



NORTH CAROLINA COMMUNITY COLLEGE SYSTEM



REPORT TO

JOINT LEGISLATIVE HEALTH CARE OVERSIGHT COMMITTEE

AND

JOINT LEGISLATIVE EDUCATION OVERSIGHT COMMITTEE

Session Law 2001-491, Senate Bill 166, Section 8.11



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HEALTH CARE PERSONNEL EDUCATION

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Note: This report was prepared in collaboration with staff from the Office of the President for the University of North Carolina and staff in the Department of Public Instruction.

**Report to the Joint Legislative Health Care Oversight Committee
and the Joint Legislative Education Oversight Committee
From the North Carolina Community College System**

Executive Summary

In response to Session Law 2001-491, Senate Bill 166, Section 8.11, this report outlines existing and future plans of the North Carolina Community College System (NCCCS) to address the current and projected critical shortage of health care personnel.

Over the past 40 years, the U.S. has experienced evolving imbalances in the diversity, geographic distribution, and specialty mix of its health care workforce. Today, virtually every health care discipline is adversely affected by problems associated with shortages in workforce resources. Some of these problems stem from decreased quantity – either a shortage in absolute numbers or a mal-distribution of health professionals, others reflect growing demand, while still others are due to deficiencies in a specialty/technical mix or competence.¹ The current workforce situation has been complicated by the fact that all health education programs have experienced declining applicant pools during the last three years. However, for this current academic year, community colleges are experiencing a significant growth in enrollment of all programs.

The NCCCS during the past year has responded to the needs of industry by adding new programs, expanding some programs, establishing collaborative efforts, increasing articulation efforts with the University System and Department of Public Instruction, and securing start-up funds from outside agencies when possible.

The goals for the future are: 1) start new programs in underserved areas of the state, or deliver existing programs by distance; 2) increase student enrollment and retention in the health science programs; 3) recruit and retain an increasing number of students who are representative of the diverse population of our state; 4) increase collaboration with health care industry and agencies for development of clinical sites and clinical preceptors; and 5) increase the offering of workforce continuing education health occupation courses for reeducation and continued certification.

Much emphasis must be given to preparing under-prepared potential students with the prerequisite skills to be successful in the nursing and Allied Health programs. A number of obstacles currently exist to prevent the implementation of the NCCCS future plans for graduating more students from health programs. All obstacles could be removed if resources were available.

In addition to the current reduction in funds, the NCCCS has historically experienced insufficient funds for educating/re-educating health care personnel. Because of high ongoing operating costs and the large expense with initiating new health care programs, it has become quite difficult for colleges to meet learner enrollment demands. In terms of the marketplace, it is difficult for the NCCCS to provide a sufficient supply of health care personnel when funding limitations make the expansion of existing and initiation of new programs cost prohibitive.

Given the temporary budget reversions for 2001-02 and the prospect of permanent budget reductions for 2002-03, the picture becomes cloudier. There is no way, from a budget perspective, that the NCCCS can supply additional highly educated and qualified health care professionals to the marketplace with the current funding stream. It is probable that NCCCS will be faced with enrollment caps, especially in all nursing and Allied Health programs should that funding stream be diminished.

¹ N.C AHEC Program Plan: 2001-2005: Health Workforce Issues. 1998. p.2.

**Report to the Joint Legislative Health Care Oversight Committee and the
Joint Legislative Education Oversight Committee
From the North Carolina Community College System**

In response to Session Law 2001-491, Senate Bill 166, Section 8.11, the North Carolina Community College System (NCCCS) submits the following to address the current and projected critical shortage of health care personnel and the educational system's role in the development of an adequate supply of appropriately trained health care personnel.

***Existing Plans To
Address The Critical
Shortage Of Health Care
Personnel***

From January, 2001, through February, 2002, the State Board of Community Colleges approved 18 additional health sciences programs to be offered at colleges in the NCCCS. The implementation of these new programs will provide educational opportunities for over 300 students. Five nursing programs have expanded their existing programs. This expansion provides an increase in enrollment of 101 additional potential nursing graduates.

N.C. community colleges have established collaborative partnerships with local medical societies, dental societies, and medical facilities to help with funding for the development and implementation of new health sciences programs. Collaborative efforts among the colleges and with outside agencies are developing new clinical sites and outreach programs. The colleges are also working with outside agencies to recruit qualified faculty and/or to secure grant funding.

A number of our community colleges have four-year degree completion programs provided by some institutions in the University of North Carolina System. Locating these programs on our campuses promotes enrollment of students, and almost guarantees that these underserved areas will have graduates who will remain in that location.

