

Respiratory Therapist Program Review

2007-2008

Section #1: Program Description and Scope:

The Respiratory Therapist Program is a two year, associate degree program in which students study to become professional respiratory therapists. Students completing this program are eligible to earn an Associate in Science Degree as well as complete the requirements necessary to sit for the National Board for Respiratory Care's (NBRC) Advanced Practitioner Examination system upon graduation. During the final semester of the program, a student will apply to the state of California for professional licensing as a Respiratory Care Practitioner (RCP) and upon successful completion of the NBRC's Entry Level examination, students are awarded a license to practice respiratory care in this state.

The two year program of study permits students interested in this career to fulfill all national and state requirements to prepare them for California licensure. At the same time, the program serves the community at large by producing a pool of competent registry eligible respiratory care practitioners who are ready to apply for employment in the work world. The Respiratory Therapist is considered to be the most expert allied health care practitioner in all life saving and life supporting aspects of breathing. Hospitals accredited by The Joint Commission (TJC) must have a 24-hour Respiratory Therapy Department in place staffed by licensed respiratory care practitioners. The respiratory therapists who work in hospitals are charged with the evaluation, treatment, and monitoring of patients with cardiopulmonary disorders. Most recently, RCP's serve on formal "Rapid Response Teams" along with intensive care unit registered nurses in order to provide early interventions in patient care situations involving cardiac or respiratory distress. The primary work area of the Registered Respiratory Therapist in a typical acute care hospital setting is the Intensive Care Unit and Emergency Room, where they will operate sophisticated life saving and supporting mechanical ventilators which represent the state of the art in breathing support. The respiratory therapist is "on-call" during Code Blue situations involving cessation of heartbeat and alteration of normal lung function. The RT uses sophisticated technology to measure breathing function and even analyzes blood for oxygen and carbon dioxide levels.

The Ohlone College Respiratory Therapist Program has been in place since 1980. It is one of three two-year AS degree programs in the Health Sciences division. The impact of the Respiratory Therapist Program on the community has been very positive; graduates have been welcomed by hospitals to apply for positions as respiratory care practitioners, and the program enjoys an excellent reputation for producing competent graduates. Currently, according to a 2007 workforce study commissioned by the Respiratory Care Board of the State of California, and conducted by researchers from California State University, Sacramento, the picture is very bright with regard to employment opportunities for program graduates. According to the 2007 CSU workforce study, (www.rcb.ca.gov) the median age of the respiratory care workforce in

California is 46 years old, and more than 47% of the therapist workforce in California stated an intention to retire within the next 10 years.

Section #2: Relationship to Ohlone College Mission and Goals

The Respiratory Therapist Program strives to support the mission and goals of the overall college program. Specifically, the following goals are supported:

Goal #2 – Develop across the curriculum the Learning College Model, utilizing methods and technologies that hold the most promise for improving student course and program completion success rates.

The Respiratory Therapist Program clearly focuses on the individual student, and faculty are clearly committed to helping each individual student achieve his or her goal of becoming a competent registered respiratory therapist. Through a carefully considered program of classroom didactic learning, structured and open-laboratory learning experiences involving many individualized “check-offs” and monitoring by faculty, online classes and a “group learning” focus, the RT program faculty take much pride in the fact that program completion success rates for the licensing exam is currently very high (100%) illustrating that graduate performance on state and national assessments of learning are outstanding.

Goal #3 – Develop strategies to increase the proportion of full-time students including learning communities, cohort groups, enhanced facilities and improved course availability.

The Respiratory Therapist program accepts 24-30 full time students each fall semester as a new cohort group. Even though the majority of learners are full-time, the program recognizes that the demands on individual students to complete such an intense two year program of study occasionally are interrupted by various life events, many of which are out of the control of the students themselves. Due to the structure of courses in the program, the student who initially enrolls “full-time” and cannot maintain the pace of study may be permitted to complete the program “part-time.” The investment that the college has made in each student and this student in the career is therefore not lost by students leaving the program. This year, the program will likely graduate 7 part time students in addition to 21 full time students. These 7 graduates would have been lost to employers had students not been allowed to drop back to part time study. These students were embraced by newer cohort groups and their studies continued with the help of faculty mentoring and encouragement of their peers.

