



# UNC CHARLOTTE

## Office of the Chancellor

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October 19, 2015

Junius J. Gonzales  
Senior Vice President for Academic Affairs  
University of North Carolina  
Post Office Box 2688  
Chapel Hill, North Carolina 27515-2688

Dear Junius:

Enclosed is UNC Charlotte's request for authorization to plan a B.S. in Health Systems Management. The proposed program would prepare students as leaders in addressing the organizational needs of the health and human services sectors and has grown out of the student demand for careers in the health professions.

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

Cordially,

Philip L. Dubois  
Chancellor

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



# UNC CHARLOTTE

## Office of Academic Affairs

9201 University City Blvd, Charlotte, NC 28223-0001  
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October 14, 2015

Junius J. Gonzales  
Senior Vice President for Academic Affairs  
University of North Carolina  
Post Office Box 2688  
Chapel Hill, North Carolina 27515-2688

Dear Junius,

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

Thank you for your consideration of this request.

Sincerely,

A handwritten signature in blue ink that reads "Joan".

Joan F. Lorden  
Provost and Vice Chancellor for Academic Affairs

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

**APPENDIX A**  
**UNIVERSITY OF NORTH CAROLINA**  
**REQUEST FOR AUTHORIZATION TO PLAN**  
**A NEW DEGREE PROGRAM**

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

Date: October 9, 2015

**Constituent Institution:** University of North Carolina at Charlotte

CIP Discipline Specialty Title: Health and Medical Administrative Services

CIP Discipline Specialty Number: 51.0701 Level: B  X M  Res. Doc.  Prof. Doc.

Exact Title of the Proposed Program: Health Systems Management

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

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

The current SACS Substantive Change Policy Statement may be viewed at:  
<http://www.sacscoc.org/pdf/o81705/Substantive%20Change%20policy.pdf>

If yes, please briefly explain.

As required by the Policy Statement on Substantive Change for Accredited Institutions of the Commission on Colleges, the University of North Carolina at Charlotte (UNC Charlotte) is required to submit a letter of notification prior to implementation for new degree programs. Notification of this new degree program will be provided to SACS after approval by the University of North Carolina Board of Governors and prior to implementation. Since this is a new program, student learning outcomes (SLOs) will need to be created in conjunction with the curriculum.

Proposed date to enroll first students in degree program: **Month** August **Year** 2017

1. Provide a summary of the status of this proposal in your campus review processes.
  - a. List the campus bodies that reviewed and commented on this Appendix A proposal before submission to UNC General Administration. What were their determinations? Include any votes, if applicable.

This **Request for Authorization to Plan** for a Bachelor of Science of Health Systems Management was created by unit representatives throughout the College of Health and Human Services (CHHS). The proposal was reviewed and commented on by:

- CHHS New Degree Planning Committee (BS in Health Systems Management) (unanimous vote to approve)
- **CHHS Dean's Office**
- CHHS Faculty Organization
- Academic Affairs/Provost Office

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

There has been no opposition raised throughout the campus review process. Our main focus was to create a degree program that served the needs of students with interests in the health fields and allowed them to matriculate and graduate in a timely manner. CHHS has a large student population that exceeds the capacity in our health and human services professional disciplines, which are regulated by professional accreditation agencies. The CHHS New Degree Committee was formed in Fall 2014, consisting of faculty representatives from all four academic units. Each faculty representative shared monthly progress with their respective units. The degree name, rationale, and proposed curriculum requirements were shared with the CHHS Faculty Organization twice in Spring 2015 and again in Fall 2015, with no oppositions raised, resulting in only minor suggestions that were incorporated into this proposal.

Following approval of the ***Request to Plan***, the faculty committee will begin creating course syllabi and curriculum in order to complete the on-campus review process for the curriculum approval. The ***Request to Establish*** document will be reviewed initially with the originating CHHS academic unit. After the originating unit approves the ***Request to Establish*** the CHHS Faculty Curriculum Committee will review and vote prior to sending the document to the CHHS Faculty Organization (includes review and votes). Once the ***Request to Establish*** has been approved throughout the CHHS structure the document will be forwarded to the UNC Charlotte Undergraduate Course and Curriculum Committee, consultations with related departments, and a final vote by the UNC Charlotte Faculty Council.

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

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

**Description:** The Health Systems Management major prepares students to be a generalist in the health systems management field to provide leadership in addressing the organizational needs of the health and human services sector through interdisciplinary approaches guided by culturally relevant perspectives.

**Educational Objectives:**

- Students will be able to communicate clearly through written and oral means to establish, maintain, and facilitate constructive interactions within the health and human services environment.
- Students will have foundational skills in leadership to promote organizational excellence, manage change within an organization, and understand the **importance of a shared vision to meet an organization's overall mission.**
- Students will align their personal and professional conduct in accordance with ethical and professional standards.
- Students will have an understanding of the healthcare system and environment in which healthcare providers and professionals function.
- Students will have understanding of healthcare technology applications and quality management within health and human services systems.

**Proposed Curriculum:**

General Education requirements (34-35 credit hours)

Major courses (30 credit hours)

Electives (55-56 credit hours)

**TOTAL DEGREE REQUIREMENTS: 120 credit hours**



**BS Health Systems Required Courses**

HAHS 3101	Introduction to the Health Professions (3 credits)
HAHS 3201	Introduction to the US Healthcare System (3 credits)
HAHS 3301	Inter-professional Communication (3 credits) (W)
HAHS 3302	Healthcare Language and Terminology (3 credits) (W)
HAHS 4101	Health Systems Organization Behavior and Ethics (3 credits)
HAHS4102	Principles of Health Systems Management and Leadership (3 credits)
HAHS 4103	Information Technology Applications (3 credits)
HAHS 4201	Health Policy and Finance (3 credits)
HAHS 4202	Quality Management and Improvement (3 credits)
HAHS 4400	Health Systems Management Capstone (3 credits) (SL & O)
<b>Total</b>	<b>30 credit hours</b>

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

The BS in Health Systems Management aligns with the University of North Carolina at **Charlotte's mission to provide undergraduate programs that focus on addressing the** educational and health needs of the greater Charlotte region and attends to the perceived value of service learning at UNC Charlotte. Accordingly, the proposed program will be accessible to undergraduate students who are in good academic standing and will provide experiential learning through a community-engaged service learning activity during the senior year.

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

Currently there are no undergraduate programs at UNC Charlotte that have an interdisciplinary, generalist approach to health systems management; however there are individual courses that relate to the BS in Health Systems Management degree evident in current undergraduate majors such as health communications, public health, and business.

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

UNC Charlotte is a rapidly growing institution that has absorbed 46% of the student enrollment growth within the UNC system in the past six years and expects to continue its growth to 35,000 students. Within the Charlotte region, healthcare and related services are the fifth largest employer and employ 11% of the population (or 116,000 people) (Charlotte Chamber of Commerce 6-8-15: <http://charlottechamber.com/emerging-industry/charlotte-a-national-health-care-center/> ). Thus, there is a high demand for graduates who are educated in the health and human services fields. The College of Health and Human Services (CHHS) provides educational programs in a variety of professional disciplines ranging from undergraduate to doctoral level programs. Baccalaureate programs are offered in athletic training, exercise science, nursing, public health, and social work; all programs are accredited and regulated by national professional accrediting agencies. In addition to these undergraduate programs, CHHS offers three associate degree completion programs: 1. RN-BSN (Registered Nurse to Bachelor of Science in Nursing completion program); 2. BSRT (Respiratory Therapy certification to Bachelor of Science in Respiratory Therapy) and 3. NDSS (Certified Neurodiagnostic and Sleep Science to Bachelor of Science in Neurodiagnostic and Sleep Science).

CHHS has a large proportion of students who are seeking health and human services careers, but for whom there is insufficient space due to restraints imposed by accrediting agencies. All undergraduate degree programs (except the degree completion programs) have a two-tiered admission process. All CHHS students are admitted into a pre-major of their designated major and “**apply**” to their “**upper division**” major during their sophomore year. Thus, there is a large pre-major student population and many of these students, although qualified, may not be admissible to programs in a timely manner. In fall 2014, CHHS pre-major enrollment included 1,649 students (this number excludes students admitted within their undergraduate major, non-CHHS students who declared a minor within the college, and graduate students). Of those 1,649 pre-major students, approximately 400 were freshmen and 387 *could be eligible* for admission into the majors during the year, thus leaving 850+ students who *would not* matriculate into a health or human service major due to program capacity. (See #3.b for a comparison of pre-major students to major students within CHHS programs.) Most of the health and human services undergraduate program capacity is prescribed by national professional organizations and thus, have defined faculty to student ratios. Therefore, program capacity is lower than student supply or demand. In addition, some students are interested in fields that are offered only at the graduate level, but could benefit from a generalist undergraduate program that would provide a broad understanding of health systems.

Because of the limitations in program capacity, students admitted to upper division programs generally have a grade point average that exceeds the minimum program requirements. Thus, students in good standing routinely fail to gain admission, even after completing a host of pre-requisite requirements. (See below Table: Existing Major Admission Criteria.) While minimum GPAs appear reasonable, most students who meet the minimum GPA will not be admitted into the upper division major due to the large number of students who exceed the GPA minimum. For example, students admitted into Athletic Training have an average GPA of 3.2 and those students admitted into Public Health have a GPA of 3.5. Historically, Athletic Training has twice as many students seeking admission as the program capacity. Similarly, the Public Health major also has 2.5 times as many students seeking admission for the 40-50 available slots. Within the last three years, Social Work also has denied admission to students who meet the minimum eligibility due to supply and capacity. The only major that has not met capacity is the Exercise Science major; however, we anticipate during 2015-2016, students will be turned away from this major due to the need for expanded laboratory space. Finally, health related programs like Athletic Training are following the lead of other disciplines **and moving to the master’s degree** as the entry-level credential. Thus, the college seeks an additional undergraduate degree to meet the student demand and for those who seek careers within the health and human services fields.

### Existing Major Admission Criteria

<b>Major</b>	<b>Required Minimum GPA</b>	<b>Average Admission GPA</b>	<b>No. of Required Pre-Requisite Credits</b>	<b>Credits Within the Major</b>	<b>No. of Students Admitted/ Yr.</b>
<b>Athletic Training</b>	2.5	3.2	42 credits	64 credits	20
<b>Exercise Science</b>	2.5	2.5	42 credits	57 credits	200
<b>Nursing</b>	3.0	3.8	50 credits	61 credits	100
<b>Public Health</b>	2.5	3.5	48 credits	50 credits	40-50
<b>Social Work</b>	2.25	3.1	49 credits	50 credits	50-60

The proposed BS in Health Systems Management will require students to complete general education requirements and complete 30 credit hours of study within the major (see above 2.a). Thus, the proposed degree will differ from the existing degrees within the college in several important ways: fewer course credits (i.e., 30 credits versus 50-64) will be required for the major, allowing for more electives; there will be no pre-requisites beyond those courses required for general education; and because the program will not seek specialized accreditation, barriers to degree progression due to space limitations will be substantially reduced.

3. Provide documentation of student demand. Discuss the extent to which students will be drawn from a pool of students not previously served by the institution. Evidence of student demand should reflect likely applicant pools (local, regional, statewide, national, or global) and could include:
  - a. Surveys of potential enrollees (such as students or alumni of feeder programs, community college enrollees, etc.).

Student demand for programs within CHHS was outlined in 2.d; however, to determine student interest in the proposed degree, CHHS surveyed all pre-majors in June 2015. CHHS disseminated electronic surveys to 1,334 CHHS pre-majors regarding their interest in seeking a degree in Health Systems Management. Of the 1,334 students surveyed, 280 students submitted unusable/incomplete surveys and 562 students submitted completed surveys (63.1% response rate; completed survey response rate = 42.1%). Pre-nursing majors were the highest responders (PNUF = 204; 15.3%) followed by pre-kinesiology majors (PKNS = 176; 13.2%), pre-public health (PRPH = 106; 7.9%) and social work lower division (SWLD = 76; 5.7%). The following table highlights the survey responses.

### Survey Results

<b>Question</b>	<b>PKNS</b>	<b>PNUF</b>	<b>PRPH</b>	<b>SWLD</b>	<b>Total</b>
As a pre-major, how important is it for you to be admitted into your chosen upper division major? (Important and very important responses combined)	100%	99%	90.5%	97.3%	97.5%
If you were not admitted into your chosen major on your first try, would you wait a year to reapply a second time? (yes responses)	67%	73.5%	47.2%	50%	63.3%
If you were not admitted into your chosen major on your first try, would you consider a major in Health Systems Management? (yes responses)	69.3%	54.9%	94.3%	65.8%	68.3%
If you are unable to be admitted into your chosen major, would you consider taking courses toward a BS in Health Systems Management? (yes responses)	76.1%	71.6%	92.5%	78.9%	77.9%
How important is it to you to remain in a health-related major? (very important responses)	84.1%	95.1%	86.8%	55.3%	84.7%
How likely is it that a major in Health Systems Management would be your first choice of majors? (likely and very likely responses combined)	20.4%	20.6%	62.2%	39.5%	31%

As expected, most enrolled students wish to be admitted into their existing chosen major and the majority (63.3%) would wait a year to reapply to their chosen major. However, a majority of students (68.3%) also would consider a major in Health Systems Management if they were not admitted upon their first attempt to gain admission into their chosen major. A large majority (77.9%) would consider taking courses in Health Systems Management if they were not admitted into their chosen major and, 84.7% of the responders stated that it was very important for them to remain in a health-related major. When asked if students would initially choose Health Systems Management as their primary major, a third of the students responded likely or very likely. Responses per pre-major are listed within the table and it is especially noteworthy that pre-public health students would be interested in Health Systems Management as their first choice major. Surprisingly, several students emailed during the survey time period and inquired about the courses, when courses would be offered, and where could they find information about the degree. In addition to CHHS pre-majors, we anticipate that students seeking admission into the Belk College of Business or the Communication Studies major would be interested in this major as a degree of choice.

In addition to UNC Charlotte students, the BS in Health Systems Management would be **an excellent “degree-completion”** option for community college students who are enrolled in other professional associate degrees, such as occupational therapy assistants, physical therapy assistants, radiology technology assistants, health information technology as well as medical office administration. Because the degree requirements are flexible, associate degree students could potentially complete their BS in Health Systems Management within three academic semesters.

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

CHHS historically has had a large population of pre-majors who are in good academic standing, yet are not accepted into their respective upper division majors due to program capacity. (See #2.d. for specifics in major admission process.) In fall 2014, there were approximately 850+ students (excluding freshmen and number of eligible admissions for spring) who potentially would not matriculate into our current majors. In addition to the CHHS pre-majors, we anticipate that this degree would become a **“destination” degree** for prospective students as well as students in other declared majors (such as business). In addition to CHHS pre-majors, CHHS has a robust population of students seeking a Public Health minor, which would augment the Health Systems Management degree. See below table for comparison of pre-major, major, and minor student enrollments.

**Comparison of Pre-Major and Major Enrollment**

	Fall 2010	Fall 2011	Fall 2012	Fall 2013	Fall 2014
Pre-BSN	941	504	425	419	468
Pre-Kinesiology	452	512	572	677	711
Pre-BSPH	176	276	288	303	288
Pre-BSW	142	199	186	198	185
<b>Pre-major Enrollment Total</b>	<b>1711</b>	<b>1491</b>	<b>1471</b>	<b>1597</b>	<b>1649</b>
BSN	212	208	199	193	204
BS in EXER	146	158	211	232	321
BS in AT	24	26	28	30	31
BSPH	80	81	81	96	90
BSW	114	109	101	101	114
<b>Major Enrollment Total</b>	<b>576</b>	<b>392</b>	<b>620</b>	<b>652</b>	<b>760</b>
<b>Public Health Minors (excluding CHHS majors)</b>	<b>18</b>	<b>109</b>	<b>165</b>	<b>252</b>	<b>316</b>

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

In Spring 2015, the Hanover Research company was contacted to examine the viability of three specific health-related areas: generic health studies/health sciences, nutrition, and healthcare management (See Appendix A for the full report.) The figure below is on page 48 of that report and highlights the graduation data of all North Carolina healthcare management programs.

**Figure C.1: North Carolina Completions in Healthcare Management Fields, 2009-2013**

ROW LABELS	2009	2010	2011	2012	2013	CAGR	AAC	STDEVAC
<b>51.0701 Health/Health Care Administration/Management</b>	<b>242</b>	<b>330</b>	<b>332</b>	<b>389</b>	<b>373</b>	<b>11.4%</b>	<b>32.8</b>	<b>41.7</b>
Mount Olive College	75	130	134	158	147	18.3%	18.0	24.7
East Carolina University	72	87	81	78	61	-4.1%	-2.8	11.5
University of North Carolina at Chapel Hill	36	36	36	33	39	2.0%	1.0	3.0
Appalachian State University	29	34	33	35	47	12.8%	4.5	4.8
Gardner-Webb University	24	23	15	22	20	-4.5%	-1.0	5.3
Winston-Salem State University	0	0	8	37	37	-	9.0	12.0
Pfeiffer University	4	15	13	8	6	10.7%	0.5	6.2
Miller-Motte College-Wilmington	-	-	10	15	13	-	-	-
Cabarrus College of Health Sciences	2	5	2	3	3	10.7%	0.3	2.2
South University-High Point	-	-	-	-	0	-	-	-
Western Carolina University	0	0	0	0	0	-	0.0	0.0
<b>51.0706 Health Information/Medical Records Administration/Administrator</b>	<b>31</b>	<b>34</b>	<b>30</b>	<b>22</b>	<b>19</b>	<b>-11.5%</b>	<b>-3.0</b>	<b>4.0</b>
East Carolina University	18	21	13	13	9	-15.9%	-2.0	4.0
Western Carolina University	13	13	17	9	10	-6.3%	-1.0	4.0
<b>51.0710 Medical Office Assistant/Specialist</b>	<b>10</b>	<b>11</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Miller-Motte College-Wilmington	10	11	-	-	-	-	-	-
<b>Total</b>	<b>283</b>	<b>375</b>	<b>362</b>	<b>411</b>	<b>392</b>	<b>8.5%</b>	<b>27.0</b>	<b>46.0</b>

Source: National Center for Education Statistics<sup>17</sup>

As the table above illustrates, there has been a growing demand in the last five years for degrees in health systems management, which provide entry level education for health system or health services managers. Due to certification by the Association of University Programs in Health Administration (AUPHA), several universities have maintained their graduation rates and have not shown substantial growth. Only the University of Mount Olive, a private college that is not certified by AUPHA, has a larger graduation rate over the five year period. Pfeiffer University, another private university not AUPHA certified, is an online degree completion program and has only a few graduates per year. In order to meet the student demand for a health-related career, UNC Charlotte proposes an undergraduate degree in health systems management that will not be restricted by the demands of AUPHA certification.

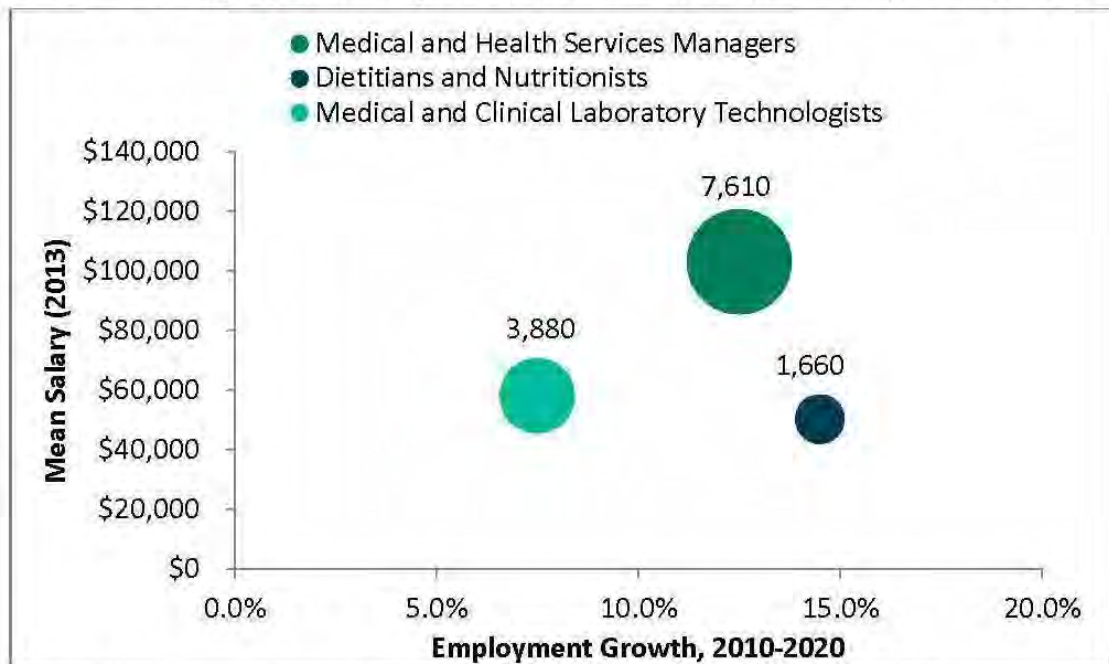
4. Provide evidence of societal demand and employability of graduates from as many of the following sources as feasible unless a good reason exists why such evidence cannot be obtained and similar evidence is presented from sources not listed here.

The Hanover Research report indicated that overall student demand for programs related to healthcare management and subsequent job opportunities outpaced undergraduate programs both in the health sciences and in nutrition (see Appendix A for full report). Nationally, healthcare management (or health systems management) had a 21.1% annual national growth rate, a 13.9% regional growth rate, and an 8.5% growth rate in North Carolina from 2009 – 2013 (see Figure 2.5 on North Carolina Employment Projections below).

Potential employment opportunities include: health care recruiter; healthcare project manager; sales management; managing director; relationship manager; healthcare representative (medical device or pharmaceutical sales); health insurance; assistant administrator; business office manager; health navigator; billing manager; case manager, practice manager, etc. One particular website listed over 1000 healthcare management jobs (See Monster.com in Appendix B). Similarly, another website (indeed) identified over 170,000+ jobs (see Appendix B for more listings).



**Figure 2.5: NC Employment Projections for Health Science Occupations, 2010-2020**



Source: North Carolina Department of Commerce; U.S. Bureau of Labor Statistics<sup>23</sup>

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

- (1) Area, occupation, and industry profiles.