A number of community colleges participate in the establishment of Allied Health Science Academies, a program at local high schools to provide courses in the health sciences area to high school students. More than half of the System's colleges (under the Huskins program) are administering placement tests to approximately 8,000 students still enrolled in high school to determine the student's readiness for college level work.

*Future Plans To Address
The Critical Shortage Of
Health Care Personnel*

Colleges are working with local health care providers to assess their needs for employees and to provide educational programs to meet the identified needs.

The System Office has partnered with other state agencies including the Department of Public Instruction and University of North Carolina-Office of the President for recruitment, retention and articulation efforts to meet additional and continuing educational needs of the learners.

The NCCCS will continue to develop and strengthen collaborative efforts in resource development and internal and external partnerships. To the extent possible, the System will conduct feasibility studies to determine the needs of industry and will continue to work with Area Health Education Centers (AHEC), the Sheps Center for Health Sciences at UNC-Chapel Hill, and the local industries on the implementation and expansion of new programs at local colleges. The goals for the future are: 1) start new programs in underserved areas of the state, or deliver existing programs by distance; 2) increase student enrollment and retention in the health sciences programs; 3) recruit and retain an increasing number of students who are representative of the diverse population of our state; 4) increase collaboration with health care industry and agencies for development of clinical sites and clinical preceptors; and 5) increase the offering of workforce continuing education health occupation courses for reeducation and continued certification.

*Obstacles To Realizing
The Above Plans*

A number of **obstacles** currently exist to prevent the implementation of the System's future plans for graduating more students from health programs. **There is a lack of sufficient funding for the start-up of new programs and the expansion of current programs.** Health sciences programs are expensive to operate. The current funding formula does not take into account the additional costs of implementing and operating health sciences programs. The System's funding is based on the number of students enrolled, not the cost of operating the programs. Additional costs for most healthcare programs include accreditation by outside agencies, low ratio of students to instructor, use of expensive disposable health care supplies, expensive state of the art equipment, and direct supervision of learners in multiple clinical settings. **There are not a sufficient number of counselors and student services personnel to provide the support needed when increasing enrollment.** These personnel are essential for recruitment and retention of students.

Another obstacle is the limited number of qualified faculty members, compounded by a lack of funding to hire qualified faculty members. There is insufficient funding for current faculty members to earn required degrees and maintain certifications. Current salary levels make it easy for business and industry to recruit faculty from the System.

Community colleges suffer from a limited number of equipped classrooms and laboratories, making support of increased enrollment difficult, if not impossible.

Feasibility studies conducted by System Office staff have validated that more than 1800 students were interested in one of the 18 programs recently approved for implementation. However, due to limitations in equipped classrooms, laboratories and clinical facilities, program capacity was limited to only 337 students.

While we are experiencing a high expressed interest in health programs, **many of these learners lack the prerequisite skills to be successful in the program.** With an average age of 35, our learners typically did not take college preparation courses in high school. Therefore, they need to extend their reading and writing skills to college level. Learners also need additional math and science instruction to prepare them for the heavy emphasis on these subjects in health sciences programs. These adult learners have other responsibilities that often make it difficult for them to find sufficient time for classes and study. Without adequate support services, these learners often change to less academically challenging programs, citing the difficulty of raising a family while enrolled in a rigorous degree program as their reason for changing programs.

***Additional Plans That
Could Be Developed
Should Additional
Resources Be Made
Available***

If additional adequate funding becomes available, the System could implement the following: additional equipped classrooms and laboratories; competitive salaries to recruit and retain qualified faculty; increase in diverse student enrollment, retention and graduation rates; increase in the number of health sciences programs offered; additional student services personnel to assist students with retention; increased placement testing of the number of students while still in high school to assess their readiness for increased successful completion of nursing and allied health programs; development of courses that can be delivered by distance; and an increase in the development of clinical sites and clinical preceptors. Additional funding would also provide resources for retraining current faculty and/or helping them

***Number Of Current
Students Enrolled***

***Projection Of Future
Enrollment And Number
Of Students Expected To
Complete Health Care
Training Programs***

***Where Students Become
Employed Upon
Completion of the Health
Care Training Program***

to continue their education, or to make visits back to industry for renewal.

Attachment 1 provides the following information:

- ◆ Curriculum programs in the health sciences area that prepares students for employment as health care providers.
- ◆ Brief description of the program.
- ◆ The number of colleges approved to offer the program.
- ◆ The number of students enrolled 2001-2002.

The enrollment projections were determined by the historical average annual growth rate based on previous years' enrollment. Like enrollment, the graduation projections were built on the average annual historical graduation rate. For the 2002-03 academic year it is estimated that 6,400 students will enroll in a nursing program and 9,600 students will enroll in one of the allied health programs. For the same academic year, it is estimated that 1,790 students will graduate with a degree in nursing and 2,810 students will graduate with a degree in one of the allied health programs.

