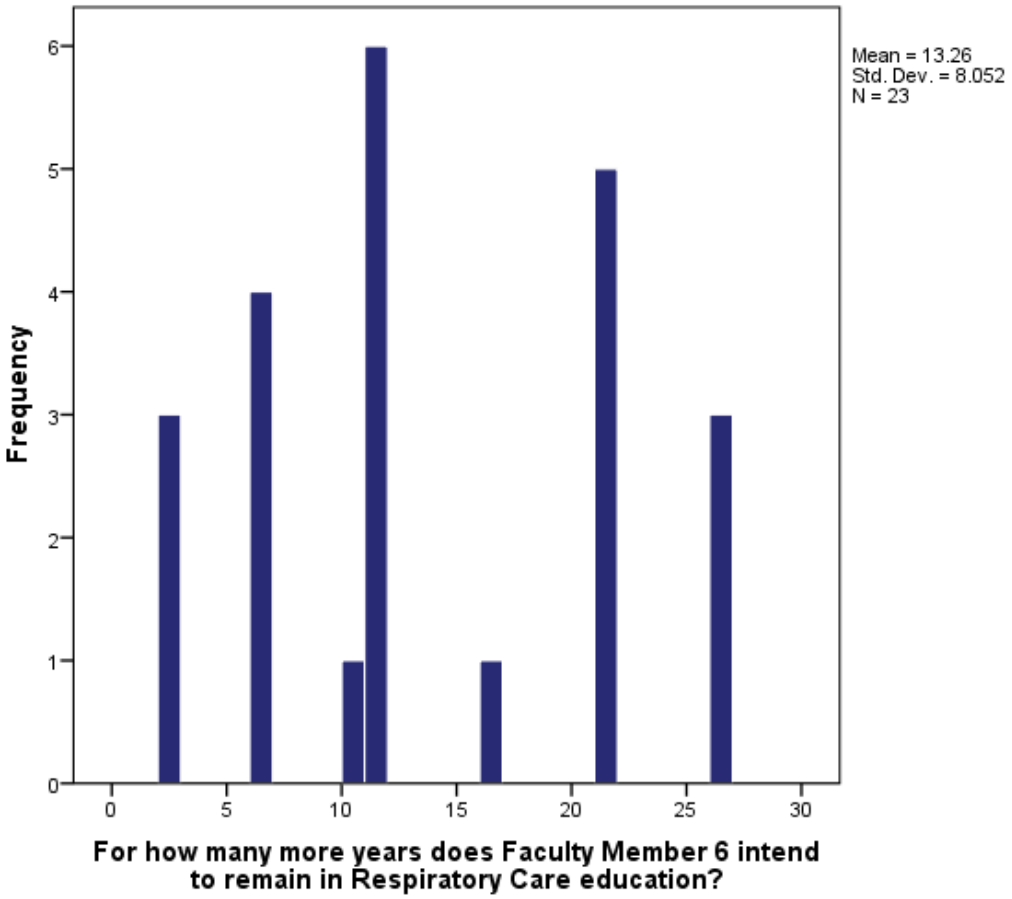


Figure 30. Intended Duration to Remain in Respiratory Care Education for Faculty Member #6

Table 84. Intended Duration for Faculty Member #7 to Remain in Respiratory Care Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-5	2	.8	10.5	10.5
	6-10	6	2.4	31.6	42.1
	11-15	2	.8	10.5	52.6
	16 or more	9	3.5	47.4	100.0
	Total	19	7.5	100.0	
Missing	System	235	92.5		
Total		254	100.0		

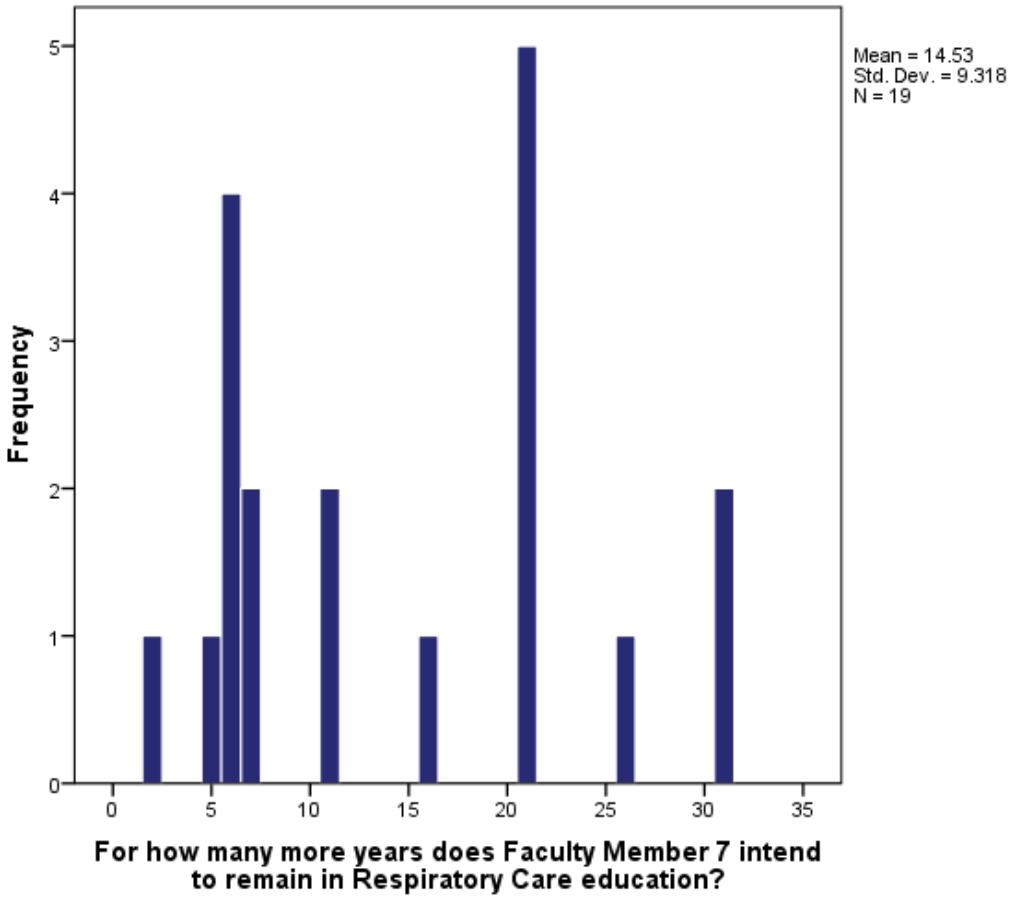


Figure 31. Intended Duration to Remain in Respiratory Care Education for Faculty Member #7

Table 85. Intended Duration for Faculty Member #8 to Remain in Respiratory Care Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-5	1	.4	7.7	7.7
	6-10	4	1.6	30.8	38.5
	11-15	2	.8	15.4	53.8
	16 or more	6	2.4	46.2	100.0
	Total	13	5.1	100.0	
Missing	System	241	94.9		
Total		254	100.0		

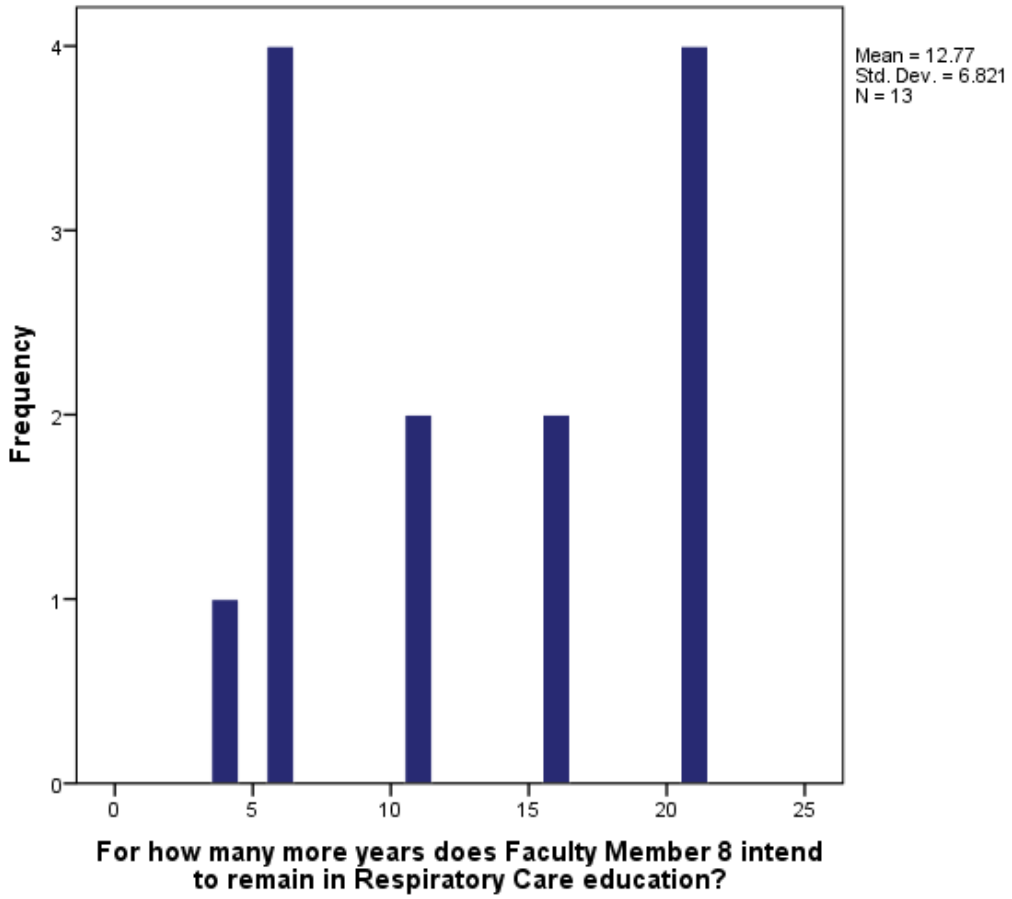


Figure 32. Intended Duration to Remain in Respiratory Care Education for Faculty Member #8