Goal #5 – Promote the health, environmental, cultural and economic vitality of the communities served by the District through programs of outreach, community service and partnership ventures.

The Respiratory Therapist Program currently works in partnership with 16 Hospitals in Alameda, Contra Costa, Santa Clara and Solano counties. Students gain experience through cooperative arrangements with these medical facilities and in doing so contribute significantly to the patient care offered to patients at these sites while they are honing their skills. Students in the Respiratory Therapist Program along with the Program Director, Carol McNamee-Cole volunteer many hours of service to the local county hospital, Alameda County Medical Center, Oakland (ACMC Highland Campus.) During the summer months, the medical center’s weekly

adult and monthly pediatric Asthma Education Programs are conducted by volunteers from the Respiratory Therapist Program. Students receive invaluable experience in the outpatient setting and work directly with attending physicians, residents and interns in the hospital's Asthma and Allergy Clinic, at the same time offering their expertise in asthma self-management to patients and families. The physicians at the medical center in both adult and pediatric areas have repeatedly thanked Ohlone faculty and students for their continued participation and enhancement of wellness efforts at ACMC. In addition to this, the RT Program assists Washington Hospital respiratory therapists with lung function screenings for chronic obstructive pulmonary disease, asthma, and participates in the employee health fairs each year.

Section #3: PROGRAM STUDENT LEARNING OUTCOMES

The following are the Student Learning Outcomes that have been identified by the Respiratory Therapist Program to date:

Respiratory Therapist Program Student Learning Outcomes

1. The Ohlone College Respiratory Therapist graduate will:
 - a. demonstrate mastery of cognitive learning in respiratory care by successfully passing the licensure examination accepted by the California State Respiratory Care Board (National Board for Respiratory Care Entry Level "CRT" Examination) and qualify for licensure as a California Respiratory Care Practitioner within a year of graduation.
 - b. demonstrate mastery of cognitive learning in respiratory care by successfully passing the National Board for Respiratory Care Advanced Practitioner Written Registry Examination ("WRRT") with scores that are equal to or that exceed the national average.
 - c. demonstrate mastery of cognitive learning in respiratory care by successfully passing the National Board for Respiratory Care Advanced Practitioner Clinical Simulation Examination with "Information Gathering" and "Decision Making" scores that are equal to or that exceed the national average.
2. The Ohlone College Respiratory Therapist graduate will:
 - a. demonstrate mastery of psychomotor learning in respiratory care as evidenced by successful completion of comprehensive laboratory practical examinations and demonstration of safe and knowledgeable clinical practice in the local community
 - b. demonstrate mastery of psychomotor learning in respiratory care as evidenced by positive employer feedback on evaluation instruments
 - c. demonstrate mastery of psychomotor learning in respiratory care as evidenced by positive feedback from program graduates themselves at least one year post graduation
3. The Ohlone College Respiratory Therapist graduate will:
 - a. demonstrate mastery of the affective learning domain as evidenced by appropriate display of professional behaviors while engaging in clinical patient care settings

- b. demonstrate mastery of the affective learning domain as evidenced by positive ratings of professional behaviors on national evaluation instruments by local employers and advisory board members
4. The Ohlone College Respiratory Therapist graduate will demonstrate the cognitive, psychomotor, and affective skills necessary to assist the physician in the diagnosis, treatment, and management of patients with cardiopulmonary diseases and disorders. The graduate therapist will be able to demonstrate appropriate critical thinking skills, time management skills, interpersonal communication skills, and technical skills necessary to provide competent respiratory care in multidisciplinary care settings. He/She will be committed to promoting appreciation for, communication between, and understanding among people with different beliefs and backgrounds and demonstrate sensitivity to professional needs of all racial and ethnic groups. The graduate therapist will demonstrate respect for and protection of the legal and personal rights of the patients they treat and will promote disease prevention and wellness in their local work settings and the community at large.