Attachment 2 provides the following information:

- ◆ Workforce Continuing Education courses in the health sciences area that prepare learners for employment, recertification or reeducation as health care providers.
- ◆ Brief description of the courses.
- ◆ The number of colleges offering the courses.
- ◆ The number of students enrolled 2001-2002.

The completion and projection information is listed below:

The projection of the number of learners who will complete a course or courses based on past trends:

Duplicated Headcount	101,421
Unduplicated Headcount	38,181

The projection of the number of learners who will enroll based on past trends:

Duplicated Headcount	125,285
Unduplicated Headcount	47,165

The NCCCS graduates approximately 4,600 students from their nursing and allied health programs annually. Of this number, approximately 49% are employed in hospitals, 18% are employed in doctors offices, 15% are employed in

***Reductions In Funding
To Programs Designed
To Train Or Retrain
Health Care Personnel***

nursing homes, 8% are employed in dentist offices, 3% are employed in home health, 3% are employed in rehabilitation facilities, 2% are employed in laboratories, and about 2% are employed outside of health fields.

There are several issues related to the funding of programs designed to educate health care personnel. They include “cost to operate” relative to other instructional programs, the “start-up costs” relative to other programs, and reductions in the State’s General Fund budget relative to the economy. The most critical issue surrounding funding for health care professionals is the “cost to operate” relative to other instructional programs. It has long been argued that health care programs are more expensive to operate than other programs of instruction. In a 1996 study of the University of North Carolina (UNC) funding allocation formula,¹ Dr. Kent Caruthers proposed modifications to UNC’s formula to recognize high cost instructional programs. Among the “high cost program” category were both “Health Professions” and “Nursing.” The Joint Education Oversight Committee, as required by the 1995 Session Laws, to evaluate alternative methods for counting full-time equivalent (FTE) students,² used this study. For some time the General Assembly has been willing to acknowledge that programs in these areas are more expensive to operate, and thus some consideration of weighted FTE is appropriate. The 2000-01 appropriation per capita for the Division of Health Affairs (Medicine, Dentistry, Pharmacy, Nursing, Public Health) at the University of North Carolina at Chapel Hill was \$29,255.³

The NCCCS receives an equal amount of funding per curriculum FTE, regardless of what program of instruction it delivers. For 2001-02, the budgeted per capita appropriation is \$3,910 for all curriculum programs. This appropriation per FTE is irrespective of faculty workload, class size limitations, and student demand. Continuing Education, the primary source of skill upgrades for health care personnel, is awarded an even lower amount of \$3,463 per FTE. Included in the per capita appropriation for both curriculum and continuing education is a small amount per FTE (\$178) for all the consumable supply and material costs. For high cost programs, this is usually not sufficient.

¹ Caruthers, Kent J. A Revised Funding Model for the University of North Carolina: Phase 2 Final Report. Tallahassee, Florida. 1996. P 5-6.

² Chapter 324 of the 1995 Session Laws.

³ University of North Carolina - General Administration. Net Appropriations and Student Receipts for Capita - 2000-01.

The Caruthers study of UNC illustrated that in higher cost programs, such as allied health and nursing, at the undergraduate level (in the case of the NCCCS, the first two years) the semester credit hours taught per faculty member was lower, thereby precipitating a greater than average need for more faculty. Further, because of the credentials required to teach in allied health and nursing, the average faculty salaries are higher. The average faculty salary for allied health professionals in the NCCCS for 2000-01 is \$55,000 while the average salary for other faculty is \$43,000. This illustrates the fact that the cost of instruction, whether providing initial education, recertification or reeducation, is higher per FTE than in other instructional programs in terms of salary alone, not to mention the cost of consumable supplies and equipment.

The State Board of Community Colleges has a policy that requires a college to have sufficient "instructional faculty, facilities, equipment, and materials" within its operating budget to initiate new program offerings.⁴ Pursuant to the aforementioned high costs of operating allied health and nursing programs, the "start-up costs" of new programs in dental hygiene, dental assisting and radiology, for example, make these programs beyond the reach of many community colleges. Colleges quite often must seek grants to procure the necessary equipment to start-up new programs in allied health. After initial implementation, however, the replacement of equipment is extremely difficult. One community college president was recently asked to expand his nursing program. The response was negative due to insufficient funding. The requesting entity provided the start-up funding for program expansion.⁵

The State of North Carolina is currently experiencing one of the worst revenue shortfalls in recent memory. As such, community colleges join other state agencies and institutions in reverting budgeted funds. While the NCCCS has been spared the depth of budget cuts that other agencies have received and have pledged to curtail impacts upon instruction, these actions come at a time when enrollments are at an all-time high. It is projected that 14,000 additional full-time equivalent students will be realized once fiscal year 2001-02 is completed. Recent enrollment data from the System Office's data warehouse reveals that for the period 1997-98 through 2000-01, enrollment in such programs as

⁴ 23 North Carolina Administrative Code Chapter 2(E).0201(a)(1).