To access employment information regarding Health Systems Management-related employment, jobs in medical and health service managers (also healthcare executives or healthcare administrators) were keyed into NC Works.gov. The medical and health services manager position entails planning, directing or coordinating medical and health services in hospitals, clinics, managed care organizations, public health agencies, or similar organizations. Health systems managers may manage an entire facility, specialize in managing a specific clinical area or department, or manage a medical practice for a group of physicians and healthcare professionals. Medical and health services managers work within healthcare facilities including hospitals, nursing homes, and group practices and must be adaptable to changes in healthcare laws, regulations and technology. In 2012, medical and health services managers held approximately 315,500 jobs in North Carolina. Most medical and health services managers have **at least a bachelor's degree before entering the field; however graduate degrees** are also common. Job requirements will vary by facility. In May 2012, the median annual wage for medical and health services managers was \$88,580.

According to the Bureau of Labor Statistics, employment of medical and health services managers is projected to grow 23% from 2012 to 2022, faster than the average for *all* occupations. As the large baby-boom population ages and people remain active later in life, the health and human services industry as a whole will see an increase in the demand for medical services and thus, for medical and

health services managers. The employment estimates and mean wage estimates for medical and health services managers are:

Employment <a href="#">(1)</a>	Employment RSE <a href="#">(3)</a>	Mean hourly wage	Mean annual wage <a href="#">(2)</a>	Wage RSE <a href="#">(3)</a>
310,320	0.6 %	\$49.84	\$103,680	0.3 %

RSE: Relative Standard Error

Percentile wage estimates for this occupation are:

Percentile	10%	25%	50% (Median)	75%	90%
Hourly Wage	\$26.87	\$34.53	\$44.62	\$58.05	\$77.47
Annual Wage <a href="#">(2)</a>	\$55,890	\$71,820	\$92,810	\$120,740	\$161,150

<http://www.bls.gov/oes/current/oes119111.htm#st>

2) NC occupational and employment projections.

See #4 above.

(3) Job postings.

The table below shows the number of job openings advertised online in North Carolina for medical and health services managers and for the related occupational group of Management Occupations on June 08, 2015 (Jobs De-duplication Level [1](#)). Most positions require a minimum of a bachelor's degree as an entry level position in health administration. Higher level healthcare management positions such as Presidents or Vice Presidents will require a graduate degree and years of experience (see Appendix B, pp. 1 for explanation).

Occupation Title	Job Openings
Medical and Health Services Managers	<a href="#">569</a>
Management Occupations	<a href="#">18,932</a>

In addition, see #4 above.

(4) Economic and demographic indicators.

The Hanover Research Report (Appendix A, p. 13-14) utilized the United States Bureau of Labor and Statistics (BLS) and the North Carolina Department of Commerce to evaluate the present and future labor market demand of

occupations related to medical and health services managers. The BLS estimates that Medical and Health Services Managers are expected to grow 23.2% over the next 10 years (2012-2022). The Hanover Research group proposes that the Medical and Health Services Management field is an attractive occupation due to the number of positions and average compensation; however there will be competition for these positions from other clinical health professionals who are also seeking management/administrative positions.

**National Employment Projections for Health Science Occupations, 2012-2022**

<b>SOC Title</b>	<b>Employment 2012</b>	<b>Employment 2022</b>	<b>% Change</b>	<b>Average Annual Opening</b>	<b>Mean Annual Wage</b>
<b>Medical and Health Services Manager</b>	315,500	388,800	23.2%	149,900	\$88,580
<b>Dietitians and Nutritionists</b>	67,400	81,600	21.1%	22,300	\$55,240
<b>Medical and Clinical Laboratory Technologists</b>	164,300	187,100	13.8%	65,800	\$57,580

*Adapted from Hanover Research Report, 2015, pg. 15*

North Carolina employment projections for Medical and Health Services Management positions are lower than the national average at 12.5%. Even though the employment projections are lower than the national average, the projected growth is higher than other degrees in nutrition or medical/clinical technologists.

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

See #4 above.

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

The Wage and Job Listings table below illustrates the counties in North Carolina with the highest number of job openings advertised online for Medical and Health Services Managers on June 8, 2015 (jobs de-duplicated).

**Wage and Job Listings within Large NC Counties**

<b>County</b>	<b>Wage</b>	<b>Number of Job listings</b>
Mecklenburg county	\$94,906	126
Wake county	\$95,836	74
Guilford county	\$93,717	53
Durham county	\$109,208	46
Buncombe county	\$89,776	20
Cumberland county	\$91,033	15
Pitt county	\$95,921	14
New Hanover county	\$89,788	11
Orange county	\$95,809	11
Henderson county	\$88,442	11

The table above does not include additional office and administrative support occupations that are featured in the NC database:

<http://www.bls.gov/oes/current/oes430000.htm>.

d. Wages and employment of graduates nationally when these data becomes available (see [http://www.doleta.gov/performance/pfdocs/wris2\\_status\\_state\\_optin.pdf](http://www.doleta.gov/performance/pfdocs/wris2_status_state_optin.pdf)) – Wages paid to graduates of UNC programs employed nationally (North Carolina partnership in WRIS2 forthcoming).

National estimates for medical and health services managers are:

<b>Employment (1)</b>	<b>Employment RSE (3)</b>	<b>Mean Hourly Wage</b>	<b>Mean Annual Wage (2)</b>	<b>Wage RSE (3)</b>
21,638,470	0.2 %	\$17.08	\$35,530	0.1 %

\*RSE: Relative Standard Error

Percentile wage estimates for this major group:

<b>Percentile</b>	<b>10%</b>	<b>25%</b>	<b>50% (Median)</b>	<b>75%</b>	<b>90%</b>
Hourly Wage	\$9.37	\$11.85	\$15.64	\$20.87	\$27.15
Annual Wage (2)	\$19,480	\$24,650	\$32,520	\$43,410	\$56,460

e. Job-posting analyses.

See #4 above.

f. Projections from professional associations or industry reports.

See #4 above and Appendix A (Hanover Research Report).

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

There are no graduates/alumni of this program.

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

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

Of the below institutions that were contacted for consultation, five responded: four UNC system universities and one local private college. Appalachian State University, East Carolina University, UNC-Chapel Hill, and Winston-Salem State University have robust enrollments with competitive admissions. Winston-Salem State University states that their Healthcare Management degree is the fastest growing undergraduate degree in the School of Health Sciences. Appalachian State University, East Carolina University, and UNC-Chapel Hill currently are AUPHA members and Winston-Salem State University is seeking AUPHA certification. All universities reported that their graduates do not have difficulty finding employment. They noted that the key element to their success was maintaining professional relationships with their local stakeholders who serve on advisory boards and as preceptors for their students. UNC-Chapel Hill offered that the service learning component in courses is very popular and offers students an authentic experience. With the increasing student demand, Winston-Salem State University shared that obtaining faculty and budgetary resources will be important to support our potential growth. All institutions encouraged us to gain AUPHA certification that affords networking opportunities for faculty to update, retool and enhance courses; however, two universities limit their enrollments based on certification guidelines.

Cabarrus College of Health Sciences responded that they closed their program in December 2014, citing that the curriculum content was interwoven into other professional programs and that the degree was not valued by their local employers. Since most of their students currently were employed in healthcare, their students reported **only modest increase in salary in gaining a bachelor's degree. On the other hand, East Carolina University offers an online program to students who have an associate's degree and has not had a similar experience as the Cabarrus College of Health Sciences.**

Institution: Appalachian State University\*

Program Title: BS in Healthcare Management

	2009	2010	2011	2012
Enrollment	0	5	37	60
Degrees-awarded	29	34	33	35

Institution: Cabarrus College of Health Sciences

Program Title: Health Services Leadership and Management

	2009	2010	2011	2012
Enrollment	9	7	10	5
Degrees-awarded	4	2	3	3

Institution: East Carolina University\*

Program Title: BS Health Services Management

	2009	2010	2011	2012
Enrollment	167	156	150	137
Degrees-awarded	72	87	81	78

Institution: University of Mount Olive

Program Title: Business Administration in Healthcare Management

	2009	2010	2011	2012
Enrollment	388	473	487	455
Degrees-awarded	75	130	134	158

Institution: Gardner-Webb University\*\*

Program Title: BS in Healthcare Management

	2009	2010	2011	2012
Enrollment	54	74	74	53
Degrees-awarded	24	23	15	33

\*\*In 2009, Gardner-Webb University had a BS in Health Management, which changed to a BS in Healthcare Management in 2011. By 2012, 17 students were enrolled in Health Management and 36 students were enrolled in Healthcare Management.



Institution: Pfeiffer University

Program Title: BA in Human Services

	2009	2010	2011	2012
Enrollment	41	39	51	54
Degrees-awarded	4	15	13	8

Institution: University of North Carolina at Chapel Hill\*

Program Title: BS in Public Health

	2009	2010	2011	2012
Enrollment	72	72	71	82
Degrees-awarded	36	36	36	33

Institution: Western Carolina University

Program Title: BS Health Systems Administration

	2009	2010	2011	2012
Enrollment	34	36	20	9
Degrees-awarded	13	17	9	7

Institution: Winston Salem State University\*

Program Title: BS Healthcare Management

	2009	2010	2011	2012
Enrollment	27	81	99	121
Degrees-awarded	0	0	8	37

\*Denotes that the program is certified through the Association of University Programs in Health Administration (AUPHA)

UNC Charlotte is the fastest growing university within the UNC system and resides in the largest metropolitan area in North Carolina, which is surrounded by major healthcare providers. However, UNC Charlotte does not have an undergraduate program to prepare the workforce to manage different health systems within the region. Unencumbered by

professional accrediting agencies expectations, UNC Charlotte can meet the regional demands in educating entry level health systems managers as well as provide a degree for students who seek positions in health and human services.

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

Student demand at UNC Charlotte is sufficient to support a robust program. Partnerships within UNC Charlotte will support the program. In other words, students from CHHS as well as the University College and the Belk College of Business could supply the population needed to offer the BS in Health Systems Management. However, CHHS has a rich history of articulation agreements with our regional NC community colleges (CHHS has 10 articulation agreements). Currently, CHHS offers several degree completion programs where students obtain their disciplinary education and professional certification within the community college system and later transfer to UNC Charlotte to complete their undergraduate degree (i.e., RN-BSN, BSRT, & NDSS programs). Similarly, there are additional associate degree professional programs such as occupational therapy assistants, physical therapy assistants, radiology assistants, etc. who also could transfer to **UNC Charlotte and obtain a bachelor's degree** within three semesters of full time study. Many hospital and medical facilities are seeking managers who have **bachelor's degrees**, but also have a professional certification. Thus, there is a natural pipeline from our NC community colleges into the BS in Health Systems Management program. Currently, the College has 600+ education affiliation agreements with numerous local and regional healthcare agencies that assist our students in gaining theoretical application within their profession. The College enjoys a close collaboration with local healthcare providers who often serve on college and disciplinary advisory boards that offer input to healthcare industry needs and curriculum enhancement. Within our affiliation agreement relationships, working professionals function as preceptors to our students, mentoring students in real world/professional experiences, often providing expertise as guest lecturers in the classroom.

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

Within UNC Charlotte, there are several programs that could contribute to an undergraduate degree in Health Systems Management, but do not offer most of the combination of courses within the five domains consisting of communication, professionalism, business skills and knowledge, knowledge of healthcare environment and leadership. For example, the business programs offered within the Belk College of Business are Accounting, Economics, Finance, Risk Management and Insurance, International Business, Management with concentrations in Organizational Management and Talent Management, Management Information Systems, Marketing, and Operations and Supply Chain Management; however, none of these majors offer courses within healthcare finance, healthcare management, health systems management, or health insurance. Similarly, Communication Studies within the College of Liberal Arts & Sciences offers a Health Communication concentration, which includes courses such as Health Communication, Organizational Communication, and Interpersonal Communication, which arguably overlap in the communication content within the Health Systems Management degree; however the Health Communication concentration lacks information about the healthcare system, leadership, professionalism and business skills. Both the Belk College of Business undergraduate programs and the degree in Communication Studies are already very large programs that could not easily

accommodate the student population at which the Health Systems Management degree is directed.

In CHHS, the Public Health major is closest to Health Systems Management; however the Public Health major, accredited by the Council on Education for Public Health (CEPH), is restricted to admitting a maximum of 50 students per year. The core courses within public health focus on the five domains of public health – epidemiology, biostatistics, health administration, environmental health and health education – similar to Health Systems Management, but these courses are more specifically focused on public health and less attuned to management and leadership. In addition, the Public Health major admission criteria include a minimum GPA of 2.5, yet most students admitted into the public health major have a minimum GPA of 3.5. Thus the Public Health major cannot accommodate the larger CHHS student population.

As outlined in #5.a, there are several UNC universities that offer similar undergraduate programs: Appalachian State University (BS in Healthcare Management, certified by AUPHA), East Carolina University (BS in Health Services Management certified by AUPHA), Fayetteville State University (BS in Healthcare Administration, begun in Fall 2014), UNC-Chapel Hill (BS in Public Health, certified by AUPHA), Western Carolina University (BS in Health Systems Administration), and Winston-Salem State (BS in Healthcare Management, certified by AUPHA). Although these programs are similar in content area, all have adequate enrollments per certification guidelines. With the large pre-major student population within UNC Charlotte, this program will meet an internal need to graduate students prepared for health services careers within four to six years.

6. Are there plans to offer all or a portion of this program to students off-campus or online? If so,
- Briefly describe these plans, including sites and method(s) of delivering instruction.

There are no immediate plans to offer this degree as a distance education program.

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

In addition to the previously listed universities and colleges (See 5.a), there are several online universities offering a BS in Healthcare Management, Health Care Administration, or Health Services Administration:

- American InterContinental University
- Baker College
- Capella University
- Grant Canyon University
- Kaplan University
- Keiser University
- University of Phoenix – Charlotte and Raleigh Campuses

- What is the estimated percentage of courses in the degree program that will be offered/available off-campus or online: 0

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

*First Year Full-Time* 0 *Part-Time* 0

*Fourth Year Full-Time*   0   *Part-Time*   0  

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

7. Estimate the total number of students that would be enrolled in the program during the first year of operation: *Full-Time*   50   *Part-Time*   10

Estimate the total number of students that would be enrolled in the program during the fourth year of operation: *Full-Time*  300  *Part-Time*   50 

8. Will the proposed program require development of any new courses: Yes   X   No         
 If yes, briefly explain.

This is a new degree program and thus would need to have nine courses developed. Within the 10 courses outlined below, there are three communication across the curriculum courses (two writing across the discipline and one oral communication course), **which meet UNC Charlotte’s general education requirements. HAHS 4102, Information Technology Applications, currently is offered to our three online degree completion programs (RN-BSN, BSRT, and NDSS), but will be adapted for offering the course in a traditional classroom setting. The other nine courses listed below, would need to be created.**

**BS Health Systems Major Courses**

HAHS 3101	Introduction to the Health Professions (3 credits)
HAHS 3201	Introduction to the US Healthcare System (3 credits)
HAHS 3301	Inter-professional Communication (3 credits) (W)
HAHS 3302	Healthcare Language and Terminology(3 credits) (W)
HAHS 4101	Health Systems Organization Behavior and Ethics (3 credits)
HAHS4102	Principles of Health Systems Management and Leadership (3 credits)
HAHS 4103	Information Technology Applications (3 credits)
HAHS 4201	Health Policy and Finance (3 credits)
HAHS 4202	Quality Management and Improvement (3 credits)
HAHS 4400	Health Systems Management Capstone (3 credits) (O & SL)
<b>Total</b>	<b>30 credit hours</b>

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

- a. New Faculty: Yes   X   No

To meet SACS accreditation, the BS in Health Systems Management program would require that 25% of the faculty possess doctorates in a related field. For the first year, three faculty will be needed to teach 39 credits, develop the courses and teach the entire curriculum. One new senior faculty will be responsible for admission and program coordination and a second new senior faculty will be responsible for coordinating the service learning component of the capstone course (HAHS 4400). In year two, we anticipate approximately 150 total students (includes 50 part time students as well as 100 full time students) enrolled, requiring an additional 57 credits delivered and thus, will need two additional faculty (or a total of five FTE faculty).

Looking longer term, (and depending upon robust student enrollment and graduation) we could anticipate the need for three additional faculty for a total of eight FTE (five tenure-track faculty, three non-tenure track faculty, and two graduate teaching assistants) to deliver 180 credit hours of instruction to approximately 200+ students/semester. We propose the following budget:

**SUMMARY OF ESTIMATED ADDITIONAL COSTS FOR PROPOSED PROGRAM**

INSTITUTION	<u>UNC Charlotte</u>
Degree(s) to be Granted	<u>B.S. Health Systems Management</u>

**PROJECTED ENROLLMENT**

	Year 1	Year 2	Year 3	Year 4
Projected Full Time Student (1.0 FTE)	50	100	175	300
Projected Part Time Students (0.5 FTE)	10	50	50	50
Projected annual FTE students	60	125	200	325

**PROPOSED BUDGET OF ADDITIONAL COSTS**

	Year 1	Year 2	Year 3	Year 4
Full Time Teaching/Administration Faculty:				
AY1: 2 tenure track & 1 non-tenure	\$ 213,000	\$ 213,000	\$ 219,390	\$ 225,972
AY2: 1 tenure track & 1 non-tenure		\$ 130,000	\$ 130,000	\$ 133,900
Stipends:				
1. Program/Admission Coordinator	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
2. Service Learning Coordinator	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000
3% Salary Increase for Faculty		\$ 6,390	\$ 10,482	\$ 10,797
Recruitment	\$ 5,000	5,000		
Program Support:				
One administrative support associate	\$ 36,000	\$ 36,000	\$ 37,080	\$ 38,193
3% Salary Increase for Support Staff		\$ 1,080	\$ 1,113	\$ 3,150
<b>TOTAL ADDITIONAL COSTS</b>	<b>\$ 269,000</b>	<b>\$ 401,470</b>	<b>\$ 413,065</b>	<b>\$427,012</b>

Note: 33% Fringe not included in the budget

- b. Additional Library Resources: Yes \_\_\_\_\_ No X\_\_\_\_\_
- c. Additional Facilities and Equipment: Yes X\_\_\_\_\_ No \_\_\_\_\_

We would need additional office space and computer/printers for new faculty and one administrative assistant support personnel. There is no need for specialized laboratory equipment. Salary for the Administrative Support Associate is estimated at \$36K/year plus 33% fringe.

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

In addition to five new faculty positions needed, the BS in Health Systems Management would require one new administrative associate staff position and stipend (\$10,000) funding to provide the BS Health Systems Management Program and Admissions Coordinator who would oversee admissions, curricular revisions, student graduation, etc. and a stipend (\$5,000) for the Service Learning Coordinator.

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

Yes, enrollment growth funding will be required to support the additional faculty and staff needs. A letter of support from the Provost is attached.

11. For graduate programs only:

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

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

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

12. For doctoral programs only:

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

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

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

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

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Department: Public Health Sciences  
Department Chair: Dr. Susan Sell (Interim)

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

Chancellor: Phil J. Anthon Date: 10/19/15

# Appendix A

# DEMAND FOR UNDERGRADUATE PROGRAMS IN HEALTH SCIENCES FIELDS

Prepared for the University of North Carolina at  
Charlotte

March 2015

In the following report, Hanover Research assesses the viability of five health sciences fields, taking into account the potential student and labor market demand for bachelor's degrees in healthcare management, general health science, nutrition and dietetics, medical laboratory science, and pre-professional health studies. The report also includes overviews of program structure, curriculum, and faculty for fields of particular interest to UNC-Charlotte, including healthcare management, general health science, and nutrition and dietetics.



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# EXECUTIVE SUMMARY AND KEY FINDINGS

## INTRODUCTION

This report assesses the potential student and labor market demand for bachelor's degree programs in five health sciences fields: healthcare management, general health science, nutrition and dietetics, medical laboratory science, and pre-professional health studies. The report also includes detailed overviews of typical program structure for the three fields of greatest interest to the University of North Carolina at Charlotte (UNC-Charlotte) – healthcare management, general health science, and nutrition and dietetics. The report comprises five sections:

- **Section I** assesses potential student demand for five health science-related programs, drawing on degree completions data furnished by the National Center for Education Statistics (NCES). It examines completions trends at the national, regional, and state levels to identify promising health science programs.
- **Section II** examines the labor market conditions for graduates of degree programs in healthcare management, medical laboratory science, and nutrition and dietetics. This section displays employment projections formulated by the U.S. Bureau of Labor Statistics and the North Carolina Department of Commerce in relevant occupations accessible with a bachelor's degree. It also assesses educational requirements for entry-level employment in these occupations and notes the education attainment of workers in each field.
- **Section III** presents an overview of healthcare management bachelor's degree programs, highlighting goals, curricula, and faculty at relevant programs in the Southeast region. The section also includes profiles of healthcare management programs at Appalachian State University, East Carolina University, and James Madison University.
- **Section IV** presents an overview of general health science programs, with special focus on curricula, graduate school matriculation, and faculty requirements. The section concludes with a profile of the health science program at Chapman University.
- **Section V** presents an overview of nutrition and dietetics bachelor's degree programs, noting program and professional accreditation standards, curricula, and faculty characteristics.



## KEY FINDINGS

### HEALTHCARE MANAGEMENT

- **Student demand for bachelor's degree programs in healthcare management (HCM) appears to be strong, and has grown substantially in recent years.** HCM programs reported over twice the number of completions of any other examined health science field from 2009 to 2013, suggesting significant student demand compared to other programs. Furthermore, completions in HCM fields saw compound annual growth of 21.1 percent nationally, 13.9 percent regionally, and 8.5 percent in North Carolina from 2009 to 2013. This growth outpaces that of the other examined health science programs, as well as the average completions growth of 3-4 percent at the national, regional, and state levels.
- **Managers in medical and health services settings are projected to be among the fastest growing occupations in coming years.** Employment projections formulated by the Bureau of Labor Statistics (BLS) and the North Carolina Department of Commerce predict above-average ten-year employment growth of 23.2 percent (national, 2012-2022) and 12.5 percent (North Carolina, 2010-2020) for Medical and Health Services Managers, with over 40 percent more positions than other examined health science occupation. Health services managers also command higher average salaries than occupations corresponding to medical laboratory science and nutrition.
- **Bachelor's-level healthcare management curricula typically focus on business skills, with specific emphasis on their application to the health services setting.** Though many programs are located within colleges and departments of science and allied health, curricular emphasis is typically on core skills like management, finance, accounting, and marketing in the healthcare field. Courses often include introductions to healthcare systems, management in healthcare, financial management, health information and data systems, health policy and law, healthcare ethics, marketing, and personnel management. Many programs also require students to complete an internship.
- **Healthcare management faculty hold a variety of educational credentials and may be drawn from numerous disciplines.** Hanover Research identified HCM faculty with doctorate degrees in public health, health services organization, and health information systems in addition to professional graduate credentials in health services administration, business, public policy, and law. Many faculty also have professional experience as health services executives.
- **The Association of University Programs in Health Administration (AUPHA) certifies academic programs in healthcare management and provides standardization of best practices in curricula and structure.** Though certification is not required by law, nine of the 10 programs examined in detail by Hanover Research are affiliated with AUPHA.

