



August 16, 2021

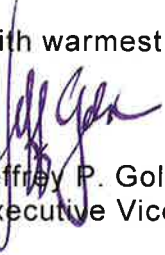
Michael Baumgartner, Ph.D.
Executive Director
Coordinating Commission for Postsecondary Education
PO Box 95005
Lincoln, NE 68509-5005
mike.baumgartner@nebraska.gov

Dear Dr. Baumgartner:

Enclosed is a copy of the proposal to create the Master of Respiratory Care in the College of Allied Health Professions at the University of Nebraska Medical Center. The proposal was approved by the Board of Regents at the August 13, 2021 meeting. Also enclosed is the Proposal for New Instructional Program Form 92-40.

Please do not hesitate to contact me if you have any questions.

With warmest personal regards,


Jeffrey P. Gold, M.D.
Executive Vice President and Provost

Enclosures

JPG/cr

cc: Jeffrey P. Gold, M.D., Chancellor
Dele Davies, M.D., Senior Vice Chancellor for Academic Affairs
Kyle Meyer, Ph.D., Dean, College of Allied Health Professions
David Jackson, Ph.D., Vice Provost

**COORDINATING COMMISSION
FOR POSTSECONDARY EDUCATION**

140 N. 8th Street, Suite 300
Lincoln, NE 68508

Telephone: (402) 471-2847
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PROPOSAL FOR NEW INSTRUCTIONAL PROGRAM
Form 92-40

SECTION I

Institution Submitting Proposal: University of Nebraska Medical Center

Title of Program: Respiratory Care

CIP Code: 51.0908

Organizational Unit in which program will be located:

College of Allied Health Professions

Name of contact person in the event additional information is needed: Dr. Jeffrey P. Gold

Telephone: 402-472-5242

Degree, Diploma, or Certificate to be offered (use separate submittal for each level):

Master of Respiratory Care

Proposed date to initiate program: When approved by the Coordinating Commission

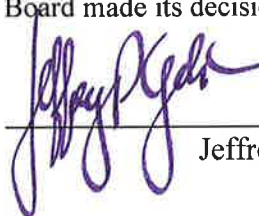
List the location(s) where this program will be offered: UNMC

If the program has a projected ending date, please so indicate:

Date approved by Governing Board: August 13, 2021

(Attach all documents related to this proposal upon which the Governing Board made its decision to approve the proposal.)

Chief Executive Officer's or other Authorized Officer's signature:



Jeffrey P. Gold



TO: The Board of Regents Addendum XI-A-6
Academic Affairs Committee

MEETING DATE: August 13, 2021

SUBJECT: Creation of the Master of Respiratory Care in the College of Allied Health Professions at the University of Nebraska Medical Center

RECOMMENDED ACTION: Approval to create the Master of Respiratory Care (MRT) in the College of Allied Health Professions at the University of Nebraska Medical Center (UNMC)

PREVIOUS ACTIONS: April 17, 2020 – The Board approved the creation of the Master of Diagnostic Cytology in the College of Allied Health Professions at UNMC.

August 11, 2017 – The Board approved the creation of the Masters in Genetic Counseling in the College of Allied Health Professions at UNMC.

January 29, 2016 – The Board approved the creation of the Master of Medical Nutrition in the College of Allied Health Professions at UNMC.

January 16, 1999 – The Board approved the creation of the Masters of Perfusion Science in the School of Allied Health Professions at UNMC.

January 18, 1992 – The Board approved the change of the Physician Assistant program from a Baccalaureate to a first professional Master's degree program at UNMC.

EXPLANATION: The College of Allied Health Professions (CAHP) at the University of Nebraska Medical Center (UNMC) proposes to establish a new entry-level health professions Master of Respiratory Care (MRC) degree. Respiratory therapy is an allied health profession dedicated to evaluating and treating persons with heart and lung diseases. Respiratory therapists initiate, monitor, modify, and discontinue mechanical ventilator support for patients receiving this care. In addition, respiratory therapists perform diagnostic studies (e.g., arterial blood gases, pulmonary function testing, exercise testing, sleep apnea testing), provide patient education, and provide long-term care for patients with chronic illness. Students with an MRC degree will have advanced skill sets, benefiting Nebraska's health facilities and patients. The proposed MRC curriculum is designed to meet new accreditation standards from the Commission on Accreditation for Respiratory Care.

This proposal has been approved by the Council of Academic Officers; it also has been reviewed by the Academic Affairs Committee.

PROGRAM COST: \$111,177 for Year 1; \$3,086,735 over five years

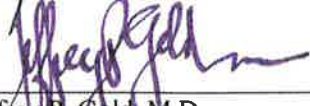
SOURCE OF FUNDS: College/campus auxiliary funds for the first three years, and tuition and fees beginning in Year 3.

SPONSORS:

H. Dele Davies
Senior Vice Chancellor for Academic Affairs

Jeffrey P. Gold, Chancellor
University of Nebraska Medical Center

RECOMMENDED:



Jeffrey P. Gold, M.D.
Executive Vice President and Provost

DATE:

July 16, 2021



April 9, 2021

Susan Fritz, Executive Vice President and Provost
University of Nebraska
3835 Holdrege Street
Lincoln, NE 68583

Dear Provost Fritz:

We are forwarding you the materials relating to the creation of a Masters in Respiratory Care program, administered by the College of Allied Health Professions. Respiratory therapy is an allied health profession dedicated to the evaluation and treatment of persons with heart and lung diseases. Respiratory therapists are key members of health profession teams focused on the ongoing management of patients with acute pulmonary disease. There is already high demand for these health care professionals, and the need will continue to grow as a result of the Covid-19 pandemic. Given the long-term respiratory-related sequela of patients recovering from moderate to severe forms of the disease, it is likely respiratory therapy service demand will remain above pre-pandemic levels.

This proposal has been reviewed by us, and it has our approval. We are requesting your review and approval, that of the Chief Academic Officers, and that it be reported to the Board of Regents at an upcoming meeting.

Sincerely,

A handwritten signature in black ink, appearing to read 'H. Dele Davies'.

H. Dele Davies, MD, MS, MHCM
Senior Vice Chancellor

A handwritten signature in black ink, appearing to read 'Jeffrey P. Gold'.

Jeffrey P. Gold, M.D.
Chancellor

Enc: Proposal MS Respiratory Care

University of Nebraska Medical Center

New Major or Degree

I. Descriptive Information

Name of Institution Proposing New Major or Degree
University of Nebraska Medical Center
Name of Proposed Major
Respiratory Therapy
Degree to be Awarded to Graduates of the Major
Master of Respiratory Care (MRC)
Other Majors or Degrees Offered in this Field by Institution
None
CIP Code [browse here: http://nces.ed.gov/ipeds/cipcode/Default.aspx?y=55]
51.0908
Subject Code
Administrative Units for the Major or Degree
College of Allied Health Professions (CAHP)
Proposed Delivery Site
University of Nebraska Medical Center (UNMC) Omaha campus (with possible future expansion to the Health Science Education Complex in Kearney)
Program will be Offered [full program, not individual courses]
<input checked="" type="checkbox"/> On-campus only <input type="checkbox"/> Distance only <input type="checkbox"/> Both (on-campus and distance)
Date Approved by the Governing Board
<i>Pending</i>
Proposed Date the New Major or Degree will be Initiated
Upon approval by the Coordinating Commission.

II. Details

A. Purpose of the Proposed Major or Degree

The College of Allied Health Professions (CAHP) at the University of Nebraska Medical Center (UNMC) proposes to establish a new entry-level health professions education program in respiratory therapy. Respiratory therapy is an allied health profession dedicated to the evaluation and treatment of persons with heart and lung diseases. Respiratory therapists are key members of health profession teams focused on the ongoing management of patients with acute pulmonary disease such as acute respiratory tract infections, pneumonia, pulmonary edema, acute respiratory distress syndrome (ARDS), and other causes of respiratory failure, as well as chronic lung disease, such as asthma, chronic lower respiratory disease (formerly chronic obstructive pulmonary disease), cystic fibrosis, and pulmonary fibrosis.

Respiratory therapists perform their duties in a number of care delivery venues, spending considerable time in acute settings providing care for patients in critical care units (CCU). Respiratory therapists initiate, monitor, modify, and discontinue mechanical ventilator support for patients receiving this care in a CCU.

In addition, respiratory therapists perform diagnostic studies (e.g., arterial blood gases, pulmonary function testing, exercise testing, sleep apnea testing), provide patient education (e.g., smoking cessation, asthma education, CLRD management and rehabilitation), and provide long-term care for patients with chronic illness.

B. Description of the Proposed Major or Degree

The CAHP proposes to develop an entry-to-practice Master of Respiratory Care degree program open to students who complete pre-requisite coursework but who have no prior competence in respiratory therapy. The program of study would require students to complete either a bachelor's degree or a minimum of three-years and 90-credit hours at an undergraduate accredited university, prior to applying to the program at UNMC. The undergraduate course of study would include specifically identified pre-requisites courses. The UNMC professional curriculum will consist of an 82-credit hour program delivered over 5 semesters (21 months) awarding a Master of Respiratory Care degree (hereafter MRC). Students entering the professional component of the curriculum following three-years (90 credits) of undergraduate preparation, will also be awarded a Bachelor's degree in Medical Sciences from UNMC.

The accreditation agency for respiratory therapy programs, the Commission on Accreditation for Respiratory Care (CoARC), requires new program applicants to identify a "base program" for initial accreditation. A base program is defined as the "primary, degree-granting respiratory care program established by the sponsor."^{1, p. 23} Sponsors can offer *only one base program*, defined as either "entry-level," "degree advancement," or "advanced practice." In accordance with CoARC nomenclature, the CAHP proposes to develop an "entry-level" base program awarding a master's degree. Currently, only eight universities in the US offer master's degree programs in the field of respiratory therapy² (see Table 1) with only five of these programs designated as "entry-level."

Table 1. Universities with CoARC Accredited Master's Degree Programs

INSTITUTION	STATE	DEGREE	CATEGORY
Georgia State University	GA	MS Degree	Entry into the Profession
Rush University Medical Center	IL	MS Degree	Entry into the Profession
Bellarmino University	KY	MS Degree	Entry into the Profession
UNC Charlotte	NC	MS Degree	Degree Advancement
CHI St. Alexius Health/University of Mary	ND	MS Degree	Entry into the Profession
University of Texas Health Science Center	TX	MS Degree	Entry into the Profession
Boise State University	ID	MS Degree	Degree Advancement
The Ohio State University	OH	MS Degree	Advanced Practice Respiratory Therapy

C. Rationale for Developing a Master's Degree Program

The decision to propose the development of an entry-level master's degree was based on the following factors:

1. *Evolution of the Profession of Respiratory Therapy*

Throughout most of the history of the respiratory therapy profession, entry-level education has occurred at the associate-degree level. Even today, 82 percent of entry-level programs remain at the associate degree level.³ However, like so many allied health professions that have over time advanced their entry-level degree requirement secondary to expanding knowledge and roles, in 2018 the Commission on Accreditation for Respiratory Care (CoARC) changed the accreditation standard to require all *new* entry-level programs in respiratory therapy education to award a "baccalaureate or graduate degree."⁴

The professional organization for respiratory therapy, the American Association for Respiratory Care (AARC) supported this change in accreditation, indicating in a 2019 statement⁵ that all respiratory therapists should hold the *minimum* of a bachelor's degree by 2030 (emphasis added).

The 2019 AARC statement followed their 2015 position statement in which they noted,⁶

...training and education for entry-to-practice as a respiratory therapist should be provided within programs awarding a bachelor's or master's degree in respiratory care (or equivalent degree titles) and all newly accredited respiratory care educational programs must award, as a minimum, the bachelor's degree in respiratory care (or equivalent degree title).