Table 86. Intended Duration for Faculty Member #9 to Remain in Respiratory Care Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-5	1	.4	10.0	10.0
	6-10	4	1.6	40.0	50.0
	11-15	3	1.2	30.0	80.0
	16 or more	2	.8	20.0	100.0
	Total	10	3.9	100.0	
Missing	System	244	96.1		
Total		254	100.0		

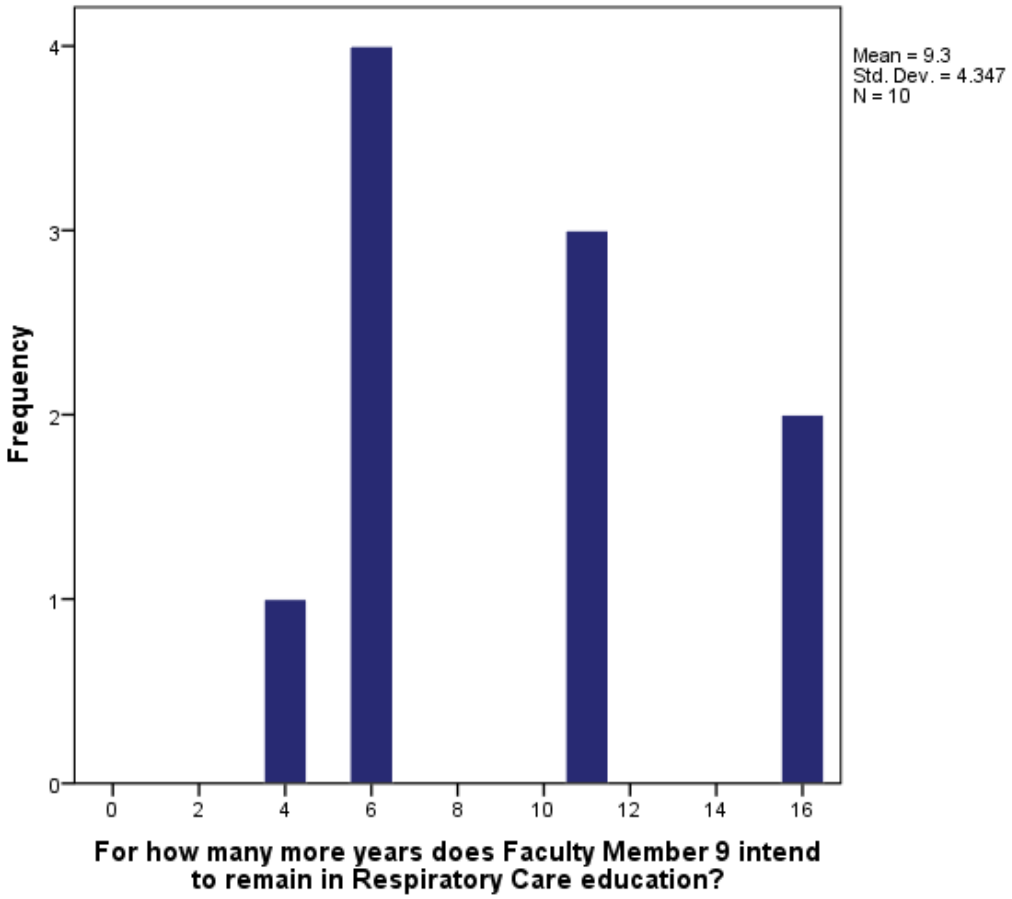


Figure 33. Intended Duration to Remain in Respiratory Care Education for Faculty Member #9

Table 87. Intended Duration for Faculty Member #10 to Remain in Respiratory Care Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-5	1	.4	14.3	14.3
	6-10	3	1.2	42.9	57.1
	11-15	1	.4	14.3	71.4
	16 or more	2	.8	28.6	100.0
	Total	7	2.8	100.0	
Missing	System	247	97.2		
Total		254	100.0		

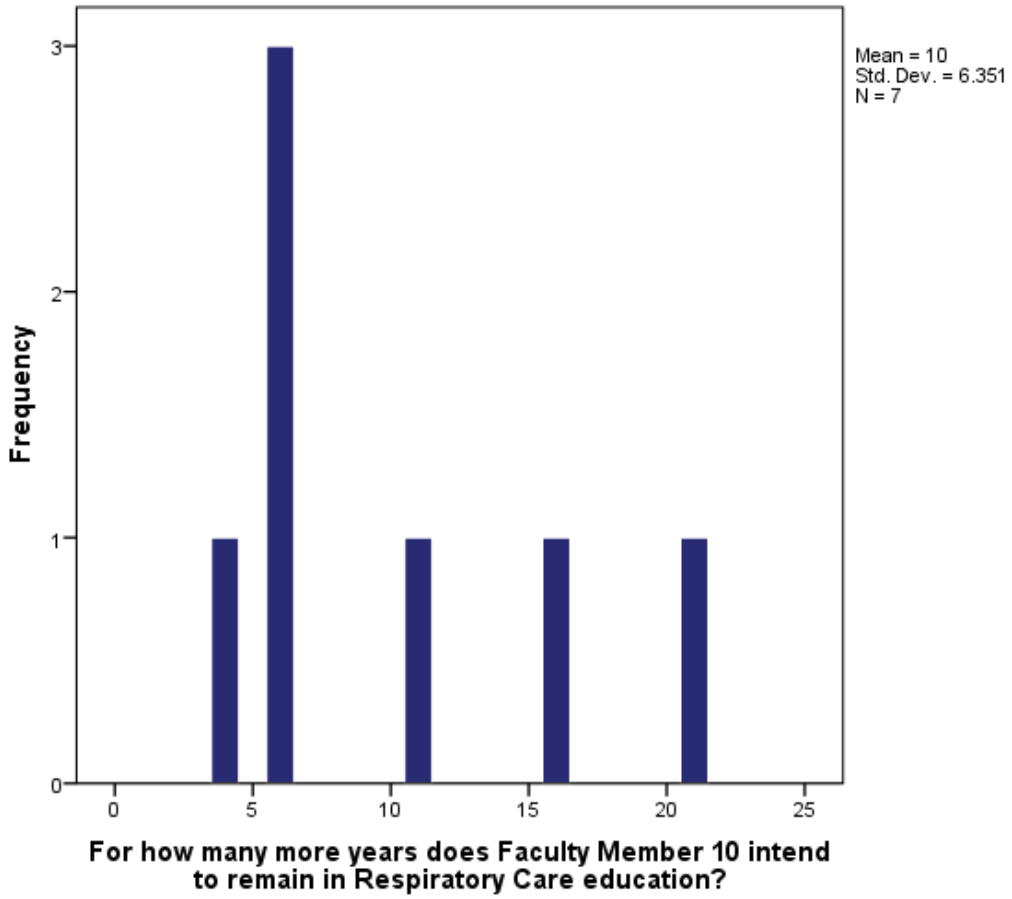


Figure 34. Intended Duration to Remain in Respiratory Care Education for Faculty Member #10

Recruitment

21. Have you had recent difficulty recruiting faculty for your program?

Among those who responded to this questions, 35% reported difficulties in the area of faculty recruitment.

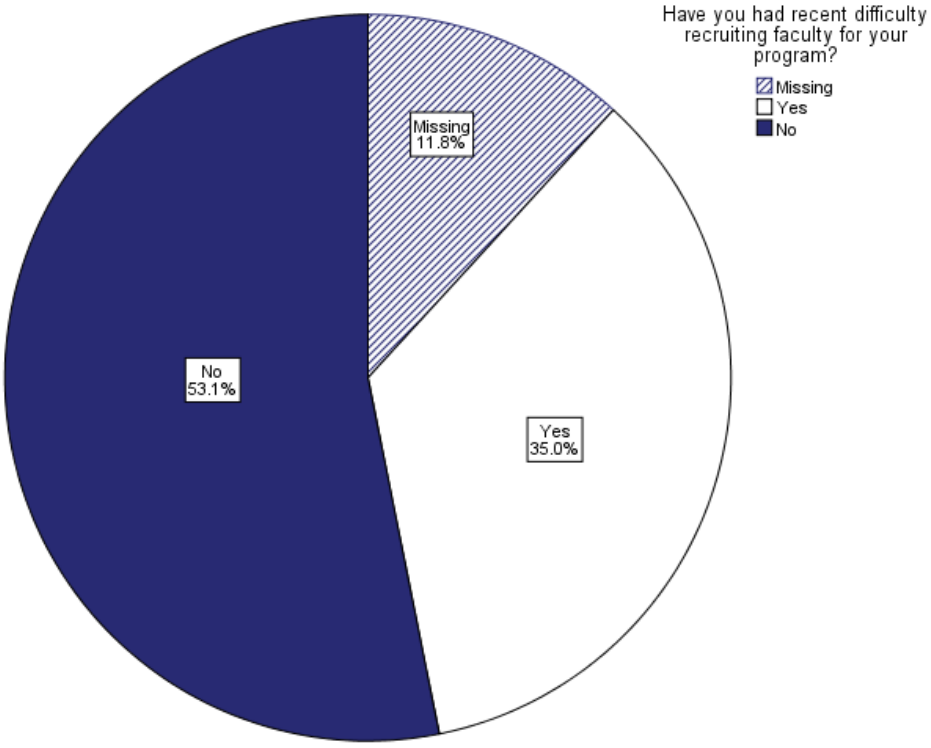


Figure 35. Distribution of recruitment difficulty

22. What reasons contributed to the difficulty you experienced in recruiting faculty? Select all that apply.

The first three reasons displayed in Table 88 contributed most strongly to difficulty in faculty recruitment.

Table 88. Distribution by recruitment difficulty

		Responses		Percent of Cases
		N	Percent	
Difficulties	Applicants did not meet academic preparation requirements	68	32.5%	76.4%
	Salary we could offer was not sufficient	59	28.2%	66.3%
	Applicants lacked teaching experience	57	27.3%	64.0%
	Other reasons for recruitment difficulty*	25	12.0%	28.1%
Total		209	100.0%	234.8%

* Respondents' free responses to this question can be found in Appendix C
**Respondents were instructed to 'Select all that apply'.

Sleep Credential

23. Among all faculty directly compensated by the program, what is the number who have achieved a credential in sleep disorders testing and therapeutics?