## GENERAL HEALTH SCIENCE

- **General health science programs typically cater to students that plan to pursue graduate school in a health field following graduation.** Health science programs allow students to fulfill requirements for graduate study in a variety of medical and allied health fields. For instance, Chapman University in Orange, California offers specific tracks for pre-physical therapy, pre-occupational therapy, pre-physician assistant, pre-nursing, pre-medicine, pre-food science, and pre-health communications. Programs draw on faculty from across both science and health departments and allow students to cater their course selections to requirements needed for their specific graduate program.
- **National degree completions in general health fields grew at a compound annual rate of 16.9 percent from 2009 to 2013, more than 13 points above the national average.** The field also saw strong growth at the national and state levels, implying strong and growing student demand for programs that lead to graduate study and careers in healthcare.

## NUTRITION AND DIETETICS

- **Programs that lead to certification as a Registered Dietitian Nutritionist (RDN) must be accredited through the Accreditation Council for Education in Nutrition and Dietetics (ACEND), a division of the Academy of Nutrition and Dietetics.** Accredited programs must provide rigorous preparation in nutrition, biological and physical sciences, and social science, and students must complete a highly-competitive internship process before seeking employment.
- **Though employment projections for dietitians and nutritionists suggest growing demand in the coming years, opportunities for entry-level employment with only a bachelor's degree are likely declining.** The Commission on Dietetic Registration, the professional certification arm of the Academy of Nutrition and Dietetics, voted in 2012 to change the standard entry-level qualification for RDN's from a bachelor's degree to a master's degree beginning in 2024.

## SECTION I: INDICATORS OF STUDENT DEMAND

This section draws on degree completions data furnished by the National Center for Education Statistics (NCES) to approximate student demand for various health science programs in recent years.

### METHODOLOGY

This analysis uses degree completions data from the Integrated Postsecondary Education Data System (IPEDS) to estimate potential student demand for bachelor's-level programming several different health-related fields of interest to UNC-Charlotte. IPEDS is a series of interrelated surveys administered by NCES that gathers a range of enrollment, degree conferral, and student persistence data from all institutions participating in federal student aid programs.<sup>1</sup> Results of these surveys are available through the IPEDS Data Center and can be used to describe and analyze trends in the U.S. postsecondary education system. Unless otherwise noted, all program completions data cited in this section are drawn from IPEDS.<sup>2</sup>

As a means of classifying and differentiating between different academic and vocational programs, NCES has devised a taxonomic system of numeric codes known as the Classification of Instructional Programs (CIP). The CIP is organized on three levels, with the most general grouping of programs represented by a two-digit code (e.g. 51 – Health Professions and Related Programs), an intermediate grouping represented by four-digit codes (e.g. 51.00 – Health Services/Allied Health/Health Sciences, General) and specific instructional programs represented by six-digit codes (e.g. 51.0001 – Health and Wellness, General).<sup>3</sup> Institutions of higher education nationwide submit degree completion data, classified by CIP code, to NCES.

Examining program completions statistics over a fixed-term is a useful method for estimating student demand for a specific academic field, and may suggest whether a given region will support additional programming in that field. For instance, if degree conferrals have increased over time within a specified geographic area, it is reasonable to infer that student demand for such a degree is trending upward within the region. Conversely, if completions have decreased, then it is likely that demand is decreasing. Accordingly, this report examines degree completions from 2009 to 2013 for selected CIP fields at the national, regional, and state levels.

Hanover Research generally employs three metrics to contextualize trends within the IPEDS data. The first metric, **compound annual growth rate (CAGR)**, is a measure of growth that

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<sup>1</sup> "About IPEDS." National Center for Education Statistics. <http://nces.ed.gov/ipeds/about/>

<sup>2</sup> "IPEDS Data Center." National Center for Education Statistics. <http://nces.ed.gov/ipeds/datacenter/>

<sup>3</sup> [1] "What is the CIP and How is It Used?" National Center for Education Statistics. p. 2.

[http://nces.ed.gov/ipeds/cipcode/Files/Introduction\\_CIP2010.pdf](http://nces.ed.gov/ipeds/cipcode/Files/Introduction_CIP2010.pdf)

[2] "CIP 2010." National Center for Education Statistics. <http://nces.ed.gov/ipeds/cipcode/browse.aspx?y=55>

disregards annual volatility, providing a representation of program completions as if growth or decline had occurred at a constant rate throughout the period.<sup>4</sup> Second, **Annual Average Change (AAC)** describes the average number by which completions rise or fall from year to year and provides an indication of the magnitude of growth.<sup>5</sup> Finally, **Standard Deviation of Annual Changes (STDEVAC)** indicates the volatility inherent to the annual growth, with larger STDEVAC values indicating greater annual variability attributable to substantial yearly fluctuation, growth or decline in the field, or both.<sup>6</sup>

### SELECTION OF RELEVANT CIP CODES

Hanover Research selected a range of detailed CIP fields related to health science that are not currently offered by UNC-Charlotte. Care was taken to identify fields typically associated with bachelor’s-level programs. Figure 1.1 presents the four-digit fields examined for each academic area. Each of these broad fields comprises a range of detailed degree options, presented in Appendix A, for reference.

**Figure 1.1: Four-Digit Broad CIP Fields Examined by Academic Area**

ACADEMIC FIELD	4-DIGIT CIP FIELD	4-DIGIT CIP TITLE
Nutrition and Dietetics	51.31	Dietetics and Clinical Nutrition Services
Healthcare Management	51.07	Health and Medical Administrative Services
Health Science, General	51.00	Health Services/Allied Health/Health Sciences, General
Medical Laboratory Science	51.10	Clinical/Medical Laboratory Science/Research and Allied Professions
Pre-Professional Programs	51.11	Health/Medical Preparatory Programs

Source: National Center for Education Statistics<sup>7</sup>

### LIMITATIONS

NCES relies on postsecondary institutions to assign the appropriate six-digit CIP codes to academic and vocational programs. Consequently, two programs that are identical in all respects could hypothetically be classified under different CIP codes. Similarly, for any given institution, it cannot always be assumed that IPEDS completions data for an individual CIP classification always correspond directly to the appropriate program. For these and other reasons, **when evaluating completions trends, the most useful figures for comparison are the yearly totals for a specified range of CIPs, rather than the figures associated with a single code.**

Also, relevant programs developed recently by colleges and universities may not be reflected in completions data, as these programs may not have graduated a cohort as of

<sup>4</sup> CAGR is calculated using the following formula:

$$CAGR = (Year_{Last} / Year_{First})^{1 / (Number\ of\ Years - 1)} - 1$$

<sup>5</sup> AAC is calculated using the following formula:

$$AAC = ((Year_1 - Year_2) + (Year_2 - Year_3) + (Year_3 - Year_4) + (Year_4 - Year_5)) / 4$$

<sup>6</sup> STDEVAC is calculated using the following formula:

$$STDEVAC = StDev.P ((Year_1 - Year_2) + (Year_2 - Year_3) + (Year_3 - Year_4) + (Year_4 - Year_5))$$

<sup>7</sup> “CIP 2010.” National Center for Education Statistics. <http://nces.ed.gov/ipeds/cipcode/browse.aspx?y=55>

2013. Additionally, completions data reflect program availability in addition to student demand. As such, IPEDS completion should be interpreted with caution, as students who may wish to pursue a degree but for any reason are unable to, are not reflected in the completions data.

## BACHELOR’S DEGREE COMPLETIONS TRENDS

This section presents measures of volume and growth side by side to allow for easy comparison between academic areas. In the following figures, high-potential academic fields will have a significant volume of interest (shown by the average number of annual completions from 2009 to 2013) and a high growth trajectory (compound annual growth rate from 2009 to 2013). Fields that appear most likely to attract students will be located in the upper-right quadrant of these figures (representing high demand and high growth) while the lowest-potential fields will be in the lower-left quadrant.

### NATIONAL

Completions in each of the five fields examined for this report increased over the five-year term, including large growth rates in healthcare management (21.1 percent CAGR), general health science (16.9 percent), and pre-professional programs (12.4 percent) (Figure 1.2). In addition to having the highest growth rate over the period, healthcare management also saw nearly two times more completions than the next-closest field. **Due to the field’s high growth and volume of completions, student demand for healthcare management bachelor’s programs is likely greater than the other fields examined** (Figure 1.3). Healthcare management completions increased substantially in each year of the period (including increases of over 2,000 completions in 2012 and 2013), and HCM was the most popular field in each year.

General health science programs also saw significant growth in completions with the second-largest completions total among the studied fields each year. Notably, medical laboratory science was the only field to see decreasing completions in any year of the period, with just a small decrease in 2012 before rebounding in 2013. In general, these data suggest that student demand for all examined fields is growing at the national level. Promising areas, characterized by high growth and high volume, include health care management and general health science.

**Figure 1.2: National Bachelor’s Degree Completions in Health Sciences Fields, 2009-2013**

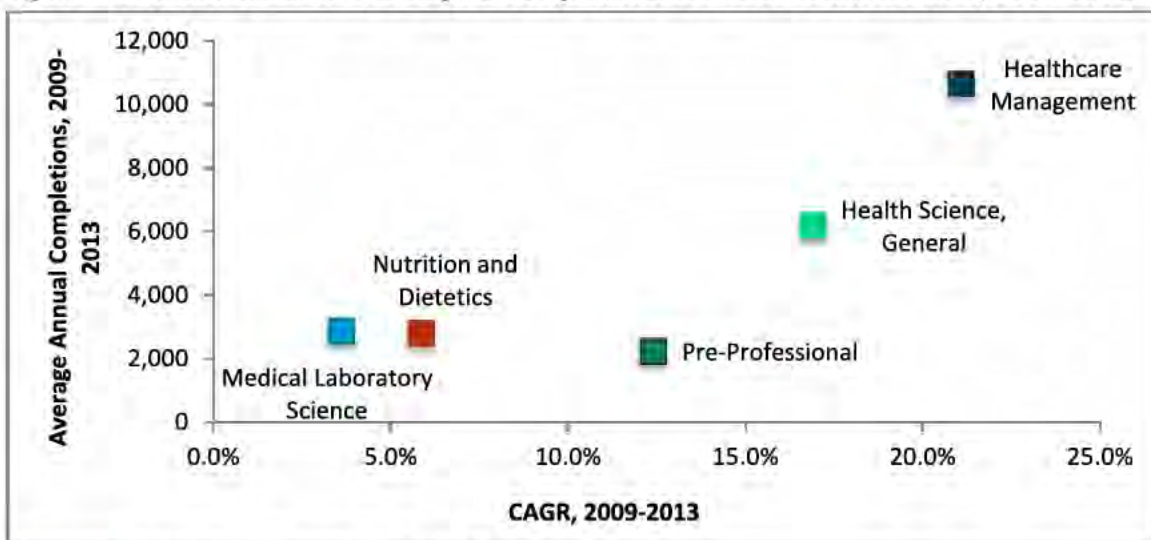
FIELD	2009	2010	2011	2012	2013	CAGR	AAC	STDEVAC
Nutrition/Dietetics	2,564	2,601	2,762	2,804	3,221	5.9%	164.3	154.1
Healthcare Management	7,102	8,166	9,916	12,726	15,285	21.1%	2,046.0	689.0
Health Science, General	4,463	5,275	6,284	6,564	8,339	16.9%	969.0	536.3
Medical Laboratory Science	2,696	2,825	2,758	2,991	3,110	3.6%	103.5	108.1
Pre-Professional	1,804	1,863	2,213	2,422	2,881	12.4%	269.0	150.0

Source: National Center for Education Statistics<sup>8</sup>

<sup>8</sup> “IPEDS Data Center,” Op. cit.



**Figure 1.3: National Bachelor’s Degree Completions in Health Sciences Fields, 2009-2013**



Source: National Center for Education Statistics<sup>9</sup>

### REGIONAL

Completions trends at the regional level<sup>10</sup> generally mirror national trends. Healthcare management again saw the greatest number of completions and the greatest growth rate over the period, increasing at a 13.9 percent CAGR from 1,916 completions in 2009 to 3,230 in 2013 (Figure 1.4). General health science was the only other field to see more than 1,000 completions in any year, and grew at a CAGR of seven percent over the term. Pre-professional programs grew at the second-highest rate (12.8 percent CAGR) behind healthcare management, but reached just 423 completions in 2013, over 1,000 fewer than general health science and nearly 3,000 fewer than healthcare management.

Within the Southeast region, healthcare management and general health science appear to hold the broadest appeal with students, with a large number of completions in each year and solid year-to-year growth (Figure 1.5). Depending on enrollment targets and available resources, each of the other three fields may also present a viable opportunity.

**Figure 1.4: Regional Bachelor’s Degree Completions in Health Sciences Fields, 2009-2013**

FIELD	2009	2010	2011	2012	2013	CAGR	AAC	STDEVAC
Nutrition/Dietetics	435	427	424	560	569	6.9%	33.5	59.5
Healthcare Management	1,916	2,172	2,433	2,701	3,230	13.9%	329.0	116.0
Health Science, General	1,107	1,248	1,217	1,279	1,451	7.0%	86.0	78.6
Medical Laboratory Science	593	608	615	663	639	1.9%	11.5	25.6
Pre-Professional	261	216	295	321	423	12.8%	41.0	57.0

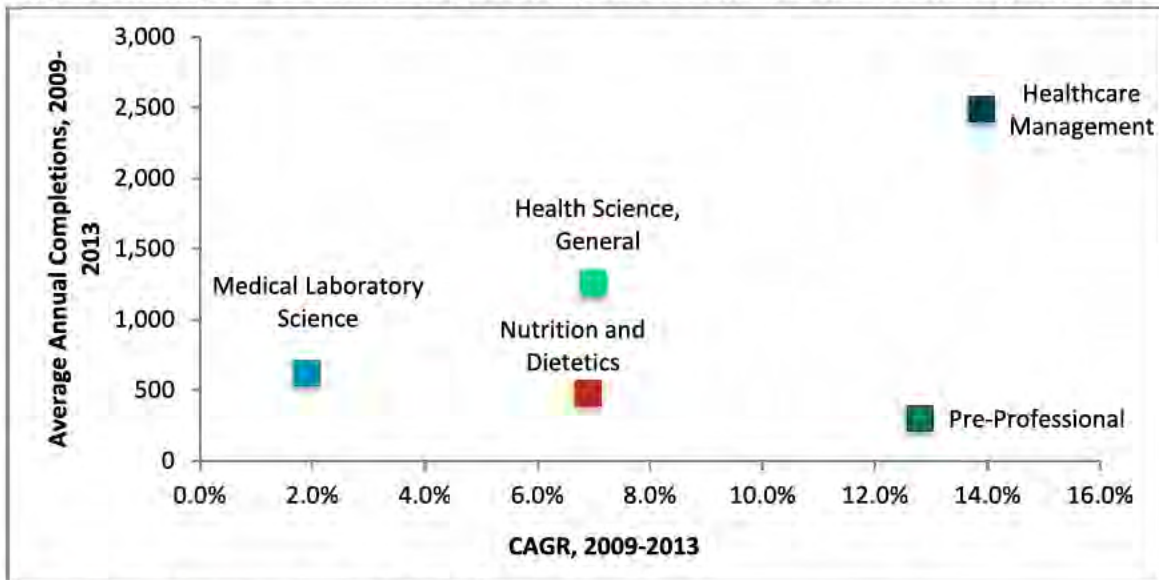
Source: National Center for Education Statistics<sup>11</sup>

<sup>9</sup> Ibid.

<sup>10</sup> The Southeast region comprises the states of Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia.

<sup>11</sup> “IPEDS Data Center,” Op. cit.

**Figure 1.5: Regional Bachelor’s Degree Completions in Health Sciences Fields, 2009-2013**



Source: National Center for Education Statistics<sup>12</sup>

### NORTH CAROLINA

Completions trends within the state demonstrate the broad popularity of healthcare management programs, especially in comparison with the other four examined fields; HCM recorded more than four times the number of completions than any other field in each year of the term (Figure 1.6). HCM completions grew at a compound annual rate of 8.5 percent over the period. General health science, which saw completions increase from just 10 in 2009 to 41 in 2009, grew at the fastest rate (33.3 percent CAGR), though growth calculations may be exaggerated by the low number of completions. Nutrition and dietetics and medical laboratory science programs each saw completions increase at a reasonable rate, though neither eclipsed 100 completions in any year. Pre-professional programs saw 80 completions in 2009, which declined to 40 in 2010 before staying relatively stable for the remainder of the term.

North Carolina completions data seem to confirm the broad popularity of healthcare management programs compared with other health science programs, though conclusions may be difficult to draw at the state level because of the low number of conferrals. The healthcare management field averaged 365 completions per year within the state and saw the second-highest growth rate while no other field saw more than 91 completions in any year (Figure 1.7).

**Figure 1.6: State Bachelor’s Degree Completions in Health Sciences Fields, 2009-2013**

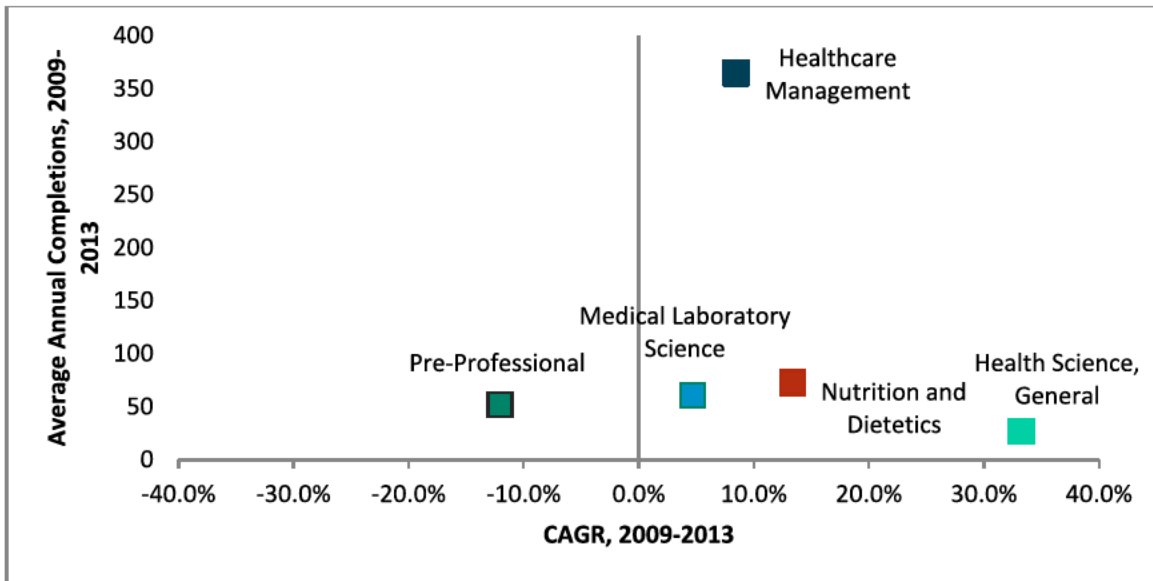
FIELD	2009	2010	2011	2012	2013	CAGR	AAC	STDEVAC
Nutrition/Dietetics	55	61	70	84	91	13.4%	9.0	3.1
Healthcare Management	283	375	362	411	392	8.5%	27.3	45.9

<sup>12</sup> Ibid.

FIELD	2009	2010	2011	2012	2013	CAGR	AAC	STDEVAC
Health Science, General	13	10	17	51	41	33.3%	7.0	16.7
Medical Laboratory Science	59	56	55	62	71	4.7%	3.0	5.1
Pre-Professional	80	40	48	43	48	-12.0%	-8.0	19.1

Source: National Center for Education Statistics<sup>13</sup>

**Figure 1.7: State Bachelor's Degree Completions in Health Sciences Fields, 2009-2013**



Source: National Center for Education Statistics<sup>14</sup>

<sup>13</sup> Ibid.

<sup>14</sup> Ibid.



## SECTION II: INDICATORS OF LABOR MARKET DEMAND

This section uses occupational projections from the United States Bureau of Labor Statistics (BLS) and the North Carolina Department of Commerce to evaluate present and anticipated future labor market demand for occupations related to the academic areas examined in the previous section. The section also includes a review of average education attainment for workers in each examined occupation.

### METHODOLOGY

The data presented in this section are drawn from long-term occupational forecasts furnished by the BLS and the North Carolina Department of Commerce. These agencies formulate workforce estimates and projections for the period from 2012 to 2022 (national) or 2010-2020 (North Carolina) for approximately 750 occupations categorized under the BLS’s Standard Occupational Classification (SOC) system. Structurally similar to NCES’ Classification of Instructional Programs (CIP), the SOC uses a taxonomic system of numeric codes to successively disaggregate disparate occupational fields and occupations, with the broadest occupational category – or “major group” – indicated by a two-digit code, and the most specific category – or “detailed occupation” – indicated by a six-digit code. The SOC classifies occupations based upon the general work performed in the fulfillment of professional responsibilities and, in some instances, on the requisite skills, education, and training required to perform the work.<sup>15</sup>

### SELECTION OF RELEVANT SOC CODES

In order to determine relevant occupations linked to the selected CIP codes, Hanover Research consulted the “CIP to SOC Crosswalk” developed collaboratively between NCES and BLS.<sup>16</sup> The CIP-SOC relationships identified using this matrix indicate that the “...programs classified in the CIP category prepare individuals directly for job classified in the [specified] SOC category.”<sup>17</sup> The projections highlighted in this section cover only occupations for which a bachelor’s degree is sufficient for an entry-level position.