2. *Consultant's Recommendation*

In 2019, the CAHP invited a national expert in respiratory therapy education, David Shelledy*, PhD, RRT, FAARC, FASAHP, to UNMC to conduct a two-day independent review of the CAHP and its clinical partners (Nebraska Medicine and Children's Hospital and Medical Center) to examine the feasibility of UNMC initiating a respiratory care educational program, and identify strengths and areas for further development.

Among many recommendations, Dr. Shelledy indicated the CAHP was well poised to develop an entry-to-practice master's degree program, stating, "The University of Nebraska Medical Center (UNMC) provides sophisticated, state-of-the-art care to patients with acute and chronic illness. Nebraska Medicine provides a unique venue for training advanced level respiratory therapists and a respiratory therapist training program within the College of Allied Health Professions (CAHP) could rapidly develop into a nationally recognized program of excellence." His complete report is included in Appendix A. In summary he indicated, "UNMC has the infrastructure, clinical facilities, and medical personnel to develop and support an *excellent entry-to-practice master's degree respiratory care educational program* to prepare outstanding respiratory therapists with a focus on clinical services delivery" (emphasis added). Dr. Shelledy's expertise and assessment, including his projection of the likely continued evolution of the profession, were key determinants in shaping this proposal.

3. *Strong Support from the Profession and Nebraska Medicine*

In addition to the recommendation from Dr. Shelledy, the CAHP has also communicated with the Coalition for Baccalaureate and Graduate Respiratory Therapy Education (CoBRGTE). The CoBRGTE is a national organization consisting of 65 member colleges, universities, and health systems with a mission to advance respiratory care education by advocating for the development and establishment of baccalaureate and graduate-level education for respiratory therapists (<http://www.cobgrte.org/>). Among several strategic goals, the CoBRGTE seeks to "transform the profession by advancing quality academic programs, professional knowledge, and faculty resources," and "increase the number of graduates from baccalaureate and graduate respiratory care educational programs."

A letter of support from the CoBRGTE President (C. Kane) and Executive Director (T. Barnes) for UNMC to develop a master's degree program is included in Appendix C. Among many notable insights, Drs. Kane and Barnes cite the value of preparing a respiratory therapy workforce that not only possess the advanced knowledge and skills for effective patient management, but can also serve as educators, researchers, managers, and clinical specialists in support of the US healthcare system. Similar sentiments were also identified by several individuals from UNMC's clinical partner, Nebraska Medicine (Appendix C), including the need to have graduate-level educated respiratory therapists to deliver the highest-quality, safe care in an increasingly complex environment.

**Dr. Shelledy began his career as a respiratory therapist; a career now spanning almost 50 years as clinician, educator and administrator, including serving as Dean of the School of Health Professions, University of Texas Health Science Center at San Antonio, and Dean of the College of Health Sciences at Rush University in Chicago. At both of these universities, he was instrumental in leading the development of entry-level master degree programs in respiratory therapy.*

4. *CoARC Outcomes*

Admittedly, as noted in the most recent CoARC 2020 Report on Accreditation in Respiratory Care Education³ master's level programs accounted for only 1% of total respiratory therapy education programs in 2019. However, the report also cited several very favorable outcome measures for master's level programs (as well as programs housed at academic health science/medical centers) as compared to associate or baccalaureate level programs. These outcomes included the highest percentage increase (42%) in applications compared to 2018 (applications to associate degree programs decreased 4.9% and 2.6% for baccalaureate programs), the highest percentage increase in new enrollments (43.5%) compared to 2018 (new enrollments decreased 2.8% for associate degree programs and 3.6% for baccalaureate degree programs), the highest retention rate (97%), and the highest mean employment placement rate (97%). The job

placement rate was also the highest by programs housed at academic health science/medical centers (95%). Master's degree programs also had the highest mean pass rate for the *Registered Respiratory Therapist* (RRT) certification examination (95%), as did programs housed at academic health science/medical centers (88%).

5. *Degree Content and Workload*

Pertaining to curricular requirements, CoARC accreditation standard² 4.02 indicates that the curriculum must include "preparation for practice as a Registered Respiratory Therapist with exposure to a broad variety of practice settings... and patient populations..." (e.g., professional competencies). The standard goes on to indicate that programs offering a bachelor's (the minimum degree requirement for new programs) or master's degree, *must* also include content related to "leadership development in management, education, research, AND/OR to advanced clinical practice..." (emphasis added). The sample curriculum in Appendix B⁷ is generally commensurate with other similar health profession education programs currently housed in the CAHP and consequently completion of the proposed MRC curriculum would be commensurate with the awarding of a master's degree.

In addition, the CAHP already has several approved courses at the graduate/professional level that could be used as curriculum for leadership, management, education, and research in the MRC curriculum. With respect to advanced clinical practice, expertise in respiratory care at Nebraska Medicine and Children's Hospital and Medical Center would support the development of advanced clinical practice courses in adult and pediatric critical care to prepare graduates to sit for the adult critical care specialist, and neonatal/pediatric specialist certification examinations administered by the National Board for Respiratory Care (NBRC). This would be a value-added opportunity for graduates to more quickly obtain these specialty certifications. The NBRC is the national organization that also administers the Registered Respiratory Therapy (RRT) certification examination.

6. *Existing Structure of the CAHP*

The CAHP currently houses five other entry-level master degree health profession education programs in the Department of Medical Sciences (diagnostic cytology, genetic counseling, medical nutrition, perfusion science, physician assistant studies), which is also the department where the proposed MRC degree would be housed. A future respiratory therapy program will benefit from this organizational arrangement as it will facilitate the integration of respiratory therapy students with other health profession students in the department, affording the opportunity for shared faculty and existing coursework, and promoting interprofessional education.

7. *CAHP Role and Responsibility*

The mission and obligation of the CAHP is to offer allied health profession education programs that both provide opportunities for students from Nebraska to pursue careers in the allied health professions, and graduate the highest quality allied health workforce to meet the healthcare delivery needs of the citizens of Nebraska, the region and the country. To fulfill this mission, the CAHP programs are, and must continue to be at the "cutting edge" of both health professions education pedagogy, and the evolution of the allied health professions. For example, in 2004, UNMC became one of the first public institutions to offer the Doctor of Physical Therapy (DPT) degree, now the required, standard degree offered by all US accredited physical therapy education programs. Based on the extensive feasibility study undertaken to prepare this proposal, the CAHP and UNMC believe the most appropriate degree to ensure both the success of the proposed program, and the respiratory therapy profession is the master's entry-level degree.

D. Accreditation, Curriculum Development, and Admissions Processes

As noted above, all entry-level programs in respiratory care, regardless of degree offered, are accredited by the Commission on Accreditation for Respiratory Care (CoARC). The CAHP is very familiar with specialized (programmatic) accreditation agencies as it currently works in partnership with eight different agencies responsible for the accreditation of its various programs. All CAHP health profession education programs are fully accredited (or in the case of new programs, provisionally accredited), and all of the CAHP programs have had continuous accreditation from these various agencies since the inception of the respective program. The CAHP will follow all CoARC policies and procedures¹ and adhere to all CoARC accreditation standards⁴ to ensure initial, full, and ongoing accreditation for this proposed program.

Student learning outcomes will be guided by CoARC accreditation standards. The distribution of courses and their credit hours will be developed by the Program Director and faculty of the Respiratory Therapy Program following approval of

this proposal and recruitment and hiring of program personnel. A *sample* curriculum⁷ from a similar program to the one being proposed by the CAHP is included in Appendix B (credit hours may vary).

In summary, the consultant recommended,

The curriculum should include advanced coursework in the areas of patient assessment; protocol development and administration; care plan development, initiation, delivery, modification, and evaluation; critical care and mechanical ventilatory support (adult, pediatric, neonatal and specialty); and cardiopulmonary diagnostics. While the primary focus of the program should be on the preparation of outstanding clinical (bedside) advanced level respiratory therapists, courses and units of instruction should also be included in the areas of leadership, research and education.

All courses will require development in accordance with CoARC standards and the approved CAHP format for course and syllabus development, and will be reviewed and approved by the CAHP's Curriculum Committee in accordance with existing CAHP policies and procedures.

To be considered for admission, applicants will be required to have completed a minimum of 90 credit hours at an accredited undergraduate institution, to include general pre-health professions pre-requisites (specific requirements TBD) in the biological sciences, chemistry, and mathematics. As is true of all CAHP health profession education programs, enrollment is projected to be limited and competitive. The Respiratory Therapy Program administration, faculty, and other CAHP faculty and/or Nebraska Medicine personnel will comprise the admissions committee for the program, will evaluate each qualified applicant, and make final selections for admission, in accordance with the program and CAHP goals and objectives. The CAHP employs holistic review practices for admission to all of its health profession education programs.

The CAHP has an Office of Enrollment Management and Student Affairs (EMSA), with personnel involved in the marketing and recruitment functions for all of the CAHP health profession programs. This office is managed by a Director of Enrollment Management and Student Affairs (M. Winnicki). The Assistant Dean for Student Affairs (A. Donnelly) oversees the EMSA Office, which is also responsible for student wellness, executing logistics for all admission processes including applicant transcript reviews, and planning for annual CAHP convocation and commencement related activities. The same enrollment management and student affairs services currently provided to the students in all of the health profession education programs in the CAHP will be afforded to the Respiratory Therapy Program and its students.

III. Review Criteria

A. Centrality to UNMC Role and Mission

As noted above, one of the core missions of UNMC is to improve the health of Nebraskans through premier educational programs with the intent of graduating the best-educated health professionals and scientists. The CAHP participates in this mission by preparing a highly qualified allied health workforce to serve Nebraska and the region in each of the fourteen health profession education programs housed in the college.

The UNMC Strategic Goals and Strategies have recently been updated for 2022-2025. The development of a health professions program in respiratory therapy is congruent with many of these goals and objectives. Specifically, Goal 1, "Establish UNMC and its educational programs as the most learner-centered university in health professions and interprofessional education," and Goal 3, "Establish UNMC and our clinical partners as an academic health system providing the highest-quality care that is recognized for outstanding patient outcomes and a compassionate and patient-centered care experience."

The development of a new respiratory therapy program awarding an entry-level Master of Respiratory Care degree addresses many of the objectives listed in the new Strategic Plan, including the following objectives:

- 1.1. Provide an innovative, competency-based and individualized curriculum.
- 1.4. Actively recruit those faculty needed to expand UNMC's current & future programs.
- 1.5. Expand use of Interprofessional Experiential Center for Enduring Learning (iEXCEL)

- 1.6. Prepare UNMC health profession learners to assume leadership roles.
- 3.1. Build relationships with our clinical partners to improve patient health outcomes.
- 3.2. Utilize interprofessional practice to provide optimal patient care environments.
- 3.5. Assure timely access to UNMC clinical care services.
- 3.7. Accelerate planning of the UNMC/Nebraska Medicine Project NExT.
- 3.10 Strengthen incentives to recruit and retain clinical faculty of diverse backgrounds.

B. Relationship of the proposal to the NU Strategic Framework

The development of a respiratory therapist education program is also congruent with elements of the five-year strategic plan put forward by President Carter on behalf of the University of Nebraska system in August 2020.⁸ Notably, the development of a respiratory therapy program would provide workforce development opportunities for both those students interested in pursuing this career and for communities in need of these professionals. The current holistic admissions model (including marketing, recruitment and admissions) utilized by the CAHP, will contribute to a diverse workforce of respiratory therapists and provide opportunity for students who may not have previously been aware of this profession or career option.