The Respiratory Therapist Program is accredited by the Commission on Accreditation of Allied Health Educational Programs. Each allied health field accredited by this commission responds to the mandates of its particular professional “Review Committee;” this body in Respiratory Care is known as the Committee on Accreditation for Respiratory Care (CoARC.) Every year, each accredited RT Program submits annual report date to CoARC for review and feedback. CoARC mandates that nationally accredited Respiratory Care Programs specify their “outcomes” in a prescribed format. Programs are required to list cognitive, psychomotor, and affective learning outcomes, and each year specific measurement data is collected by the program in order to meet CoARC guidelines. These outcomes are maintained by the accreditation agency and are compared with the outcomes of the previous year. CoARC has specified specific “thresholds” that must be met by programs; programs that do not meet thresholds must submit specific plans to improve performance that are monitored by the agency. Programs receive either 5 or 10 year accreditation periods; Ohlone College was granted an exemplary accreditation in 2000 for a 10 year period. To date, the Ohlone College Respiratory Therapist Program continues to manifest outcomes that are exceptional and the program has met all CoARC thresholds, which is unlike other local bay area community colleges currently.

The following is a table of ongoing students learning outcomes utilized by the program to measure progress:

TABLE 1 Assessments of Student Learning Outcomes

Outcome	Purpose of Assessment	Assessment Method
1-A	Measures Graduate Performance	CA RCP License Exam (NBRC CRT) Results
1-B	Measures Graduate Performance	Advanced Practitioner Exam Results (NBRC WRRT) Results
1-C	Measures Graduate Performance	Clinical Simulation Exam Results (NBRC RRT CSE) Results

2-A	Measure Student Skills Performance	Student Lab Exam Results
2-B	Obtain Employer Feedback	Advisory Committee Questionnaires
2-C	Obtain Student and Graduate Feedback	Program Resource Survey Results
3-A	Obtain Employer Feedback	Advisory Committee Questionnaires
3-B	Employer Feedback	Employer and Advisory Committee Data
4-A	Employer Feedback and Respiratory Care Board Data	Employer Data; Data from CA State Respiratory Care Board (RCB)

(Note: National Exams are administered by the National Board for Respiratory Care (NBRC) located in Lenexa, Kansas. (www.nbrc.org) The Respiratory Care Board of California (RCB) located in Sacramento, CA only accepts NBRC CRT (Entry Level Exam for Certification as a Respiratory Therapist) for state licensure.)

Section #4: ASSESSMENT OF STUDENT SUCCESS IN REACHING PROGRAM OUTCOMES

Outcome 1-A	<p>Assessment Strategy:</p> <p>RCP (CRT License Exam) Results:</p> <p>This exam is required for graduates in order to obtain a license to practice Respiratory Care in California.</p> <p>100% Pass Rate for program; all graduates have achieved state licensure in time period of 6 months or less. Only one graduate in last 6 years has had to repeat exam to pass.</p>
Outcome 1-B	<p>Assessment Strategy:</p> <p>NBRC RRT (Registered Respiratory Therapist Written Examination)</p> <p>This exam is the first exam of the “Advanced Practitioner” examination system of the National Board for Respiratory Care. The community of interest desires that program graduates complete this examination as soon as possible after graduation. The National Board for Respiratory Care has recently mandated that graduates have only 3 years to pass this examination, or they will be required to sit again for the CRT examination.</p> <p>This is the 2nd of 3 exams that graduates need to complete in order to become Registered Respiratory Therapists. The program enjoys a higher than average pass rate (86%) for all candidates, as compared to the national average of all schools (61%). Ohlone College’s most recent performance is 141% of the national mean.</p>
Outcome 1-C	<p>Assessment Strategy:</p> <p>NBRC RRT (Registered Respiratory Therapist Clinical Simulation Exam)</p> <p>This is the 3rd of 3 exams that graduates need to complete in order to become</p>