**Figure 2.1: CIP-SOC Crosswalk Results**

ACADEMIC FIELD	SOC CODE	SOC TITLE
Nutrition and Dietetics	29-1031	Dietitians and Nutritionists
Healthcare Management	11-9111	Medical and Health Services Managers
Medical Laboratory Science	29-2012	Medical and Clinical Laboratory Technologists
Health Science, General	May correspond to multiple occupations and graduate programs	

<sup>15</sup> “2010 SOC User Guide: Classification Principles.” Bureau of Labor Statistics. January 2010, p. 1.  
[http://www.bls.gov/soc/soc\\_2010\\_class\\_prin\\_cod\\_guide.pdf](http://www.bls.gov/soc/soc_2010_class_prin_cod_guide.pdf)

<sup>16</sup> “Guidelines for Using the CIP-SOC Crosswalk.” National Center for Education Statistics. March 2011, p. 2.  
<http://nces.ed.gov/ipeds/cipcode/resources.aspx?y=55>

<sup>17</sup> Ibid.

ACADEMIC FIELD	SOC CODE	SOC TITLE
Pre-Professional Programs		All fields require graduate education

Source: National Center for Education Statistics<sup>18</sup>

## LIMITATIONS

These projections correspond to only three of the five fields in the student demand section: nutrition and dietetics, healthcare management, and medical laboratory science. These three fields have clearly defined career paths and linked occupations that are accessible to bachelor’s-level graduates. This section does not cover employment projections for graduates of pre-professional programs such as pre-medical or pre-physical therapy, as the majority of these students plan to attend graduate school. Furthermore, the CIP-SOC crosswalk does not identify any linked occupations for general health science programs, and a scan of programs in the field confirms that the majority of general health science students go on to attend graduate school.<sup>19</sup>

## EMPLOYMENT PROJECTIONS

In this section, Hanover Research presents measures of employment growth (x-axis), number of positions (bubble size), and average compensation (y-axis) in the same chart to easily visualize the components that make a given occupation attractive to students. The most promising fields will have high salaries, high projected growth, and a large number of projected available positions. Such fields will be located in the upper-right portion of the chart, with a large bubble size.

## NATIONAL

BLS estimates project that each of the three occupations will grow at a rate above the national average of 10.8 percent from 2012 to 2022. Of the three occupations, Medical and Health Services Managers are expected to see the greatest percentage growth over the term (23.2 percent increase over 10 years) as well as the largest number of positions in absolute terms and the highest average salaries (Figure 2.2). Dietitians and Nutritionists and Medical and Clinical Laboratory Technologists earn similar average salaries, though there are projected to be over twice the number of positions for M/C technologists than dietitians and nutritionists in 2022.

Though Medical and Health Services Management is likely an attractive occupation due to its high growth, number of positions, and average compensation, graduates of healthcare management programs likely face competition for healthcare management positions from graduates of other health-related programs and clinical health professionals transitioning to management roles. On the other hand, Nutritionists and Dietitians and Medical and Clinical Laboratory Technologists are specialized occupations with a firmer link between field of study and professional practice. Dietitians, for instance, must graduate from accredited

<sup>18</sup> “CIP 2010.” National Center for Education Statistics. <http://nces.ed.gov/ipeds/cipcode/resources.aspx?y=55>

<sup>19</sup> For further information on general health science programs, see Section III,.

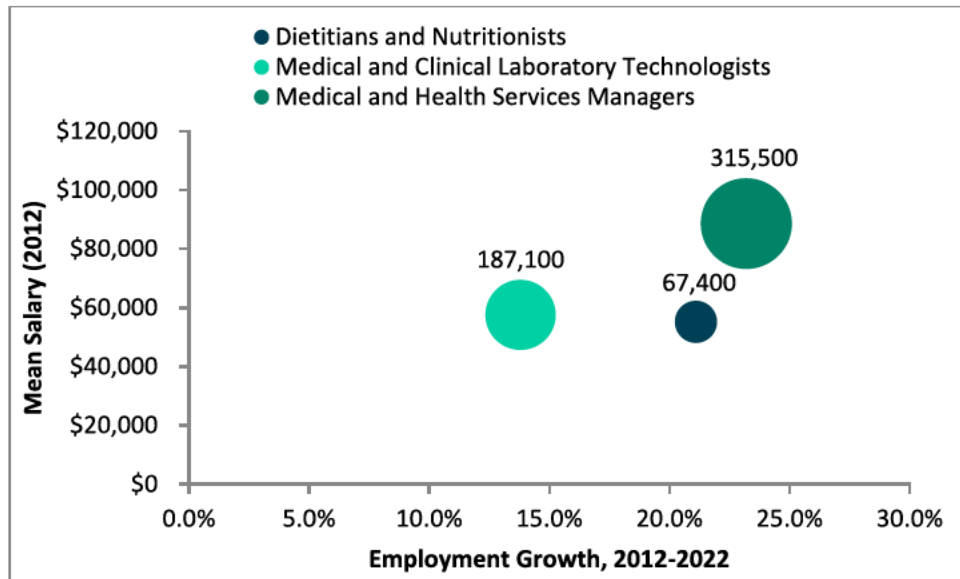
dietetics programs in order to practice, while no such requirement exists for health services managers.

**Figure 2.2: National Employment Projections for Health Science Occupations, 2012-2022**

SOC CODE	SOC TITLE	EMPLOYMENT		CHANGE		AVERAGE ANNUAL OPENINGS	MEAN ANNUAL WAGE
		2012	2022	No.	PERCENT		
11-9111	Medical and Health Services Managers	315,500	388,800	73,300	23.2%	149,900	\$88,580
29-1031	Dietitians and Nutritionists	67,400	81,600	14,200	21.1%	22,300	\$55,240
29-2012	Medical and Clinical Laboratory Technologists	164,300	187,100	22,700	13.8%	65,800	\$57,580

Source: U.S. Bureau of Labor Statistics<sup>20</sup>

**Figure 2.3: National Employment Projections for Health Science Occupations, 2012-2022**



Source: U.S. Bureau of Labor Statistics<sup>21</sup>

Note: Bubble size corresponds to the number of positions in each occupation in 2012.

## NORTH CAROLINA

Employment estimates for North Carolina for the 10-year period from 2010 to 2020 note lower growth projections than at the national level for all three occupations. At 12.5 percent and 14.5 percent respectively, ten-year employment growth for Medical and Health Services Managers and Dietitians and Nutritionists is projected to fall slightly above the state average of 11.8 percent for all occupations (Figure 2.4). Medical and Clinical Laboratory Technologists are expected to see slightly below-average growth of 7.5 percent. Similar to the national level, there are and are projected to be more positions for Medical and Health Services Managers than any other examined occupation, suggesting strong employment prospects for graduates of healthcare management programs.

<sup>20</sup> "Employment Projections." U.S. Bureau of Labor Statistics. <http://data.bls.gov/projections/occupationProj>

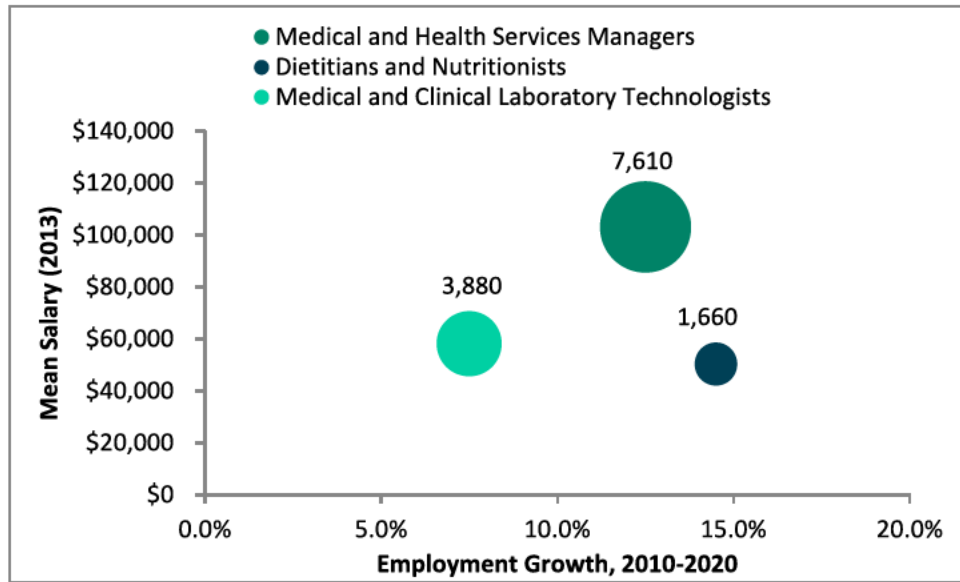
<sup>21</sup> Ibid.

**Figure 2.4: NC Employment Projections for Health Science Occupations, 2010-2020**

SOC CODE	SOC TITLE	EMPLOYMENT		CHANGE		AVERAGE ANNUAL OPENINGS	MEAN ANNUAL WAGE
		2010	2020	No.	PERCENT		
11-9111	Medical and Health Services Managers	7,610	8,560	950	12.5%	290	\$103,140
29-1031	Dietitians and Nutritionists	1,660	1,900	240	14.5%	80	\$50,360
29-2012	Medical and Clinical Laboratory Technologists	3,880	4,170	290	7.5%	110	\$58,250

Source: North Carolina Department of Commerce; U.S. Bureau of Labor Statistics<sup>22</sup>

**Figure 2.5: NC Employment Projections for Health Science Occupations, 2010-2020**



Source: North Carolina Department of Commerce; U.S. Bureau of Labor Statistics<sup>23</sup>

## EDUCATIONAL REQUIREMENTS

This section reviews the level of education typically associated with employment as Medical and Health Services Managers, Dietitians and Nutritionists, and Medical and Clinical Laboratory Technologists. **Though the BLS notes that a bachelor’s degree is the typical entry-level education for each of these occupations, the actual education attainment of workers in the fields varies.** Data in this section are drawn from the 2010 and 2011 iterations of the U.S. Census Bureau’s American Community Survey (ACS) and accessed through the BLS. These education attainment statistics represent the make-up of various occupations in recent years and serve as a general guide for the education required to work

<sup>22</sup> [1] “Occupational Projections.” North Carolina Department of Commerce.

<http://www.nccommerce.com/lead/data-tools/projections/occupational-projections>

[2] “May 2013 State Occupational Employment and Wage Estimates.” U.S. Bureau of Labor Statistics.

[http://www.bls.gov/oes/current/oes\\_nc.htm](http://www.bls.gov/oes/current/oes_nc.htm)

<sup>23</sup> [1] “Occupational Projections,” Op. cit.

[2] “May 2013 State Occupational Employment and Wage Estimates.” U.S. Bureau of Labor Statistics.

[http://www.bls.gov/oes/current/oes\\_nc.htm](http://www.bls.gov/oes/current/oes_nc.htm)

in these occupations. However, the desired level of education for recent graduates may differ slightly, as trends suggest increasing education requirements across many occupations.<sup>24</sup>

Education among workers in healthcare management is split relatively evenly between workers with less than a bachelor's degree, a bachelor's degree, and a graduate degree.<sup>25</sup> ACS data suggest that nearly a third of workers in the occupation hold a bachelor's degree as their highest qualification. At the same time, 40 percent have not earned a bachelor's degree and 30 percent hold master's, doctorate, or professional degrees beyond a bachelor's.

Dietitians and Nutritionists have a similar educational breakdown, with workers' highest education attainment split between less than a bachelor's degree (25 percent), a bachelor's degree (40 percent), and a graduate degree (35 percent). However, the relatively high prevalence of workers with less than a bachelor's degree likely misrepresents the current requirements for dietitians and reflects older workers with less education and workers in non-licensed professions. **Currently, all registered dietitians must hold a bachelor's degree, and the occupation's accrediting body, the Commission on Dietetic Registration, voted in 2012 to shift the entry-level requirement from a bachelor's to a master's degree beginning in 2024.**<sup>26</sup> While opportunities may currently exist for terminal bachelor's degree-holders to work as dietitians and nutritionists, it is likely that they will decline in the coming years as the field moves to stricter education requirements.

The prevalence of workers with graduate degrees is substantially lower for Medical and Clinical Laboratory Technologists than for the other two examined occupations, and nearly half of all workers in the field have not earned a bachelor's degree. Forty percent of workers hold a bachelor's degree as their highest qualification, the most common individual degree category.

Figure 2.6 displays a summary of education attainment by workers in each profession.

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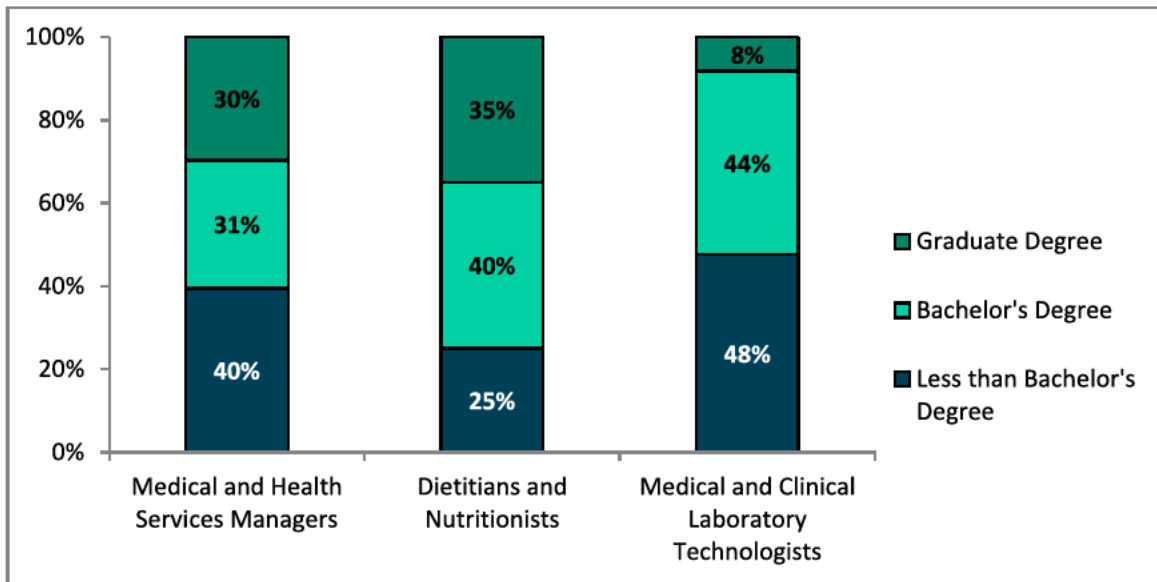
<sup>24</sup> Lederman, D. "Credential Creep Confirmed." Inside Higher Ed., September 9, 2014.

<https://www.insidehighered.com/news/2014/09/09/demand-degrees-grows-many-fields-havent-required-them>

<sup>25</sup> "Employment Projections," Op. cit.

<sup>26</sup> "Graduate Degree Registration Eligibility Requirement." Commission on Dietetic Registration.  
<http://www.cdrnet.org/vault/2459/web/files/Graduate%20Degree%20FAQ.pdf>

Figure 2.6: Education Attainment by Occupation, 2010-2011



Source: American Community Survey<sup>27</sup>

<sup>27</sup> "Employment Projections," Op. cit.



## SECTION III: HEALTH CARE MANAGEMENT PROGRAMS

In order to assess distinct characteristics of programs related to healthcare management, Hanover Research examined programs at 10 institutions that serve as a representative sample of bachelor’s degree programs in the field. All institutions are located in the Southeast Region.

Depending on the institution, healthcare management programs may be located within different academic divisions and are most commonly affiliated with health sciences and business schools, though Auburn University houses its Health Services Administration program in its Department of Political Science. Though not required by law, many programs are accredited through the Association of University Programs in Health Administration (AUPHA).<sup>28</sup> Six institutions in North Carolina currently offer healthcare management programs affiliated with AUPHA.

**Figure 3.1: Healthcare Management Programs Scan**

INSTITUTION	PROGRAM	COLLEGE/DEPARTMENT	AUPHA MEMBER
<u>Appalachian State University</u>	B.S. Healthcare Management	College of Health Sciences	Yes
<u>Auburn University</u>	B.S. Health Services Administration	College of Liberal Arts/Department of Political Science	Yes
<u>East Carolina University</u>	B.S. Health Services Management	College of Allied Health Sciences	Yes
<u>Florida A&amp;M University</u>	B.S. Health Care Management	School of Allied Health Sciences	Yes
<u>Florida Atlantic University</u>	B.S. Health Administration	College of Business	Yes
<u>Gardner Webb University</u>	B.S. Healthcare Management	School of Management	No
<u>James Madison University</u>	B.S. Health Services Administration	Department of Health Sciences	Yes
<u>University of North Carolina – Chapel Hill</u>	B.S. Public Health	School of Global Public Health	Yes
<u>Western Kentucky University</u>	B.S. Health Care Administration	Department of Public Health	Yes
<u>Winston-Salem State University</u>	B.S. Healthcare Management	School of Health Sciences	Yes

Source: Institution Websites

<sup>28</sup> “Find a Program.” Association of University Programs in Health Administration. <http://www.aupha.org/findaprogram>

## GOALS

Healthcare management programs are typically designed to prepare students to move immediately into employment in the field, rather than into corresponding graduate programs. To that end, AUPHA notes that the intent of undergraduate programs in healthcare administration is to “provide the initial education for professional careers in health services management.”<sup>29</sup> Graduates have “a business foundation in accounting, finance, management, economics, and personnel management as well as a specialized foundation in health care administration and related health areas” which prepares students to move directly into employment in healthcare facilities, organizations, and agencies.<sup>30</sup> Appalachian State University’s B.S. in Healthcare Management program advertises that its graduates commonly go on to careers in fields including:

- Human resources management
- Information systems analyst
- Marketing; public and/or customer relations
- Financial operations; billing and reimbursement analyst
- Business planning and development
- Supervisory positions in patient care areas<sup>31</sup>

## CURRICULUM

AUPHA notes that curricula in undergraduate healthcare management programs can vary widely, “from a couple of electives in the subject added to a business degree on one end of the spectrum to a full Bachelor of Health Administration with required field experience on the other.”<sup>32</sup> Though not all programs will have specific courses dedicated to each subject, AUPHA requires that all certified programs have “adequate coverage” of the following areas:

- The US Healthcare System
- Population/community health
- Cultural competence/diversity
- Organizational development/organizational behavior theory
- Management of healthcare organizations
- Operations assessment and improvement
- Management of human resources and health professionals

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<sup>29</sup> “Undergraduate Certification.” Association of University Programs in Health Administration. <http://store.aupha.org/i4a/pages/index.cfm?pageID=3519>

<sup>30</sup> “Bachelor of Science in Health Care Administration (HCA).” Western Kentucky University. [https://www.wku.edu/publichealth/bs\\_in\\_hca.php](https://www.wku.edu/publichealth/bs_in_hca.php)

<sup>31</sup> “Bachelor’s in Healthcare Management.” Appalachian State University. <http://nhm.appstate.edu/hcm-info>

<sup>32</sup> “Undergraduate Certification,” Op. cit.



- Information systems management and assessment
- Healthcare law
- Governance
- Health policy
- Leadership
- Statistical analysis and application to decision making
- Healthcare economics
- Healthcare marketing
- Financial analysis and management
- Ethics in business and healthcare decision-making
- Strategy formulation and implementation
- Quality assessment for patient care improvement
- Managerial epidemiology
- Research methodology
- Professional experience through a 120-hour internship<sup>33</sup>

Hanover Research analyzed the curricula of 10 undergraduate programs, organized into the broad categories of financial management, health information systems, health policy/law, ethics in healthcare, the healthcare system, marketing, human resources, healthcare management, and an internship in a healthcare setting (Figure 3.2). All examined programs required specific courses in general and financial management of healthcare systems, while a significant proportion offered courses in health information systems and health policy and law. All but two programs required an internship. These courses form the core of most healthcare management programs, alongside additional electives such as Auburn University's "Health Care Insurance and Reimbursement" and James Madison University's "Long Term Care Organization and Administration."<sup>34</sup>

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<sup>33</sup> Bullets quoted nearly verbatim from "Criteria for Undergraduate Program Certification." Association of University Programs in Health Administration. pp. 3–4. [https://higherlogicdownload.s3.amazonaws.com/AUPHA/8dc0336b-c20c-477d-82d6-072e6a6cf304/UploadedImages/Membership/Certification/Criteria\\_for\\_Undergraduate\\_Program\\_Certification\\_FINAL.pdf](https://higherlogicdownload.s3.amazonaws.com/AUPHA/8dc0336b-c20c-477d-82d6-072e6a6cf304/UploadedImages/Membership/Certification/Criteria_for_Undergraduate_Program_Certification_FINAL.pdf)

<sup>34</sup> [1] "HADM Curriculum." Auburn University. <http://www.cla.auburn.edu/polisci/undergraduate-programs/health-administration/current-students/hadm-curriculum2/>  
[2] "Curriculum Overview." James Madison University. <http://www.healthsci.jmu.edu/HSA/curriculum.html>

**Figure 3.2: Common Healthcare Management Courses at Peer Institutions**

INSTITUTION	MANAGEMENT IN HEALTHCARE	FINANCIAL MANAGEMENT	HEALTH INFORMATION SYSTEMS	HEALTH POLICY/LAW	HEALTHCARE ETHICS	HEALTHCARE SYSTEMS	MARKETING	HUMAN RESOURCES	REQUIRED INTERNSHIP
Appalachian State University	X	X	X	X	X	X	X	X	X
Auburn University	X	X	X	X			X	X	X
East Carolina University	X	X	X		X	X		X	
Florida Atlantic University	X	X	X	X		X			X
Florida A&M University	X	X	X	X			X	X	X
Gardner Webb University	X	X			X		X		X
James Madison University	X	X			X	X	X		X
University of North Carolina – Chapel Hill	X	X	X	X		X	X		
Western Kentucky University	X	X	X	X	X	X		X	X
Winston-Salem State University	X	X	X	X	X	X	X	X	X

Source: Institution Websites

## FACULTY

Though often located in health science departments, healthcare management programs draw faculty from a number of disciplines, notably business and public health. Faculty in examined programs have qualifications in law, public health, public administration, business administration, and political science. UNC-Charlotte may be able to leverage faculty resources from its current programs in public health, management, finance, and accounting to support a potential program in healthcare management.