⁵ Asheville-Buncombe Technical Community College.

medical sonography, gerontology, cardiovascular sonography, health unit coordinator, Magnetic Resonance Imaging, radiation therapy technology, phlebotomy, and emergency medical science grew by at least 30 percent or greater in each program. (Enrollment in other allied health programs is limited by accrediting requirements, clinical rotation space availability, and college fiscal capacity). Therefore, further temporary or permanent budget reductions in these areas severely limit colleges' ability to meet student and industry demand.

Over the past three years, the NCCCS has received equipment funds from House Bill 275.⁶ These funds have been used to upgrade obsolete equipment and purchase equipment to start up new programs. While the 2001 Session did reauthorize this legislation through 2006,⁷ it is unlikely that funds will be available for equipment until fiscal year 2004-05. A survey of equipment needs for instructional purposes system-wide recently completed by NCCCS revealed needs totaling \$223 million.⁸ Among the needs identified by colleges are high cost diagnostic and training equipment for allied health. There is no clear plan for acquiring this equipment.

In addition to the current reduction in funds, the NCCCS has historically experienced insufficient funds for educating/re-educating health care personnel. Because of high ongoing operating costs and the large expense with initiating new health care programs, it has become quite difficult for colleges to meet learner enrollment demands. In terms of the marketplace, it is difficult for the NCCCS to provide a sufficient supply of health care personnel when funding limitations make the expansion of existing and initiation of new programs cost prohibitive.

⁶ The 1999 Session of the North Carolina General Assembly recognized the importance of workforce training by providing an unprecedented appropriation⁶ of funds to the North Carolina Community College System (NCCCS). The appropriation, originating from the "Employment Security Commission Training and Employment Account"⁶, was made to develop a funding mechanism⁶ to enhance worker training in North Carolina. The legislation that initiated the appropriation became commonly known as **House Bill 275**.

⁷ 2001 Session of the General Assembly took two additional actions with respect to House Bill 275. These actions included appropriating funds for the final year of current legislative authorization,⁷ and extending the sunset for House Bill 275 until January 1, 2006.⁷ The extension is subject to two conditions, either of which would preclude the disbursement of funds:

1. The amount in the Unemployment Insurance Fund is $\leq$ \$900 million as of August 1 of the preceding year; or
2. The State unemployment rate rises above 4.3% in any of the 12 months preceding August 1.

⁸ Division of Business and Finance. January 2002.

Given the temporary budget reversions for 2001-02 and the prospect of permanent budget reductions for 2002-03, the picture becomes cloudier. There is no way, from a budget perspective, that the NCCCS can supply additional highly educated and qualified health care professionals to the marketplace with the current funding stream. It is probable that NCCCS will be faced with enrollment caps, especially in all nursing and Allied Health programs should that funding stream be diminished.

CURRICULUM DEGREE PROGRAMS

DEGREE PROGRAM AREAS	PROGRAM DESCRIPTION	NUMBER OF COMMUNITY COLLEGES OFFERING THE PROGRAM	2000-2001 NUMBER OF STUDENTS ENROLLED
Associate Degree-Nursing	Nursing care to clients and groups of clients throughout the life span in a variety of settings.	51	4,946
Cardiovascular Sonography	Knowledge and skills necessary to acquire, process, and evaluate the human heart and vascular structures. Use high frequency sound waves to produce images of the heart and vascular structures.	3	33
Cardiovascular Technology	Use specialized equipment to visualize vascular structures and to assist physicians in diagnostic and interventional procedures.	1	19
Clinical Trial Research Associate	Assist physician and clinical researchers in the initiation, administration, coordination, and management of clinical research studies for the development of new drugs, clinical products, and treatment regimens.	1	96
Computed Tomography & MRI Technology	Specialty for radiographers prepares the individual to use specialized equipment to visualize cross-sectional anatomical structures. Aid physician in the demonstration of pathologies and disease processes. Individuals entering this curriculum must be registered or registry eligible radiologic technologist by the American Registry of Radiologic Technologist.	5	31
Cytotechnology	Cytotechnology is an advanced allied health career. Prepares the individual to use specialized equipment to study cells for detecting cancer, hormonal abnormalities, and other pathological disease processes. Individuals entering this curriculum must have earned a Bachelor's degree with a concentration in the Biological Sciences.	1	11
Dental Assisting	Assist dentist in the delivery of dental treatment. Functions as integral members of the dental team while performing chairside and related office and laboratory procedures.	14	576
Dental Hygiene	Knowledge and skills to access, plan, implement, and evaluate dental hygiene care for individuals and the community. Prepare the operator, take patient histories, note abnormalities, plan care, teach oral hygiene, clean teeth and take x-rays. Apply preventive agents, complete necessary entries.	9	445
Dialysis Technology	Care for patients/clients being treated for acute/chronic renal disease. Care for patients/clients undergoing dialysis; maintains dialysis and dialysis equipment.	3	30