	Registered Respiratory Therapists. It is considered to be the most difficult as it tests graduates by using 10 individual patient management problems and is patterned after pulmonary physician specialty medical board exams. The Ohlone program enjoys a higher than average pass rate (76% for candidates overall; 80% for new, non-repeater candidates.) The overall national passing average is 57%. Ohlone College's performance is 134% of the national mean.
Outcome 2-A	Assessment Strategy: Review of student performance on program wide laboratory practical exams. Students need to pass laboratory practical exams for RT 102, 105-A, RT 105-B, RT 132 and RT 133 in order to advance in the program. Faculty construct these examinations in order to simulate real work world situations involving the myriad of equipment and procedures that the graduate will encounter in the clinical setting. Students must demonstrate adequate psychomotor skills in order to proceed to the next laboratory course. In the past three years, the cumulative pass rate for these courses is approximately 98%.
Outcome 2-B	Assessment Strategy: Advisory Committee Surveys collected in the last 6 months indicate a high satisfaction (greater than 95%) with graduates' knowledge base, clinical proficiency and behavioral skills post graduation. Greater than 98% of employers (n=13) assigned graduates an overall quality rating of 3 to 5 (reflecting good, very good, or excellent scores). (5 point Likert scale.) Advisory Committee Surveys and Employer Surveys from graduates corroborate safe and knowledgeable clinical skills in the workplace for Ohlone's graduates.
Outcome 2-C	Graduate Surveys reflect that graduates themselves feel prepared with the skills necessary to practice in the workplace following graduation. (100% of the most recent graduate surveys collected in 2007-08 (n=20) reflect satisfaction with the program overall.
Outcome 3-A / 3-B	Advisory Committee and Employer Surveys reflect that graduates display appropriate professional (affective) behaviors on the job. Surveys rate communication skills, ethics and professional behavior, graduates' ability to function as a health care team member, and ability to work with supervisory personnel. (Same survey instrument as Outcome 2-B; same results.)
4-A	Graduate quality rating is high; 100% of graduates applying for a California license receive one; no Ohlone graduates have appeared on the California Department of Consumer Affairs license violation list.

TABLE 2: Additional Program Evaluation Activities

Attrition Assessment	88% of current students (21/24 students entering the program in Fall, 2007) will continue into Fall, 2008.
Employment Data	100% employment for the Spring, 2007 graduating class.

Section #5: ASSESSMENT OF PROGRAM THROUGH REVIEW OF THE TEACHING LEARNING PROCESS (The following items from the list provided on the program review report guidelines were considered for comment at this time.)

1. Relevance, appropriateness and currency of student learning outcomes

Faculty believe that the student learning outcomes are appropriate and current because these outcomes parallel what is expected from all Respiratory Care programs nationally according to the Committee on Accreditation of Respiratory Care Programs (CoARC). Relevance is both determined by stated national standards and locally through active advisory committee input. Ready acceptance of graduates by employers and continued positive feedback on their professional performance assure the program faculty that courses in the program are both appropriate and current. Graduate feedback assures that the program is keeping pace with the majority of employer expectations.

2. Assessment of Teaching Strategies

The Respiratory Therapist Program utilizes a variety of teaching strategies; in the first year the students experience a combination of online education and in-classroom lectures as well as weekly lab practice with a variety of equipment and simulated procedures. During the second year, students hone their critical care skills with additional focused lab time which allows for expansion of their expertise on life support equipment with faculty who present actual patient care data. Students have to be able to process complex information within specific time periods and are required to demonstrate that they can competently respond in “life and death” ICU scenarios. Weekly critical care seminars, which coincide with students’ 7 week critical care rotations, evolved as the need to discuss in class the experiences of the clinical rotations. This was found to be very useful and allowed students to benefit from their peers under faculty direction. Students uniformly express through end-of-year evaluations that they see how their knowledge has grown extensively through participation in the various learning experiences in the program.