## PROFILES

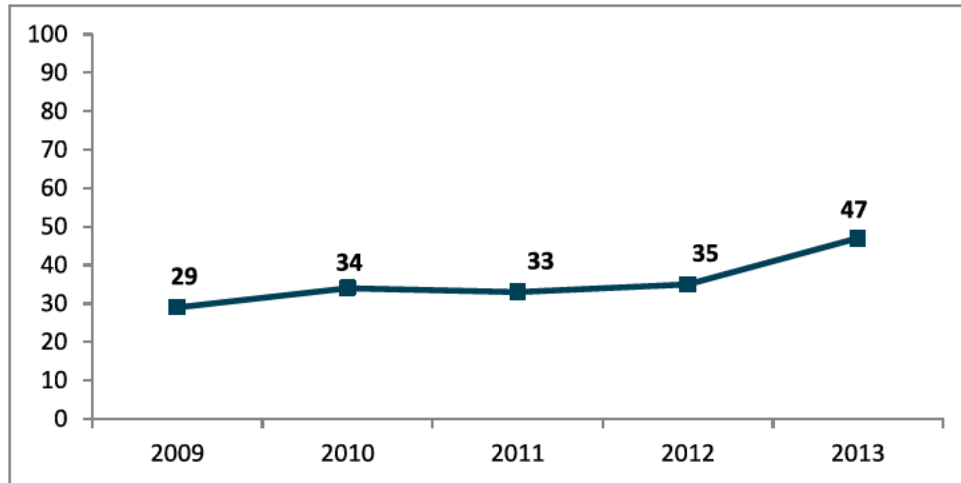
This section presents detailed profiles of healthcare management programs at Appalachian State University, East Carolina University, and James Madison University.

### APPALACHIAN STATE UNIVERSITY

Within its Department of Nutrition and Healthcare Management, Appalachian State University (ASU) offers a Bachelor of Science program in Healthcare Management that prepares students for “challenging staff and management positions in a variety of health care organizations” including hospitals, private medical practices, health insurance

companies, and government agencies.<sup>35</sup> Established in 1971 and housed in the Walker College of Business, since 2010 the program has been administered by the College of Health Sciences.<sup>36</sup> From 2009 to 2013, ASU saw completions in the program grow from 29 to 47 (Figure 3.3).

**Figure 3.3: Completions in 51.0701 Health/Health Care Administration/Management, ASU**



Source: National Center for Education Statistics<sup>37</sup>

### CURRICULUM

Though the healthcare management program is located in the College of Health Sciences, its requirements reveal a focus on business fundamentals rather than science. In addition to coursework in healthcare management (HCM), students must take two semesters of accounting and one semester of microeconomics, healthcare economics, business writing or communication, marketing, and calculus.<sup>38</sup> The only standalone health or science requirement is a course in “Medical Terminology/Records.” The rest of the 50-semester-hour core HCM curriculum focuses on the application of business skills in a healthcare setting, with courses in financial management, human resources, organizational behavior, information services, and health policy (Figure 3.4: Healthcare Management Curriculum, Appalachian State University

The program also offers opportunities for professional development through two non-graded professional development seminars that lead to the completion of a six-credit internship.

<sup>35</sup> “Bachelor’s in Healthcare Management,” Op. cit.

<sup>36</sup> Ibid.

<sup>37</sup> “IPEDS Data Center,” Op. cit.

<sup>38</sup> “Bachelor’s in HCM - Program of Study.” Appalachian State University. [http://nhm.appstate.edu/t\\_hcm-checksheets](http://nhm.appstate.edu/t_hcm-checksheets)

**Figure 3.4: Healthcare Management Curriculum, Appalachian State University**



Because of the comprehensiveness of ASU’s course offerings in healthcare management, descriptions of each of the above courses are including in Appendix B.

**FACULTY**

Although ASU lists 20 faculty members in the Department of Nutrition and Healthcare Management, only five teach in the HCM field. These five faculty members hold a variety of educational credentials, from doctoral degrees in community health and information systems to master’s degrees in health administration (Figure 3.5). In addition to academic experience, three of the five members have explicitly listed healthcare experience in the private sector, serving as analysts and executives for hospitals and other health systems.

**Figure 3.5: Healthcare Management Faculty, Appalachian State University**

NAME	EDUCATION	COURSES TAUGHT
Sandi Lane	<ul style="list-style-type: none"> <li>▪ Ph.D. Health Services Research</li> <li>▪ M.S. Healthcare Administration</li> </ul>	<ul style="list-style-type: none"> <li>▪ Principles of Leadership for Health Services Organization</li> <li>▪ Health Services Organizational Behavior and Design</li> <li>▪ Quality Management and Process Improvement</li> </ul>
Elizabeth McGrady	<ul style="list-style-type: none"> <li>▪ Ph.D. Community Health</li> <li>▪ M.H.A. Healthcare Administration</li> <li>▪ M.Ed. Education</li> </ul>	<ul style="list-style-type: none"> <li>▪ Introduction to Health System Organization</li> <li>▪ Health Services Research Methods</li> <li>▪ Health Services Financial Management</li> <li>▪ Ethics in Healthcare</li> </ul>

NAME	EDUCATION	COURSES TAUGHT
Susan Roggenkamp	<ul style="list-style-type: none"> <li>■ Ph.D. Health Services Organization</li> <li>■ M.H.A. Healthcare Administration</li> </ul>	<ul style="list-style-type: none"> <li>■ Professional Development I</li> <li>■ Professional Development II</li> </ul>
Trent Spaulding	<ul style="list-style-type: none"> <li>■ Ph.D. Computer Information Systems</li> <li>■ M.S. Information Systems</li> </ul>	<ul style="list-style-type: none"> <li>■ Health Services Research Methods</li> <li>■ Health Information Systems</li> <li>■ Health Informatics</li> <li>■ Health Analytics</li> </ul>
David Williams	<ul style="list-style-type: none"> <li>■ Ph.D. Administration – Health Services</li> <li>■ M.H.A. Healthcare Administration</li> <li>■ M.B.A. Business Administration</li> </ul>	<ul style="list-style-type: none"> <li>■ Managing U.S Healthcare Organizations</li> <li>■ Senior Seminar in Healthcare Management</li> <li>■ Introduction to the U.S. Health System</li> <li>■ Strategic Management</li> <li>■ Issues in Healthcare Administration/Managed Care</li> <li>■ Management Processes and Behaviors</li> </ul>

Source: Appalachian State University<sup>39</sup>

### EAST CAROLINA UNIVERSITY

Within its College of Allied Health Sciences, East Carolina University (ECU) offers six graduate certificates, a master’s degree, and a bachelor’s degree in its Department of Health Services and Information Management.<sup>40</sup> ECU’s B.S. in Health Services Management is designed for professional health care practitioners and traditional undergraduate students alike to acquire the skills needed for “mid-level management positions or for entrance into master’s programs in allied health.”<sup>41</sup> The program saw completions reach a five-year high of 87 in 2010 before retreating to 61 in 2013 (Figure 3.6). ECU reported more completions in healthcare management fields from 2009 to 2013 than any other North Carolina institution, with the exception of Mount Olive College.<sup>42</sup> Until 2013, ECU also operated a bachelor’s degree program in Health Information Management, but the program was shuttered due to changing certification requirements of the Council on Certification of the American Health Information Management Association.<sup>43</sup>

<sup>39</sup> “Alphabetical Directory.” Appalachian State University. <http://nhm.appstate.edu/alphabetical-directory>

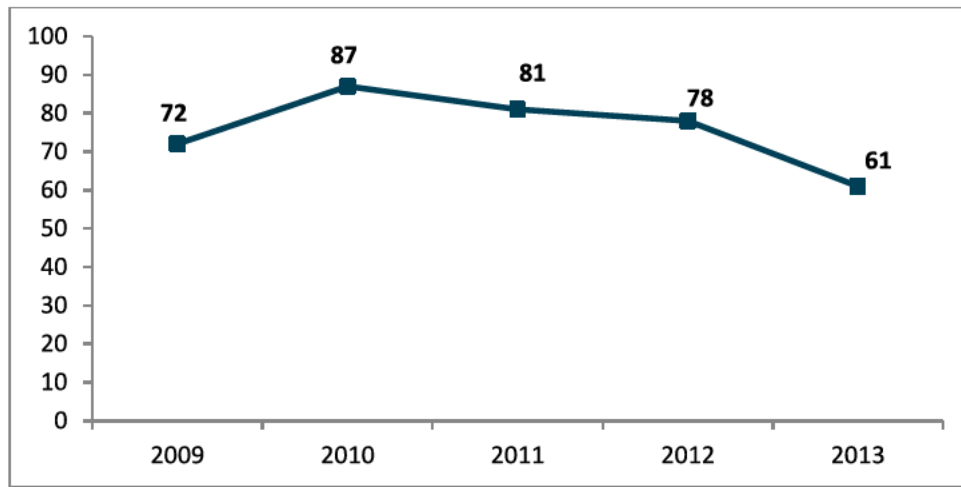
<sup>40</sup> “Degrees and Certificates.” East Carolina University. <http://www.ecu.edu/cs-dhs/hsim/degrees.cfm>

<sup>41</sup> “BS, Health Services Management.” East Carolina University. <http://www.ecu.edu/cs-dhs/hsim/hsm.cfm>

<sup>42</sup> “IPEDS Data Center,” Op. cit.

<sup>43</sup> “BS in Health Information Management.” East Carolina University. <http://www.ecu.edu/cs-acad/ugcat/HIMA.cfm>

**Figure 3.6: Completions in 51.0701 Health/Health Care Administration/Management, East Carolina University 2009-2013**



Source: National Center for Education Statistics<sup>44</sup>

### CURRICULUM

Through its dual mission to serve both adult and traditional students, the program segments its curriculum into two concentrations: allied health management (targeted at current healthcare practitioners with an associate’s degree) and health services management (for traditional students).<sup>45</sup> Though the upper-level and core courses remain the same in both tracks, the allied health management track allows for working professionals to take courses via distance delivery, complete general education requirements, and to earn up to 30 credits for their professional experience.<sup>46</sup>

Core courses for the major include financial management, information and data management, healthcare delivery systems, and healthcare leadership (Figure 3.7). This 52-55 semester hour core is supplemented by the university’s foundational requirements, which include college algebra and human physiology and anatomy.<sup>47</sup>

<sup>44</sup> “IPEDS Data Center,” Op. cit.

<sup>45</sup> “Course of Study.” East Carolina University. <http://www.ecu.edu/cs-dhs/hsm/hsm-course.cfm>

<sup>46</sup> “Health Services Management, BS.” East Carolina University.

[http://catalog.ecu.edu/preview\\_program.php?catoid=7&pooid=1450&hl=%22health+services%22&returnto=search](http://catalog.ecu.edu/preview_program.php?catoid=7&pooid=1450&hl=%22health+services%22&returnto=search)

<sup>47</sup> Ibid.



**Figure 3.7: B.S. Health Services Administration Requirements, East Carolina University**

**Core Requirements:**

- HIMA 3120 - Health Care Delivery Systems
- HIMA 4030 - Quality Management in Health Care
- HIMA 4075 - Applied Health Services Research
- HSMA 2000 - Professional Roles and Environments in Health Care
- HSMA 3020 - Health Care Payment Systems
- HSMA 3025 - Professional Ethical Codes and Law in Health Care
- HSMA 3030 - Written Communication and Documentation in Health Care
- HSMA 3035 - Interpersonal Team Skills for Health Care Supervisors and Practitioners
- HSMA 3040 - Managing the Health of Populations
- HSMA 3045 - Health Data Management
- HSMA 3050 - Leadership in Health Care
- HSMA 4010 - Health Information Management
- HSMA 4050 - Personnel Management and Supervision in Health Care
- HSMA 4055 - Health Care Finance and Accounting
- HSMA 4060 - Medical Practice Management
- HSMA 4065 - Management of Health Care Operations and Patient Flow
- HSMA 4903 - Allied Health Management Experience

**FACULTY**

Similar to ASU’s Healthcare Management faculty, faculty in ECU’s Department of Health Services and Information Management come from varied academic backgrounds, with a large emphasis on information systems (Figure 3.8). Faculty in the department have doctorate degrees in sociology, policy analysis, urban affairs, and other fields in addition to professional degrees such as Master of Health Administration and Master of Business Administration. Numerous faculty have also held professional positions as healthcare executives and are fellows in the American College of Health Care Executives.

**Figure 3.8: Health Services and Information Management Faculty, East Carolina University**

NAME	EDUCATION	SAMPLE OF COURSES TAUGHT
Xiaoming Zeng	<ul style="list-style-type: none"> <li>▪ Ph.D. Health Information Management</li> <li>▪ M.D. Medicine</li> </ul>	<ul style="list-style-type: none"> <li>▪ E-Health Care Information Systems</li> <li>▪ Health Informatics</li> <li>▪ Concepts in Health Information Technology</li> <li>▪ Health Information Management</li> </ul>
Paul Bell	<ul style="list-style-type: none"> <li>▪ Ph.D. Educational Research and Policy Analysis</li> <li>▪ Health Information Management Certificate</li> </ul>	<ul style="list-style-type: none"> <li>▪ Unclear</li> </ul>

NAME	EDUCATION	SAMPLE OF COURSES TAUGHT
Emily Cellucci	<ul style="list-style-type: none"> <li>▪ Ph.D. Sociology</li> <li>▪ M.B.A Business Administration</li> <li>▪ M.A. Sociology</li> </ul>	<ul style="list-style-type: none"> <li>▪ Social and Organizational Issues</li> <li>▪ Health Care Systems and Problems</li> <li>▪ Health Care Delivery Systems</li> <li>▪ Health Information Systems</li> <li>▪ Leadership in Health Care</li> </ul>
Elizabeth Forrestal	<ul style="list-style-type: none"> <li>▪ Ph.D. Higher Education</li> <li>▪ Certificate in Health Information Administration</li> <li>▪ M.A. Organizational Leadership</li> </ul>	<ul style="list-style-type: none"> <li>▪ Evaluation Methods in Health Informatics</li> <li>▪ Managed Care in Health Systems</li> <li>▪ Health Care Reimbursement</li> <li>▪ Health Data Structures</li> </ul>
Susie Harris	<ul style="list-style-type: none"> <li>▪ Ph.D. Rehabilitation Studies</li> <li>▪ M.B.A. with Healthcare Administration focus</li> </ul>	<ul style="list-style-type: none"> <li>▪ Medical Terminology</li> <li>▪ Managed Care in Health Systems</li> <li>▪ Personnel Management and Supervision in Health Care</li> </ul>
Michael Kennedy	<ul style="list-style-type: none"> <li>▪ Ph.D. Decision Sciences and Engineering Systems</li> <li>▪ M.S. Operations Research and Statistics</li> <li>▪ M.H.A. Health Administration</li> <li>▪ M.A. Public Administration</li> </ul>	<ul style="list-style-type: none"> <li>▪ Healthcare Finance and Accounting</li> <li>▪ Healthcare Payment Systems</li> <li>▪ Outcomes Assessment and Management in Health Care</li> </ul>
Robert Kulesher	<ul style="list-style-type: none"> <li>▪ Ph.D. Urban Affairs and Public Policy</li> <li>▪ M.H.A. Health Administration</li> </ul>	<ul style="list-style-type: none"> <li>▪ Healthcare Finance and Accounting</li> <li>▪ Healthcare Strategic Planning and Management</li> <li>▪ Health Care Reimbursement: Policy and Research</li> </ul>

Source: East Carolina University<sup>48</sup>

### JAMES MADISON UNIVERSITY

James Madison University’s (JMU) B.S. in Health Services Administration program is housed in the Department of Health Sciences and prepares students for “entry-level administrative positions” in healthcare in addition to graduate education in healthcare and business.<sup>49</sup> The program notes that healthcare administration requires the application of “business skills such as finance, marketing, accounting, and management” as well as a strong understanding of “the uniqueness of health services and reimbursement programs.”<sup>50</sup> Correspondingly, the program focuses primarily on business skills, often specialized for healthcare, with a small number of courses in related health fields.

From 2009 to 2013, completions in the health services administration program increased gradually from 27 to 40, with a high of 43 in 2012 (Figure 3.9).

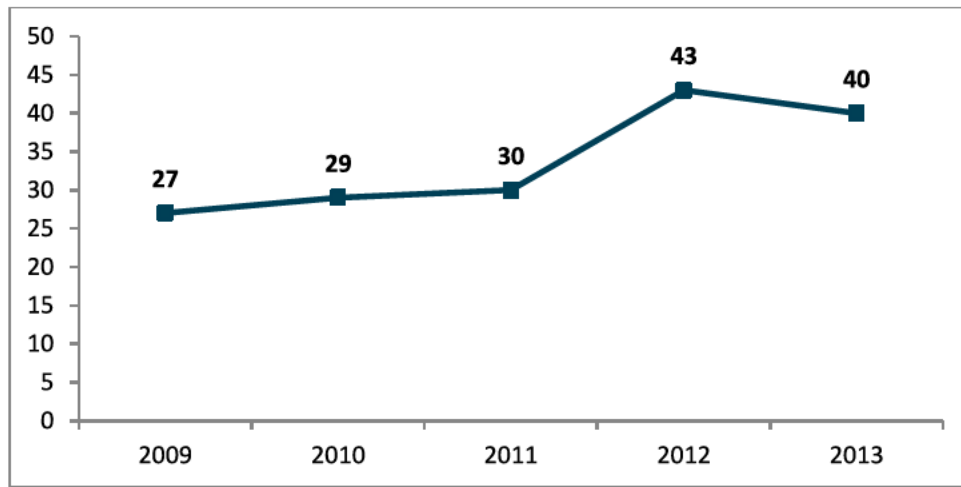
<sup>48</sup> “Faculty and Staff.” East Carolina University. <http://www.ecu.edu/cs-dhs/hsim/facultystaff.cfm>

<sup>49</sup> “Mission.” James Madison University. <http://www.healthsci.jmu.edu/HSA/mission.html>

<sup>50</sup> Ibid.



**Figure 3.9: Completions in 51.0701 Health/Health Care Administration/Management, James Madison University 2009-2013**



Source: National Center for Education Statistics<sup>51</sup>

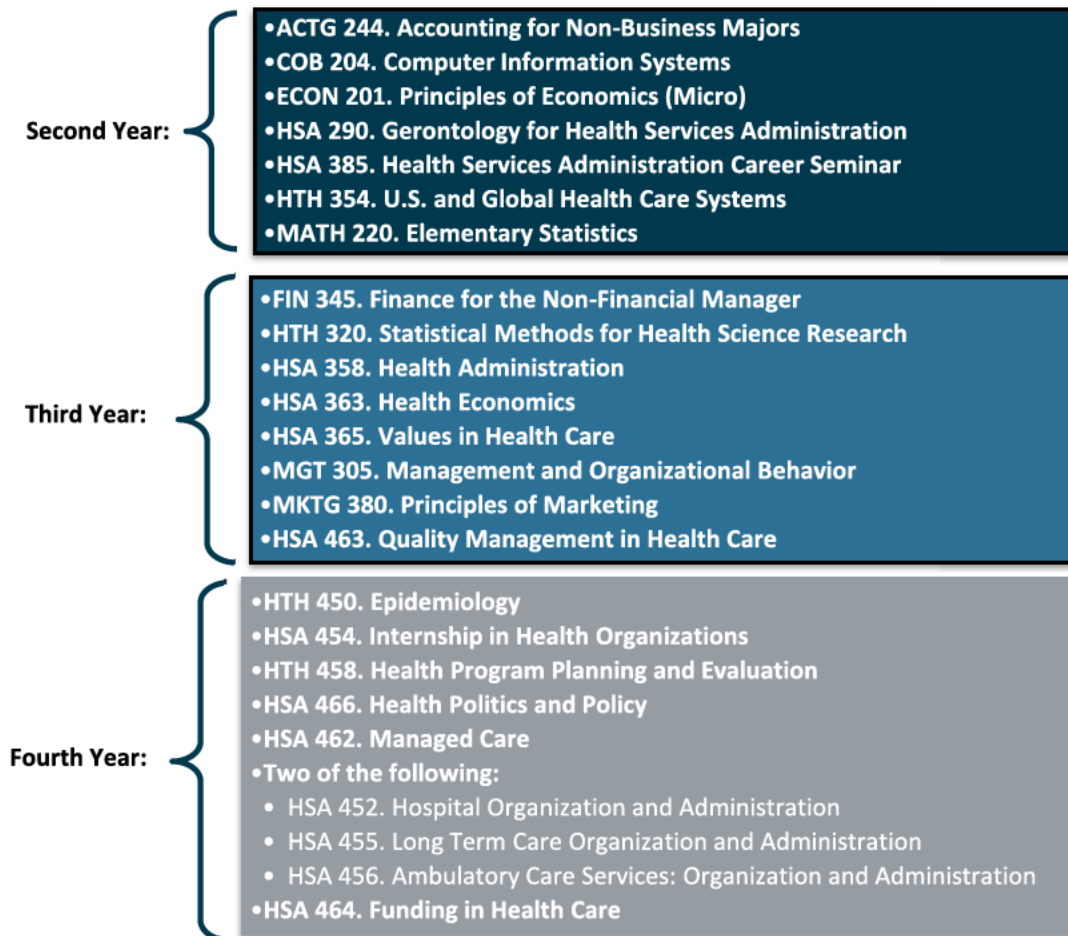
### *CURRICULUM*

Though located in the Department of Health Science, the health services administration program draws more on business and economics courses than on health science. After fulfilling general education requirements in their first year and earning at least a 2.5 GPA, students apply and are admitted to the program for their sophomore year, which comprises a combination of introductory business courses such as accounting, statistics, and economics, and general healthcare courses including an introduction to healthcare systems, gerontology, and a career seminar. The third year (second in the program) continues to include general business courses (finance, management, and marketing) alongside more specialized healthcare topics such as healthcare ethics, health administration, and healthcare economics. The third and final year focuses more explicitly on the healthcare industry with specialized electives and requirements in epidemiology, healthcare funding, planning and evaluation, and healthcare policy. The program also requires an eight-week internship following completion of the major coursework.

Figure 3.10 presents a typical course schedule through three years in the health services administration program. Courses marked HSA are designated specifically as health services administration courses, though each listed course is required for completion of the major.

<sup>51</sup> "IPEDS Data Center," Op. cit.

**Figure 3.10: Health Services Administration Curriculum, James Madison University**



Source: James Madison University<sup>52</sup>

**FACULTY**

The health services administration faculty consists of just three professors, each with varied educational backgrounds, including individuals with doctorate degrees in public health, aging studies, and health services organization and research (Figure 3.11). Faculty biographies on JMU’s website do not specify what professional experience they have in healthcare management. Based on the small size of the faculty, it appears likely the program draws on faculty from other departments and disciplines to teach some courses in the major, particularly general business courses.

