Medical Education in Charlotte: A Tale of Four Medical Schools

Austin Chamber of Commerce
2011 InterCity Visit
September 25, 2011

James T McDeavitt, MD
CHS Chief Academic Officer
Carolinas HealthCare System
Healthcare and Wellness Programs Throughout NC & SC

- Medical Centers
- Hospitals
- Healthcare Pavilions
- Physician Practices
- Surgery Centers
- Rehabilitation Centers
- Home Health Agencies
- Nursing Homes
- Hospice

CHS works to improve and enhance the overall health and wellbeing of its communities through high quality patient care, education and research programs, and a variety of collaborative partnerships and initiatives.
Carolinas Medical Center

• One of 5 state designated academic medical center teaching hospitals in NC

• 874 bed tertiary care center

• Multiple residency and fellowship training programs

• Designated Charlotte Campus of UNC-CH School of Medicine in October 2010

• Cannon Research Center located on campus
Outline

• History of Medical Education in Charlotte
• Carolinas HealthCare System leadership
• Strategy
• Funding
• Lessons Learned
Charlotte Medical School #1
North Carolina Medical College

- Arlington Hotel
  - Barbershop
  - Fruit stand
  - Presbyterian Hospital
  - Last Chance Saloon

- Fell victim to the Flexner report
Carolinas HealthCare System: Commitment to Academic Medicine
Becoming a Doctor

- HS 4y
- College 4y
- Medical School 4y
- Internship 1y
- Residency

**Primary Care**
- Internal Medicine 3y (+2-3)
- Obstetrics & Gynecology 4y
- Pediatrics 3y (+3)
- Family Medicine 3y

**Specialty**
- General Surgery 5y (+1-5)
- Emergency Medicine 3-4y
- Orthopaedic Surgery 5y
- Dermatology 4y
- Anesthesiology 4y
- Neurology 4y
- Pathology 4y
- Psychiatry 4y
- Radiology 4-5y (+1-2)

**Exams**
- USMLE Step 1
- USMLE Step 2
- USMLE Step 3
- Certification Boards Written (+Oral)

**Admissions**
- SAT
- MCAT
St. Peter’s Hospital in Charlotte
1963 CMC GME STATS
Dr. Bryant Galusha’s 10

10 Interns
11 Residents
3 Residency Programs

No Formal
Full Time Faculty

1964 Dr. Marvin M. McCall 1st full time
Faculty member
2011 CMC GME STATS

272 Residents & Fellows
23 Residency & Fellowship Programs
333 Full Time Faculty (FPN)

Strong Growth While Maintaining a Fertile Clinical Teaching Environment:
One of the Largest Teaching Hospitals in United States while Maintaining Optimal Intern to Bed Ratio
2011 CHS GME STATS

Charlotte: CMC & Mercy
272 Residents & Fellows
13 Residency Programs
10 Fellowship Programs

Concord: CMC Northeast
26 Residents & Fellows
1 Residency Program
1 Fellowship Programs

Anderson: AnMed
37 Residents & Fellows
2 Residency Programs
1 Fellowship Program
CMC 1963 GME Matriculates
CMC GME Match Results: *Recruitment Expansion*

This map represents the 25 states of origin of the medical schools of our 2009 house staff: **Red** = states that were not represented in 2004; **Green** = states that continue to be representative of our house staff matriculates over the past 5 years (**Brown states represent those with no medical school**).
**CMC GME Match Results: We are recruiting top talent**

The number of residents attending graduate medical education programs at Carolinas Medical Center having obtained a medical doctorate from one of the top 10 medical schools has increased substantially from 3 to 20%.

*Based on the US News & World Report rankings of 2004 and 2009
2004 total N = 61; 2009 total N = 72

For Example, in 2009 we attracted residents from these top-rated schools:

1. University of Washington (1 PC)
2. Harvard University (1 R)
3. University of NC Chapel Hill (2 PC)
4. Oregon Health & Science Univ (4 PC)
5. East Carolina University (6 PC)
6. Duke University (8 R)
7. University of Nebraska (10 PC)
**CMC GME Match Results**

The National Resident Matching Program (NRMP) is a private, non-profit corporation established as an impartial venue for rank ordering the choices of resident applicants and program directors. The 2009 match was the largest in history with 22,427 positions offered in 3,575 programs.

The percent of residency positions filled is one measure of a successful match. In 2009, all of CMC’s programs far exceeded the national average rate of match.*

*Based on % of US Medical Graduates filling positions
CMC GME Faculty & Resident Scholarship

Carolinas Medical Center is a member of the Alliance for Independent Academic Medical Centers (AIAMC) which is a national organization of 65 teaching hospitals dedicated to providing true benchmarking data for independent academic medical centers and to increase representation of independent academic medical centers at a national level.

Carolinas Medical Center is one of the largest and most scholarly independent teaching hospitals in the nation.