DEGREE PROGRAM AREAS	PROGRAM DESCRIPTION	NUMBER OF COMMUNITY COLLEGES OFFERING THE PROGRAM	2000-2001 NUMBER OF STUDENTS ENROLLED
Electroneuro-diagnostic Technology	Obtain recording of patients' nervous system function through the use of electroencephalographic equipment and other electrophysiological devices. Taking appropriate patient histories, electrode application, documentation of patients' clinical status electrical waveform recognition, management of medical emergencies and preparation of descriptive reports for the physician.	2	11
Emergency Medical Science	Prepares graduates to enter the workforce as paramedics. Basic and advanced life support knowledge.	15	500
Health Care Technology	Multi-skilled health care personnel to perform a variety of assistive skills which cross several traditional health care disciplines. Individuals entering this curriculum must be listed on Nursing Assistant I Registry and have documentation of successful completion of a Nursing Assistant I program.	11	130
Health Information Technology	Process, analyze, abstract, compile, maintain, manage, and report health information. Code and index diagnoses and procedures.	15	324
License Practical Nurse Refresher	Refresher course for individuals previously licensed as practical nurses and who are ineligible for re-entry into nursing practice due to a lapse in licensure for five or more years. Individuals entering this curriculum must have been previously licensed as a Practical Nurse.	11	4
Medical Assisting	Multi-skilled health care professional qualified to perform administrative, clinical, and laboratory procedures. Work includes instructions in scheduling appointments, coding and processing insurance accounts, billing, collections, medical transcription, computer operations; assisting with examinations/treatments, performing routine laboratory procedures, electrocardiography, supervised medication administration, and ethical/legal issues associated with patient care.	28	987
Medical Laboratory Technology	Perform clinical laboratory procedures in chemistry, hematology, microbiology and immunohematology.	12	293
Medical Sonography	The application of high frequency sound waves to image internal body structure.	7	55
Nuclear Medicine Technology	Perform clinical procedures with the use of radioactive materials, operation of imaging, counting instrumentation and laboratory procedures.	3	49
Nursing Assistant	Work under the supervision of licensed health care professional in performing nursing care and services for persons of all ages.	32	785

DEGREE PROGRAM AREAS	PROGRAM DESCRIPTION	NUMBER OF COMMUNITY COLLEGES OFFERING THE PROGRAM	2000-2001 NUMBER OF STUDENTS ENROLLED
Occupational Therapy Assistant	Work under the supervision of a registered/licensed occupational therapist in screening, assessing, planning and implementing treatment and documenting progress for clients receiving occupational therapy service.	7	180
Pharmacy Technology	Assist the pharmacist in duties that a technician can legally perform and to function within the boundaries prescribed by the pharmacist and the employment agency. Maintain patients' record; fill prescriptions; maintain inventories; set-up, package and label medication doses; prepare solutions and intravenous additives; perform clerical duties, including processing insurance forms and forms required by third-party payers.	8	124
Phlebotomy	Obtain blood and other specimens for the purpose of laboratory analysis.	23	373
Physical Therapist Assistant	Work to improve or restore function by alleviation or prevention of physical impairment.	8	236
Practical Nursing	Provide nursing care to children and adults. Participates in assessment, planning, implementing, and evaluating nursing care.	33	1,271
Radiation Therapy Technology	Work in conjunction with nurses, physicists and physicians in the application of prescribed doses of ionizing radiation for the treatment of disease, primarily cancer.	2	32
Radiography	Prepares graduates to be radiographer, a skilled health care professional who uses radiation to produce images of the human body.	17	699
Rehabilitation Assistant	Provide continuance of established rehabilitative care to clients throughout the life span in a variety of settings. Individuals entering this curriculum must be listed on the Nursing Assistant II Registry and have documentation of successful completion of a Nursing Assistant II program.	1	16
Respiratory Therapy	Perform diagnostic testing, treatments and management of patients with heart and lung diseases.	13	296
Speech Language Pathology Assistant	Prepares graduates to work under the supervision of a licensed Speech-Language Pathologist, who evaluates, diagnoses and treats individuals with various forms of communication.	5	79
Surgical Technology	Assist in the care of the surgical patient in the operating rooms; functions as a member of the surgical team.	15	356
TOTAL			11,764