More than one-half of programs paid at least one faculty member who had achieved a credential in sleep disorders testing and therapeutics. The number of missing responses in Table 89 was notable. These programs likely had no faculty with a sleep credential. Missing responses were 15.0% of the total number of programs.

Table 89. Faculty holding credentials in sleep disorders testing/therapeutics

N		Mean	Std. Error of Mean	Median	Std. Deviation	Minimum	Maximum
Valid	Missing						
216	38	1.14	.026	1.00	.385	1	3

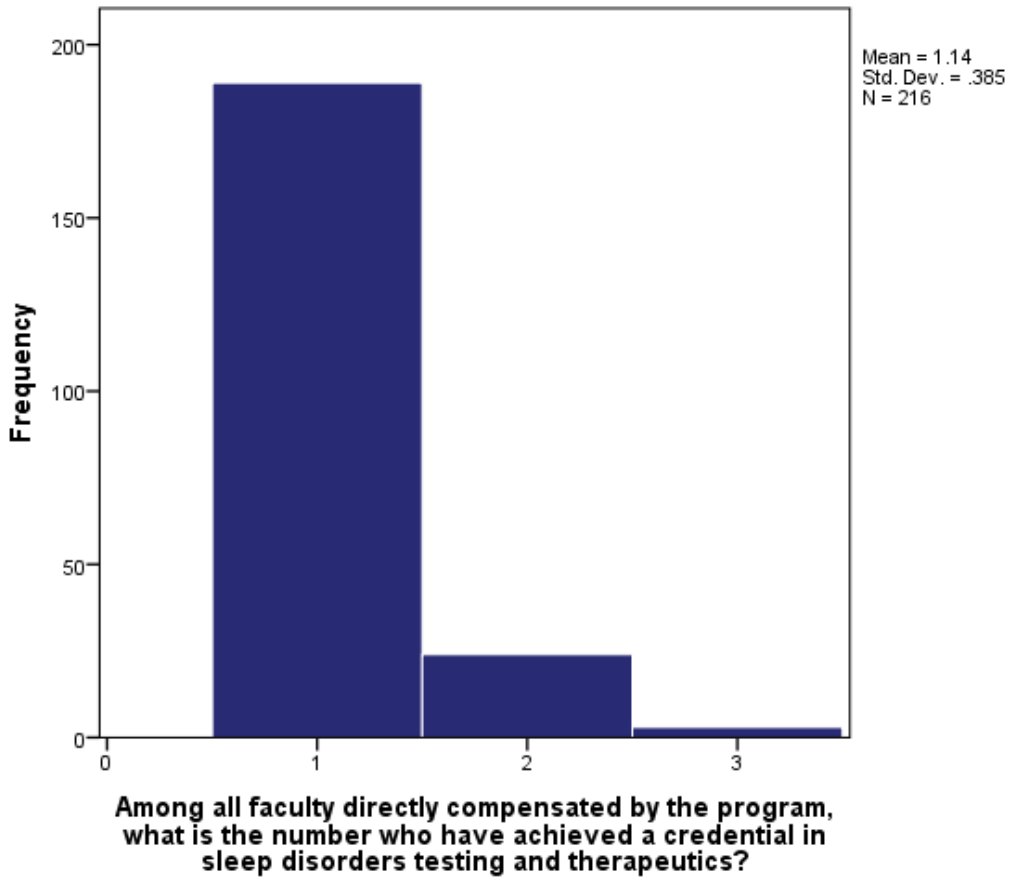


Figure 36. Distribution of faculty holding credentials in sleep disorders testing/therapeutics.

24. Does your program offer a polysomnography specialty option?

The valid percentage of "Yes" responses was 5.4, which accounted for the missing responses.

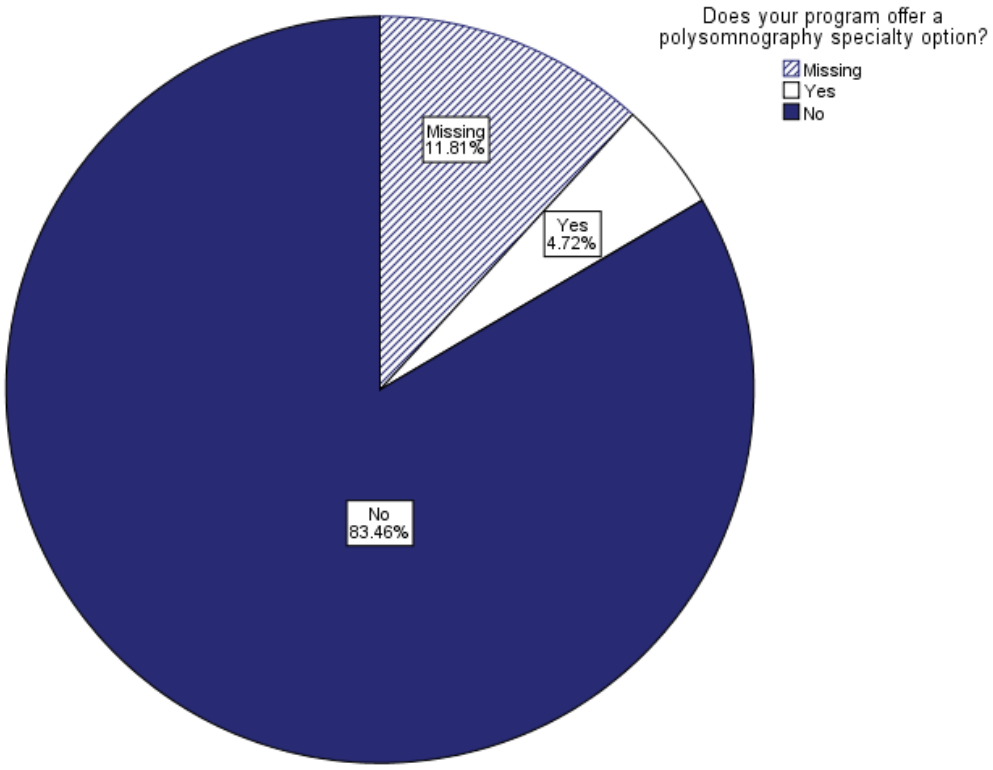


Figure 37. Distribution by polysomnography specialty offerings

25. Please indicate the likelihood that your program will offer a sleep specialty option in the next five years.

After aggregating the responses of 4 and 5 together, about 6% of programs indicated that they were more likely than not to start a sleep specialty option.

Table 90. Distribution by likelihood of offering polysomnography specialty option

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 - Not in our plans	129	50.8	61.1	61.1
	1	26	10.2	12.3	73.5
	2	19	7.5	9.0	82.5
	3	23	9.1	10.9	93.4
	4	9	3.5	4.3	97.6
	5 - Highly likely	5	2.0	2.4	100.0
	Total	211	83.1	100.0	
Missing	System	43	16.9		
Total		254	100.0		

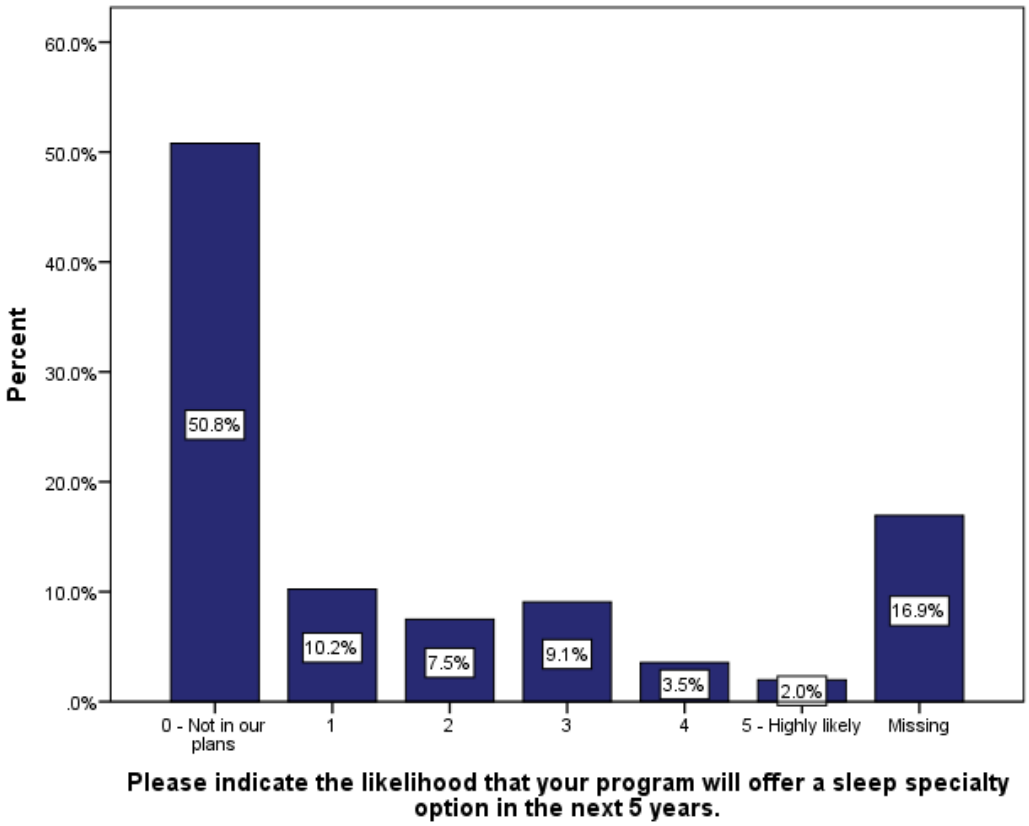


Figure 38. Distribution by likelihood of offering polysomnography specialty option within 5 years

Graduates

26. How many students have graduated, or do you expect to graduate, from your program at the entry-level (eligible for CRT only)?

CoARC accreditation of entry-level programs where graduates were only eligible for the CRT credential was discontinued as of December 31, 2012. A median value of zero in Table 91 was consistent with an environment in which a majority of programs gave a response of zero. Finding 194 affirmative responses and a mean of 9.3 was a curiosity since both values were higher than expected.