3. Assessment of Trends in Student Scores over time, including strengths and needed improvement.

A review of national board exam results show no consistent patterns on items (linked to specific content areas of exam) missed from year to year. There is consistency in the fact that students who pass all courses in the program also pass the self-assessment exams (SAE’s) administered

by the program prior to graduation. These graduates then go on to pass their board exams with scores that are uniformly high.

4. Adequacy of Resource Utilization

Program resources are evaluated using CoARC's resource survey. Advisory committee members, program faculty, and students complete these surveys. A major trend from the previous program review document completed in 2002 shows that on a scale (1-5) the RT lab facility (Room 8105 on the main Ohlone campus) consistently received ratings of "2" or "3" (approximately 30% of overall ratings were below "3." A rating of "3" was acceptable; a rating of "2" denotes "general disagreement" with statements that laboratory is adequate in size, has adequate lighting, seating, ventilation etc.) With the move to the new laboratory in Newark the ratings shifted in Spring, 2008 to "4" (47%) and "5" (53%) of students seem to be very pleased with the new facilities and lab utilization remains high.

For a period of time on the Fremont campus (Room 8105) the number of open-lab hours generated by students (non-class hours utilized for extra skills practice) were captured by a computer "sign-in and out" system. Currently, we have no time clock or system for doing this at the Newark Center for Health Sciences and Technology campus; it may be advantageous to pursue this in the future.

Equipment purchases in April and May of 2008 (some of which was not received by the end of the current academic year) will clearly render the new lab as "state of the art." The purchase of several new ventilators will permit students in the 2008-09 entering class to use the most advanced equipment in use at local hospital training sites.

New in 2007-08 was the adoption of a computer based program database tracking system (DataARC) which requires an annual college participation fee and a user fee (paid by individual students.) Although there was a very steep learning curve for faculty and students and many hours spent in 2007-08 teaching the system to adjunct faculty, advisory committee members and others who needed to utilize the system, it appears that this will enhance our ability to collect many types of information and stay current with ever increasing national demands for report data. Students likewise benefit from the system in that they can access it from anywhere, can submit clinical reports, keep computerized records of clinical progress, evaluate their clinical sites and teachers, and complete national graduate surveys post-graduation. Faculty would like to begin to use the computerized summary data in a number of different ways including the ability to transmit data for adjunct faculty evaluations electronically. This will be pursued in 2008-09.

Our Respiratory Therapist students are heavy users of both the new NCHST facilities and equipment. Respiratory Therapy is medical profession where technology is paramount and teaching revolves primarily around the use of equipment. One significant resource that the Respiratory Therapist program currently lacks is a skills lab coordinator. Although the position of a FT skills lab coordinator (to be shared by Respiratory Therapy and Physical Therapist Assistant programs similar to one that has been in place for the Nursing program for many years) was approved and applications solicited by Human Resources in 2007-08, the position has not been filled, and this continues to place a burden on the FT faculty. The program director spends

at least 10 hours per week maintaining the lab with all of the individual tasks that are involved. Over the years student help (which is only available on a limited basis and has proven to be unreliable) has not solved the problem. This is a serious problem that deserves to be addressed.

Section #6: Assessment of Program Improvement Since Previous Program Review

(This section states that “this step will be implemented during the second program review cycle using these guidelines.” As this is only the first program review document for Respiratory Therapy using these new guidelines, no discussion will be offered here.)

Section #7 Describe Review and Dissemination Team Involvement

The members of the Review and Dissemination team have participated in each of the evaluation systems (as appropriate based on their individual roles related to the program, ie. advisory committee member, faculty, students) cited in this document. These members have each had the opportunity to review the contents of the document and provide comments at this time.