<sup>52</sup> “2014-2015 Undergraduate Catalog.” James Madison University. <http://www.jmu.edu/catalog/14/programs/health-sciences.shtml#HSA>

**Figure 3.11: Health Services Administration Faculty, James Madison University**

NAME	EDUCATION	TEACHING AREA
David Cockley	Ph.D. Public Health	<ul style="list-style-type: none"> <li>■ Health Services Administration</li> </ul>
April Temple	Ph.D. Aging Studies	<ul style="list-style-type: none"> <li>■ U.S. Health Care System</li> <li>■ Gerontology for Health Services Administration</li> <li>■ Long-Term Care Organization and Administration</li> <li>■ Selected Topics in Aging and Long-Term Care</li> </ul>
Jon Thompson	<ul style="list-style-type: none"> <li>■ Ph.D. Health Services Organization and Research</li> <li>■ M.S.P. Urban and Regional Planning</li> </ul>	<ul style="list-style-type: none"> <li>■ Health Administration</li> <li>■ Hospital Administration</li> <li>■ Managed Care</li> <li>■ Health Care Marketing</li> <li>■ Health Administration Internship</li> </ul>

Source: James Madison University<sup>53</sup>

<sup>53</sup> "Faculty/Staff Directory." James Madison University. <http://www.healthsci.jmu.edu/HSA/people/index.html>

## SECTION IV: GENERAL HEALTH SCIENCE PROGRAMS

The following overview is based on a scan of general health science programs at ten institutions (Figure 4.1). This section provides an overview of the curriculum, faculty, and goals of general health science programs and profiles programs at Chapman University and Boston University in detail.

**Figure 4.1: General Health Science Programs Scan**

INSTITUTION	PROGRAM
<u>Boston University</u>	B.S Health Science
<u>Chapman University</u>	B.S. Health Sciences
<u>Cleveland State University</u>	B.S. Health Sciences
<u>DePaul University</u>	B.S. Health Sciences
<u>Drake University</u>	B.S. Health Sciences
<u>Indiana University</u>	B.S. Applied Health Science
<u>Northeastern University</u>	B.S. Health Science
<u>Sacred Heart University</u>	B.S. Health Science
<u>Towson University</u>	B.S. Health Science
<u>University of Florida</u>	B.S. Health Science

### GOALS

The general health science major is typically an interdisciplinary program that provides the foundational coursework necessary for admission into graduate programs in medicine, dentistry, physician assistance, nursing, and other allied health professions, though it also prepares students for employment in non-clinical health settings such as “health promotion, health administration, and community-based health.”<sup>54</sup> While specific student objectives vary by program, nearly all examined health science programs emphasize preparation for a variety of graduate programs, as well as the opportunity to work in non-clinical roles in non-profit, education, and administrative sectors in public health and healthcare.

### CURRICULUM

Curricular options in health science programs depend largely on the post-graduate goals of students, and successful programs allow students to tailor their studies to align with the requirements for their chosen field of graduate study. By design, health science programs are interdisciplinary and draw on a range of fields within the physical sciences, social sciences, and allied health. All programs require foundational courses in **biology, chemistry, anatomy, and physiology**, often with additional coursework in statistics, bio- and medical ethics, nutrition science, medical sociology, health education, public health, and other fields depending on students’ post-graduation plans. The profile of Chapman University’s health

<sup>54</sup> “Health Science (BS).” Northeastern University. <http://www.northeastern.edu/bouve/health-sciences/programs/bs/>

science program later in this sections provides a representative example a of typical health science curriculum. Numerous programs also offer various specializations within the major to prepare students for specific graduate programs or positions in healthcare.

### *SPECIALIZATIONS*

Health science specializations often take the form of specific elective “tracks” that target skills and requirements needed for employment or further education. For instance, Sacred Heart University’s B.S. in Health Science program offers two tracks for its students, depending on their career goals. The program’s “Pre-Professional Track” prepares students with the “foundational courses for graduate school” in a variety of fields, including nutrition, occupational therapy, physician assistance, dentistry, and physical therapy.<sup>55</sup> Students in this track work individually with academic advisors to select the courses most appropriate for their chosen field of graduate study.<sup>56</sup> Adult students in the “Leadership Track” already work in healthcare settings and take courses that “provide insight into management and leadership issues related to the health care environment” such as strategic planning, budgeting, and industry regulation.<sup>57</sup>

The University of Florida (UF) offers three tracks within its B.S. in Health Science program: general health science, pre-public health, and pre-occupational therapy.<sup>58</sup> The general track is designed “particularly for those who want to pursue graduate or professional training to become health care providers,” and students take courses from across the university to supplement the core health science curriculum and access the coursework necessary for admission into their program of choice.<sup>59</sup> The pre-public health and pre-occupational therapy programs prepare students interested in graduate study in occupational therapy in public health with additional coursework in these areas. Pre-occupational therapy students take courses in human development, kinesiology, musculoskeletal anatomy, and the nervous system required for entrance into UF’s occupational therapy master’s degree program.<sup>60</sup> The pre-public health track comprises “a combination of core health science courses and specialty courses” on topics such as public health management and epidemiology for students interested in graduate study in public health or a related field.<sup>61</sup>

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<sup>55</sup> [1] “Bachelor of Science in Health Science.” Sacred Heart University. <http://www.sacredheart.edu/academics/collegeofhealthprofessions/academicprograms/healthscienceandleadership/bachelorofscienceinhealthscience/>

[2] “Plan of Study.” Sacred Heart University. <http://www.sacredheart.edu/academics/collegeofhealthprofessions/academicprograms/healthscienceandleadership/bachelorofscienceinhealthscience/planofstudy/>

<sup>56</sup> “Bachelor of Science in Health Science,” Op. cit.

<sup>57</sup> Ibid.

<sup>58</sup> “BHS Overview.” University of Florida. <http://bhs.php.ufl.edu/overview/overview/>

<sup>59</sup> “General Health Science.” University of Florida. <http://bhs.php.ufl.edu/overview/tracks/general-health-science/>

<sup>60</sup> “Pre-Occupational Therapy.” University of Florida. <http://bhs.php.ufl.edu/overview/tracks/pre-occupational-therapy/>

<sup>61</sup> “Pre-Public Health.” University of Florida. <http://bhs.php.ufl.edu/overview/tracks/pre-public-health/>

## FACULTY

Because of the interdisciplinary nature of the health science major, faculty are commonly drawn from departments across the institution, with backgrounds in biology, chemistry, allied health, public health, and statistics. Within just Northeastern University's Department of Health Science, for instance, are faculty with backgrounds in medicine, biostatistics, epidemiology, public health, behavioral science, and law.<sup>62</sup> Health science programs require faculty capable of teaching core courses in biology, chemistry, anatomy, physiology, and statistics in addition to more specialized courses in allied health, such as health care administration and medical ethics.

## PROFILE: CHAPMAN UNIVERSITY

Covering a mix of "basic science, behavioral science, and health science courses," Chapman University's B.S. in Health Sciences programs is a "multidisciplinary" major that seeks to prepare students for graduate work in a variety of health care fields.<sup>63</sup>

### CURRICULUM

The health science curriculum consists of a 53-credit core completed by all students in the major which is complemented by 15-16 credits of electives tailored to one of seven graduate pathways: pre-medicine, pre-physical therapy, pre-occupational therapy, pre-physician assistant, pre-nursing, pre-food science, and pre-health communications.<sup>64</sup> The core curriculum, which all health sciences students must take, features courses in calculus, statistics, and physics in addition to biology, chemistry, human anatomy, and human physiology (Figure 4.2).

**Figure 4.2: Core Courses in Health Sciences Major, Chapman University**

COURSE	COURSE TITLE
HESC 101	Introduction to Health Care Professions
PHYS 107	General Physics for the Life Sciences I (with lab)
PHYS 108	General Physics for the Life Sciences II (with lab)
MATH 110	Single Variable Calculus I
MATH 111	Single Variable Calculus II
CHEM 140	General Chemistry I
CHEM 150	General Chemistry II
BIOL 204	From Molecules to Cells: Evolution of Life on Earth (Gen Bio I) (with lab)
HESC 210	Human Anatomy (with lab)
HESC 357	Seminar in Multidisciplinary Perspectives on Health Sciences
HESC 365	Human Physiology Part A
HESC 366	Human Physiology Part B (with lab)
SOC 385	Medical Sociology
PSY 436	Health Psychology

<sup>62</sup> "Faculty & Staff." Northeastern University. <http://www.northeastern.edu/bouve/health-sciences/directory/>

<sup>63</sup> "Bachelor of Science in Health Sciences." Chapman University. <http://www.chapman.edu/crean/academic-programs/undergraduate-programs/bs-health-sciences/index.aspx>

<sup>64</sup> Ibid.



COURSE	COURSE TITLE
HESC 492	Capstone Seminar Internship in Health Sciences
MATH 203 or PSY 203	Introduction to Statistics <i>or</i> Statistics for Behavioral Sciences

Source: Chapman University<sup>65</sup>

In addition to the core curriculum, students choose electives based on one of the seven graduate school tracks, which are described in the following subsections.

#### ***Pre-Physical Therapy (16 credits)***

Pre-PT students take additional biology coursework, either in molecular genetics or microbiology, and psychology and choose two elective courses in nutrition, organic chemistry, physiology, and health communication.<sup>66</sup>

#### ***Pre-Occupational Therapy (16 credits)***

Students in the pre-OT track have most of the same options and requirements as pre-PT students, with requirements in molecular genetics or microbiology and psychology. Elective choices vary slightly, with offerings in nutrition, physiology, and nonverbal communication.<sup>67</sup>

#### ***Pre-Physician Assistant and Pre-Nursing (16 credits)***

Both pre-PA and pre-nursing students must take microbiology and either general biology II or molecular genetics. They may then choose eight elective credits from courses including medical ethics, organic chemistry, computer science, medicinal chemistry, and genetics.<sup>68</sup>

#### ***Pre-Medicine (16 credits)***

The pre-med track requires four additional courses for students preparing to apply to medical school: molecular genetics, organic chemistry I, organic chemistry II, and biochemistry.<sup>69</sup>

#### ***Pre-Food Science (16 credits)***

Students pursuing graduate study in food science and dietetics have requirements in human nutrition, organic chemistry I, organic chemistry II or biochemistry, and microbiology. They must also undertake a research project with a faculty member.<sup>70</sup>

#### ***Pre-Health Communications (15 credits)***

Finally, students preparing for graduate study in health and strategic communication take additional courses interpersonal communication and health communication, and choose from electives in sociology, psychology, and communication.<sup>71</sup>

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<sup>65</sup> Ibid.

<sup>66</sup> Ibid.

<sup>67</sup> Ibid.

<sup>68</sup> Ibid.

<sup>69</sup> Ibid.

<sup>70</sup> Ibid.

<sup>71</sup> Ibid.

### *GRADUATE SCHOOL LINKAGES*

The health science program at Chapman University has articulation agreements with various graduate programs at the institution and at Western University. Health science students that fulfill course requirements for admission through the elective tracks outlined above are automatically admitted. Linked graduate programs include:

- M.S. in Food Science, Chapman University
- M.M.S. in Physician Assistance, Chapman University
- Doctor of Physical Therapy, Chapman University
- M.S. Health and Strategic Communication, Chapman University
- Doctor of Podiatric Medicine, Western University<sup>72</sup>

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<sup>72</sup> "Bachelor of Science in Health Sciences," Op. cit.



## SECTION V: DIETETICS/NUTRITION PROGRAMS

### ACCREDITATION AND CERTIFICATION

Programs leading to certification as a registered dietitian are accredited through the Accreditation Council for Education in Nutrition and Dietetics (ACEND), a division of the Academy of Nutrition and Dietetics, which also oversees professional certification through Commission on Dietetic Registration (CDR). In North Carolina and much of the country, only licensed individuals can “legally perform nutrition counselling.”<sup>73</sup> Given the highly regulated nature of the profession, undergraduate programs in dietetics typically follow a set sequence of courses leading to a highly-competitive dietetics internship necessary for certification as a registered dietitian nutritionist (RDN). The dietetic internship is the pathway to entry-level employment as an RDN, and graduates with bachelor’s degrees can currently go on to full-time employment following the internship, though changing standards in the coming years will likely require RDN candidates to earn a master’s degree for entry-level employment. Beginning in 2024, the CDR will shift the entry-level requirement from a bachelor’s to a master’s degree.<sup>74</sup>

According to ACEND, there are eight accredited didactic dietetics programs in North Carolina at the bachelor’s level (Figure 5.1).

**Figure 5.1: North Carolina Dietetics Bachelor’s Degree Programs**

TYPE	INSTITUTION
Didactic Programs in Dietetics	Appalachian State University
	Western Carolina University
	North Carolina Central University
	North Carolina A&T University
	University of North Carolina at Greensboro
	East Carolina University
	Meredith College

Source: Accreditation Council for Education in Nutrition and Dietetics<sup>75</sup>

### CURRICULUM

Programs leading to RDN certification require rigorous preparation in both general and nutrition science. According to ACEND standards, didactic programs in dietetics must include food systems management, physical and biological science, and social science:

- The **food and food systems** foundation of the dietetics profession must be evident in the curriculum. Course content must include the *principles of food science and food systems, techniques of food preparation and application to the*

<sup>73</sup> “Nutritionist, Licensed Nutritionist, and Registered Dietitian Requirements by State.” Accreditation Council for Education in Nutrition and Dietetics. <http://www.nutritioned.org/state-requirements.html>

<sup>74</sup> “Graduate Degree Registration Eligibility Requirement,” Op. cit.

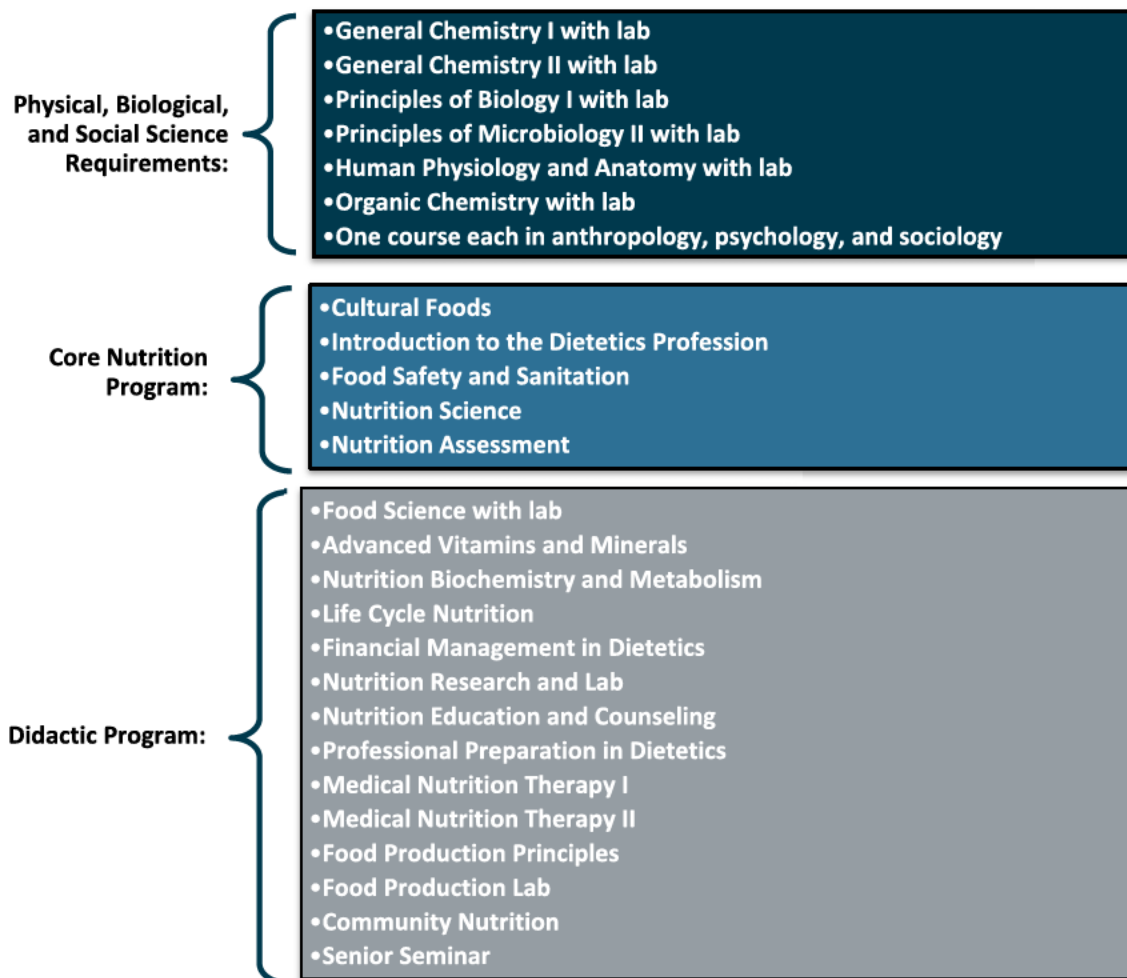
<sup>75</sup> “Registered Dietitian Schools Approved by the Accreditation Council for Education in Nutrition and Dietetics.” Accreditation Council for Education in Nutrition and Dietetics. <http://www.nutritioned.org/registered-dietitian-schools.html#north-carolina>

*development, modification and evaluation of recipes, menus and food products acceptable to diverse groups*

- The **physical and biological science** foundation of the dietetics profession must be evident in the curriculum. Course content must include *organic chemistry, biochemistry, physiology, genetics, microbiology, pharmacology, statistics, nutrient metabolism and nutrition across the lifespan.*
- The **behavioral and social science** foundation of the dietetics profession must be evident in the curriculum. Course content must include *concepts of human behavior and diversity, such as psychology, sociology or anthropology.*

Figure 5.2 displays the science, nutrition, and didactic program requirements for the nutrition science program at East Carolina University.

**Figure 5.2: Dietetics Curriculum and Requirements, East Carolina University**



Source: East Carolina University<sup>76</sup>

<sup>76</sup> "Requirements for BS in Nutrition Science Didactic Program (DP) Option." East Carolina University, p. 57. <http://www.ecu.edu/che/nutr/undergrad/docs/Didactic%20Program%20Checksheet.pdf>

## FACULTY

Nutrition faculty generally have advanced education in dietetics and many also practice clinically in addition to their teaching and research duties. The nutrition faculty in the Department of Nutrition and Health Care Management at Appalachian State University, for instance, comprises individuals with master's and doctorate degrees in nutrition, often with special areas of interest like sports nutrition, eating disorders, and community nutrition.<sup>77</sup>

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<sup>77</sup> "Alphabetical Directory," Op. cit.

## APPENDIX A: COMPLETIONS BY DETAILED CIP

Figure A.1: Detailed CIP Codes Used in Student Demand Analysis

DETAILED CIP CODE	DETAILED CIP TITLE
<b>Nutrition and Dietetics</b>	
51.3101	Dietetics/Dietitian
51.3102	Clinical Nutrition/Nutritionist
51.3199	Dietetics and Clinical Nutrition Services, Other
<b>Healthcare Management</b>	
51.0701	Health/Health Care Administration/Management
51.0702	Hospital and Health Care Facilities Administration/Management
51.0704	Health Unit Manager/Ward Supervisor
51.0705	Medical Office Management/Administration
51.0706	Health Information/Medical Records Administration/Administrator
51.0707	Health Information/Medical Records Technology/Technician
51.0710	Medical Office Assistant/Specialist
51.0711	Medical/Health Management and Clinical Assistant/Specialist
51.0713	Medical Insurance Coding Specialist/Coder
51.0714	Medical Insurance Specialist/Medical Biller
51.0716	Medical Administrative/Executive Assistant and Medical Secretary
51.0717	Medical Staff Services Technology/Technician
51.0718	Long Term Care Administration/Management
51.0719	Clinical Research Coordinator
51.0799	Health and Medical Administrative Services, Other
<b>Health Science, General</b>	
51.0000	Health Services/Allied Health/Health Sciences, General
51.0001	Health and Wellness, General
<b>Medical Laboratory Science</b>	
51.1002	Cytotechnology/ Cytotechnologist
51.1003	Hematology Technology/Technician
51.1004	Clinical/Medical Laboratory Technician
51.1005	Clinical Laboratory Science/Medical Technology/Technologist
51.1007	Histologic Technology/Histotechnologist
51.1010	Cytogenetics/Genetics/Clinical Genetics Technology/Technologist
51.1099	Clinical/Medical Laboratory Science and Allied Professions, Other
<b>Pre-Professional Programs</b>	
51.1101	Pre-Dentistry Studies
51.1102	Pre-Medicine/Pre-Medical Studies
51.1103	Pre-Pharmacy Studies
51.1104	Pre-Veterinary Studies
51.1105	Pre-Nursing Studies
51.1106	Pre-Chiropractic Studies
51.1107	Pre-Occupational Therapy Studies
51.1108	Pre-Optometry Studies
51.1109	Pre-Physical Therapy Studies
51.1199	Health/Medical Preparatory Programs, Other