Previous studies had been conducted in an environment in which entry-level programs prepared graduates for the CRT credential while advanced-level programs prepared graduates for the CRT and RRT credentials. Content associated with the CRT credential was a subset of the content that was linked to the RRT credential. Some of graduates of advanced-level programs have stopped after achieving the CRT, so the large number of affirmative responses in Table 91 may have been reflecting graduates who had stopped at the CRT.

Table 91. Graduation rate for entry-level programs

N		Mean	Std. Error of Mean	Median	Std. Deviation	Minimum	Maximum
Valid	Missing						
194	60	9.31	1.134	.00	15.799	0	99

27. How many students have graduated, or do you expect to graduate, from your program at the advanced level (eligible for RRT)?

The difference between graduation rates for advanced level programs was not statistically significant within the period from 2012 through 2014.

Table 92. Graduation rate for advanced-level programs by year

	N							
	Valid	Missing	Mean	Std. Error of Mean	Median	Std. Deviation	Minimum	Maximum
2012	216	38	18.02	.933	15.00	13.709	0	99
2013	218	36	18.30	.886	15.00	13.081	0	99
2014	218	36	18.53	.903	16.00	13.338	0	80

28. Please respond to the following questions for the last class of students who graduated from your program.

The typical program had a capacity for 25 students, but accepted 4 students fewer than the capacity. Attrition tended to reduce the size of a typical class by another 5 students. Differences among means at these three points were statistically significant and the effect size was moderate. In summary, the typical program graduates 64% of its student capacity.

Table 93. Program capacity, students accepted and students graduated

	N							
	Valid	Missing	Mean	Std. Error of Mean	Median	Std. Deviation	Min	Max
What was the capacity of the program to accept students?	218	36	25.01	.860	24.00	12.691	0	99
How many students were accepted?	218	36	20.93	.675	20.00	9.973	0	85
How many students graduated?	217	37	16.01	.669	15.00	9.856	0	90

F= 37,033, df=2,652, p<.000, eta squared=.102

Table 94. Mean differences in program capacity, students accepted and students graduated

					95% Confidence Interval	
(I) Status	(J) Status	Mean Difference (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
Capacity	Accepted	4.08257*	1.04598	.000	2.0287	6.1365
	Graduated	8.99994*	1.04719	.000	6.9437	11.0562
Accepted	Capacity	-4.08257*	1.04598	.000	-6.1365	-2.0287
	Graduated	4.91737*	1.04719	.000	2.8611	6.9736
Graduated	Capacity	-8.99994*	1.04719	.000	-11.0562	-6.9437
	Accepted	-4.91737*	1.04719	.000	-6.9736	-2.8611

* The mean difference is significant at the 0.05 level.

29. Please rank the following barriers to accepting more students into the program in order of significance.

The strongest barriers to accepting more students into programs were having (1) insufficient space for additional students who would need to complete the clinical portion of the curriculum and (2) sufficient financial resources to expand program capacity.

Table 95. Rankings for barriers to student acceptance

	N		Mean	Std. Error of Mean	Median	Std. Deviation	Min	Max
	Valid	Missing						
Additional faculty are unavailable	163	91	3.00	.121	3.00	1.540	1	6
Competition from other respiratory therapy programs	167	87	3.32	.128	3.00	1.650	1	6
Funding to expand program capacity is unavailable	172	82	3.82	.102	4.00	1.332	1	6
Insufficient classroom/lab space	179	75	3.27	.114	3.00	1.527	1	6
Insufficient space for clinical experiences	201	53	4.76	.106	5.00	1.505	1	6
Recent job placement rate below CoARC threshold	200	54	2.64	.130	2.00	1.843	1	6

F=43.166, df=5,1081, p<.000, eta squared=.167

Table 96. Mean differences for rankings for barriers to student acceptance

(I) Barriers	(J) Barriers	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Faculty	Competition	-.31737	.17389	.068	-.6586	.0238
	Funding	-.81977*	.17264	.000	-1.1585	-.4810
	Space	-.26816	.17099	.117	-.6037	.0674
	Clinical Exp	-1.75622*	.16647	.000	-2.0829	-1.4296
	Job Placement	.36000*	.16665	.031	.0330	.6870
Competition	Faculty	.31737	.17389	.068	-.0238	.6586
	Funding	-.50240*	.17157	.003	-.8391	-.1657
	Space	.04921	.16991	.772	-.2842	.3826
	Clinical Exp	-1.43885*	.16536	.000	-1.7633	-1.1144
	Job Placement	.67737*	.16555	.000	.3525	1.0022
Funding	Faculty	.81977*	.17264	.000	.4810	1.1585
	Competition	.50240*	.17157	.003	.1657	.8391
	Space	.55161*	.16863	.001	.2207	.8825
	Clinical Exp	-.93645*	.16405	.000	-1.2583	-.6146
	Job Placement	1.17977*	.16423	.000	.8575	1.5020
Space	Faculty	.26816	.17099	.117	-.0674	.6037
	Competition	-.04921	.16991	.772	-.3826	.2842
	Funding	-.55161*	.16863	.001	-.8825	-.2207
	Clinical Exp	-1.48806*	.16231	.000	-1.8065	-1.1696
	Job Placement	.62816*	.16250	.000	.3093	.9470
Clinical Experience	Faculty	1.75622*	.16647	.000	1.4296	2.0829
	Competition	1.43885*	.16536	.000	1.1144	1.7633
	Funding	.93645*	.16405	.000	.6146	1.2583
	Space	1.48806*	.16231	.000	1.1696	1.8065
	Job Placement	2.11622*	.15774	.000	1.8067	2.4257
Job Placement	Faculty	-.36000*	.16665	.031	-.6870	-.0330
	Competition	-.67737*	.16555	.000	-1.0022	-.3525
	Funding	-1.17977*	.16423	.000	-1.5020	-.8575
	Space	-.62816*	.16250	.000	-.9470	-.3093
	Clinical Exp	-2.11622*	.15774	.000	-2.4257	-1.8067

* The mean difference is significant at the 0.05 level.

30. A decade ago, what percentage of students in the program fell into the following two groups?

A mild trend toward an increased percentage of non-traditional students from 59% to 63% was observed in Table 97 and Table 98.

Table 97. Percentage of traditional and non-traditional students a decade ago

	N							
	Valid	Missing	Mean	Std. Error of Mean	Median	Std. Deviation	Min	Max
Percentage of Traditional Students – 10 Years Ago	183	71	41.39	2.158	40.00	29.197	0	100
Percentage of Non-Traditional Students – 10 Years Ago	183	71	58.61	2.158	60.00	29.197	0	100

31. Recently what percentage of students in the program have fallen into the following two groups?

Table 98. Percentage of traditional and non-traditional students recently

	N							
	Valid	Missing	Mean	Std. Error of Mean	Median	Std. Deviation	Min	Max
Percentage of Traditional Students – Recently	204	50	36.56	2.018	25.00	28.822	0	100
Percentage of Non-Traditional – Recently	204	50	63.44	2.018	75.00	28.822	0	100

Table 99. Mean differences for percentages of traditional and non-traditional students

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Traditional	3.311	18.611	1.376	.597	6.026	2.407	182	.017
Non Traditional	-3.311	18.611	1.376	-6.026	-.597	-2.407	182	.017

32. In what venues do students in your program receive clinical training? Select all that apply.

Observing results in the "Percent of Cases" column of Table 100, students in nearly all programs received training in acute care hospitals. Students in more than one-half of these programs received clinical training in diagnostic labs, home care settings, long-term care facilities, and sleep centers. Fewer than one-half of programs sent students to clinics, physician's offices, and urgent care facilities for clinical training.

Table 100. Venues where students receive clinical training

		Responses*		Percent of Cases
		N	Percent	
Venue	Acute care hospitals	217	20.8%	99.5%
	Clinics	93	8.9%	42.7%
	Diagnostic labs	161	15.4%	73.9%
	Home care/DME	136	13.0%	62.4%
	Long-term care facilities (SNF, LTACH, Pulmonary Rehab)	180	17.3%	82.6%
	Physician's offices	83	8.0%	38.1%
	Sleep centers	134	12.8%	61.5%
	Urgent care centers	15	1.4%	6.9%
	Other	24	2.3%	11.0%
Total**		1043	100.0%	478.4%

* Respondents' free responses to this question can be found in Appendix C.
**Because respondents were instructed to 'Select all that apply' the total does not equal 254.

33. To increase awareness of respiratory care career opportunities, in what ongoing recruitment efforts does your program participate within the community? Select all that apply.

According to information in the "Percent of Cases" column within Table 101, most programs participate in health fairs and visit high schools in an effort to promote awareness of respiratory care as a career.

Table 101. Recruitment efforts

		Responses*		Percent of Cases
		N	Percent	
Recruitment	Health fairs	200	44.2%	92.6%
	High school visits	165	36.4%	76.4%
	Others	88	19.4%	40.7%
Total**		453	100.0%	209.7%

*Respondents' free responses to this question can be found in Appendix C.
**Because respondents were instructed to 'Select all that apply' the total does not equal 254.

34. What percentage of the didactic content of your respiratory therapy program(s) was, is, or will be accessible through distance learning instructional technology?

Education programs reported an increased use of distance learning technology while instructing students as compared to 5 years ago. Program expect this trend to continue as can be observed in Table 102 and Table 103.

Table 102. Percentage of didactic available through distance learning five years ago, at present, and five years from now

	N		Mean	Std. Error of Mean	Median	Std. Deviation	Min	Max
	Valid	Missing						
5 Years Ago	211	43	6.4929	1.30797	.0000	18.99934	.00	100.00
Present	215	39	14.3721	1.62897	10.0000	23.88546	.00	100.00
5 Years From Now	213	41	25.0235	1.87011	20.0000	27.29338	.00	100.00

F=32.790, df=2,638, p<.000, eta squared=.093.