C. Consistency with the Comprehensive Statewide Plan for Post-Secondary Education

Providing a Master of Respiratory Care degree is consistent with the vision and major statewide goals outlined in the *Comprehensive Statewide Plan for Postsecondary Education (hereafter "Plan")*.⁹ The vision for postsecondary education in Nebraska is that "Nebraskans will reap many benefits from affordable, accessible, and high-quality postsecondary education." And that, "each postsecondary institution will fulfill its role and mission with distinction by being responsive to changing academic, workforce, societal, economic, cultural, and community development needs."⁹ p. 1-1

The creation of a respiratory therapy program awarding the *only* master degree entry-level program in respiratory care in the State of Nebraska, contributes to the fulfillment of this vision as it pertains to UNMC's responsibility for health professions education. The development of a respiratory therapy program at UNMC would have a direct impact on the following major statewide goals outlined in the *Plan*:

- Nebraska's institutions and policymakers will increase participation and success in postsecondary education, particularly for low-income and underrepresented populations, and ensure that all Nebraskans are able to access and successfully complete postsecondary education appropriate to their individual needs and abilities, unrestricted by age, culture, disabilities, religion, race, ethnicity, gender, sexual orientation, gender identity, nationality, socioeconomic status, or geographic location.
- Nebraska's postsecondary institutions will be student-centered, create inclusive environments that foster student success, and offer lifelong learning opportunities that are responsive to students' and workforce needs.
- Nebraska colleges and universities will foster critical thinking skills and provide their graduates with the knowledge and workplace skills needed to be successful employees, innovative entrepreneurs, and responsible citizens on a global stage.
- Nebraska will close the historical educational attainment gaps between majority and underrepresented populations and be among the leading states in overall educational attainment.
- Postsecondary education in Nebraska will be responsive to the workforce development and ongoing training needs of employers and industries to build and sustain a knowledgeable, trained, and skilled workforce in both rural and urban areas of the state.
- Postsecondary institutions will contribute to the health and prosperity of the people and to the vitality of the state through research and development efforts, technology transfer and technical assistance, and by attracting external funds to support these activities.

- Postsecondary education will serve the state by preparing individuals for productive, fulfilling lives and by developing and nurturing the citizens and future leaders of Nebraska.
- Each Nebraska institution will fulfill its role and mission in an exemplary manner and will compare favorably with peer institutions.
- Postsecondary education in Nebraska will be effective in meeting the needs of students and the state, will be efficient in its expenditure of the state’s resources, and will be accountable for developing, sustaining, and demonstrating exemplary teaching, learning, research, and public service.
- Nebraska will promote a physical environment at each of its public postsecondary institutions that is supportive of role and mission; is well utilized and effectively accommodates space needs; is safe, accessible, cost effective, and well maintained; and is flexible to adapt to future changes in programs and technologies.

D. Evidence of Need and Demand

According to the Department of Labor, Bureau of Labor Statistics¹⁰ the national demand for respiratory therapists is expected to increase by 19% during the ten-years from 2019-2029. This projected rate of growth is characterized by the Bureau of Labor Statistics as “much faster than average,” with the average combined projected growth rate for *all* professions projected to be 4%.

In addition to percentage increase in employment demand, average annual openings (a combination of new demand and demand resulting from retirements), are projected to be 10,600 across the United States, with 830 average annual openings in Nebraska and its 6 contiguous states (see Table 2). The age of the respiratory therapy workforce in Nebraska may have an impact on average annual openings for respiratory therapists in Nebraska.

A recent workforce study conducted by the University of Nebraska Medical Center Area Health Education Center (AHEC) Program¹¹ found that of the total respiratory therapist workforce in the State of Nebraska, almost one-quarter (24%) of respiratory therapists were over the age of 56 years. Of these, 9.6% were between the ages of 61-65 years, and 3.1% were over the age of 65 years.

Table 2. Projected Percentage Increase in US and Regional Demand for Respiratory Therapists 2018-2028¹²

Area	Base	Projected Need Total	Change (#)	Change (%)	Average Annual Openings
United States	134,000	162,000	28,000	20.9	10,600
Nebraska	1,220	1,320	100	8.2*	80
Colorado	2,140	2,970	830	38.8	220
Iowa	960	1,180	220	22.9	80
Kansas	1,320	1,580	260	19.7	100
Missouri	3,350	4,310	960	28.7	300
South Dakota	340	430	90	26.5	30
Wyoming	210	260	50	23.8	20
Total Regional	9,540	12,050	2,510		830

*A 2018 Nebraska Workforce Report supported by the Nebraska Hospital Association¹³ indicated a 13.5% projected increase for respiratory therapists in Nebraska for the decade 2014-2024.

The COVID-19 pandemic has dramatically increased the need for respiratory therapists in the Omaha community and at UNMC’s clinical partner, Nebraska Medicine. Currently, Nebraska Medicine (including Bellevue Medical Center) employs approximately 150 respiratory therapists across multiple departments. Additionally, Children’s Hospital and Medical Center employs approximately 80 respiratory therapists. Vacancy rates at Nebraska Medicine are consistently in the

10%-20% range, with turnover at approximately 10%-15%. As a result, Nebraska Medicine and other Omaha metro health systems have implemented employment strategies such as offering incentive pay, sign-on bonuses or educational support, requiring mandatory overtime, or utilizing contract services. Filling vacancies is a more acute problem for departments or health systems that require respiratory therapists with specialized experience and training (e.g., Children's Hospital and Medical Center that requires pediatric and newborn experience, or the Nebraska Medicine Department of Pulmonary, Sleep, and Surgical Services).

Given the high demand, high volume, high acuity environment of a tertiary/quaternary academic medical center, to maintain respiratory care services, on average Nebraska Medicine relies on 5-10 respiratory therapists on contract at any given time. Even an intermittent reliance on contract support can be especially costly. Generally, the cost of a contract respiratory therapist ranges from \$60-\$68/hour. During the peak of the pandemic the rate jumped to \$110-140/hour. For general comparative purposes, the 2019 national median annual salary for respiratory therapists was \$61,330. Based on this median salary and a benefits factor of 25%, the annualized cost for a 1.0 FTE respiratory therapist would be approximately \$77,000 (approximately \$37/hour.)

While it might be anticipated that the acute need for respiratory therapy services will diminish as the U.S. begins to emerge from the pandemic, the long-term respiratory-related sequela of patients recovering from moderate to severe forms of the disease will likely keep respiratory therapy care demand above pre-pandemic levels. In addition, according to the CDC National Center for Health Statistics,¹⁴ and the American Lung Association,¹⁵ even *before* the pandemic (2018) chronic lower respiratory diseases (formerly known as chronic obstructive pulmonary disease) as a category was the fourth leading cause of death in all ages in the U.S., behind heart disease, cancer, and accidents and unintentional injuries (thus, the third leading cause of *disease-related* death).

The 2018 prevalence of CLRD was 6.3% in Nebraska and ranged from a low of 4.6% (South Dakota) to a high of 9.1% (Missouri) in the six contiguous states. In real numbers, over one million (1,067,500) individuals in Nebraska and its six contiguous states were living with chronic lower respiratory diseases in 2018.

E. Avoidance of Unnecessary Duplication

As noted in Table 1, there are eight respiratory care master-level programs in the U.S., only five of which are entry-to-practice. There are no other programs in respiratory therapy within the University of Nebraska system, and no other master's degree programs in respiratory care of any type in the State of Nebraska. According to the CoARC website¹⁶ there are three entries into the profession associate degree programs in respiratory care in Nebraska (Southeast and Metropolitan Community Colleges, and Nebraska Methodist College). There is also one bachelor's level degree advancement program (Nebraska Methodist College).

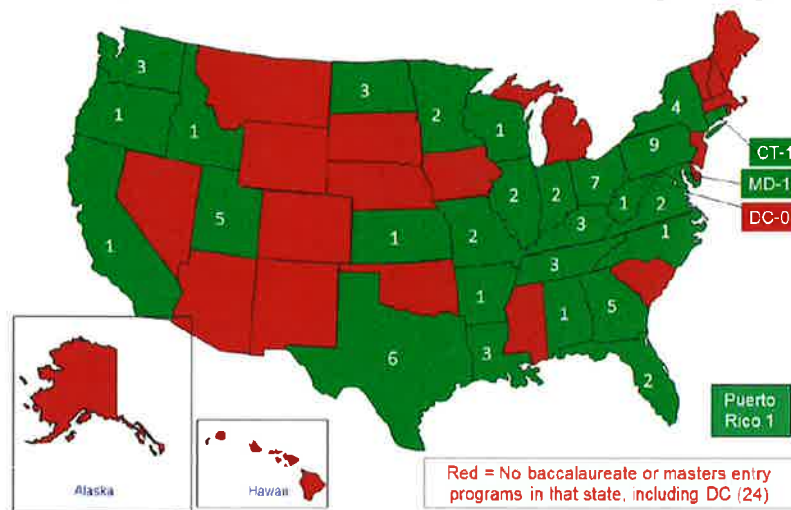
There are a total of 32 entry-to-practice respiratory care programs in Nebraska and the contiguous states (see Table 3). Only two of those programs are at the bachelor degree level, and none are at the master's degree level (see Figure 1). There were just over 1,000 applicants to these programs in 2019, with an overall acceptance rate of just over 50 percent (50.7%). The programs graduated 430 total graduates in 2019, representing approximately 52 percent of the projected average annual openings in the region (see Table 2).

The CAHP has for many years offered online degree-advancement programs in clinical perfusion, medical laboratory science, physician assistant studies, and radiography. While these degree programs do not increase the number of personnel in these respective fields, they do afford current practitioners the opportunity to maintain employment in their communities while acquiring advanced knowledge. Given the CAHP's experience and success in offering degree advancement programs, and considering that no master's degree programs are currently offered in Nebraska or the contiguous states, following the accreditation and implementation of the base entry-to-practice master's degree, the CAHP will seek subsequent accreditation for a master's degree advancement program.

Table 3. 2019 CoARC Data for Entry Respiratory Care Programs for Nebraska and Contiguous States³

State	Entry RC Programs (n) & Type	Applications	New Enrollees	Graduates
Colorado	4 Associate	262	111	103
Iowa	6 Associate	212	70	52
Kansas	8 Associate; 1 Baccalaureate	237	121	82
Missouri	6 Associate; 1 Baccalaureate	170	119	132
Nebraska	3 Associate	76	58	41
South Dakota	2 Associate	32	16	8
Wyoming	1 Associate	12	13	12
Totals	32	1,001	508	430

Figure 1. CoARC Accredited Entry into Practice Baccalaureate and Graduate Degree Programs (n=75 as of 12/31/20)³



F. Adequacy of Resources

Faculty and Staff Resources

The budget for the proposed program (see Tables 3 and 4), including FTE devoted to personnel, is based on a projected enrollment of 24 students per year for a total ongoing enrollment of 48 students upon full implementation. CoARC accreditation standards require all programs have FTE devoted to “key program personnel,”^{4, pp.11-12} which include at a minimum, a 1.0 FTE program director, and a 1.0 FTE director of clinical education. CoARC accreditation standards also require an appointed medical director, although the medical director is not required to have a full-time appointment. A medical director for the program must be a licensed physician board certified in a “specialty relevant to respiratory care.” The medical director will be provided in-kind from Nebraska Medicine.

In addition to these formally titled roles, two additional 1.0 FTE instructional faculty will be hired to teach in the program. Lastly, CoARC accreditation standards require, “sufficient administrative and clerical support staff to enable the program to meet its goals and objectives...”^{4, p. 21} The CAHP currently organizes administrative personnel in one of four offices, designed to provide comprehensive services to all students and faculty within the CAHP. These offices include academic affairs, business affairs, enrollment management and student affairs, and research affairs. Existing personnel in these offices will be available to provide administrative support for the Respiratory Therapy Program. Clerical support within the CAHP is provided via a shared service model. An additional 1.0 FTE for dedicated administrative support will be budgeted for support of the Respiratory Therapy Program.

The development of the curricular design and content will be the responsibility of the Respiratory Therapy Program faculty, however as noted above, the CAHP currently has several approved courses at the graduate/professional level related to content on leadership, management, education, and research, as well as professional (competency-based) courses in existing programs (e.g., Clinical Perfusion, Physician Assistant) that could meet the knowledge and competency needs of students in the Respiratory Therapy Program.