CONTINUING EDUCATION COURSES

WORKFORCE CONTINUING EDUCATION HEALTH OCCUPATION COURSE OFFERINGS	COURSE DESCRIPTION	NUMBER OF COMMUNITY COLLEGES OFFERING THE COURSE	2001-2002 NUMBER OF STUDENTS ENROLLED *Duplicated Headcount
Medical Responder	Designed to train individuals with the knowledge and skills to operate ambulances throughout the state. Skills developed are patient assessment, vital signs, airway management, CPR, splinting and hemorrhage control. Entry level course for state certification.	38	1,584
First Responder to Medical Responder Bridge Course	Designed for those individuals who have successfully completed the USDOT First Responder National Standard Curriculum to complete the requirements for certification at the NC Medical Responder Level.	1	95
Medical Responder to Emergency Medical Technician Bridge Course	Designed for those individuals who have successfully completed the NC Medical Responder Curriculum to complete the requirements for certification at the NC EMT level.	9	129
EMT-Defibrillation to EMT- Intermediate Bridge Course	Designed for individuals who have successfully completed the NC EMT-D curriculum to complete the requirements for certification at the NC EMT-I level.	3	23
EMT-Intermediate to EMT-Paramedic Bridge Course	Designed for individuals who have successfully completed the NC EMT-I curriculum to complete the requirements for certification at the NC EMT-P level.	8	391
EMT- Paramedic	Designed for individuals who are certified EMTs to develop knowledge and skills for the advanced emergency care of ill or injured persons. Follows the US DOT guidelines for paramedic level training and is approved by the NC Office of Emergency Medical Services.	32	1,468
Basic Trauma Life Support	Designed to increase the knowledge and skill level of the Emergency Medical Technician in assessing and treating any trauma-related injury. Skills developed are to better recognize possible trauma injuries due to mechanism of injury, better assess the patient and more aggressively treat shock and trauma in general.	36	992
Basic Trauma Life Support – Recertification	Designed to review students on how to identify life threatening injuries, how to function better as a team leader, how to rapidly access the EMS system while giving more definitive and quicker care at the pre-hospital setting, and how to better associate the type of injuries that would result from specific accidents.	6	80

EMT-Defibrillation	Designed to educate basic level EMTs in the use of semiautomatic defibrillators, including physical assessment of patients with cardiac dysfunction, operation of semi-automatic defibrillators and BLS interface with ALS treatment. The course meets the training requirements required to sit for the EMT-D state certification exam.	36	1,671
Emergency Medical Technician – Basic	Designed to train individuals to become emergency medical personnel. Skills include performing patient assessments, basic life support techniques, airway management and CPR, hemorrhage control, O2 administration, treating shock, bandaging/dressing/ splinting, treating skull, spine and chest injuries, childbirthing, lifting/moving patients and other skills required for state certification. Students successfully completing all of the requirements of the course are eligible to sit for the state certifying exam.	57	4,786
Emergency Medical Technician – Intermediate	Designed for certified Emergency Medical Technician for advanced medical procedures. Skills include advanced medical procedures, advanced airway devices, intravenous lines, some drug therapy in accordance with local protocols.	42	1,255
Pediatric Advanced Life Support	Designed to certify Emergency Medical Personnel in the skills required for the proper evaluation and treatment of pediatric patients in cardiopulmonary arrest.	29	1,020
IV Therapy	Designed for Emergency Medical Technicians who desire additional training in IV Therapy practices.	1	14
Advanced Cardiac Life Support	Designed to provide physicians, nurses, paramedics and other health care providers with information concerning advanced management of the cardiac patient.	34	1,870
EMT – Basic Continuing Education	Designed to meet the continuing education training required by the State of NC to maintain EMT basic certification.	48	33,200
Medical Responder – Continuing Education	Designed to meet the continuing education training required by the State of NC to maintain Medical Responder certification.	10	225
EMT-Defibrillation Continuing Education	Designed to meet the continuing education training required by the State of NC to maintain EMT-D certification.	28	14,407
EMT-Intermediate Continuing Education	Designed to meet the continuing education training required by the State of NC to maintain EMT-I certification.	28	7,354
Paramedic Continuing Education	Designed to meet the continuing education training required by the State of NC to maintain Paramedic certification.	39	11,248
EMT Advanced Intermediate – Continuing Education	Designed to meet the continuing education training required by the State of NC to maintain EMT- I Advanced certification.	1	57
Medical Responder Refresher	Designed as a review and update of basic skills and knowledge required for medical responders.	5	94
Methodology for EMT Instructors	Designed to prepare the student to teach adults and to understand the adult learner. Skills include how to prepare teaching outlines and organize practical skills. Required for certification as an NC Certified EMT Instructor.	13	127