Table 103. Mean differences in percentage of didactic content available through distance learning

(I) Year3	(J) Year3	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
5 Years Ago	Present	-7.87920*	2.29209	.001	-12.3802	-3.3782
	5 Years From Now	-18.53058*	2.29741	.000	-23.0420	-14.0192
Present	5 Years Ago	7.87920*	2.29209	.001	3.3782	12.3802
	5 Years From Now	-10.65138*	2.28665	.000	-15.1417	-6.1611
5 Years From Now	5 Years Ago	18.53058*	2.29741	.000	14.0192	23.0420
	Present	10.65138*	2.28665	.000	6.1611	15.1417

* The mean difference is significant at the 0.05 level.

35. Is your program interested in affiliating with an international respiratory therapist education program?

As many as a third of programs expressed interest in affiliating with an education program for respiratory therapists that was located outside the United States.

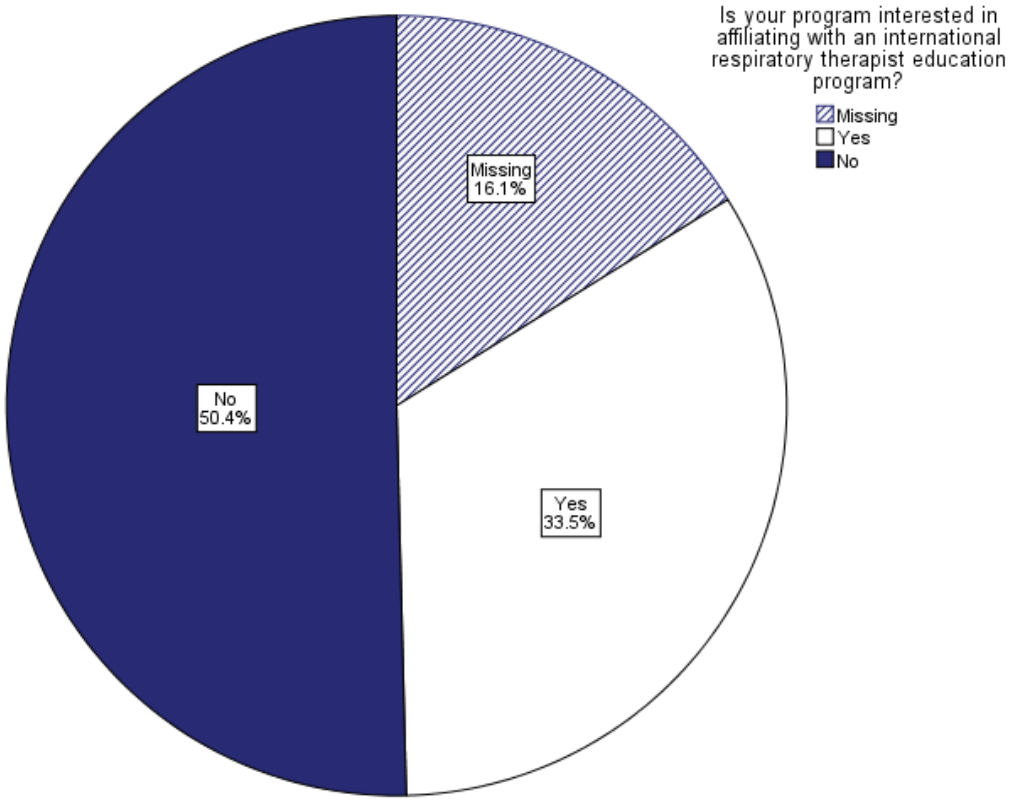


Figure 39. Distribution of programs interested in affiliating with international education programs

36. Does the education program require faculty who only teach didactic courses to work a second job delivering patient care so they maintain their clinical skills?

Only a small percentage of programs require faculty to maintain their skills in clinical work settings.

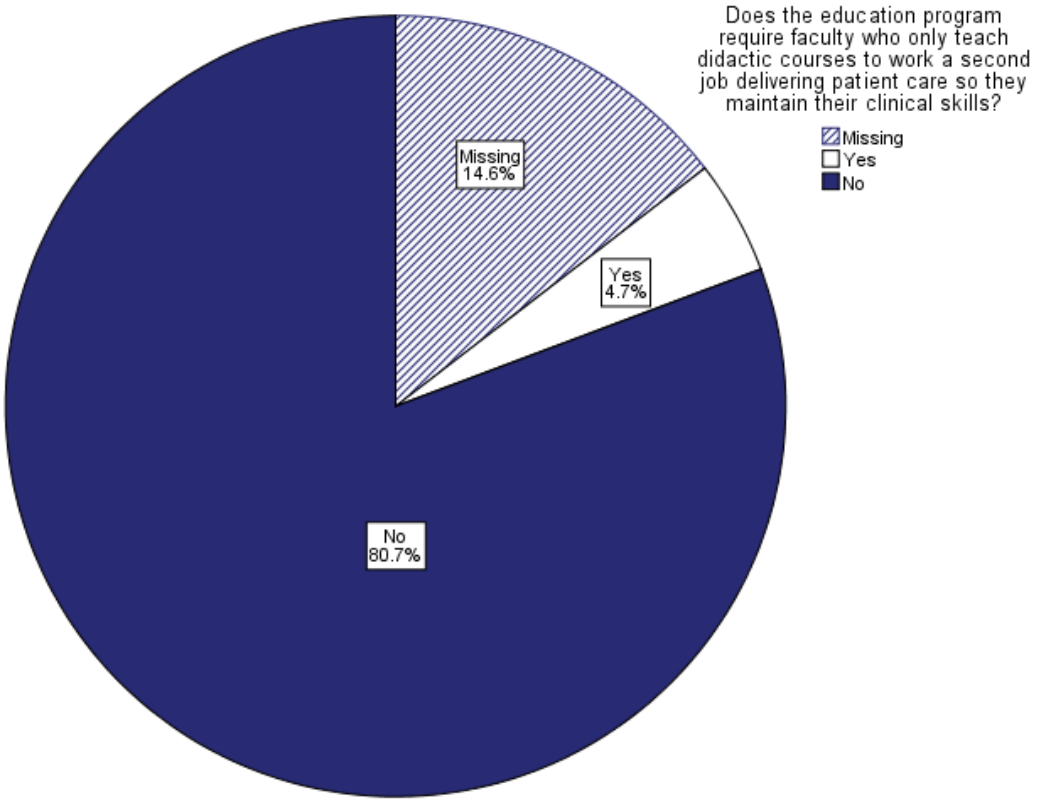


Figure 40. Distribution of programs requiring faculty to work a second job to maintain clinical skills

Summary of Yes-No Responses

This survey relied on several questions in which respondents were prompted to select "Yes" or "No." Some chose not to respond, which represents a third response. The following table summarizes these responses by giving a high and low estimate of the percentage of "Yes" responses that were reported for each question.

The high estimate is the valid percent value, which assumes that those who left the question without a response were equally likely to have selected "Yes" or "No." The low estimate assumes that respondents skipped the question when it did not apply to them rather than select "No." The truth most likely lies somewhere between the low and high estimate for each question, which is why we have summarized them here.

Lastly, we rank ordered these responses from high to low based on the value for the high estimate.

Table 104. Low and high estimates for affirmative responses to survey items limited to Yes and No

	Estimates for Affirmative (Yes) Responses?	
	Low	High
Can graduates from your program earn an Associate's degree?	87.8	87.8
Can graduates from your program earn a Baccalaureate degree directly from your program or through an agreement with another institution?	63.4	63.4
Does your program have plans to seek an articulation agreement with another institution through which students may earn a Baccalaureate degree?	22.4	63.3
Is your program interested in affiliating with an international respiratory therapist education program?	33.5	39.9
Have you had recent difficulty recruiting faculty for your program?	35.0	39.7
If any current or potential program faculty wanted to seek tenure within your institution, could a tenure-track position be made available to them?	29.1	35.6
Can graduates from your program earn a Master's degree?	14.2	14.3
Does the education program require faculty who only teach didactic courses to work a second job delivering patient care so they maintain their clinical skills?	4.7	5.5
Does your program offer a polysomnography specialty option?	4.7	5.4

SUMMARIES

This section of the report is intended to summarize the highlights observed in results from this study.

Limitations of study results

To the best of our knowledge, there were 417 education programs accredited by the CoARC at the time this study was done. New programs that were operating, but not yet accredited, were not directly solicited to participate. It is possible that directors of these programs could have become aware of the study and responded to the electronic survey, but it was more likely that these results did not generalize to new programs.

We did not receive a set of survey responses from another 163 programs. This was about 40% of the population of accredited programs. It is possible that programs that chose not to respond could have been different in systematic ways when compared to programs in the sample. The hypothesis that there was a nonresponse bias in these results remained. Hence, we urge caution in generalizing study results to programs that did not respond to the survey.

Geographic characteristics

We tended to receive more responses from programs in states and regions in which a greater percentage of the United States population lived. These same states tended to have more education programs than the other states. Programs from Pennsylvania, Florida, Texas, and California provided the largest numbers of survey responses. Programs from the South region provided 35% of these responses.

Types of institutions

About 62% of programs in this sample were located in publicly owned, two-year community or vocational colleges.

Degrees associated with programs

88% of programs can make an Associate's degree available to a student. In spite of the fact that only a quarter of programs were located in 4-year institutions, 63% reported that they could make a Baccalaureate degree available to the students who wanted to earn one. 46% of programs reported that such students could earn a Baccalaureate degree through another institution while accessing the curriculum online.

FTEs within programs

Information in this section reinforced the fact that programs continue to be led by one program director, one director of clinical education, and in many cases some additional faculty. Many of the additional faculty worked part time.

Academic rank

Program directors and directors of clinical education were the most likely to have one of the traditional academic ranks - assistant professor, associate professor, or professor. However, the most frequently occurring academic rank among program directors, directors of clinical education, and other faculty was the one labeled *instructor*.

Highest level of education

Graduate degrees were prominent among program directors. Masters and Baccalaureate degrees were prominent among directors of clinical education. Baccalaureate and Associates degrees were prominent among other faculty members who were affiliated with education programs.

Educational responsibility

60% of program directors had responsibility for both clinical and didactic educational activities. 83% of directors of clinical education were involved in clinical and didactic education.

Annual earnings

The largest positive effect observed to be associated with earnings was achieving tenure. Another large effect was linked to the title of the job (program directors earned more than directors of clinical education who earned more than other faculty). The highest academic degree achieved by a person exerted a large positive effect as well.