Physical Resources

UNMC and the CAHP will identify and renovate as necessary, space on the UNMC Omaha campus to house the respiratory therapy program, including office space for the program director, director of clinical education, and faculty, as well as student work area/small group meeting space. These areas will have internet access, conference room space and equipment for distance learning, conference calls, and video conferencing. Resources are also presently available in Bennett Hall, Wittson Hall, the Michael F. Sorrell Center for Health Sciences Education, and Nebraska Medicine that will be accessible to the respiratory therapy program. New and existing offices and conference rooms will be conducive to work associated with planning, scholarly activities, and student counseling.

Didactic classes will be held in the state-of-the-art classrooms and laboratories in Bennett Hall, or the Michael F. Sorrell Center for Health Science Education on the Omaha campus. These facilities also provide ample student interaction space. The CAHP has research laboratories, classrooms, and graduate student offices in the Center for Healthy Living, as well as laboratory space in Wittson Hall and Bennett Hall on the UNMC Omaha campus.

Instructional Equipment and Information/ Technological Resources

In recent years, the CAHP has made significant investments in technology to support the growing demand for distance education, to facilitate curriculum revision, including "flipped classroom" and hybrid delivery models, and to provide students opportunities for hands-on learning through simulation training. Audio visual (AV) and information technology (IT) components in excess of \$875,000 have been purchased and installed in Bennett Hall, Wittson Hall, and the Michael F. Sorrell Center for Health Science Education.

The UNMC Office of Academic Affairs houses the E-Gallery, an ever-expanding library of e-Learning modules, available to students anytime and anywhere. In addition, with the opening of the Davis Global Center in October 2020, the new Respiratory Therapy Program students will have access to considerable instructional resources using simulation, and virtual and augmented reality for learning and acquiring complex clinical competencies. In addition, the budget for the development of the program includes the purchase of specialized equipment required for hands-on laboratory education.

As an Academic Health Sciences Center, UNMC offers many educational opportunities and advantages for students. Students have access to the Leon S. McGoogan Health Sciences Library, one of the nation's premier health science libraries. The Leon S. McGoogan Health Sciences Library serves the information needs of all UNMC students, faculty, and staff. In addition to resources physically located on the Omaha campus, the library has over 5,500 full-text, online journals and over 150 on-line textbooks. All UNMC students have complete access to the library and other online resources. The Leon S. McGoogan Health Sciences Library also provides services to students including how to search for literature, locate articles and books, search the internet, note copyright restrictions, cite sources, and avoid plagiarism, as well as writing assistance.

Clinical Education Resources

As is true of all health profession education programs, the availability of clinical placements will be key to the success of the program. The CAHP has a long history of partnerships with state, regional, and national health care systems and providers, whose clinical sites support the clinical training of allied health students. The CAHP has strong relationship with its clinical partners Nebraska Medicine and Children's Hospital and Medical Center, which will form the foundation for clinical education experiences for students in the Respiratory Therapy Program.

While the primary clinical partners for the program will be the respiratory therapy services at Nebraska Medicine and Children's Hospital and Medical Center, the CAHP also has an existing network of over 400 affiliation agreements with healthcare facilities and providers, most external to UNMC. Of these agreements, over 300 are "blanket" agreements which support clinical education for students from multiple health professions programs (143 of which are with healthcare institutions in Nebraska). Many of these sites are located in rural communities throughout Nebraska. Given that an essential mission of the CAHP is to educate the highest-quality allied health workforce to serve the State of Nebraska, it is anticipated that respiratory therapy students will also participate in clinical education experiences at many community and regional hospitals throughout Nebraska.

CoARC accreditation standards require the hiring a 1.0 FTE Clinical Education Director, whose primary role will be to develop a network of clinical education placements for the program. Additionally, CoARC accreditation standards require the appointment of a Program Advisory Committee (PAC). The PAC provides general oversight and guidance for the program, and membership on the PAC is voluntary. Members will be solicited from community stakeholders, largely Nebraska Medicine and Children’s Hospital and Medical Center (see Appendix C for letters of support from these institutions).

G. Budget

The expense and revenue projections for the Respiratory Therapy Program are modeled in the attached tables. The program will require an investment of approximately \$1.2M over a three-year implementation phase, with a first cohort projected to matriculate in the fall of academic year 2023-24. Funds from CAHP/Campus auxiliary activities are available to meet this need (see Appendix D). The revenue projection is modeled on enrollment of a cohort of 20 students in year one (16 resident and 4 non-resident) and cohorts of 24 students thereafter (18 resident and six non-resident students). Tuition will be “flat rate” based on a per-credit hour cost similar to the Masters of Perfusion Studies degree currently offered by the CAHP. The program is projected to generate revenue in excess of expenses in FY 2025, resulting in recovery of the initial investment in FY 2037. Ongoing annual revenue in excess of expenses is projected to be approximately \$126K thereafter.

The projected expense budget includes one-time expenses for equipment and technology acquisition, potential building renovations and faculty recruitment. These expenses are projected over the first three-years after program approval. On-going expenses include faculty and staff salaries and benefits, and routine operating expenses for faculty development, general supplies, accreditation fees, program marketing, etc. All expenses are inflated at 2.5% per year.

Tuition projections are based on the current resident and non-resident tuition for the Clinical Perfusion Master’s degree program, inflated at 2.5% after the current tuition freeze expires. The projected resident per credit hour rate is \$367 and the non-resident rate is \$965, for the 82-credit hour program. Congruent with all CAHP programs, the Master of Respiratory Care will be billed in a flat rate model of \$30,337 for the first resident cohort and \$79,781 for the first non-resident cohort. On average, the CAHP remissions rate is 9% for resident students and 42% for non-resident students enrolled in similar master’s degree programs.

IV. Conclusion

The College of Allied Health Professions (CAHP) at the University of Nebraska Medical Center (UNMC) proposes to establish the first in Nebraska entry-to-practice master of respiratory care degree program, allowing students to complete their bachelor’s degree and obtain a master of respiratory care degree in five-years.

The program would help to meet a projected 19% increase in national demand for respiratory therapists, including 830 annual openings for respiratory therapists in Nebraska and its six contiguous states. The development of the program is congruent with many of the strategic goals and objectives of the UNMC and University of Nebraska Strategic Plans, as well as the Comprehensive Statewide Plan of the Nebraska Coordinating Commission for Postsecondary Education. Budget modeling indicates that in approximately year six of the program and thereafter, the program would be a self-sustaining revenue center for UNMC and the CAHP.

As noted by the consultant who assisted in conducting the feasibility study that informed this proposal,

The University of Nebraska Medical Center (UNMC) provides sophisticated, state-of-the-art care to patients with acute and chronic illness. Nebraska Medicine provides a unique venue for training advanced level respiratory therapists and a respiratory therapist training program within the College of Allied Health Professions (CAHP) could rapidly develop into a nationally recognized program of excellence.

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**Appendix A
Consultant Report**

**University Nebraska Medical Center
College of Allied Health Professions**

*Feasibility of the Establishment of a Respiratory Care Educational Program at
the University Nebraska Medical Center*

Report of Consultation Visit
David C. Shelledy, PhD, RRT, FAARC, FASAHP
February 11 and 12th, 2020

Executive Summary

Respiratory care is the allied health discipline focused on the evaluation, treatment, and care of patients with heart and lung disorders. Respiratory therapists work across multiple healthcare venues including acute care hospitals, long-term care facilities, sleep disorder centers, physician offices, skilled nursing facilities and rehabilitation centers. Patients commonly requiring respiratory care include those patients with acute pulmonary disease (acute respiratory tract infection, pneumonia, pulmonary edema, acute respiratory distress syndrome [ARDS], and other causes of respiratory failure) and those with chronic lung disease (COPD, asthma, cystic fibrosis, pulmonary fibrosis). Respiratory therapists are the primary allied health personnel responsible for the institution, adjustment, monitoring, and care of patients receiving mechanical ventilatory support, including invasive mechanical ventilation. Within the hospital environment, respiratory therapists devote a great deal of their time caring for critically ill patients receiving intensive care. Respiratory therapists also perform diagnostic studies (e.g., arterial blood gases, pulmonary function testing, exercise testing, sleep laboratory), providing patient education (e.g., smoking cessation, asthma education, COPD chronic care and rehabilitation), as well as providing long-term care for patients with chronic illness.

Respiratory therapists (RTs) are trained at colleges and universities and respiratory care educational programs require specialized accreditation. The National Board for Respiratory Care administers the examinations for respiratory therapist credentialing and provides the credentialing system used for state licensure. Credentials awarded include the registered respiratory therapist (RRT) credential and specialization credentials in adult critical care, neonatal and pediatric critical care, pulmonary function testing, and sleep studies. The U.S. Bureau of Labor Statistics estimates a need for an additional 10,600 respiratory therapists per year for the period 2018-2028.

In the past, the majority of respiratory therapy education programs awarded an associate degree. Effective in 2018, all new respiratory therapist educational programs must offer a bachelors or master's degree and the American Association for Respiratory Care has stated that all respiratory therapists should hold minimum of a baccalaureate degree by the year 2030.

The University of Nebraska Medical Center (UNMC) provides sophisticated, state-of-the-art care to patients with acute and chronic illness. Nebraska Medicine provides a unique venue for training advanced level respiratory therapists and a respiratory therapist training program within the College of Allied Health Professions (CAHP) could rapidly develop into a nationally recognized program of excellence.

Given the high level of care provided by UNMC and Nebraska Medicine, it is recommended that the CAHP initiate a new entry-to-practice respiratory therapist educational program awarding the master of respiratory care degree upon completion. This program should focus on preparing outstanding respiratory care clinicians able to care for the difficult and complex patients seen by the medical center. The curriculum should include advanced coursework in the areas of patient assessment; protocol development and administration; care plan development, initiation, delivery, modification, and evaluation; critical care and mechanical ventilatory support (adult, pediatric, neonatal and specialty); and cardiopulmonary diagnostics. While the primary focus of the program should be on the preparation of outstanding clinical (bedside) advanced level respiratory therapists, courses and units of instruction should also be included in the areas of leadership, research and education.

Introduction

Respiratory Care has been defined as the healthcare discipline that specializes in the promotion of optimum cardiopulmonary function and health. Respiratory therapists employ scientific principles to identify, treat and prevent acute or chronic dysfunction of the cardiopulmonary system. Respiratory therapists are employed across all healthcare delivery venues including acute care hospitals, subacute care, skilled nursing facilities, long-term acute care facilities, physicians' offices and clinics, rehabilitation facilities and homecare. Respiratory therapists also provide diagnostic services in pulmonary function laboratories and sleep disorder centers. They are involved in research, and may find employment at universities, research institutes and with industry, medical equipment companies and suppliers, and governmental agencies. Respiratory therapists are also employed as faculty members within respiratory care educational programs located at colleges and universities. Specialty areas within respiratory care include adult critical care, pediatric and neonatal critical care, cardiopulmonary rehabilitation, cardiopulmonary diagnostics (e.g., pulmonary function testing, sleep studies, cardiopulmonary exercise testing, metabolic testing), patient transport (e.g., emergency and critical care air transport), and home care.

Respiratory therapists are trained and educated at colleges and universities accredited by the Commission on Accreditation for Respiratory Care (see: www.CoARC.com). Effective January 1, 2018 all new entry-to-practice respiratory care educational programs must award either the baccalaureate or graduate (e.g. master's) degree upon completion of the program. Associate degree programs that applied for accreditation or were accredited prior to January 1, 2018 may continue to award graduates the associate degree as long as they continue to remain accredited by the CoARC. Currently there are approximately 344 associate degree programs, 71 baccalaureate degree programs and 15 master's degree respiratory care programs (10 post-professional master's and 5 entry-to-practice masters) in the U.S (Appendix C).