Source: National Center for Education Statistics

**NATIONAL**

**Figure A.2: National Bachelor’s Degree Completions in Health Science Fields**

CIP FIELD	2009	2010	2011	2012	2013	CAGR	AAC	STDEVAC
<b>Nutrition and Dietetics</b>								
51.3101 Dietetics/Dietitian	2,392	2,443	2,601	2,591	2,717	3.2%	81.3	65.4
51.3102 Clinical Nutrition/Nutritionist	112	98	103	124	131	4.0%	4.8	12.5
51.3199 Dietetics and Clinical Nutrition Services, Other	60	60	58	89	373	57.9%	78.3	119.5
<b>Total</b>	<b>2,564</b>	<b>2,601</b>	<b>2,762</b>	<b>2,804</b>	<b>3,221</b>	<b>5.9%</b>	<b>164.3</b>	<b>154.1</b>
<b>Health Care Management</b>								
51.0701 Health/Health Care Administration/Management	4,178	4,723	5,646	7,065	8,619	19.8%	1,110.3	402.1
51.0702 Hospital and Health Care Facilities Administration/Management	1,545	1,827	2,367	3,310	4,031	27.1%	621.5	242.5
51.0704 Health Unit Manager/Ward Supervisor	1	-	-	10	10	-	-	-
51.0705 Medical Office Management/Administration	2	7	7	4	1	-15.9%	-0.3	3.3
51.0706 Health Information/Medical Records Administration/Administrator	775	790	1,101	1,302	1,479	17.5%	176.0	105.8
51.0707 Health Information/Medical Records Technology/Technician	61	184	38	39	33	-14.2%	-7.0	95.2
51.0710 Medical Office Assistant/Specialist	13	11	2	-	2	-	-	-
51.0711 Medical/Health Management and Clinical Assistant/Specialist	68	12	20	51	84	5.4%	4.0	36.0
51.0713 Medical Insurance Coding Specialist/Coder	0	2	0	0	0	-	0.0	1.0
51.0714 Medical Insurance Specialist/Medical Biller	-	0	0	-	-	-	-	-
51.0716 Medical Administrative/Executive Assistant and Medical Secretary	0	2	-	-	0	-	-	-
51.0717 Medical Staff Services Technology/Technician	0	1	0	8	3	-	1.0	5.0
51.0718 Long Term Care Administration/Management	-	94	188	312	438	-	-	-
51.0719 Clinical Research Coordinator	-	9	8	21	15	-	-	-
51.0799 Health and Medical Administrative Services, Other	459	504	539	604	570	5.6%	28.0	37.0
<b>Total</b>	<b>7,102</b>	<b>8,166</b>	<b>9,916</b>	<b>12,726</b>	<b>15,285</b>	<b>21.1%</b>	<b>2,046.0</b>	<b>689.0</b>
<b>Health Science, General</b>								
51.0000 Health Services/Allied Health/Health Sciences, General	4,463	4,792	5,366	5,863	6,938	11.7%	618.8	277.9
51.0001 Health and Wellness, General	-	483	918	701	1,401	-	-	-
<b>Total</b>	<b>4,463</b>	<b>5,275</b>	<b>6,284</b>	<b>6,564</b>	<b>8,339</b>	<b>16.9%</b>	<b>969.0</b>	<b>536.3</b>
<b>Medical Laboratory Science</b>								

CIP FIELD	2009	2010	2011	2012	2013	CAGR	AAC	STDEVAC
51.1002 Cytotechnology/Cytotechnologist	68	70	75	55	53	-6.0%	-3.8	9.7
51.1003 Hematology Technology/Technician	0	0	0	-	-	-	-	-
51.1004 Clinical/Medical Laboratory Technician	38	55	53	102	113	31.3%	18.8	18.8
51.1005 Clinical Laboratory Science/Medical Technology/Technologist	2,448	2,529	2,490	2,656	2,734	2.8%	71.5	72.9
51.1007 Histologic Technology/Histotechnologist	1	-	-	7	14	-	-	-
51.1010 Cytogenetics/Genetics/Clinical Genetics Technology/Technologist	37	37	35	44	54	9.9%	4.3	5.3
51.1099 Clinical/Medical Laboratory Science and Allied Professions, Other	104	134	105	127	142	8.1%	9.5	22.9
<b>Total</b>	<b>2,696</b>	<b>2,825</b>	<b>2,758</b>	<b>2,991</b>	<b>3,110</b>	<b>3.6%</b>	<b>103.5</b>	<b>108.1</b>
<b>Pre-Professional Programs</b>								
51.1101 Pre-Dentistry Studies	54	34	19	17	15	-27.4%	-9.8	7.9
51.1102 Pre-Medicine/Pre-Medical Studies	842	805	896	898	1,035	5.3%	48.3	69.1
51.1103 Pre-Pharmacy Studies	121	13	20	14	19	-37.1%	-25.5	47.9
51.1104 Pre-Veterinary Studies	135	197	254	238	291	21.2%	39.0	31.9
51.1105 Pre-Nursing Studies	2	8	15	20	8	41.4%	1.5	7.8
51.1106 Pre-Chiropractic Studies	-	0	0	-	-	-	-	-
51.1107 Pre-Occupational Therapy Studies	-	61	71	87	147	-	-	-
51.1108 Pre-Optometry Studies	-	1	1	1	2	-	-	-
51.1109 Pre-Physical Therapy Studies	-	129	142	189	211	-	-	-
51.1199 Health/Medical Preparatory Programs, Other	650	615	795	958	1,153	15.4%	126.0	93.0
<b>Total</b>	<b>1,804</b>	<b>1,863</b>	<b>2,213</b>	<b>2,422</b>	<b>2,881</b>	<b>12.4%</b>	<b>269.0</b>	<b>150.0</b>

Source: National Center for Education Statistics

## REGIONAL

**Figure A.3: Regional Bachelor's Degree Completions in Health Sciences Fields, 2009-2013**

CIP FIELD	2009	2010	2011	2012	2013	CAGR	AAC	STDEVAC
<b>Nutrition and Dietetics</b>								
51.3101 Dietetics/Dietitian	435	427	415	540	554	6.2%	29.8	55.9
51.3102 Clinical Nutrition/Nutritionist	-	-	-	-	3	-	-	-
51.3199 Dietetics and Clinical Nutrition Services, Other	0	0	9	20	12	-	3.0	7.6
<b>Total</b>	<b>435</b>	<b>427</b>	<b>424</b>	<b>560</b>	<b>569</b>	<b>6.9%</b>	<b>33.5</b>	<b>59.5</b>
<b>Health Care Management</b>								
51.0701 Health/Health Care Administration/Management	1,329	1,538	1,721	2,025	2,442	16.4%	278.3	91.9
51.0702 Hospital and Health Care Facilities Administration/Management	282	329	442	399	500	15.4%	54.5	61.5



CIP FIELD	2009	2010	2011	2012	2013	CAGR	AAC	STDEVAC
51.0704 Health Unit Manager/Ward Supervisor	1	-	-	-	-	-	-	-
51.0705 Medical Office Management/Administration	2	7	7	4	-	-	-	-
51.0706 Health Information/Medical Records Administration/Administrator	262	255	228	232	244	-1.8%	-4.5	14.6
51.0707 Health Information/Medical Records Technology/Technician	2	19	26	27	20	77.8%	4.5	8.8
51.0710 Medical Office Assistant/Specialist	10	11	0	-	-	-	-	-
51.0711 Medical/Health Management and Clinical Assistant/Specialist	11	0	-	-	-	-	-	-
51.0713 Medical Insurance Coding Specialist/Coder	0	2	0	0	0	-	0.0	1.0
51.0714 Medical Insurance Specialist/Medical Biller	-	0	0	-	-	-	-	-
51.0716 Medical Administrative/Executive Assistant and Medical Secretary	-	0	-	-	-	-	-	-
51.0717 Medical Staff Services Technology/Technician	0	0	0	0	0	-	0.0	0.0
51.0718 Long Term Care Administration/Management	-	0	1	-	6	-	-	-
51.0799 Health and Medical Administrative Services, Other	17	11	8	14	18	1.4%	0.0	5.0
<b>Total</b>	<b>1,916</b>	<b>2,172</b>	<b>2,433</b>	<b>2,701</b>	<b>3,230</b>	<b>13.9%</b>	<b>329.0</b>	<b>116.0</b>
<b>Health Science, General</b>								
51.0000 Health Services/Allied Health/Health Sciences, General	1,107	1,245	1,208	1,237	1,409	6.2%	75.5	83.7
51.0001 Health and Wellness, General	-	3	9	42	42	-	-	-
<b>Total</b>	<b>1,107</b>	<b>1,248</b>	<b>1,217</b>	<b>1,279</b>	<b>1,451</b>	<b>7.0%</b>	<b>86.0</b>	<b>78.6</b>
<b>Medical Laboratory Science</b>								
51.1002 Cytotechnology/Cytotechnologist	19	22	22	17	14	-7.4%	-1.3	3.0
51.1004 Clinical/Medical Laboratory Technician	-	-	-	0	0	-	-	-
51.1005 Clinical Laboratory Science/Medical Technology/Technologist	562	573	575	626	598	1.6%	9.0	28.2
51.1099 Clinical/Medical Laboratory Science and Allied Professions, Other	12	13	18	20	27	22.5%	3.8	2.4
<b>Total</b>	<b>593</b>	<b>608</b>	<b>615</b>	<b>663</b>	<b>639</b>	<b>1.9%</b>	<b>11.5</b>	<b>25.6</b>
<b>Pre-Professional Programs</b>								
51.1101 Pre-Dentistry Studies	0	1	1	1	2	-	0.5	0.5
51.1102 Pre-Medicine/Pre-Medical Studies	103	60	82	76	96	-1.7%	-1.8	26.3
51.1103 Pre-Pharmacy Studies	8	13	19	12	19	24.1%	2.8	5.7
51.1104 Pre-Veterinary Studies	2	3	7	0	0	-100.0%	-0.5	4.0
51.1105 Pre-Nursing Studies	1	1	5	1	4	41.4%	0.8	3.1
51.1107 Pre-Occupational Therapy Studies	-	0	0	2	3	-	-	-

CIP FIELD	2009	2010	2011	2012	2013	CAGR	AAC	STDEVAC
51.1108 Pre-Optometry Studies	-	0	0	0	1	-	-	-
51.1109 Pre-Physical Therapy Studies	-	15	11	34	37	-	-	-
51.1199 Health/Medical Preparatory Programs, Other	147	123	170	195	261	15.4%	29.0	34.0
<b>Total</b>	<b>261</b>	<b>216</b>	<b>295</b>	<b>321</b>	<b>423</b>	<b>12.8%</b>	<b>41.0</b>	<b>57.0</b>

Source: National Center for Education Statistics

## NORTH CAROLINA

Figure A.4: State Bachelor’s Degree Completions in Health Science Fields, 2009-2013

CIP FIELD	2009	2010	2011	2012	2013	CAGR	AAC	STDEVAC
<b>Nutrition and Dietetics</b>								
51.3101 Dietetics/Dietitian	55	61	70	84	91	13.4%	9.0	3.1
<b>Total</b>	<b>55</b>	<b>61</b>	<b>70</b>	<b>84</b>	<b>91</b>	<b>13.4%</b>	<b>9.0</b>	<b>3.1</b>
<b>Health Care Management</b>								
51.0701 Health/Health Care Administration/Management	242	330	332	389	373	11.4%	32.8	41.7
51.0706 Health Information/Medical Records Administration/Administrator	31	34	30	22	19	-11.5%	-3.0	3.9
51.0710 Medical Office Assistant/Specialist	10	11	-	-	-	-	-	-
<b>Total</b>	<b>283</b>	<b>375</b>	<b>362</b>	<b>411</b>	<b>392</b>	<b>8.5%</b>	<b>27.3</b>	<b>45.9</b>
<b>Health Science, General</b>								
51.0000 Health Services/Allied Health/Health Sciences, General	13	10	10	13	8	-11.4%	-1.3	3.0
51.0001 Health and Wellness, General	-	0	7	38	33	-	-	-
<b>Total</b>	<b>13</b>	<b>10</b>	<b>17</b>	<b>51</b>	<b>41</b>	<b>33.3%</b>	<b>7.0</b>	<b>16.7</b>
<b>Medical Laboratory Science</b>								
51.1002 Cytotechnology/Cytotechnologist	19	22	22	17	14	-7.4%	-1.3	3.0
51.1005 Clinical Laboratory Science/Medical Technology/Technologist	59	56	55	62	71	4.7%	3.0	5.1
<b>Total</b>	<b>59</b>	<b>56</b>	<b>55</b>	<b>62</b>	<b>71</b>	<b>4.7%</b>	<b>3.0</b>	<b>5.1</b>
<b>Pre-Professional Programs</b>								
51.1102 Pre-Medicine/Pre-Medical Studies	43	12	12	21	21	-16.4%	-5.5	15.2
51.1104 Pre-Veterinary Studies	2	3	6	-	-	-	-	-
51.1109 Pre-Physical Therapy Studies	-	-	-	-	1	-	-	-
51.1199 Health/Medical Preparatory Programs, Other	35	25	30	22	26	-7.2%	-2.3	6.8
<b>Total</b>	<b>80</b>	<b>40</b>	<b>48</b>	<b>43</b>	<b>48</b>	<b>-12.0%</b>	<b>-8.0</b>	<b>19.1</b>

Source: National Center for Education Statistics

## APPENDIX B: COURSE DESCRIPTIONS, APPALACHIAN STATE UNIVERSITY

**Figure B.1: Descriptions of Required HCM Courses, Appalachian State University**

COURSE TITLE	DESCRIPTION
Introduction to Health System Organization	This course provides an overview of the organizational structure of health care services and the forces that influence the organization of health services in the United States. The perspectives of health and health status of Americans are examined in the context of cultural, economic, social and political forces. The course is designed to provide a foundation of knowledge regarding the issues of relevance to the future of health care delivery.
Managing Health Care Organizations	This course focuses on the structure, function, and interconnection of various health care organizations that make up the US health care system. Specific attention is paid to the unique challenges faced by health care managers, in addition to the unique challenges of managing various health care professionals. The course instructs students on the attributes of key health care organizations, namely hospitals and integrated delivery systems, ambulatory care, managed care organizations and insurance firms, biopharmaceutical firms, and other health care organizations. Administrative and other principles are addressed within the healthcare setting.
Principles of Financial Management for Health Care	This course provides an introduction to the role of finance in the private and public sectors of the health services industry. Topics covered include corporate finance, financial markets, and sources of capital for healthcare organizations. Common tools for the financial analyses of healthcare firms are explored, and students should develop foundational knowledge of the financial concepts important to managerial decision-making in the health services industry.
Health Services Research Methods	This course involves an overview of the fundamentals of health services research, emphasizing how health care managers and administrators can apply fundamentals of scientific methods and research principles to management problems and decision-making. The course will also instruct students how to read and understand scientific literature and research, which is critical for lifelong learning in the health services.
Quality Management and Process Improvement in Health Care	This course is an overview of the fundamental theories and principles of quality management and performance improvement in US health care organizations. The course instructs students on techniques and tools currently used by health care organizations to monitor and improve the quality of their clinical and administrative functions. The course also instructs students regarding the leadership and management approaches and skills necessary to promote a culture of quality in a health services organization.

COURSE TITLE	DESCRIPTION
Health Services Organization Behavior and Design	This course informs and instructs in the theories, principles and concepts of organization behavior and design particularly related to health care organizations. The course focuses on understanding behavior at the level of individuals, groups and teams, and the organization as a whole. Concepts of health care organizational structure and design are also covered in this course. The aim of the course is to develop skills, attributes and behaviors of managerial professionals working in the health services industry.
Human Resource Management in Health Service Organizations	This course provides an overview of human resource management, particularly the functions, structure, laws and principles of effective human resource management in the health services industry. Instruction emphasizes the management of health care personnel focusing on the unique nature of health care specialization, professional licensure, and employee productivity and satisfaction. Additionally, the course addresses current issues in human resource management, such as managing health labor shortages.
Health Information Systems	This course is a general introduction to information technology and the management of information systems in complex organizations such as health services organizations. The course will instruct students in basic hardware/software concepts, communication and networking concepts, and the important considerations in planning strategically for information technology in health service organizations.
Professional Development I	This course provides an introduction to the professional environment in which health care supervisors and managers work. Students will be exposed to the skills and behaviors of professional health care managers and leaders. Students will also begin developing strategies for securing their internship in health care management.
Professional Development II	This course provides further instruction regarding the professional environment in which health care supervisors and managers work. Students will continue to learn the skills and behaviors of professional health care managers and leaders, with additional emphasis on written and verbal communication, how managers interact with other health professionals, and the educational requirements for health executive careers. Students will continue working toward securing their internship in health care management, as well as developing personal career goals.
Internship	A full-time work experience in health care management. Limited to declared HCM majors. Six semester hours are granted for the internship, usually during the summer term in a health care facility, service or program, or health-related organization.
Health Services Financial Management	This course provides an overview of the organizational and operational aspect of fiscal management, control, and analysis of health care organizations. Because the role of third party payment is a distinct and unique characteristic of the health care industry, particular attention is given to public and private health insurers and managed care, as well as operational considerations for managing reimbursement, revenue and expenses, and for developing budgets in health service organizations.
Principles of Leadership for Health Service Organizations	This course informs and instructs in the theories, principles and concepts of leadership particularly applied to health service organizations. The aim of the course is to develop leadership skills, attributes and behaviors to enable graduates to lead successful health care organizations.

COURSE TITLE	DESCRIPTION
Health Informatics	This course instructs students on how healthcare organizations can use information technology (IT) to achieve better operational performance and strengthen the quality of services offered to their patients. Topics covered include: using IT to transform clinical processes, integrating clinical and administrative work processes through IT, and aligning business and clinical strategies. The course will explore in detail electronic medical records, medical informatics, and privacy/security requirements for healthcare IT.
Health Law and Policy	This course is designed to provide students with a background in law and an introduction to health policy as applied to health care organizations and health professionals. The course will cover aspects of tort, contract, criminal, antitrust, and administrative law and civil procedure as they relate to health service organizations and health personnel.
Ethics in Health Care	This course will explore the role of ethics in management and leadership in today’s healthcare environment through analysis of ethical and bioethical issues confronting the US health care delivery system. The course explores the use of moral reasoning applied to health care concerns encountered by health care leaders, managers and clinicians. Emphasis will be on critical thinking, real-world application, and decision-making in a professional environment.
Seminar in Health Care Management	This course integrates all HCM courses and other core courses through readings, case and scenario analyses, and small projects. The course requires students to apply the concepts of accounting, financial management, quality management, marketing, business planning, operations, strategic management, and public policy specifically to the unique environmental, regulatory, legal, ethical, and professional demands of the health care industry.

Source: Appalachian State University<sup>78</sup>

<sup>78</sup> “Undergraduate Bulletin 2014-2015.” Appalachian State University. pp. 406–408.  
[http://www.registrar.appstate.edu/catalogs/14\\_15\\_undergrad/undergraduatebulletin14-15.pdf](http://www.registrar.appstate.edu/catalogs/14_15_undergrad/undergraduatebulletin14-15.pdf)



## APPENDIX C: NORTH CAROLINA HEALTHCARE MANAGEMENT PROGRAMS

The following figure displays institution-level completions data from North Carolina in healthcare management programs. These data may aid UNC-Charlotte in assessing its competitive position in the state and in identifying program models at peer institutions.

**Figure C.1: North Carolina Completions in Healthcare Management Fields, 2009-2013**

ROW LABELS	2009	2010	2011	2012	2013	CAGR	AAC	STDEVAC
<b>51.0701 Health/Health Care Administration/Management</b>	<b>242</b>	<b>330</b>	<b>332</b>	<b>389</b>	<b>373</b>	<b>11.4%</b>	<b>32.8</b>	<b>41.7</b>
Mount Olive College	75	130	134	158	147	18.3%	18.0	24.7
East Carolina University	72	87	81	78	61	-4.1%	-2.8	11.5
University of North Carolina at Chapel Hill	36	36	36	33	39	2.0%	1.0	3.0
Appalachian State University	29	34	33	35	47	12.8%	4.5	4.8
Gardner-Webb University	24	23	15	22	20	-4.5%	-1.0	5.3
Winston-Salem State University	0	0	8	37	37	-	9.0	12.0
Pfeiffer University	4	15	13	8	6	10.7%	0.5	6.2
Miller-Motte College-Wilmington	-	-	10	15	13	-	-	-
Cabarrus College of Health Sciences	2	5	2	3	3	10.7%	0.3	2.2
South University-High Point	-	-	-	-	0	-	-	-
Western Carolina University	0	0	0	0	0	-	0.0	0.0
<b>51.0706 Health Information/Medical Records Administration/Administrator</b>	<b>31</b>	<b>34</b>	<b>30</b>	<b>22</b>	<b>19</b>	<b>-11.5%</b>	<b>-3.0</b>	<b>4.0</b>
East Carolina University	18	21	13	13	9	-15.9%	-2.0	4.0
Western Carolina University	13	13	17	9	10	-6.3%	-1.0	4.0
<b>51.0710 Medical Office Assistant/Specialist</b>	<b>10</b>	<b>11</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Miller-Motte College-Wilmington	10	11	-	-	-	-	-	-
<b>Total</b>	<b>283</b>	<b>375</b>	<b>362</b>	<b>411</b>	<b>392</b>	<b>8.5%</b>	<b>27.0</b>	<b>46.0</b>

Source: National Center for Education Statistics<sup>79</sup>

<sup>79</sup> "IPEDS Data Center," Op. cit.



## PROJECT EVALUATION FORM

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## CAVEAT

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# Appendix B



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Other Resources

[National Association of MD/MBA Students](#)

[Association of University Programs in Health Administration](#)

[Commission on Accreditation of Healthcare Management Education](#)

[Institute for Diversity in Health Management](#)

[Explore Health Careers](#)

[Which Degree to Pursue](#)

[ACHE Student Associate](#)

[ACHE's Postgraduate Fellowship and Diversity Internship](#)

Begin planning as early as possible for a career in healthcare management. A good scholastic record is important—especially since you'll want to attend a graduate program for a master's degree or doctorate.

**Bachelor's degree:** A bachelor's degree is enough for some entry-level positions in health administration, a few senior-level positions in smaller operations, and for some middle management jobs in larger organizations. Many schools and colleges offer undergraduate degrees with a concentration in health services management. The purpose of a baccalaureate education in this area is to provide the initial education for professional careers in health services management. The Association of University Programs in Health Administration provides a list of undergraduate programs that are certified to provide undergraduate health administration education. However, an undergraduate degree in health services management is not required to become a health services manager or to enter into a health administration graduate program. Degrees in other areas, such as business, nursing, or liberal arts, may also qualify you.

**Master's degree:** A master's degree is required for almost every position in the healthcare management field. The [Commission on Accreditation of Healthcare Management Education](#) provides a list of accredited graduate health administration programs. In the past, most students chose the traditional route of a master's degree in health administration or public health. Today, however, students are investigating other options, including graduate degrees in business and public administration, with course

concentration in health services management. Some schools offer a joint degree—a master's degree in both business administration and public health, or in both healthcare management and law, for example. Graduate programs generally last two years and lead to a master's degree. They include course work in healthcare policy and law, marketing, organizational behavior, healthcare financing, human resources, and other healthcare management topics. This program may also include a supervised internship, residency, or fellowship.

### **Professional Association**

As with any professional career, joining a professional association can help give you a head start in the field and provide you with resources to help you throughout your career. If you decide on a career in healthcare management, you may want to consider joining the American College of Healthcare Executives as a Student Associate. ACHE is an international professional society of over 40,000 healthcare executives. By joining ACHE as a Student Associate, you will experience the excitement of discovering, exploring, and understanding the real world of healthcare management. ACHE offers:

- Resume review services
- An online job bank and resume-posting service
- Continuing education programs
- Subscriptions to ACHE's top-notch publications, *Healthcare Executive* magazine and *Journal of Healthcare Management*, which cover current issues affecting healthcare management
- Cutting-edge research studies

...and more!