Institutional characteristics (2-year vs. 4-year, public vs. private) and geography only exerted small effects on annual earnings.

Tenure

The availability of tenure to someone working for an education program occurred at a low frequency with just less than 29% giving an affirmative answer. The rarity is fairly uniform for programs in both 2-year and 4-year institutions, but more so for programs in 2-year institutions.

Years of remaining service

A typical program director from this sample intended to remain involved in student education for another 11 years. The typical program director expected the director of clinical education to remain for an additional 4 years, which likely reflected a succession plan. Half of the current program directors should be expected to turnover in a decade.

Recruitment of faculty

Just more than one-third of program directors reported that they had experienced difficulties when recently trying to recruit faculty. The reason cited most frequently was the fact that applicants for open positions did not meet the academic preparation requirements. Two-thirds of program directors cited salary as an impediment while just less than two-thirds indicated that they were looking for personnel with teaching experience, but could not find any.

Sleep content

A majority of programs paid at least one faculty member who had achieved a credential in sleep disorders testing and therapeutics. Less than 5% of programs in the sample reported that they offered a curriculum for specialization in polysomnography. About 6% of programs thought it likely that they might start a new option to specialize in polysomnography.

Program graduation and capacity

Program directors' responses did not indicate a significant change in the numbers of graduates across the years of 2012, 2013, and 2014. The typical program in the sample accepted 4 students fewer than its capacity and then observed attrition of another 5 students. At the bottom, the typical program had graduated 64% of its student capacity.

Prominent barriers to accepting more students into the typical program were insufficient space for clinical education and insufficient financial resources to expand program capacity. Networking with prospective sites to find more clinical space should not cost a program much more, so this should be a high priority for a program that was motivated to increase its number of graduates. Perhaps there could be a service opportunity for the AARC, which could consider providing a social space where education programs and clinical sites could find each other.

Types of students

The typical program characterized more than half of their students as non-traditional. There was a mild trend toward even more non-traditional students going forward.

Clinical education venues

Virtually every program made use of acute care hospitals as a venue for clinical education while most also used long-term care facilities, diagnostic labs, sleep centers, and home care/DME providers.

Efforts to recruit students

The typical program contributed to health fairs and visited high schools in an effort to recruit students for the program.

Distance learning

Programs reported an observed trend toward increased uses of distance learning modalities, which was expected to continue into the future.

Affiliation with international programs

About one-third of programs expressed an interest in affiliating with an international respiratory therapist education program.

Faculty continuing clinical skills

Fewer than 5% of programs expected faculty to maintain their clinical skills by working a second job while delivering patient care.

Appendix A. Human Resource Survey of Education Program Employers

2014 AARC Human Resource Study of Education Programs

Program Information

1. What is the zip code for this program? (e.g., 65201, 85012)

2. What best describes the type of institution in which the program is sponsored?

- ◯ Public (taxpayer and tuition supported)
- ◯ Private (tuition and endowment supported)
- ◯ Public/private consortium
- ◯ Proprietary (for-profit)

3. Within what type of institution is your program(s) based?

- ◯ 2-year Community/Vocational College
- ◯ 4-year College/University

4. Can graduates from your program earn an Associates degree?

- ◯ Yes
- ◯ No

***5. Can graduates earn a Baccalaureate degree directly from your program OR through an agreement with another institution?**

- ◯ Yes
- ◯ No

6. Can graduates from your program earn a Master's degree?

- ◯ Yes
- ◯ No

2014 AARC Human Resource Study of Education Programs

Type of Degree

7. What type of baccalaureate degree does your program offer?

Select all that apply.

	Directly from my institution	Through an agreement with another institution
Entry to Practice	☐	☐
Online	☐	☐
On campus	☐	☐

2014 AARC Human Resource Study of Education Programs

Seek Articulation Agreement

8. Does your program have plans to seek an articulation agreement with another institution through which students may earn a Baccalaureate degree?

- ◯ Yes
- ◯ No

2014 AARC Human Resource Study of Education Programs

FTEs

9. How many FTEs were assigned to the following positions within the program *during the 2009 academic year*?

Please use the following table as a guide:

Hours/Week (range)	FTEs
37 or more	1.0
29-36	0.8
21-28	0.6
13-20	0.4
5-12	0.2

Program Director (e.g., 1.0) _____

Director of Clinical Education (e.g., 1.0) _____

Instructors (e.g., 2.6) _____

10. How many FTEs were assigned to the following positions within the program *during the 2013 academic year*?

Please use the following table as a guide:

Hours/Week (range)	FTEs
37 or more	1.0
29-36	0.8
21-28	0.6
13-20	0.4
5-12	0.2

Program Director (e.g., 1.0) _____

Director of Clinical Education (e.g., 1.0) _____

Instructors (e.g., 2.6) _____

2014 AARC Human Resource Study of Education Programs

11. How many FTEs will be assigned to the following positions within the program *during the 2017 academic year*?

Please use the following table as a guide:

Hours/Week (range)	FTEs
37 or more	1.0
29-36	0.8
21-28	0.6
13-20	0.4
5-12	0.2

Program Director (e.g., 1.0) _____

Director of Clinical Education (e.g., 1.0) _____

Instructors (e.g., 2.6) _____

2014 AARC Human Resource Study of Education Programs

Position Information

12. Please provide the following information for positions paid by the program:

	Months of Service Per Year (e.g., 9,12)	Hours Contracted Per Week (e.g., 30,40)	Academic Rank	Highest Degree	Educational Responsibility
Program Director					
Director of Clinical Education					
Faculty Member 1					
Faculty Member 2					
Faculty Member 3					
Faculty Member 4					
Faculty Member 5					
Faculty Member 6					
Faculty Member 7					
Faculty Member 8					
Faculty Member 9					
Faculty Member 10					

13. Please provide the annual earnings for positions paid by the program

Exclude the dollar sign ($) and comma from your response, e.g., 72000.

Program Director	
Director of Clinical Education	
Faculty Member 1	
Faculty Member 2	
Faculty Member 3	
Faculty Member 4	
Faculty Member 5	
Faculty Member 6	
Faculty Member 7	
Faculty Member 8	
Faculty Member 9	
Faculty Member 10	

2014 AARC Human Resource Study of Education Programs

Tenure

14. If any current or potential program faculty wanted to seek tenure within your institution, could a tenure-track position be made available to them?

- ◯ Yes
- ◯ No

15. Provide the following information regarding tenure for positions paid by the program:

	Has this person received tenure?	For how many more years does this person intend to remain in Respiratory Care education?
Program Director		
Director of Clinical Education		
Faculty member 1		
Faculty member 2		
Faculty member 3		
Faculty member 4		
Faculty member 5		
Faculty member 6		
Faculty member 7		
Faculty member 8		
Faculty member 9		
Faculty member 10		

2014 AARC Human Resource Study of Education Programs

Recruitment

***16. Have you had recent difficulty recruiting faculty for your program?**

- ◯ Yes
- ◯ No

2014 AARC Human Resource Study of Education Programs

Recruitment

17. What reasons contributed to the difficulty you experienced in recruiting faculty?

Select all that apply.

- [ ] The applicants did not meet academic preparation requirements.
- [ ] The salary we could offer was not sufficient.
- [ ] The applicants lacked teaching experience.
- [ ] Other (please specify)

2014 AARC Human Resource Study of Education Programs

Sleep Disorders and Polysomnography

18. Among all faculty directly compensated by the program, what is the number who have achieved a credential in sleep disorders testing and therapeutics?

***19. Does your program offer a polysomnography specialty option?**

- ◯ Yes
- ◯ No

2014 AARC Human Resource Study of Education Programs

Polysomnography

20. Please indicate the likelihood that your program will offer a sleep specialty option in the next 5 years.

0 - Not In Our Plans	1	2	3	4	5 - Highly Likely
○	○	○	○	○	○

2014 AARC Human Resource Study of Education Programs

Graduation Rate

21. How many students have graduated from your program at the entry level (eligible for CRT only) in 2012?

22. How many students have graduated, or do you expect to graduate, from your program at the advanced level (eligible for RRT)?

Graduated in 2012	
Graduated in 2013	
Expected to Graduate in 2014	

23. Please respond to the following questions for the last class of students who graduated from your program:

What was the capacity of the program to accept students?	
How many students were accepted?	
How many students graduated?	

2014 AARC Human Resource Study of Education Programs

Students

24. Please rank the following barriers to accepting more students into the program in order of significance:

	1 - Least Significant	2	3	4	5	6 - Most Significant
Additional faculty are unavailable	◯	◯	◯	◯	◯	◯
Competition from other respiratory therapy programs	◯	◯	◯	◯	◯	◯
Funding to expand program capacity is unavailable	◯	◯	◯	◯	◯	◯
Insufficient classroom/lab space	◯	◯	◯	◯	◯	◯
Insufficient space for clinical experiences	◯	◯	◯	◯	◯	◯
Recent job placement rate below CoARC threshold	◯	◯	◯	◯	◯	◯

Please specify any other barriers.

25. A decade ago, what percentages of students in the program fell into the following two groups?

Please type your numeric responses without the percent sign (i.e., 25 not 25%) in the boxes below. Your responses must sum to 100.

Traditional - continuously enrolled since high school

Non-Traditional - coming from the workforce

26. Recently, what percentages of students in the program have fallen into the following two groups?

Please type your numeric responses without the percent sign (i.e., 25 not 25%) in the boxes below. Your responses must sum to 100.

Traditional - continuously enrolled since high school

Non-Traditional - coming from the workforce

2014 AARC Human Resource Study of Education Programs

27. In what venues do students in your program receive clinical training?

Select all that apply.

- [ ] Acute care hospitals
- [ ] Clinics
- [ ] Diagnostic labs
- [ ] Home care/DME
- [ ] Long-term care facilities (SNF, LTACH, Pulmonary Rehab)
- [ ] Physician's offices
- [ ] Sleep centers
- [ ] Urgent care centers
- [ ] Other (please specify)

28. To increase awareness of respiratory care career opportunities, in what ongoing recruitment efforts does your program participate within the community?

Select all that apply.