Purpose of the Consultation

The purpose of this consultation was to determine the feasibility of the establishment of a baccalaureate and/or master's degree program in respiratory care within the College of Allied Health Professions at the University Nebraska Medical Center. Specifically, this report details findings related to the following activities:

1. Survey demand, need, support, and facilities with respect to the establishment of a respiratory care educational program.
2. Meet with key stakeholders to determine interest and support in establishment of a respiratory care educational program.
3. Determine viability and initial startup needs for a new program in respiratory care.

Additional background information related to the development of new respiratory care educational programs should be considered. Although many associate degree programs remain in operation, current accreditation standards require that all new entry-to-practice respiratory care programs must be offered at the baccalaureate or master's degree level. In addition, the American Association for Respiratory Care (AARC) recently published a position statement that all respiratory therapists should hold at least a bachelor's degree in respiratory care by the year 2030. There are also a number of respiratory care curricular models in operation in the United States. Broadly speaking, these can be divided into entry-to-practice respiratory therapist training programs offered both at the baccalaureate and master's degree level and programs for current respiratory therapists to advance their career.

The most common model for entry-to-practice programs is the traditional 2+2 baccalaureate degree (two years of undergraduate general education and prerequisite courses followed by two years of professional/health sciences courses). Entry-to-practice master's degree programs generally require no prior health care experience; however, applicants must have a non-RT bachelor's degree and appropriate prerequisite courses (e.g., biology, chemistry, anatomy, physiology). Programs designed for current respiratory therapists to advance their careers include degree completion baccalaureate programs (to provide associate degree program graduates the opportunity to complete their baccalaureate degree in respiratory care); and master's degree completion programs for current registered respiratory therapists (RRT's) holding non-RT baccalaureate degrees. Accreditation standards for advanced practice respiratory therapist (APRT) training programs have also been developed and such programs should provide current respiratory therapists with the clinical skills needed to serve in mid-level provider roles similar to a pulmonary physician assistant.

Currently, there is only one such accredited program in the U.S. (see: <https://gpadmissions.osu.edu/programs/program.aspx?prog=0269>).

Methodology

An on-site visit was conducted February 12-14, 2020 at which time key stakeholders were interviewed, and clinical and academic facilities reviewed. A summary of activities is found in Appendix D. In addition, U.S. Bureau of Labor Statistics and Nebraska Department of Labor employment projections were obtained and the current number of baccalaureate and graduate respiratory therapy educational programs reviewed (see: Commission on Accreditation for Respiratory Therapy Education Annual Report and the Coalition for Baccalaureate and Graduate Respiratory Therapy Education database; www.CoARC.com and www.CoBGRTE.org).

Results

Facilities and Support

The University Nebraska Medical Center (UNMC) is a world-class academic health center with the main campus located in Omaha, Nebraska. The stated mission of UNMC and Nebraska Medicine (UNMC's hospital partner) is to "lead the world in transforming lives to create a healthy future for all individuals and communities through premier educational programs, innovative research and extraordinary patient care." The major mission components of UNMC include teaching, research, service, and patient care. In collaboration with Nebraska Medicine, UNMC provides clinical services in about 50 specialties and subspecialties, including cancer, neurosciences, heart disease and others.

UNMC is comprised of six colleges and multiple institutes and centers. UNMC offers professional training programs in dentistry, medicine, nursing, pharmacy, public health, and allied health as well as research focused masters and doctoral degree programs in the biomedical sciences. Nebraska Medicine includes the Nebraska Medical Center, the Fred and Pamela Buffett Cancer Center, Bellevue Medical Center, and Village Point Health Center. Nebraska Medical Center is a 718-bed tertiary-care referral hospital caring for complex patients from across the region and nation while Bellevue Medical Center adds additional inpatient beds, intensive care services and emergency department services.

The proposed respiratory care program would be offered by the College of Allied Health Professions at UNMC. The mission of the College of Allied Health Professions (CAHP) is to advance health by delivering allied health educational programs that prepare graduates to " provide high quality, evidence-based, safe care for all patients; conducting scholarly activities that create and disseminate knowledge reflective of the unique contributions of allied health theory and practice; providing high quality, contemporary clinical care in the allied health disciplines; and providing outreach to underserved populations. The College of Allied Health Professions at UNMC offers training and education in 14 different allied health disciplines ranging from cardiovascular interventional technology to medical radiography (see: <https://www.unmc.edu/alliedhealth/education/index.html>).

UNMC and Nebraska Medicine are well positioned to provide the clinical training and related experiences needed to prepare outstanding advanced level respiratory therapists. An important focus for training advanced level respiratory therapists is the availability of critical care beds, personnel and procedures. Nebraska Medicine features a sophisticated group of ICUs including CVICU (cardiovascular), NSICU (neuroscience), SICU (surgical), MICU (medical), NICU (neonatal), PICU (pediatric) and Buffett ICU (oncology). Nebraska Medicine is a Level I trauma center (which includes a burn intensive care unit) and a Level IV Newborn Intensive Care Unit is located at Children's Hospital and Medical Center, providing the most sophisticated, state-of-the-art care possible for trauma and neonatal patients, respectively. Units are staffed with expert critical care physicians, advanced practice nurses, and respiratory therapists.

Critical care training opportunities and procedures abound across multiple care venues providing airway care, mechanical ventilatory support, hemodynamic monitoring, extracorporeal membrane oxygenation (ECMO), mechanical circulatory support, and perfusion services. Other core training opportunities readily available include provision of respiratory care in the acute care setting (e.g., oxygen therapy, aerosolized medication delivery, airway clearance techniques, patient assessment and care planning, asthma education), emergency care (e.g., CPR and advanced life support), cardiopulmonary diagnostics and pulmonary function laboratory, sleep laboratory, pulmonary rehabilitation, cardiac rehabilitation, hyperbaric medicine, cardiac catheterization lab and critical care ground and air transport. In

addition to the availability of advanced level care, students may have opportunities to participate in sophisticated outcomes/clinical research related to respiratory care.

Respiratory care clinical leadership personnel, including therapists and physicians are enthusiastic and well qualified to ensure that students receive an outstanding clinical education. Nebraska Medicine patient care operations leadership are also supportive and eager to have a ready source of well-qualified respiratory therapists to meet the medical center's workforce needs.

The College of Allied Health Professions is well positioned to support advanced level respiratory therapist training. The college is led by a sophisticated team of academicians including the dean, associate deans, department chairs, program directors, and administrative staff. The college has extensive experience in providing outstanding allied health graduate and undergraduate training programs, as well as appropriate classroom, teaching laboratory, offices, and related support resources. It's clear that should UNMC decide to develop and implement an advanced level respiratory therapist training and education program, they have the resources and experience to develop an outstanding program.

College administrative leadership (e.g. deans, associate deans, department chairs, program directors) are very supportive of the development of a respiratory therapist program with the aim of developing a program which will be recognized as a national leader within a few years. Clinical training opportunities and associated resources will certainly allow for the achievement of such a goal, assuming continued administrative support and successful employment of a visionary and capable program director and faculty. There seems to be a clear mission match between the university, college and proposed new program.

Workforce

Nebraska Department of Labor occupational data indicated that in 2019 there were approximately 1,213 respiratory therapists employed in the state. Median annual wage for respiratory therapists in Nebraska is listed at \$57,407 and there are currently only 18 candidates available for 79 job openings (see: <https://neworks.nebraska.gov/vosnet/Default.aspx>). U.S Bureau of Labor Statistics estimated that there were 134,000 respiratory therapists in the U.S. in 2018 and that number would grow to 162,000 by 2028 with an average annual opening rate of 10,600 openings (see: <https://www.bls.gov/emp/tables/emp-by-detailed-occupation.htm>).

Nebraska Medical Center hospital leadership is fully supportive of the development of a new respiratory therapist training program because of workforce shortages and excessive PRN use and related cost. It was felt that the program should train advanced level respiratory therapists who possess additional assessment skills, allowing for administration of protocols (e.g., ventilator weaning, extubation, reduction of therapy misallocation), and contribute to reduction in hospital readmissions following discharge (e.g., asthma, COPD, other). In addition, there's a desire to continue to improve employee engagement and enhance recruitment and retention of respiratory care personnel.

As noted above, current accreditation standards require that all new entry-to-practice respiratory therapist training programs must be at the baccalaureate or master's level. Currently there are 71 accredited bachelor's degree programs and five entry to practice master's degree programs in the U.S., however, only one program in Nebraska offers an entry-to-practice bachelor's degree (CHI Health/Midland University) and there are currently no graduate-level programs in the state.

Consequently, the majority of the current Nebraska workforce received their training at one of the three associate degree programs in the state. Credit hour limitations of associate degree respiratory therapist training programs limit the breadth and depth of training possible needed to provide advanced patient care management skills for practice. Also as noted, the American Association for Respiratory Care has taken the position that all respiratory therapists should have a minimum of a respiratory care baccalaureate degree by 2030.

Challenges

Challenges to implementing a new program to train respiratory therapists at UNMC include recruiting well-qualified key personnel and instructional faculty, establishing an appropriate teaching laboratory, ensuring the program is financially sound and adequate financial resources are available, maintaining program enrollment, ensuring adequate clinical

placements for students, and choosing a curricular model which is a good fit for the University Nebraska Medical Center and the College of Allied Health Professions.

Key personnel. An entry-to-practice master's degree respiratory therapist training program would provide the best fit for an academic medical center such as UNMC. In order to achieve specialized accreditation, the program must have a qualified program director, director of clinical education, and medical director as well as sufficient instructional faculty to provide effective instruction in the didactic, laboratory, and clinical setting. The program director and director clinical education must be full-time, core faculty. The medical director is not required to have a full-time appointment within the program.

Finding doctorally prepared respiratory care faculty to provide program leadership and instruction can be challenging. Because of the shortage of doctorally prepared respiratory therapists to teach, the specialized accreditation agency (CoARC) currently states that the program director and director of clinical education "*of a program offering a bachelor's or master's degree must have earned at least a master's degree from an academic institution accredited by a regional or national accrediting agency recognized by the U.S. Department of Education (USDE).*" Use of master's level faculty to teach and provide program leadership will require documentation of preparation for teaching subject matter assigned in order to meet regional accreditation (HLC) standards.

Instructional Faculty. The program must demonstrate that instructional faculty are qualified in the content areas they are teaching and have demonstrated a sufficient level of knowledge, skills, and competency in those content areas, as well as being appropriately credentialed. (see: <https://www.coarc.com/News-and-Events/CoARC-Entry-Standards-7-1-2020.aspx>). There should be little difficulty in identifying highly qualified instructional faculty from the many physicians, advanced practice providers, and respiratory therapists currently employed at the medical center.

Teaching Laboratory. Access to a teaching laboratory properly equipped for student practice and demonstration of clinical skills will be required for an entry-to-practice program. This should include sufficient equipment and supplies for students to demonstrate core respiratory care clinical skills in the teaching laboratory. The teaching laboratory should include access to simulation models and equipment and supplies to deliver oxygen therapy, aerosol and humidity therapy, airway care, endotracheal intubation, arterial blood gas sampling, arterial line set-up, cardiac and hemodynamic monitoring, and invasive and noninvasive mechanical ventilation. Equipment used in the teaching laboratory for high ticket items (e.g. ventilators) can be rented or leased, but needs to be available to the students when that portion of the curriculum is covered. Students should also have access to cardiopulmonary diagnostic equipment and supplies in order to practice procedures such as pulmonary function testing on volunteers prior to practice on patients.

Financial Resources. The program should be able to self-fund through tuition, fees and state support provided. In some state systems, support is based on the discipline (e.g., health sciences), student semester credit hours taught and/or full-time student equivalents enrolled. It was unclear how state support is apportioned at UNMC, however, tuition and fees must be set appropriately in order to fully fund the program. Hospital financial support may be required, particularly in the area of allowing clinical personnel to serve as clinical preceptors and instructors. Properly structured clinical rotations, however, can allow the clinical preceptor and his or her assigned students to perform (on average) about the same patient care workload as a respiratory therapist without students.