Emergency Medical Technician Refresher	Designed as a review and update of basic skills and knowledge of emergency medical care as well as an update of new equipment and technology. Problem areas in emergency care and possible solutions to these problems will be covered.	26	537
EMT-Advanced Intermediate	Designed to cover EMT-AI roles and responsibilities, the respiratory system and airway management, pharmacology, the cardiovascular system, principles of electrocardiography, dysrhythmia recognition, defibrillation/pacing, management of cardiac dysrhythmias, respiratory/cardiac emergencies, communication skills and a review of basic and advanced life support.	2	90
EMT-Paramedic Refresher Course	Designed to cover the US DOT EMT-Paramedic Refresher Curriculum for review and update of skills and knowledge required for EMT-Paramedics.	5	170
Mobile Intensive Care Nurse	Designed to be offered in accordance with NC OEMS rules and regulations governing MICN certification/approval. Students must be NC RN's with two years of critical care experience and sponsored by an approved hospital. Skills include an ambulance internship.	3	5
Emergency Medical Technician – National Registry	Designed to establish the basic knowledge needed to provide, under medical authority, prehospital emergency care. Skills include handling medical emergencies and general basic life support for seriously/critically ill patients including knowledge of human anatomy and physiology, understanding how to deal with heart disorders, strokes, diabetes, childbirth, injuries, poisonings and other emergency situations. Students successfully completing the course are eligible to sit for the National Registry licensure exam.	7	566
Emergency Lifesaver	Designed with an emphasis on immediate reaction to all types of injuries and accidents. Primary and secondary survey and identifying life threatening injuries and conditions with immediate actions being taken to correct the conditions are covered.	4	533
Emergency Medical Dispatcher – Continuing Education	Designed to meet the continuing education training required by the State of NC to maintain Emergency Medical Dispatcher certification.	16	705
Anaphylaxis Emergencies	Designed to provide training in procedures for treatment of anaphylactic shock during an emergency.	4	65
Emergency Medical Dispatcher	Designed to address the roles and responsibilities as well as legal and liability issues in emergency medical dispatching.	14	431
Coaching the Emergency Vehicle Operator – Ambulance / CEVO /AMB	Designed as a defensive driving program for practical driving techniques. Skills include focusing on the operator's ability to read traffic objectives, act accordingly, and prevent collisions in both emergency and non-emergency situations.	7	59
Critical Care Assessment	Designed to cover current trends and techniques of assessment of patients who have suffered critical injuries.	4	215
Disaster Management and Mass Casualty	Designed to cover current topics on disaster management, types of disasters, evacuations, and recovery operations.	7	310

Emergency Medical First Responder	Designed to provide training to meet First Responder Certification requirements. Skills include understanding treatment of injuries to the spine, eye, and face and throat.	23	489
Emergency Medical First Responder – Continuing Education	Designed to meet the continuing education training required by the State of NC to maintain Emergency Medical First Responder certification.	18	1,740
CPR Instructor Training	Designed to provide appropriate training for CPR instructors. Students completing training are qualified to conduct CPR training.	8	233
Advanced Cardiac Life Support Instructor	Designed to provide information in teaching and testing Advanced Cardiac Life Support course participants. Skills include teaching techniques and course management.	8	136
Pediatric Advanced Life Support Instructor	Designed to provide skills in teaching and testing Pediatric Advanced Life Support course participants. Skills include teaching techniques, course management and related topics.	4	110
Pediatric Education for Paramedics	Designed to provide the scope of knowledge in pediatrics that defines paramedic pre-hospital pediatric practice.	8	277
Silent War – Infection Control for Emergency Responders	Designed to present contagious and infectious airborne and bloodborne infection control procedures and emergency response.	10	1,322
Special Topics in Emergency Management Services	Designed to present current and emerging topics in emergency management services.	4	661
Infection Control Training	Designed to provide emergency response personnel with the training required to meet the requirements for an Infection Control Officer.	2	224
Introduction to Clinical Dental Assisting	Designed to introduce the student to chairside dental assisting. Skills include instrument transfer, use of suction and air/water syringe, patient positioning, dental laws, matrix bands, and related topics.	1	116
Dental Radiology	Designed for students who are certified dental assistants to understand and safely use the techniques of dental radiology.	1	142
Domiciliary Care and Respite Care	Designed to introduce the student to understanding the aging process, managing the care of elderly persons, planning for and meeting the social, psychological and financial needs of residents and related skills.	1	562
Thomas S. Direct Care Staff Training	Designed to provide training in the competencies required under the Thomas S. Privileging Process for direct care service personnel working with individuals who are in the Thomas S. class with mental retardation and coexisting mental or behavioral disorders.	2	61
Partners in Assistive Technology Training and Service	Designed to address continuing education needs of professionals and paraprofessionals in Assistive Technology related disciplines.	1	14
Nutritional Dietary Manager Training	Designed to provide the training required for the dietary manager certification by the National Dietary Manager Association.	3	184