- [ ] Health fairs
- [ ] High school visits
- [ ] Other (please specify)

2014 AARC Human Resource Study of Education Programs

Program Content

What percentage of the didactic content of your respiratory therapy program(s) was, is, or will be accessible through distance learning instructional technology?

29. 5 years ago

30. present

31. 5 years from now

32.
Is your program interested in affiliating with an international respiratory therapist education program?

- ◯ Yes
- ◯ No

33. Does the education program require faculty who only teach didactic courses to work a second job delivering patient care so they maintain their clinical skills?

- ◯ Yes
- ◯ No

2014 AARC Human Resource Study of Education Programs

For submitting a **completed** survey, you are eligible to register for a drawing. The winner will receive one complimentary year of AARC active membership.

Your survey responses will not be associated with your personal information.

34. If you would like to register for the drawing, please provide your contact information.

Name:

Email Address:

Phone Number:

2014 AARC Human Resource Study of Education Programs

Conclusion

Thank you for completing the AARC Human Resource Survey for Education Programs!

Appendix B. Contents of the Study Solicitation Emails

Educator Email Invitation:

Dear firstname lastname,

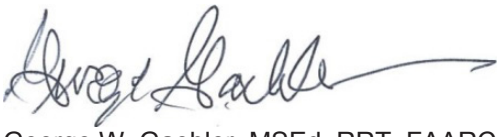
The AARC is conducting a human resource study to examine characteristics of the respiratory therapist workforce. You have been identified as a director of an education program. A survey specifically designed for education programs has been prepared. One lucky study participant will receive active AARC membership for one year.

Please go to https://www.surveymonkey.com/s/AARCEducatorSurvey to complete the survey. If you have questions or experience difficulties, contact Jennifer Benavente at Applied Measurement Professionals, Inc. (AARC_Educatorsurvey@goamp.com).

Data from what we hope is a large, representative sample of therapists will be summarized from survey results. You should be able to complete the survey in about 30 minutes. Please hurry as the surveys will only be available until **July 25, 2014.**

You are also eligible to complete a survey for respiratory therapists. You can assist the AARC by completing this survey and by encouraging your faculty and alumni to do so as well. Please visit https://www.surveymonkey.com/s/AARCTherapistSurvey to complete the individual respiratory therapist survey.

This collection of accurate data about the profession is critical. Your assistance with this vital project is deeply appreciated.



George W. Gaebler, MSEd, RRT, FAARC, AARC President

Final Educator Email Invitation – Reminder:

Dear firstname lastname,

If you have already completed the AARC Educator Survey, we thank you for your responses. Please disregard this email. If you haven't provided responses yet, please read on.

The AARC is conducting a human resource study to examine characteristics of the respiratory therapist workforce. You have been identified as a director of an education program. A survey specifically designed for education programs has been prepared. One lucky study participant will receive active AARC membership for one year.

Please go to https://www.surveymonkey.com/s/AARCEducatorSurvey to complete the survey. If you have questions or experience difficulties, contact Jennifer Benavente at Applied Measurement Professionals, Inc. (AARC_Educatorsurvey@goamp.com).

Data from what we hope is a large, representative sample of therapists will be summarized from survey results. You should be able to complete the survey in about 30 minutes. Please hurry as the surveys will only be available until **July 25, 2014.**

You are also eligible to complete a survey for respiratory therapists. You can assist the AARC by completing this survey and by encouraging your faculty and alumni to do so as well. Please visit https://www.surveymonkey.com/s/AARCTherapistSurvey to complete the individual respiratory therapist survey.

This collection of accurate data about the profession is critical. Your assistance with this vital project is deeply appreciated.

George W. Gaebler, MSEd, RRT, FAARC, AARC President

Educator Reminder Email and Deadline Extension:

Dear firstname lastname,

The AARC is conducting a human resource study to examine characteristics of education programs for respiratory therapists.

In 2009, 242 program directors responded to the survey; thus far, only 198 have responded. We are extending the deadline with the hope that more program directors will come through and submit responses to the survey. You should be able to complete the survey in about 30 minutes.

You may access the survey for directors from the following link: https://www.surveymonkey.com/s/AARCEducatorSurvey

The survey will be available until Friday, August 8, 2014. Your assistance with this project is deeply appreciated.

Appendix C. Compiled Comments from Survey Respondents

What reasons contributed to the difficulty you experienced in recruiting faculty?

- Availability
- Difficult to find clinical instructors with the demand already on hospital employees, they do not want to pick up and extra job as an instructor.
- Faculty do not want to teach in this area.
- Full time is paid 30 hrs/week but requires > 50 hrs/week
- Insufficient amount of applications
- It's very difficult to find qualified part time faculty.
- new program
- Northern, rural location
- Poor applicant pool which lead to select less than ideal individual
- Primarily not many interested in teaching didactic classroom where we need the help.
- RCPs just not interested in education!!
- Relocation was an issue, cost-of-living in comparison to salary with minimal moving cost reimbursement
- Rural Setting
- The benefits that our institution offered could not compete with those offered by local hospitals
- They are employed by the clinical affiliate and our schedule conflicts with theirs.
- Time of day courses offered
- want Masters degree, not available
- We did not advertise in a wide enough range.
- We have not had difficulty recruiting

Other barriers to accepting more students

- Ability of students to successfully complete core curriculum.
- Ability to place graduates
- additional clinical sites are distant
- Additional Positions to Help Develop BS degree
- application pool is not very large--competition with radiologic technology, surgical technology, and lvn programs
- ATI accept students with minimal requirements and graduates students with minimal standard.
- availability of QUALIFIED applicants
- availability of qualified applicants
- CoARC cap on increases to start # for new programs X 5 yrs
- Competition for University resources
- Currently balanced w/Local Job Market
- Do not want to over-saturate local Market for graduates
- Don't want to saturate the market
- financial support for independent contracts for clinical instructors
- Have had to revert money 3x already this academic year.
- inadequate numbers of lab equipment (e.g., Ventilators)
- Insufficient equipment
- insufficient funding for media to advertise program
- Insufficient Job opportunities after graduation.

- Job Market
- Job market in this area weak to support graduating more students
- Lack of marketing funds for the program
- Lack of qualified and educationally prepared applicants
- lack of qualified applicants
- Lack of qualified applicants
- Lack of qualified applicants to program
- Lack of qualified student population
- LOW ENROLLMENT
- None
- Not a lot of prospective students are impressed with salary after graduation
- Number of Applications.
- number of students applying is not very high
- Our program is new and is accepting students this fall (2009). We will accept up to 18 students per year.
- Overabundance of programs is diminishing the number and lowering the quality of applicants.
- personal issues
- Placement concerns
- planning a new building 2010
- Private 4 year liberal arts university which is quite expensive
- Program recently expanded with donation of a full time faculty
- qualified applicants
- qualified candidates
- Quality of applicants
- recruiting good students remains to be difficult.
- Regional employment needs
- Still under provisional accreditation from CoARC as a new program
- student community pool of capable students
- Student number to Faculty number by State Law
- supply & demand does not justify expansion
- The job market does not need more
- There does NOT appear to be a need for additional graduates in this geographic area (SW Ohio)
- undergraduate students are not aware of the profession
- Unqualified applicant pool
- We are a new program and cannot increase
- We are currently seeking LSSR approval from CoARC.
- we do not have enough qualified applicants to fill the positions or spaces available.
- We have trouble finding qualified students!
- We would over-saturate our local demand for therapist and local grads would have to move to find employment.
- We've lost our AAS RT program; our applicant pool is limited since 4 year colleges don't allow us to recruit their students, the "2+2" model has severely restricted the applicant pool; the state budget cuts have severely affected ability to recruit effectively.
- well qualified students

In what venues do students in your program receive clinical training?

- Ambulance Anesthesia
- ambulance, HBO
- Asthma Camp
- asthma educators
- burn unit, intubation, cardiac cath, echo, EKG, HBO, PICU, NICU
- C.O.R.F.
- Cardiopulmonary Rehabilitation
- cath labs, Community hospital, University hospital, pulmonary rehab, HBO lab
- CF clinic and asthma education clinic
- Durable Medical Equipment Companies
- HBO, PFT,
- helicopter emergency care & transport
- Hospice and Community Agency (e.g. American Lung Association)
- Human Patient Simulation Lab
- Hyperbaric medicine
- level 1 trauma center
- neonatal/pediatric specialties
- Physician rounds w/medical director
- Pulmonary Rehab
- Pulmonary Rehab, OR
- Pulmonary Rehab/HBO/Clinic
- pulmonary rehabilitation
- Rehabilitation Center
- Rehabilitation Programs
- Research and Critical Care Transport
- Service learning/community/schools
- surgical center
- Transport
- wellness clinics

To increase awareness of respiratory care career opportunities, in what ongoing recruitment efforts does your program participate within the community? Select all that apply.