Maintaining Enrollment. Respiratory care is not as well-known as a career option as certain other allied health professions (e.g., physical therapy, occupational therapy, physician assistant) and marketing and student recruitment can be challenging. Structurally, a baccalaureate entry-to-practice respiratory care program located in a freestanding academic health center such as UNMC will require students to attend the first two years of college somewhere else and then transfer to UNMC. Students attending residential four-year colleges and universities are often reluctant to transfer to a different school for their third and fourth years, and this may impact applicant pool size should a traditional baccalaureate model be adopted.

On the other hand, there is generally a very large population of undergraduate students who plan to complete their bachelor's degree in an area such as biology or pre-medicine in preparation for application to a graduate level

professional degree program such as medicine or physician assistant studies, and there are generally many more well-qualified applicants to these programs than seats available. For example, both Rush University Medical Center in Chicago and UT Health San Antonio offer entry-to-practice MS degree respiratory therapist training programs. They have found that it is easier to recruit highly qualified students to these MS degree programs than their BS degree programs which require students transfer at the end of their sophomore year. Consequently, well-qualified applicants to the PA programs as well as lists of Graduate Record Exam (GRE) completers interested in the health professions provide an excellent source of prospective students for their graduate programs. Ongoing marketing and student recruitment, however, will be essential to ensure the viability of an entry-to-practice respiratory care educational program at UNMC.

Initial cohort size will largely be dependent on availability of clinical faculty and clinical placements. Suggested initial enrollment of 12 to 15 students is a common starting point then increasing to an enrollment of approximately 24 students per year. Some entry-to-practice programs, however, are much larger (e.g., 50 students per cohort and some degree completion programs accommodate 100 or more students).

Clinical Placements. Depending on class size, clinical training placements can be challenging for an entry-to-practice respiratory care program. Strong hospital support, as well as structuring the curriculum so that the second year allows for clinical rotations outside of Omaha can facilitate clinical placements. For example, programs which focus on intensive clinical training for the last year of student training often require students to complete “out-of-town” clinical rotations at clinical sites located in other cities and states. Programs that require out-of-town clinical rotations generally expect students to self-fund and they provide this information to prospective students prior to enrollment.

Program Curricular Model. A number of different curricular models for respiratory therapist education have been implemented at various colleges and universities across the U.S. as described below.

1. **Traditional Baccalaureate Degree Program.** A baccalaureate degree program using a 2+2 model (two years of lower division undergraduate general education and science coursework followed by two years of respiratory care/health sciences coursework) is commonly employed. Such a model has limitations including recruitment and retention of highly qualified students when a transfer to a new institution is required between the sophomore and junior years and limitations on the scope and depth of training that can be provided in the last two years of such a baccalaureate program due to credit hour restrictions.
2. **Dual Track Baccalaureate and Master’s Degree Programs.** As an alternative to a traditional 2+2 bachelor’s degree model, some programs (e.g., Rush University Medical Center/Rush University, UT Health San Antonio, and Georgia State University) have opted to offer dual-track BS/MS entry-to-practice respiratory care programs. Core courses which deliver the entry-to-practice competencies required for students in both tracks are double numbered. While core competencies taught are the same, standards of progress for MS degree students and a graduate competency assignment are required for each course. In addition, MS degree program students complete additional coursework in the areas of research, education, leadership, and advanced clinical practice (e.g., neonatal/pediatrics – NICU/PICU, pulmonary diagnostics, adult critical care, pulmonary rehabilitation, etc.). This design provides an efficient model for delivering the core competencies to both groups at the same time. This model also provides an opportunity for students who have not completed a bachelor’s degree to enter the field at the undergraduate level and also allows students with an associate degree in respiratory care a pathway to obtain a bachelor’s degree in respiratory care. It’s important to note that the master’s degree entry-to-practice program does not require that applicants have prior healthcare experience, thus ensuring a large pool of prospective applicants. A dual-track model, however, is more complex to administer, and requires that the institution identify one of the two programs as the base program and the other as an “additional degree track” for accreditation purposes. It is interesting to note that Rush University Medical Center/Rush University no longer offers the BS degree track, as they have found the MS degree entry-to-practice program better meets their needs as an academic medical center.
3. **Baccalaureate Degree Program and Advanced Practice Masters.** The third option is to offer a traditional 2+2 bachelor’s degree program and a separate advanced level master’s program. The bachelors program provides core competencies required for licensure and certification, while the master’s degree program may provide

advanced clinical competencies or focus on leadership competencies (e.g. management, education, research). Some programs have found this to be a good option, however the advanced practice master's requires that students entering have completed an entry-level respiratory care program which seriously limits the potential applicant pool. It should also be noted that such programs do not add to the total workforce because they require entering students to already hold the registered respiratory therapist credential. However, some institutions (e.g., the Ohio State University) have chosen to supplement their traditional 2+2 baccalaureate respiratory care program with an advanced practice respiratory therapist (APRT) program to prepare mid-level providers. Such an approach requires significant additional resources and separate accreditation approval (see: <https://www.coarc.com/Accreditation/Advanced-Practice-Standards.aspx>).

4. **Entry-to-Practice Master's Degree Program.** The last option to consider is a stand-alone entry-to-practice master's degree program. I believe such a program is the best fit for UNMC based on the advanced scope of practice and clinical expectations of the medical center. A single degree model will be easier to implement and able to recruit outstanding faculty and well-qualified students from a larger pool of potential applicants. Properly designed, such a program will provide an outstanding education to train advanced level respiratory therapists needed to work in a complex academic medical center environment. Additional degree track(s) could be added following successful implementation of the entry-to-practice master's degree program.

As noted earlier, decision makers should also be aware that many programs have developed degree completion options for currently licensed and credentialed respiratory therapists. Such degree completion programs may be offered at either the baccalaureate or master's level and provide a good option for current practitioners to obtain additional training and another degree for career advancement; as noted previously, such programs do not add to the total workforce. Degree completion programs may also require separate accreditation (see: <https://www.coarc.com/Accreditation/Degree-Advancement-Standards.aspx>). It must also be noted that a degree completion program to enable RRTs to complete their bachelor's degree is currently available at Nebraska Methodist College in Omaha.

Regardless of the curricular model chosen, CoARC accreditation standards will have to be met and can be challenging in terms of a rapid startup timeline.

Conclusions and Recommendations

The University Nebraska Medical Center and the College of Allied Health Professions provide a strong venue for the development and implementation of a baccalaureate and/or master's degree program in respiratory care. It is this report's recommendation that an entry-to-practice master's degree program be developed to train and educate advanced level respiratory therapists to provide direct patient care. Graduates of such a program will have the patient assessment skills to ensure that patients receive the right care, at the right time and minimize unnecessary care; apply respiratory care protocols (e.g., ventilator management, ventilator weaning, acute asthma and acute exacerbation of COPD management); provide chronic disease management to reduce hospital readmissions (e.g., asthma education, COPD rehabilitation); perform diagnostic testing (e.g., pulmonary function studies, sleep studies, exercise testing) as well as supporting advanced procedures such as ECMO and other rescue therapies for patients in acute respiratory failure. Such a program is needed if the medical center desires to continue to be able to recruit and retain outstanding respiratory therapists trained to provide the advanced level of respiratory care currently demanded.

Hospital leadership is fully supportive of developing a respiratory care educational program in order to address workforce shortages and excessive PRN use and related cost. The program would provide respiratory therapists with advanced assessment skills, allowing for administration of protocols (e.g., ventilator weaning, extubation, reduction of therapy misallocation) which could improve clinical outcomes, improve efficiency, reduce misallocation of care and reduce hospital readmissions following discharge (e.g., asthma, COPD, other chronic lung disease). In addition, there is a desire to continue to improve employee engagement and enhance recruitment and retention of personnel and an advanced level respiratory therapist training program would help address these goals.

The CAHP leadership and academic program support personnel are supportive of introducing a new respiratory care program and possess the infrastructure to manage student recruitment and admissions.

Nebraska Medicine respiratory care clinical services leadership and medical director are fully supportive to include interest in clinical personnel receiving cross appointments as adjunct clinical faculty in support of the educational program. Should UNMC opt to begin a new entry-to-practice master's degree program, it is highly recommended that Nebraska Medicine's career ladder for respiratory therapists integrate the achievement of the master's degree for clinical specialization and advanced practice.

Last, but not least Chancellor Gold is supportive, and this new program provides an opportunity to grow UNMC enrollment as well as providing a career path for students in collaboration with University Nebraska Omaha.

In summary, UNMC has the infrastructure, clinical facilities, and medical personnel to develop and support an excellent entry-to-practice master's degree respiratory care educational program to prepare outstanding respiratory therapists with a focus on clinical services delivery.

Appendix B Sample Plan of Study

Used with Permission; Available at: <http://catalog.uthscsa.edu/schoolofhealthprofessions/respiratorycare/msrc/entry/entry.pdf>

Degree Requirements

To graduate from the Respiratory Care Master of Science in Respiratory Care program, students must:

- Complete all required respiratory care professional courses with a grade of C (75%) or better.
- Must have an overall GPA 3.0 to graduate.
- Successfully complete the self assessment examinations given by the National Board for Respiratory Care.
- Successfully complete a comprehensive end-of-year and program competency assessment.
- Successfully complete a research project (create and implement an educational project, create and implement a quality improvement plan, or create and implement a research project).
- Hold current certification in Basic Life Support for Healthcare Professionals (http://cpr.heart.org/AHA/ECC/CPRAandECC/Training/HealthcareProfessional/BasicLifeSupportBLS/UCM_473189_Basic-Life-Support-BLS.jsp) (BLS), Advanced Cardiac Life Support (http://cpr.heart.org/AHA/ECC/CPRAandECC/Training/HealthcareProfessional/AdvancedCardiovascularLifeSupportACLS/UCM_473186_Advanced-Cardiovascular-Life-Support-ACLS.jsp) (ACLS), Pediatric Advanced Life Support (http://cpr.heart.org/AHA/ECC/CPRAandECC/Training/HealthcareProfessional/Pediatric/UCM_473190_Pediatric.jsp) (PALS) and Neonatal Resuscitation Provider course (NRP) (<http://www2.aap.org/nrp/>).
- Complete all University requirements for graduation.

Master of Science in Respiratory Care Sample Plan of Study

First Year

Fall

	Credit Hours
RESC 5002 Introduction to Respiratory Care	5
RESC 5005 Pharmacology	4
RESC 5010 Cardiopulmonary Physiology	5
RESC 5011 Patient Assessment	5

Spring

RESC 5020 Diseases Affecting the Cardiopulmonary System	4
RESC 5023 Cardiopulmonary Diagnostics and Pulmonary Function Testing	3
RESC 5030 Pediatric & Neonatal Respiratory Care	4
RESC 5031 Critical Care & Mechanical Ventilation	5
RESC 5041 Clinical Practice Introduction	1

Summer

RESC 5013 Management & Leadership in Health Profession	3
RESC 5015 Education in Respiratory Care	3
RESC 5017 Introduction to Research	3
RESC 5042 Critical Care Introduction	3

Second Year

Fall

RESC 6011 Clinical Seminar 1	2
RESC 6019 Clinical Practice 1	12
RESC 6030 Research Project 1	2

Spring

RESC 6029 Clinical Practice 2	12
-------------------------------	----

RESC 6031	Research Project 2	2
RESC 6033	Clinical Seminar 2	2
Summer		
RESC 6032	Clinical Practice 3	8
RESC 6034	Research Project 3	2
RESC 6035	Clinical Seminar 3	2
Total Credit Hours:		92.0

Elective Courses

Students may enroll in elective courses with the approval of their division director or department chair.

RESC 6150	Independent Study	1-6
RESC 6301	Advanced Patient Assessment and Care Plan Development	3
RESC 6302	Advanced Critical Care and Ventilatory Support	3
INTD 5064	Applied Statistics for Health Care Practitioners	3

Courses

RESC 3002. Fundamentals of Respiratory Care. 5 Credit Hours.