As a Student Associate, you are also eligible to apply for the Stuart A. Wesbury, Jr., Postgraduate Fellowship and ACHE's Diversity Internship, two programs created for graduate students to complement their studies in healthcare management. To be eligible for Student Associate status, you must:

- Be enrolled full-time or part-time in a four-year program in health services

management or a related field that leads to a baccalaureate degree, or be enrolled as a graduate student in such a program

- Not be employed in a full-time healthcare management position

### **Career Planning Checklist**

Make sure healthcare management is the right career choice for you.

- **Learn more about healthcare management careers.** Talk to professionals in the field, visit career planning Web sites, tour a nearby hospital or other healthcare facility, or participate in a healthcare-focused volunteer program.
- **Read about healthcare.** You can find interesting articles in local newspapers, national magazines such as *Newsweek* and *Time*, and trade publications such as *Healthcare Executive*, *Frontiers of Health Service Management*, *Journal of Healthcare Management*, or *Modern Healthcare*. Visit university libraries.
- **Investigate many educational programs.** Discuss your interest in a healthcare administration career with a guidance counselor and ask for help in identifying appropriate colleges. Check out both undergraduate and graduate programs as well as financing opportunities such as scholarships and financial aid. For information about financial aid call the Federal Student Financial Aid Information Center at (800) 433-3243.

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[Educators/Counselors](#) - [Executives in Action](#) - [American College of Healthcare Executives](#)



**[HOME](#)**

**Professional Profiles**

**[Assistant Administrator](#)**  
(PDF)

**[Business Development, Managed Care](#)**  
(PDF)

**[Director, Quality and Accountability Initiatives](#)**  
(PDF)

**[Health Services Project Administrator](#)**  
(PDF)

**Bureau of Labor Statistics Links**

**[Job Outlook](#)**

**Federal Sector**

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This is an exciting time for healthcare management. Healthcare is changing more rapidly than almost any other field. The field is changing in terms of how and where care is delivered, who is providing those services, and how that care is financed. Healthcare management requires talented people to manage the changes taking place. In their roles, healthcare executives have an opportunity to make a significant contribution to improving the health of the communities their organizations serve.

With growing diversity in the healthcare system, executives are needed in many settings, including:

- Clinics
- Consulting firms
- Health insurance organizations
- Healthcare associations
- Hospitals
- Nursing homes
- Physician practices
- Mental health organizations
- Public health departments
- Rehabilitation centers
- Skilled nursing facilities
- Universities and research institutions

Today, an estimated 100,000 people occupy health management positions at numerous organizational levels, from department head to chief executive officer. Requirements for senior-level positions in healthcare organizations are demanding, but these jobs also offer opportunities to improve the system of care giving.

If you choose a career in healthcare management, your first job might be an entry- to



mid-level management position in a specialized area, such as:

- Finance
- Government relations
- Human resources
- Information systems
- Marketing and public affairs
- Material management (purchasing of equipment and supplies)
- Medical staff relations
- Nursing administration
- Patient care services
- Planning and development

### **Growth and Salaries**

Healthcare management is a huge, complex, and ever-changing field. In fact, healthcare services will increase 30 percent from 1996-2006 and will account for 3.1 million new jobs, the largest increase of any industry.

### **Hospital Executive Salary Information: 2014**

The compensation data comes from Sullivan, Cotter and Associates, Inc.'s 2014 *Manager and Executive Compensation in Hospitals and Health Systems Survey Report*. The Survey:

- Includes data from over 1,500 health care organizations across the United States on over 250 system-level jobs and over 200 hospital-level jobs.
- Provides information on a variety of compensation practices, including compensation strategies, incentive program design, nonqualified deferred compensation plans, severance arrangements, perquisites and other executive benefits.

For additional information on the survey or questions on the data contained in this summary, please contact Jim Rohan, Managing Director, Sullivan, Cotter and Associates, Inc. at [jimrohan@sullivancotter.com](mailto:jimrohan@sullivancotter.com) or by phone at (888) 739-7039. Additional information about SullivanCotter can be found on their website at [www.sullivancotter.com](http://www.sullivancotter.com).

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### **Healthcare System and Hospital Executive Pay**

**Health Systems: Median annual base salary and total cash compensation**

(All figures in thousands of dollars.)

	Net Revenue Greater Than \$1.0 Billion		Net Revenue Less Than \$1.0 Billion	
	Base	Total Cash	Base	Total Cash
<b><u>President and CEO</u></b>	\$950	\$1,791	\$639	\$716
<b><u>COO</u></b>	\$595	\$708	\$400	\$416
<b><u>CMO</u></b>	\$496	\$553	\$361	\$385
<b><u>CFO</u></b>	\$500	\$580	\$362	\$400
<b><u>CIO</u></b>	\$369	\$405	\$275	\$288
<b><u>Top Patient Care Executive</u></b>	\$309	\$362	\$241	\$272
<b><u>Chief Nursing Officer</u></b>	\$300	\$335	\$231	\$263
<b><u>Top Human Resources Executive</u></b>	\$338	\$380	\$245	\$262
<b><u>Top Professional Services Executive</u></b>	\$279	\$327	\$219	\$239
<b><u>Top Support Services Executive</u></b>	\$285	\$288	\$194	\$211
<b><u>Top Ambulatory Services Executive</u></b>	\$258	\$296	\$234	\$271
<b><u>Top Facilities Executive</u></b>	\$236	\$262	\$209	\$234
<b><u>Top Legal Services Executive (General Counsel)</u></b>	\$407	\$450	\$295	\$326
<b><u>Top Marketing Executive</u></b>	\$237	\$260	\$181	\$206
<b><u>Top Managed Care Executive</u></b>	\$290	\$316	\$224	\$253

### Healthcare System and Hospital Executive Pay

**Hospitals: Median annual base salary and total cash compensation**

(All figures in thousands of dollars.)

	Net Revenue Greater Than \$250 Million		Net Revenue Less Than \$250 Million	
	Base	Total Cash	Base	Total Cash
<b>Freestanding Hospitals</b>				
<a href="#">President and CEO</a>	\$706	\$815	\$404	\$429
<a href="#">COO</a>	\$426	\$468	\$258	\$262
<a href="#">CMO</a>	\$405	\$458	\$305	\$318
<a href="#">CFO</a>	\$412	\$444	\$252	\$278
<b>System Owned Hospitals</b>				
<a href="#">President and CEO</a>	\$413	\$499	\$290	\$342
<a href="#">COO</a>	\$246	\$286	\$183	\$213
<a href="#">CMO</a>	\$339	\$362	\$302	\$336
<a href="#">CFO</a>	\$253	\$302	\$187	\$219
<b>All Hospitals</b>				
<a href="#">CIO</a>	\$280	\$312	\$181	\$192
<a href="#">Top Patient Care Services Executive</a>	\$247	\$276	\$178	\$185
<a href="#">Chief Nursing Officer</a>	\$223	\$245	\$167	\$191
<a href="#">Top Human Resources Executive</a>	\$223	\$232	\$156	\$173
<a href="#">Top Professional Services Executive</a>	\$208	\$235	\$162	\$179
<a href="#">Top Support Services Executive</a>	\$192	\$208	\$150	\$175
<a href="#">Top Ambulatory Services Executive</a>	\$213	\$239	\$164	\$164

<a href="#">Top Facilities Executive</a>	\$201	\$229	isd	isd
<a href="#">Top Legal Services Executive</a>	\$293	\$312	\$209	\$234
<a href="#">Top Marketing Executive</a>	\$208	\$222	\$170	\$182
<a href="#">Top Managed Care Executive</a>	\$223	\$243	isd	isd

## **Healthcare Administration in the Military and Department of Veterans Affairs**

There are many rewarding and exciting healthcare management careers offered through the uniformed services as well as the Department of Veterans Affairs. Click on the links for additional information.

- [Army](#)
- [Navy](#)
- [Air Force](#)
- [Department of Veterans Affairs](#)

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# Healthcare Management Jobs

1000+ Healthcare Management jobs found on Monster.

## Healthcare Management Job Overview

Healthcare managers, who are sometimes referred to as healthcare administrators or medical and health services managers, juggle a wide array of responsibilities. They plan, coordinate, and direct medical and health services. Additionally, they may manage an entire medical office or group of doctors. Alternately, they may manage a specific department or area of a larger facility. The most common job duties of healthcare managers include:

- Communicating with doctors, staff members, and department leaders
- Learning and implementing new regulations and ensuring that the facility complies with them
- Taking steps to improve the quality of healthcare services that patients receive
- Managing the medical facility's finances and overseeing billing
- Creating work schedules for other staff members
- Keeping and organizing records of services
- Representing the medical facility on governing boards and meetings

Candidates who enjoy taking on a high level of responsibility and managing with fairness and compassion will enjoy the world of healthcare management. Healthcare managers need to have a great bedside manner and be able to work under pressure. They need to have stellar analytical, interpersonal, and problem-solving skills.

## Healthcare Management Job Education Requirements

Most healthcare managers have at least a bachelor's degree, and it's common for them to have a master's degree. In fact, master's degrees in long-term administration, public health, health services, or a related field will put candidates in a better position for acquiring the more competitive, desirable positions. One path that some healthcare managers do take is to attain a starting position after earning a bachelor's degree, then taking night school courses to earn a master's degree in the field. Both on-the-job experience and a high level of education are important factors when employers are considering candidates for healthcare management positions. Healthcare managers often work closely to help [doctors](#) and [nurses](#) best serve patients.

## **Healthcare Management Job Market**

There are currently more than 315,500 Americans employed as healthcare managers, and more than 73,300 new healthcare management jobs will be created between now and 2022. This 23 percent job growth means that healthcare managers will be in high demand now and especially in the future.

## **Healthcare Management Job Salary Information**

Healthcare managers earned a median annual salary of \$88,580 in 2012. The top healthcare professionals in these positions made over \$150,560, and the low-end average annual salary was \$53,940. Generally, healthcare managers who work in practices with 26 or more physicians will command the top salaries. Also, those who have a master's degree or higher education as well as extensive experience will earn more.





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**Associate Brand Manager, Consumer Health Care**

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**Hospital Business Office Manager**

Resolution - Louisville, CO  
 \$100,000 a year  
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**Talent Acquisition Search Consultant (PRN)**

Mission Hospitals - Asheville, NC  
 \$46,300 a year  
 Ideally healthcare, IT and Finance. Responsible for the management of full cycle recruitment of leadership and hard to fill positions....  
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**Quality System Manager - Pharmaceutical Operations**

McKesson - 1,127 reviews - Concord, NC  
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**Assistant Manager**

Elmhurst Memorial Healthcare - 59 reviews - Elmhurst, IL  
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**CFO Spotsylvania Regional Medical Center**

Spotsylvania Regional Medical Center - 19 reviews - Fredericksburg, VA  
 Knowledge of financial management, analysis , principles and techniques and managerial skills typically acquired through 2-3 years experience in public...  
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**Health Science Specialist (NSAP Project)**

Department of Veterans Affairs - 1,118 reviews - Dallas County, TX  
 The position is located with the Mental Health Service of the VA North Texas Healthcare System (VANTHCS). Works collaboratively with the project Director, and...

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# OCCUPATIONAL OUTLOOK HANDBOOK

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## Medical and Health Services Managers

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[Summary](#) | [What They Do](#) | [Work Environment](#) | [How to Become One](#) | [Pay](#) | [Job Outlook](#) | [Similar Occupations](#) | [More Info](#)

### Summary

Quick Facts: Medical and Health Services Managers	
<b>2012 Median Pay</b>	\$88,580 per year \$42.59 per hour
<b>Entry-Level Education</b>	Bachelor's degree
<b>Work Experience in a Related Occupation</b>	None
<b>On-the-job Training</b>	None
<b>Number of Jobs, 2012</b>	315,500
<b>Job Outlook, 2012-22</b>	23% (Much faster than average)
<b>Employment Change, 2012-22</b>	73,300



Medical and health services managers often work closely with medical staff to plan, direct, and coordinate the delivery of healthcare.

#### What Medical and Health Services Managers Do

Medical and health services managers, also called healthcare executives or healthcare administrators, plan, direct, and coordinate medical and health services. They might manage an entire facility or specialize in managing a specific clinical area or department, or manage a medical practice for a group of physicians. Medical and health services managers must be able to adapt to changes in healthcare laws, regulations, and technology.

#### Work Environment

Medical and health services managers held about 315,500 jobs in 2012. Most medical and health services managers work in offices in healthcare facilities, including hospitals and nursing homes, and group medical practices.

#### How to Become a Medical or Health Services Manager

Most medical and health services managers have at least a bachelor's degree before entering the field; however, master's degrees also are common. Requirements vary by facility.

#### Pay

The median annual wage for medical and health services managers was \$88,580 in May 2012.

#### Job Outlook

Employment of medical and health services managers is projected to grow 23 percent from 2012 to 2022, much faster than the average for all occupations. As the large baby-boom population ages and people remain active later in life, the healthcare industry as a whole will see an increase in the demand for medical services.

#### Similar Occupations

Compare the job duties, education, job growth, and pay of medical and health services managers with similar occupations.

#### More Information, Including Links to O\*NET

Learn more about medical and health services managers by visiting additional resources, including O\*NET, a source on key characteristics of workers and occupations.

[What They Do >>](#)

#### SUGGESTED CITATION:

Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2014-15 Edition, Medical and Health Services Managers, on the Internet at <http://www.bls.gov/ooh/management/medical-and-health-services-managers.htm> (visited August 11, 2015).



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### What Medical and Health Services Managers Do

About this section

Medical and health services managers, also called healthcare executives or healthcare administrators, plan, direct, and coordinate medical and health services. They might manage an entire facility or specialize in managing a specific clinical area or department, or manage a medical practice for a group of physicians. Medical and health services managers must be able to adapt to changes in healthcare laws, regulations, and technology.

#### Duties

Medical and health services managers typically do the following:

- Work to improve efficiency and quality in delivering healthcare services
- Keep up to date on new laws and regulations so that the facility in which they work complies with them
- Supervise assistant administrators in facilities that are large enough to need them
- Manage the finances of the facility, such as patient fees and billing
- Create work schedules
- Represent the facility at investor meetings or on governing boards
- Keep and organize records of the facility's services, such as the number of inpatient beds used
- Communicate with members of the medical staff and department heads



In group medical practices, medical and health services managers work closely with physicians.

In group medical practices, managers work closely [physicians and surgeons](#), [registered nurses](#), [medical and clinical laboratory technologists and technicians](#) and other healthcare workers.

Medical and health services managers' titles depend on the facility or area of expertise in which they work. The following are some examples of types of medical and health services managers:

**Nursing home administrators** manage staff, admissions, finances, and care of the building, as well as care of the residents in nursing homes. All states require them to be licensed; licensing requirements vary by state.

**Clinical managers** oversee a specific department, such as nursing, surgery, or physical therapy, and have responsibilities based on that specialty. Clinical managers set and carry out policies, goals, and procedures for their departments; evaluate the quality of the staff's work; and develop reports and budgets.

**Health information managers** are responsible for the maintenance and security of all patient records. They must stay up to date with evolving information technology and current or proposed laws about health information systems. Health information managers must ensure that databases are complete, accurate, and accessible only to authorized personnel.

**Assistant administrators** work under the top administrator in larger facilities and often handle daily decisions. Assistants might direct activities in clinical areas, such as nursing, surgery, therapy, medical records, or health information.

[← Summary](#)

[Work Environment →](#)

**SUGGESTED CITATION:**

Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2014-15 Edition, Medical and Health Services Managers, on the Internet at <http://www.bls.gov/ooh/management/medical-and-health-services-managers.htm> (visited August 11, 2015).

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### How to Become a Medical or Health Services Manager

About this section

Most medical and health services managers have at least a bachelor's degree before entering the field; however, master's degrees also are common. Requirements vary by facility.

#### Education

Medical and health services managers typically need at least a bachelor's degree to enter the occupation. However, master's degrees in health services, long-term care administration, public health, public administration, or business administration also are common.

Prospective medical and health services managers should have a bachelor's degree in health administration. These programs prepare students for higher level management jobs than programs that graduate students with other degrees. Courses needed for a degree in health administration often include hospital organization and management, accounting and budgeting, human resources administration, strategic planning, law and ethics, health economics, and health information systems. Some programs allow students to specialize in a particular type of facility, such as a hospital, a nursing care home, a mental health facility, or a group medical practice. Graduate programs often last between 2 and 3 years and may include up to 1 year of supervised administrative experience.



Large healthcare facilities usually have several assistant administrators who aid the top administrator and handle daily decisions.

#### Important Qualities

**Analytical skills.** Medical and health services managers must be able to understand and follow current regulations and be able to adapt to new laws.

**Communication skills.** These managers must be able to communicate effectively with other health professionals.

**Detail oriented.** Medical and health services managers must pay attention to detail. They might be required to organize and maintain scheduling and billing information for very large facilities, such as hospitals.

**Interpersonal skills.** Medical and health services managers need to be able to discuss staffing problems and patient information with other professionals, such as physicians and health insurance representatives. They must be able to motivate and lead staff.

**Problem-solving skills.** These managers are often responsible for finding creative solutions to staffing or other administrative problems.

**Technical skills.** Medical and health services managers must be able to follow advances in healthcare technology. For example, they may need to use coding and classification software and electronic health record (EHR) systems as their facility adopts these technologies.

#### Work Experience in a Related Occupation

Some facilities may hire those with specialized experience in a healthcare occupation in addition to administrative experience. For example, nursing service administrators usually are supervisory [registered nurses](#) with administrative experience and graduate degrees in nursing or health administration.

#### Licenses, Certifications, and Registrations

All states require nursing care facility administrators to be licensed; requirements vary by state. In most states, these administrators must have a bachelor's degree, pass a licensing exam, and complete a state-approved training program. Some states also require administrators in assisted-living facilities to be licensed. A license is not required in other areas of medical and health services management.

Although certification is not required, some managers choose to become certified. Certification is available in many areas of practice. For example, the [Professional Association of Health Care Office Management](#) offers certification in health information management or medical management, while the [American College of Health Care Administrators](#) offers the Certified Nursing Home Administrator and Certified Assisted Living Administrator distinctions.

#### Advancement

Medical and health services managers advance by moving into more responsible and higher paying positions. In large hospitals, graduates of health

administration programs usually begin as administrative assistants or assistant department heads. In small hospitals or nursing care facilities, they may begin as department heads or assistant administrators. Some experienced managers also may become consultants or professors of healthcare management. The level of the starting position varies with the experience of the applicant and the size of the organization.

[<- Work Environment](#)

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**SUGGESTED CITATION:**

Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2014-15 Edition, Medical and Health Services Managers, on the Internet at <http://www.bls.gov/ooh/management/medical-and-health-services-managers.htm> (visited August 11, 2015).

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## Medical and Health Services Managers

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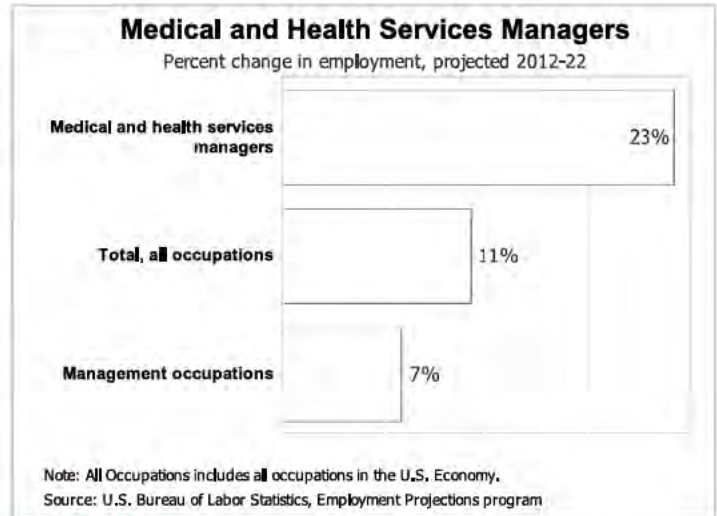
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### Job Outlook

About this section

Employment of medical and health services managers is projected to grow 23 percent from 2012 to 2022, much faster than the average for all occupations. As the large baby-boom population ages and people remain active later in life, the healthcare industry as a whole will see an increase in the demand for medical services. This demand will in turn result in an increase in the number of physicians, patients, and procedures, as well as in the number of facilities. Managers will be needed to organize and manage medical information and staffs in the healthcare industry. There will likely be increased demand for nursing care facility administrators as baby boomers age.

Employment is projected to grow in offices of health practitioners. Many services previously provided in hospitals will shift to these settings, especially as medical technologies improve. Demand in medical group practice management is expected to grow as medical group practices become larger and more complex.



### Employment projections data for medical and health services managers, 2012-22

Occupational Title	SOC Code	Employment, 2012	Projected Employment, 2022	Change, 2012-22		Employment by Industry
				Percent	Numeric	
Medical and health services managers	11-9111	315,500	388,800	23	73,300	<a href="#">[XLS]</a>

SOURCE: U.S. Bureau of Labor Statistics, Employment Projections program

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#### SUGGESTED CITATION:

Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2014-15 Edition, Medical and Health Services Managers, on the Internet at <http://www.bls.gov/ooh/management/medical-and-health-services-managers.htm> (visited August 11, 2015).

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# Hello, I have a bachelors degree in healthcare management. What kind of job can I get, and how much would it p?

I am hoping that my new job as a healthcare manager will be more related to managing the business without having to have too much customer interaction on a daily basis..I like people, but I need my space sometimes so that I could actually think about how to fix problems. Please help me! I am so lost, and I do not... [show more](#)

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## Answers



**Best Answer:** You spent a few years in college without doing enough research and now you're asking what you can do with it? And if you think any job in healthcare can avoid dealing with people, you are very naïve and I am very sorry to tell you that you may have wasted a lot of time and money on it.

To be fair, and to answer your question, someone with this degree is probably hired to run a clinic. You will have to deal with a lot of issues that deal with different personalities. You will do the hiring and the firing, most likely yourself. You would deal with the budget – and it means not having enough money to run the place. You may have to deal with the problem with people calling in sick. You would deal with disciplining the employee when something goes wrong. You have to be completely fair and you cannot become friend with anyone at work. If you play favoritism, you will be judged harshly.

The good side of this is they may pay you a lot of money.

Pooky™ · 3 years ago

2 0

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