Fundamental Skills for Substance Abuse Counselors	Designed to introduce the student to the knowledge and skills for understanding, assessing, managing, treating and providing counseling in substance abuse cases.	5	230
Sleep Disorders Technician	Designed to provide training in the competencies required for sleep disorder clinics. Skills include sleep disorders, medical terminology and sleep theory, understanding respiratory, cardiovascular and nervous systems terminology, sleep stage scoring, record review, and related skills.	1	15
Medical Office Assistant	Designed to provide training in the competencies required to handle front office operations and /or assist physicians and other medical office staff in a medical office setting.	13	815
Medical Coding	Designed as an overview of the coding of diagnoses and procedures for persons who work in the health-related fields. Coding of all body systems and procedures and necessary information for anyone responsible for billing and reimbursement in any medical facility will be covered.	11	8,053
Central Service Technician Certification Review	Designed to provide a review and update in the field of sterile processing and distribution.	1	22
Phlebotomy Education and Clinical Experience	Designed to prepare the student to draw blood specimens from patients for the purpose of testing and analyzing blood. Skills include theory and clinical experiences.	19	1,071
Personal Care Training	Designed for personnel in facilities with less than seven residents who do not require special health-related personal care tasks. Course includes the 80-hour training required by the NC DHR.	4	33
Adult Care Home Personal Care Training	Designed for personnel who perform or directly supervise staff who perform basic personal care tasks for persons living in adult care homes servicing seven or more residents and developmentally disabled adult (DDA) homes servicing two to nine residents. Includes the 45-hour training required by the NC DHR.	8	176
Respite Care	Designed to prepare students to cope with emergency situations, become aware of community health services and agencies and understand the elderly and related diseases and related skills.	4	19
Home Companion Aide	Designed to prepare the student to render assistance to aged persons and their families who need support with personal care and home maintenance.	9	284
Medical Terminology	Designed as an introduction to the study of the structure of medical words and terms.	22	1,437
Medical Transcription	Designed to teach students to accurately and efficiently transcribe medical terms and physician dictation.	18	362
Nurse Aide Level I	Designed to prepare the graduates to provide personal care and perform basic nursing skills for the elderly and other adults. Students successfully completing the course and skill/competency evaluation are eligible to apply for listing as a NAI by the NC Div. Facility Services	54	10,459

Nurse Aide II	Designed to prepare students to perform more complex skills for patients or residents.	34	1,297
Nurse Aide Refresher	Designed as a review and testing to assess and update NAI skills.	37	1,521
Medical Care Technician	Designed to train health care workers to function in a cross trained capacity.	5	160
Pharmacy Technician Competency Exam Review	Designed to provide a structured review of the basic concepts associated with the technical aspects of pharmacy practice.	2	17
RN Refresher	Designed as a review for the registered nurse. Skills review include general medical and surgical nursing, new equipment, procedures, charting, documentation, medication and related topics.	1	69
Radiology Registry Review	Designed as a review of the fundamental concepts of Radiology Technology and preparation for the American Registry of Radiologic Technologists national exam.	2	26
Activity Coordinator Training for Long Term Care Facilities	Designed to prepare individuals with the skills necessary for handling the responsibilities of an activity coordinator in a long term care facility. Skills include understanding the aging process, how to assess activity levels and needs and related topics.	26	316
ECG Monitor Technician	Designed to teach the student anatomy and physiology of the heart, principles of EKG, dysrhythmia recognition of sinus, junctional/atrial rhythms, heart blocks and bundle branches and proficiency in reading and interpreting EKG's.	9	182
Nursing Update for Nurse Assistants	Designed as an update for nursing assistants employed in home health care regarding current practices.	1	62
Health & Wellness of Older Adults	Designed to enable students to identify and utilize ways to promote good health and wellness strategies for the elderly.	1	7
Nurse's Licensing Examination Review	Designed as a review course for nursing concepts and competencies.	5	87
Radiologic Technologist – Continuing Education	Designed to meet the continuing education training required for radiologic technologists.	2	97
Pharmacy Technician Training	Designed for individuals who will be working under the supervision of a pharmacist in a pharmacy. Training will include the basic knowledge and skills required for a pharmacy technician.	9	455
TOTALS			119,319 duplicated* 44,919 unduplicated

- Due to the fact that continuing education is provided through individual stand alone courses, student enrollment is reported here based on enrollment in each course (duplicated headcount). The enrollment totals are reported as both duplicated and unduplicated.