The course will present the principles of chemistry and physics as they apply to respiratory care. Students will have the opportunity to gain hands-on experience with basic respiratory care equipment. Specific types of therapy are examined to understand the principles of application to patients, indications, hazards, contraindications, select, assemble, and troubleshoot equipment. Equipment will include oxygen delivery services, aerosol generators, medication delivery devices, pressure ventilators, gas delivery, metering and analyzing devices, percussor, positive pressure devices, environmental devices, manometers, gauges, and vacuum systems.

RESC 3005. Respiratory Care Pharmacology. 3 Credit Hours.

This course introduces the physiologic and pharmacologic basis of pulmonary and cardiac medications. Students will study several aspects of the formulation and preparation of the most commonly prescribed respiratory drugs. Pharmacodynamics and pharmacokinetics will be discussed along with drug formulation, drug dosage calculations, indications, contraindications and side effects of cardiac and pulmonary medications. Topics covered include an overview of bronchactive agents, anti-inflammatory drugs, anti-asthmatics, neuromuscular blocking agents, diuretics, cardiac drugs and drugs that affect the central nervous system.

RESC 3007. Cardiopulmonary Physiology. 5 Credit Hours.

This course provides an in-depth study of cardiac and pulmonary anatomy and physiology, as well as the diagnostic procedures commonly used in the hospital to evaluate these systems. Topics include the function of the respiratory system, ventilatory mechanics, gas transport in the blood, natural and chemical regulation of breathing, circulation, blood flow and pressure, and cardiac output. The heart-lung relationship and clinical applications of these phenomena in the cardiopulmonary system will be emphasized.

Appendix C
Letters of Support



March 9th 2021

Kyle P. Meyer, PhD, MS, PT, FASAHP
Dean, College of Allied Health Professions
984000 Nebraska Medical Center
Omaha, NE 68198-4000

Dear Dr. Meyer:

I want to express my strong endorsement for the proposal to develop a master's level respiratory therapist education program in the UNMC College of Allied Health Professions. The COVID-19 pandemic that we experienced during the last year underscored the essential role that respiratory therapists play as members of the healthcare team. As the complexity of health care increases there is a need for respiratory therapists to manage advanced technology and assume more advanced roles in patient assessment and treatment, and to provide education to younger colleagues.

As the CEO of Nebraska Medicine I receive daily reports on the hundreds of treatments respiratory care professionals deliver each day. Without their commitment, many patients would not have survived.

I appreciate your excellent leadership in allied health and in developing this important program

Sincerely,

A handwritten signature in blue ink, appearing to read 'James Linder'.

James Linder, MD
Chief Executive Officer

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Executive Office | 987400 Nebraska Medical Center | Omaha, NE 68198-7400
PH: 402.552.2552 | FX: 402.552.2152 | NebraskaMed.com



April 1, 2021

Kyle Meyer, PhD
Dean
College of Allied Health Professions
984000 Nebraska Medical Center
Omaha, NE 68198-4000

Dear Dr. Meyer:

We are writing to strongly endorse and support the proposal to develop a master's entry-level respiratory therapist education program in the UNMC College of Allied Health Professions. As pulmonary & critical care leaders who interact with respiratory therapists daily, we know how essential respiratory therapists are to our healthcare system.

Our pulmonary/critical care/sleep medicine division provides physician leadership to Nebraska Medicine respiratory care services, critical care services, and sleep services. All of these areas are absolutely dependent on respiratory therapists in order to provide high quality and safe care to our patients. In addition, respiratory therapists make valuable educational contributions to the training of our internal medicine residents and pulmonary/critical care fellows. We are very aware of the value of respiratory therapists (RTs) as partners in the care of our patients and equally aware of the difficulty our healthcare system has had in recruiting enough of these professionals. In our intensive care units, it has been very challenging for us in the past 2 years as we have experienced consistent workforce shortages of RTs, requiring the need to pay considerable overtime, as well as hire contract respiratory therapists to meet patient and service demands. This unfilled demand for well-trained RTs was stretched to the breaking point when we were thrown into the COVID-19 pandemic crisis a year ago. During that time, we had our highest ICU admissions and ventilator needs nearly overwhelming our RTs, nurses, physicians and other colleagues. The challenge to support adequate oxygenation in the severely ill COVID-19 patients was met by our best RTs with advanced RT training and long-term ICU experience partnering to manage these patients and it made all the difference in the good outcomes the critical care teams were able to achieve for these patients.

As the respiratory therapy profession continues to evolve, it is clear that well-trained RTs are vital members of the healthcare team. In this context, we strongly endorse the preparation of respiratory therapists at the master's level. Our division will enthusiastically support this RT training program and will involve the RT students in our existing ICU curriculum as well as at the bedside on ICU rounds. This will also include case-based didactic sessions in tandem with other ICU learners. In addition, we envision there will be opportunities for RT students to be involved in the outpatient care of pulmonary patients in some of our clinics where skilled RTs are very vital, including our cystic fibrosis clinic. Furthermore, we have a busy sleep medicine clinic and there may be RT student learning opportunities there as well.



College of Medicine, Internal Medicine Department
Division of Pulmonary, Critical Care & Sleep
985910 NE Medical Center, DRC 2 | Omaha, NE 68198-5910 | unmc.edu

Thank you for your leadership in developing this much needed program. I look forward to continuing to work with you in support of the development of the RT training program to ensure this vision becomes a reality.

Yours sincerely,



Joe Sisson, MD
Larson Professor and Chief
Division of Pulmonary, Critical Care & Sleep
Department of Internal Medicine



Debra J. Romberger, MD
Chair, Department of Internal Medicine
Lenhoff Professor of Internal Medicine



March 17, 2021

Kyle P. Meyer, PhD, MS, PT, FASAHP
Dean, College of Allied Health Professions
984000 Nebraska Medical Center
Omaha, NE 68198-4000

Dear Dr. Meyer:

I am writing to offer my strong endorsement and support for the proposal to develop a master's entry-level respiratory therapist education program in the UNMC College of Allied Health Professions. As a critical care physician who interacts with respiratory therapists on our critical care teams, I can attest to both the value of, and the increasing demand for, these highly skilled professionals. Respiratory therapists have always been vital members of the healthcare team taking care of patients with a variety of cardiopulmonary conditions. The pandemic of the past year has brought to light just how important these individuals are in the delivery of high-quality care under difficult conditions.

As Medical Director for Critical Care and Acute Care at UNMC/Nebraska Medicine, it is my responsibility to staff our ICUs with physicians and other providers, and to work with others to staff our ICUs with the other healthcare professionals that we need including respiratory therapists. For the past two years, we have experienced consistent workforce shortages, requiring the need to pay considerable overtime, as well as hire very costly contract (traveling) respiratory therapists to meet patient and service demands.

As the respiratory therapy profession continues to evolve, respiratory therapists are assuming more advanced roles in assessing and treating patients. This pattern will likely continue. As vital members of the healthcare team, particularly at academic medical centers such as UNMC/Nebraska Medicine, I endorse the preparation of respiratory therapists at the master's level.

I understand the extensive clinical education needs for all allied health professionals, including respiratory therapists. We have 20 very skilled and experienced full-time respiratory therapists on staff who are anxious to provide clinical education experiences for the students in the new respiratory therapy program.

Thank you for your leadership in developing this much needed program. I look forward to continuing to work with you in support of the development of the program to ensure that this vision becomes a reality.

Sincerely,

A handwritten signature in blue ink, appearing to read 'D. Gannon'.

David E. Gannon, MD, FACP, FCCP
Associate Professor of Medicine
Division of Pulmonary, Critical Care, and Sleep
University of Nebraska Medical Center
Critical Care Medical Director
Nebraska Medical Center
Phone: (402) 559-8336



College of Medicine, Department of Internal Medicine, Division of Pulmonary, Critical Care and Sleep
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<https://www.unmc.edu/intmed/divisions/pulm/index.html>



3/15/2021

Kyle P. Meyer, PhD, MS, PT, FASAHP
Dean, College of Allied Health Professions
984000 Nebraska Medical Center
Omaha, NE 68198-4000

Dr. Meyer,

I am writing to offer my strong endorsement and support for the proposal to develop a Master's entry-level respiratory therapist education program at the UNMC College of Allied Health Professions. As a respiratory therapist in our system and city, I can attest to both the value of, and the increasing demand for these professionals. Respiratory therapists have always been vital members of the healthcare team taking care of patients with a variety of cardiopulmonary conditions. The pandemic has brought to light just how important these individuals are in the delivery of high quality care.

As the President of the Nebraska Society for Respiratory Care it has been my experience that in the last twelve years we have had consistent workforce shortages requiring the need to pay considerable overtime as well as hire contract respiratory therapists across the state to meet patient and service demands.

As the respiratory therapy profession continues to evolve, respiratory therapists are assuming more advanced roles in patient assessment and treatment. I see this pattern continuing and I understand the extensive clinical education needs for all allied health professionals, including respiratory therapists. As vital members of the healthcare team, particularly at academic medical centers, I support and see the need to further develop respiratory therapists and this Master's level program will deliver that.

Thank you for your leadership in developing this much needed program. I look forward to continuing to work with you in support of the development of the program to ensure this vision becomes a reality.

Sincerely,

A handwritten signature in black ink that reads "Heather K. Nichols".

Heather K. Nichols, MBA, BS RRT
Department Operation Lead Analyst, Emergency Medicine, University of Nebraska Medical Center
President of the Nebraska Society for Respiratory Care



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March 9, 2021

Kyle P. Meyer, PhD, MS, PT, FASAHP
Dean, College of Allied Health Professions
984000 Nebraska Medical Center
Omaha, NE 68198-4000

Dear Dr. Meyer:

I am writing to offer my endorsement and support for the proposal to develop a master's entry-level respiratory therapist education program in the UNMC College of Allied Health Professions. As the Director of Emergency Services and Acute Care Support who sees the valuable services respiratory therapists provide our care teams, I can attest to both the value of, and the increasing demand for these professionals. Respiratory therapists have always been vital members of the healthcare team taking care of patients with a variety of cardiopulmonary conditions. The pandemic of the past year has brought to light just how important these individuals are in the delivery of high quality care.

As the Director of Emergency Services and Acute Care Support, it is my responsibility to align resources, including respiratory therapists, to staff daily hospital operations. For the past 2 years, we have experienced consistent workforce shortages, requiring the need to pay considerable overtime (sometimes mandatorily) and bonus, as well as hire contract respiratory therapists to meet patient and service demands

As the respiratory therapy profession continues to evolve, respiratory therapists are assuming more advanced roles in patient assessment and treatment. I see this pattern continuing. As vital members of the healthcare team, particularly at academic medical centers, I endorse the preparation of respiratory therapists at the master's level. This program would support Nebraska Medicine's mission in the community and region.

I understand the extensive clinical education needs for all allied health professionals, including respiratory therapists. We have 20 full-time respiratory therapists on staff who are anxious to provide clinical education experiences for the students in the new respiratory therapy program.

Thank you for your leadership in developing this much-needed program. I look forward to continuing to work with you in support of the development of the program to ensure this vision becomes a reality.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Bill Koile'.

Bill Koile, MS, MBA
Emergency Services and Acute Care Support Director
Nebraska Medicine
987444 Nebraska Medical Center, Omaha, NE 68198
402.552.3254
bkoile@nebraskamed.com



Coalition for Baccalaureate and Graduate Respiratory Therapy Education

Corporate Address: PO Box 392, 27 Spruce Lane
Tenants Harbor, Maine 04860-0392

May 3, 2021

Dr. Kyle Meyer
Dean, College of Allied Health Professions
University of Nebraska Medical Center
984000 Nebraska Medical Center
Omaha, NE 68198-4000

Dear Dr. Meyer,

The leadership of CoBGRTE supports the development of a master's degree respiratory therapy (RT) program at University of Nebraska Medical Center. Producing new respiratory therapists with the knowledge and skills needed for the 21st century has become increasingly important, especially considering the COVID-19 pandemic. 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 CoBGRTE strongly encourages the continuing development of graduate RT education programs.