- Advertising-TV & newspaper
- Area Community Colleges
- Area Health Education Council
- Asthma Walks
- Board member/presenter for the American Lung Association
- Brochures, posters, dvd's, bumper stickers
- Campus career fairs and student orientation
- Campus Fairs for Undecided Students
- Career Days at the University
- Career fairs
- Career Fairs

- career fairs held at the GM/Delphi factories which are closing in this area; career fairs at area colleges which do not offer Respiratory Care
- Career fairs, and provide regular information sessions at the college
- Career fairs, anti-smoking activities in grade schools, science days
- Career fairs, campus recruitment, postcards, etc.
- career fairs, high school committees
- Career fairs, Lions-Rotary etc clubs.
- Career pathway days at area colleges
- Career talk on line
- Career Talks On Line
- college A&P classes, health professions classes
- College chemistry, biology, A&P classes
- College Night
- College Night Activities, Guest Speakers (e.g. Health Technical Preparation Students)
- College Open House
- College Sponsored Events
- Community activities other than health fair
- Community Fairs
- community forum, career fairs
- counselor visits, high school health academy, monthly info sessions
- dislocated workers program
- Elementary & Middle School visits
- everything I can find
- Former students
- Great American Smokeout, visibility within college
- Guidance Counselors visit campus every year.
- health/career fairs on campus
- Health Occupations class - program has two year waiting list
- Health Professions Orientation sessions monthly and television appearance each semester
- Health Programs advisement sessions; media regarding a recent large donation to the program ($8.2 million)
- High School visits to the college
- hospital recruiting
- information sessions at local hospitals
- Interactive display tables during RC Week
- Intro to the Allied Health Professions Course
- Introduction to Health Careers class offered through community college
- ISRC Respiratory Initiative
- job fairs / career fairs
- Job fairs and work with unemployment office
- Junior and Senior College Fairs
- Junior High Career Fairs (Annually in County)
- Letter to all pre-allied health students
- letters to closed out nursing and xray students with observation time made available
- Local advertising
- Mailouts to Anatomy and Physiology students
- Market to students enrolled in Science Courses in the college

- Medical Program Awareness Day for district high schools
- Middle Schools, college fairs, direct visits to community colleges
- muscular dystrophy camp, One day conference for chronic lungers.
- On campus majors fairs
- On campus open house
- On campus Visitations to Human Biology
- On line and open house
- On-campus and regional undecided major recruitment activities
- Open House
- Open house for students in the college of allied health.
- Open house respiratory care week
- Open House Sessions at the college open to the public
- open house, career lab, mailings...
- Open House/ Information sessions
- open houses
- Open Houses
- Open Houses and other marketing strategies such as college web page, newspaper articles
- open houses at college, chamber of commerce events
- program web site
- public awareness events
- public service announcements via the professional basketball games, early radio and talk radio.
- recruitment mailing to students at the college
- Required Community Service
- Science Courses (i.e. biology/chemistry)
- Sponsor an Asthma Camp
- students do community service projects promoting the profession
- Students and counselors touring our facility
- Summer camp for high school juniors and seniors
- Teach a module for Anatomy and Physiology classes. Instructors allow us to show the Life and Breath video and recruit. We get more than 90% of our students this way.
- university career days, college advisor workshops
- Video runs on the cable college channel
- Volunteer for Healthy Hoops, Lung Association, Camp Puff-n-Stuff, Asthma Run
- We do not have trouble attracting students. Just insufficient clinical sites and finances.
- web-based only. We have found the others utterly useless

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Appendix 12:

UNC Charlotte M.S. in Respiratory Care
Proposed Plan of Study

MSRC: Proposed Plan of Study

Overview: The Masters of Science in Respiratory Care program includes 2 tracks of study depending on the student's career goals. The on-line Masters of Science In Respiratory Care (MSRC) is a 40 credit plan of study over 2 or 3 years that would prepare a baccalaureate level working Respiratory Therapist with the knowledge and competencies necessary to become experts in Respiratory Care education, management, research and/or to achieve advanced clinical credentials and internship experience. Graduates of the on-line MSRC will fill the need for educators, researchers, managers and specialized clinical experts.

Courses & Plans of Study in the On-line MSRC Track:

Basic Required Courses in On-Line MSRC (31 Credits)

KNES 6115 Research Methods in Kinesiology (3)
NURS 6115 Health Policy and Planning in the U.S. (3)
RESP 5103 Evidence-Based Practice of Respiratory Care (3)
RESP 5205 Emerging Topics in Respiratory Care Seminar (2)
RESP 5403 Advanced Credential Exam Preparation Course (2)
(Credit by exam for ACCS, NPS, RPSGT, RPFT, A-EC/COPD Educator)
RESP 6101 Respiratory Care Leadership (3)
RESP 6102 Advanced Cardiopulmonary Pathophysiology (3)
RESP 6103 Cardiopulmonary Disease Management (3)
RESP 6109 Internship (3)
RESP 6900 Research Thesis (3)
STAT 6127 Introduction to Biostatistics (3)

Electives in On-Line MSRC (9 Credits)

RESP 6401 Managing Respiratory Care Services (3)
RESP 6402 Advanced PFTs & Cardiopulmonary Rehabilitation (3)
RESP 6403 Advanced Adult Ventilation Application & Monitoring (3)
RESP 6404 Advanced Neonatal & Pediatric Respiratory Care (3)

Additional Possible Electives offered at UNC Charlotte: (with approval of MSRC Graduate Committee and permit by the instructional faculty)

BIOL 5171 Cell Physiology (3)
BIOL 5199 Molecular Biology (3)
BIOL 5260 Population Genetics (3)
BIOL 6273 Advanced Human Physiology (3)
BIOL 6274 Advanced Human Pathophysiology (3)
HLTH 6202 Community Epidemiology (3)
NURS 6301 Curriculum and Instruction in Nursing Education
NURS 6303 Instructional Technology in Nursing Education

Full Time Plan of Study:

Fall Semester Year 1	Spring Semester Year 1
KNES 6115 Research Methods in Kinesiology (3)	RESP 6101 Respiratory Care Leadership (3)
RESP 5103 Evidence-Based Practice of Respiratory Care (3)	RESP 6103 Cardiopulmonary Disease Management (3)
RESP 6102 Advanced Cardiopulmonary Pathophysiology (3)	STAT 6127 Introduction to Biostatistics (3)

Summer
RESP 5205 Emerging Topics in Respiratory Care Seminar (2) RESP 5403 Advanced Credential Exam Preparation Course (2)

Fall Semester Year 2	Spring Semester Year 2
NURS 6115 Health Policy and Planning in the U.S. (3)	RESP 6900 Research Thesis (3)
Elective 1 (3)	Elective 2 (3)
Elective 3 (3)	RESP 6109 Internship (3)

Part Time Plan of Study:

Fall Semester Year 1	Spring Semester Year 1
KNES 6115 Research Methods in Kinesiology (3)	RESP 6101 Respiratory Care Leadership (3)
RESP 5103 Evidence-Based Practice of Respiratory Care (3)	STAT 6127 Introduction to Biostatistics (3)

Summer
RESP 5205 Emerging Topics in Respiratory Care Seminar (2)

Fall Semester Year 2	Spring Semester Year 2
RESP 6102 Advanced Cardiopulmonary Pathophysiology (3)	RESP 6103 Cardiopulmonary Disease Management (3)
Elective 1 (3)	Elective 2 (3)

Summer Year 2
RESP 5403 Advanced Credential Exam Preparation Course (2)

Fall Semester Year 3	Spring Semester Year 3
NURS 6115 Health Policy and Planning in the U.S. (3)	RESP 6109 Internship (3)
Elective 3 (3)	RESP 6900 Research Thesis (3)

Course Descriptions:

Basic Required Courses (31 Credits)

KNES 6115 Research Methods in Kinesiology (3)
Methods of inquiry for research are explored and critiqued within the fields of kinesiology. Emphasis is on developing skills useful for conducting and evaluating basic, applied, and clinical. (Fall)

NURS 6115 Health Policy and Planning in the U.S (3)
Overview of the organizing and financing of the health care delivery system in the United States. Analysis of health care policy, financing, political trends, ethical, and professional issues, including the theoretical underpinning of policy making, the empirical thrusts of policy analysis and research and the relationship between policy making and the political process in the practice of nursing health care. (Fall, Summer)

RESP 5103 Evidence-based Practice in Respiratory Care (3)
A review and discussion of professional journal articles. The students choose articles based on their area of specialization and leads discussions under the guidance of faculty. This course integrates evidence to support clinical practice.

RESP 5205 Emerging Topics in Respiratory Care Seminar (2)
A review and analysis of the current literature related to the application of respiratory care. This course will evaluate the most appropriate cardiopulmonary respiratory treatment available today.

RESP 5403 Advanced Credential Exam Preparation Course (2)
(Credit by exam for ACCS, NPS, RPSGT, RPFT, A-EC/COPD Educator)
This course is designed to guide the MSRT student in preparation for an NBRC specialty exam of interest. The student will receive credit for the course once they have successfully completed the specialty exam.

RESP 6101 Respiratory Care Leadership (3)
An overview of current and projected trends in Respiratory Therapy. Focuses on the future roles for Respiratory Therapists in education, management, research, and leadership.

RESP 6102 Advanced Cardiopulmonary Pathophysiology (3)
A course designed to discuss the mechanisms of disease effect the functions of the human heart and lungs at the biochemical and molecular level.

RESP 6103 Cardiopulmonary Disease Management (3)
This course will evaluate and describe the appropriate pharmacological and therapeutic application of various cardiovascular and respiratory disease processes. The appropriate pharmacological and surgical treatments will be discussed.

RESP 6109 Internship (3)
The student will be required to complete a semester long internship experience in their desired field of study. This internship could include working with a department manager, working with a Respiratory Therapy Associates or Bachelor's degree faculty member, or working with a research coordinator of a Respiratory Therapy department. All preceptors must be approved by the MSRC faculty.

RESP 6900 Respiratory Thesis (3)
Design, implementation, presentation, and evaluation of an approved research project in student's specialty area. The applied project is under the supervision of an advisor.

STAT 6127 Introduction to Biostatistics (3)
Prerequisites: MATH 1100 and STAT 1221 or permission of department. Descriptive statistics and exploratory data analysis; basic probability models and the concept of random variables; point and interval estimation; hypothesis testing (one- and two-sample problems); simple linear regression and ANOVA; selection of appropriate methods for analysis; development of skills to conduct analysis of data; development of the capability to present the results of a study in scientific language.

Electives in On-Line MSRC (9 Credits)

RESP 6401 Managing Respiratory Care Services (3)
Effective management of respiratory care departments will be evaluated and described. Aspects of management relative to the hospital administrative structure will also be covered.

RESP 6402 Advanced PFTs & Cardiopulmonary Rehabilitation (3)
Cardiopulmonary exercise testing, closed and open circuit pulmonary function testing and body plethysmography will be covered in this course. The MSRT student will also gain knowledge related to effective cardiopulmonary rehabilitation programs.

RESP 6403 Advanced Adult Ventilation Application & Monitoring (3)
An overview of the advanced ventilator applications including APRV, high frequency oscillation, and different closed loop ventilation systems used in the intensive care units today. Cardiopulmonary monitoring systems in use today will also be covered in this course.

RESP 6404 Advanced Neonatal & Pediatric Respiratory Care (3)
This course will cover topics related to current cardiopulmonary advanced life support technologies and treatments in use in the neonatal and pediatric intensive care units today.