The US Bureau Labor Statistics notes the respiratory therapy profession is expected to grow much faster than average at a rate of 19%.¹ In April 2021, the New York Times listed respiratory therapy as one of top health care jobs on the rise.² In addition to the growth of the profession, the AARC 2020 Human Resource Survey notes that approximately 50% of all RTs will leave the profession by 2032.³

In 2009, the American Association for Respiratory Care (AARC) published the first of three reports on the AARC 2015 and Beyond conferences on the future direction of the profession. The first report addressed the following areas:⁴

- *What will the future health care system look like?*
- *What will be the roles and responsibilities of RTs in the future system?*

The AARC Board of Directors (BOD) accepted the direction for the future of health care and RTs roles and responsibilities as recommended in this report in April of 2012. The second report was published in 2010 addressed the competencies needed by respiratory therapists.⁵ The AARC BOD accepted the competencies as recommended in July of 2012. The third report, published in 2011, addressed the mechanisms by which the respiratory care workforce would acquire these needed competencies.⁶ Among other steps, this report recommended that entry level respiratory care education be (at a minimum) the baccalaureate level and the RRT credential be the entry level credential by the year 2020. In 2016, the AARC published its long awaited position paper on Respiratory Therapist Education.⁷ In publishing this paper, the AARC has taken a crucial step in advancing Respiratory Care as a true profession in the eyes of the medical community and governmental agencies. The AARC is on record that the education needed to enter professional practice as a respiratory therapist must be at a minimum of the baccalaureate level:

“Training and education for entry-to-practice as a respiratory therapist should be provided within programs awarding a bachelor’s or master’s degree in respiratory care (or equivalent degree titles) and all newly accredited respiratory care educational programs must award, as a minimum, the bachelor’s degree in respiratory care (or equivalent degree title).”

Also, very important is the supportive response to the AARC position paper by the Commission on Accreditation for Respiratory Care (CoARC Response published on January 25, 2016). See excerpt below).⁸

“The CoARC acknowledges that respiratory therapists with baccalaureate and graduate education are needed in larger numbers to serve as educators, researchers, managers, clinical specialists, and other roles throughout the healthcare delivery system. Likewise, the CoARC recognizes the prominent role played by associate degree respiratory therapy programs. To support the increasing extent and complexity of the skills required of graduates of respiratory care programs and the associated movement of the profession toward baccalaureate and graduate degrees, the CoARC Board of Commissioners, in collaboration with the AARC, approved the following change to Standard 1.01 in the *Accreditation Standards for Entry into Respiratory Care Professional Practice*, to be effective January 1, 2018:

Except as provided in the following sentence, an educational sponsor must be a post-secondary academic institution accredited by a regional or national accrediting agency that is recognized by the U.S. Department of Education (USDE) and ~~must be~~ authorized under applicable law or other acceptable authority to award graduates of the program a ~~an associate or higher~~ baccalaureate or graduate degree upon ~~at the~~ completion of the program.

We hope our letter demonstrates the level of support for new graduate programs needed to produce competent respiratory therapists for the 21st century over the next 10 years. In 2019, the AARC has published a position paper stated that by 2030 all RTs entering practice should hold a baccalaureate degree or higher in respiratory care.⁹ The number of BSRT and MSRT entry programs has increased but not at the pace needed to supply the workforce with RRTs with adequate education and training to meet the demands of complex current day healthcare delivery.¹⁰ As a strong medical center and leader in health professions education, the University of Nebraska Medical Center is poised to develop and implement a model RT master’s degree program. CoBGRTE strongly supports your efforts.

We hope the references above will help you feel confident in approving this important new master’s degree RT program at University of Nebraska Medical Center.

Sincerely,



Christy Kane, PhD, RRT, FAARC
President, CoBGRTE
ckane@bellarmine.edu



Thomas A. Barnes, EdD, RRT, FAARC
Executive Director, CoBGRTE
t.barnes@cobgrte.org

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David Vines, PhD, RRT, FAARC, FCCP
Chair / Respiratory Care Program Director,
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RUSH UNIVERSITY
COLLEGE OF HEALTH SCIENCES

6/15/2021

Dear Dr. Meyer:

I am writing to voice my support for a Master of Sciences Respiratory Therapy program at the University of Nebraska Medical Center. As an educator and leader of a clinical department in the profession and my role as the President of the National Board for Respiratory Care, I can assure you that there is a need for more MS programs in respiratory care.

Although a majority of entry-level programs in respiratory care are at the associate degree level, there is an effort by the American Association of Respiratory Care to raise the entry-level to a bachelor's degree by 2030. As more programs move toward a baccalaureate level, faculty will need to have a master's degree to meet regional accreditation standards. In addition, many leadership roles, such as department manager or director positions, also require the respiratory therapist to have a master's degree.

I have been a program director for an entry MS respiratory care program for over 10 years. I can attest to the clinical impact that this level of graduate can have at the bedside. Their ability to interpret and apply clinical research at the bedside has helped improve patient outcomes at Rush University Medical Center. The graduates' critical thinking ability has allowed more advanced "assess and treat" protocols as well as the implementation of a universal lung-protective ventilation strategy. Our respiratory care clinical services have received APEX awards from the AARC for our clinical excellence. We have also increased from limited publications in FY09 to numerous publications in FY21. However, more individuals are needed to conduct research to continue advancing the science in respiratory care.

As stated above, there are multiple professional needs for MS degree respiratory therapy/care programs. There is also a large demand in the market for this level of graduate. I routinely receive emails from employers around the country seeking to employ our MS graduates. This employer demand has increased due to the COVID-19 pandemic. The pandemic has also raised public awareness of the profession and created new opportunities for respiratory therapists. If I can answer any questions, please feel free to contact me.

Sincerely,

David Vines

David L. Vines, Ph.D., RRT, FAARC, FCCP
President of NBRC
Chair, Respiratory Care Program Director
Associate Professor, Department of Cardiopulmonary Sciences
Rush University Medical Center

Appendix D
Letter of Budgetary Support - College of Allied Health Professions



May 3, 2021

David Jackson, PhD
Vice Provost
University of Nebraska
3835 Holdrege
Lincoln, NE 68583-0743

Dear Dr. Jackson:

I am writing in support of the development of a new professional program, Masters of Respiratory Care, in the College of Allied Health Professions (CAHP) at the University of Nebraska Medical Center (UNMC). Specifically, I want to address the budget for the proposed program.

Should the proposal to develop a respiratory therapy education program be approved, the CAHP and UNMC have separate funding to support the initial 2 years of the startup of the program. The funding is available from college auxiliary activities, not from funds committed to supporting our existing programs. The startup of the respiratory therapy education program would have no negative financial impact on other programs in the CAHP. Tuition revenue for the proposed program is expected to commence with the first cohort of 30 students, anticipated in the Fall of 2023, and ultimately the program will generate tuition revenue sufficient to cover associated expenses.

The mission of the UNMC and the CAHP, as Nebraska's only public academic health science center is to offer health professions education programs to serve both the students and ultimately the citizens of Nebraska and the region. The CAHP is committed to educating the most highly-qualified allied health workforce, and believes there is a need in Nebraska and the region for graduate-level prepared respiratory therapists, and that this need will only increase in the years ahead.

As such, we are committed to the development of the proposed program, and the investment required to ensure the highest level of success.

Sincerely,

A handwritten signature in blue ink that reads "Kyle P. Meyer".

Kyle P. Meyer, PhD, MS, PT, FASAHP
Dean



College of Allied Health Professions
Office of the Dean
984000 Nebraska Medical Center
Omaha, NE 68198-4000 | 402.559.7428 | unmc.edu/alliedhealth/

**TABLE 1: PROJECTED EXPENSES - NEW INSTRUCTIONAL PROGRAM
UNMC Master of Respiratory Care**

	(FY2022) Year 1		(FY2023) Year 2		(FY2024) Year 3		(FY2025) Year 4		(FY2026) Year 5		Total
	FTE	Cost	FTE	Cost	FTE	Cost	FTE	Cost	FTE	Cost	Cost
Personnel											
Faculty ¹	0.5	\$64,942	2.0	\$247,519	3.50	\$417,986	4.00	\$483,433	4.00	\$495,519	\$1,709,399
Professional											\$0
Graduate Assistants											\$0
Support Staff			0.50	\$34,057	1.00	\$69,817	1.00	\$71,563	1.00	\$73,352	\$248,789
Subtotal	0.5	\$64,942	2.5	\$281,576	4.50	\$487,803	5.00	\$554,996	5.00	\$568,871	\$1,958,188
Operating											
General Operating ²		\$16,235		\$70,394		\$121,951		\$138,749		\$142,218	\$489,547
Equipment ³		\$0		\$110,000		\$110,000		\$6,500		\$0	\$226,500
New or Renovated Space ⁴		\$0		\$200,000		\$100,000		\$0		\$0	\$300,000
Library/Information Resources											\$0
Other ⁵		\$30,000		\$45,000		\$32,000		\$5,500		\$0	\$112,500
Subtotal		\$46,235		\$425,394		\$363,951		\$150,749		\$142,218	\$1,128,547
Total Expenses		\$111,177		\$706,970		\$851,754		\$705,745		\$711,089	\$3,086,735

NOTE: All expenses are inflated at 2.5% per year.

¹ Faculty includes a program director, clinical education coordinator and two faculty.

² General operating expense includes faculty development, travel, office equipment and supplies, program events (convocation, professional ceremony, orientation), and typical marketing and recruiting costs.

³ Respiratory care involves the use of significant equipment resources such as hi-fidelity simulators and ventilators.

⁴ Classroom and laboratory space likely will require renovations and technology investments to ensure an outstanding student experience. Some funding may be needed for office renovations.

⁵ Projections include faculty recruitment and relocation expenses, one-time accreditation fees, and amplified program marketing and recruiting expenses in the first several years of the program.

**TABLE 2: PROJECTED REVENUES - NEW INSTRUCTIONAL PROGRAM
UNMC Master of Respiratory Care**

	(FY2022) Year 1	(FY2023) Year 2	(FY2024) Year 3	(FY2025) Year 4	(FY2026) Year 5	Total
Existing Funds ¹	\$111,177	\$706,970	\$434,727	\$0	\$0	\$1,252,874
Required New Public Funds						
1. State Funds						
2. Local Tax Funds (community colleges)						
Tuition and Fees ²			\$417,028	\$737,829	\$806,430	\$1,961,287
Other Funding						
Total Revenue	\$111,177	\$706,970	\$851,755	\$737,829	\$806,430	\$3,214,161

¹ College/Campus auxiliary funds will be used to support the program.

² Flat rate tuition will be charged based on the 2020-2021 approved rate for similar master's degree programs in the CAHP (\$367/credit hour for residents and \$965/credit hour for non-residents, inflated at 2.5% after the 2020-2023 tuition freeze expires). Net of 9% remissions on resident rates and 42% remissions on non-resident rates.

Tuition and Fees Revenue Calculation

Academic Year	2024	2025	2026	2027
Number of Residents Matriculating 2024	16	\$322,960		
Number of Non-residents Matriculating 2024	4	\$212,300		
Number of Residents Matriculating 2025, on-going	18	\$534,672	\$568,260	\$583,020
Number of Non-residents Matriculating 2025, on-going	6	\$433,237	\$498,816	\$511,286
Tuition Generated		\$535,260	\$967,909	\$1,067,076
Projected Remissions = 9% resident, 42% non-resident		(\$118,232)	(\$230,080)	(\$267,212)
Net Revenue		\$417,028	\$737,829	\$806,430

Based on 55 credit hours in Year 1 and 27 credit hours in Year 2.