![Graph showing 2008 Faculty Scholarly Activities]

- **417** - Publications, including 326 journal articles, 90 books and book chapters
- **404** - presentations
- **496** - invited lectures
- **215** - grant proposals
- **96** - funded grants
<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Enrollment</td>
<td>469</td>
<td>467</td>
<td>484</td>
<td>526</td>
</tr>
<tr>
<td>Average Graduation Rate</td>
<td>80%</td>
<td>83%</td>
<td>72%</td>
<td>77%</td>
</tr>
<tr>
<td>Average Licensure Exam Pass</td>
<td>92%</td>
<td>96%</td>
<td>97%</td>
<td>98%</td>
</tr>
<tr>
<td>Rate</td>
<td></td>
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<td></td>
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<tr>
<td>Placement Upon Graduation</td>
<td>94%</td>
<td>92%</td>
<td>98%</td>
<td>100%</td>
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<tr>
<td>Placement at a CHS Facility</td>
<td>86%</td>
<td>79%</td>
<td>89%</td>
<td>91%</td>
</tr>
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</table>
Strategic Rationale

The UNC School of Medicine Charlotte Campus:

1. Builds on existing academic infrastructure, and leverages a relationship which has spanned half a century
Shifting NIH Focus

NIH Roadmap adds a new research laboratory designed to bring research out to ambulatory care settings.
Research Vision

“The CHS regional research enterprise will have a measurable, substantive and ongoing impact on the health and well-being of the diverse communities we serve.”

Additionally, CHS Research should, whenever possible, advance the IOM’s six “Aims for Improvement”:

- Safe
- Effective
- Patient-Centered
- Timely
- Efficient
- Equitable
On October 16, 2010, the UNC School of Medicine announced the formal establishment of regional clinical campuses in Charlotte and Asheville. The purpose of these campuses is to strengthen physician training capacity in the western part of the state, with special focus on rural and urban underserved populations and in medical specialties of greatest need.
Strategic Rationale

The UNC School of Medicine Charlotte Campus:

1. Builds on existing academic infrastructure, and leverages a relationship which has spanned half a century

2. Aligns with the organizational mission of Carolinas Healthcare System
Charlotte Medical School #2
**Strategic Rationale**

The UNC School of Medicine Charlotte Campus:

1. Builds on existing academic infrastructure, and leverages a relationship which has spanned half a century

2. Aligns with the organizational mission of Carolinas Healthcare System

3. Immediately links the Charlotte Campus to a top-tier school of medicine, with a path to a four-year school
Is the looming physician shortage real?

CBCNews, 2009
Physician Growth Rate Has Slowed

Chart 1.1
Providers per 10,000 Population, North Carolina, 1985-2005

Note: Providers are active, in-state, non-Federal, non-resident-in-training providers licensed in North Carolina. Primary care physicians are those with a primary specialty of family practice, general practice, internal medicine, obstetrics/gynecology, or pediatrics.

Source: North Carolina Health Professions Data System and NC State Demographer.
Current NC Physician Supply is Average

Chart 1.2
Physician Supply per 10,000 Population by State, 2005

Demographics of NC Physicians, 1980-2004

Compared to 1980:

- NC physicians today are significantly older
- Women constitute a much greater proportion of the workforce
Utilization of physician services is increasing.

NC has the 4th highest growth rate in older adults in the US.

NC adults over 65 are projected to increase 59% between 2004 and 2020.

Chart 1.4
Average Number of Ambulatory Visits by Age of Patient, 1990 and 2004

Even under the most optimistic scenarios, NC will begin to experience a decline in physician supply by 2020.
Physician Shortage: A National Problem…

• The Association of American Medical Colleges (AAMC) estimates that there will be a national shortage of 62,900 physicians in 2015, and that this deficit will grow to 130,600 in 2025.

• There is also a predicted acceleration of the current primary care shortage, including projected deficits of 33,000 primary care physicians by 2015 and 66,000 by 2025.

UNC SOM is not alone…

• A survey of U.S. medical school deans in 2008 found that 113 of the country’s 125 accredited allopathic¹ medical schools had increased class size or planned to increase class size.²
Overall, 40% of students who train in NC medical schools, stay in NC to practice.

<table>
<thead>
<tr>
<th>School</th>
<th>2004-2005 Academic Year</th>
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<tbody>
<tr>
<td></td>
<td>Total Enrollment</td>
</tr>
<tr>
<td>Brody School of Medicine, East Carolina University</td>
<td>290</td>
</tr>
<tr>
<td>Duke University School of Medicine</td>
<td>467</td>
</tr>
<tr>
<td>University of North Carolina School of Medicine</td>
<td>649</td>
</tr>
<tr>
<td>Wake Forest University School of Medicine</td>
<td>427</td>
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Volume of Recent Residency Graduates Currently Practicing in CHS (2004-2008)

- Thoracic Surgery
- Vascular Surgery
- PM&R
- Pediatrics
- Orthopedics
- Oral Medicine
- Obstetrics and Gynecology
- General Surgery
- Internal Medicine
- Family Medicine
- Emergency Medicine

Legend:
- Fellowship then Faculty
- Fellowship then CPN
- Residency then Faculty
- Residency then CPN

Resident and fellow presence in Carolinas HealthCare System (CHS). This graph represents residents who trained at Carolinas Medical Center who have 1) joined the faculty or a CPN practice immediately after residency or 2) completed a fellowship but have returned to do work within CHS either as faculty or in a CPN practice.
Strategic Rationale

The UNC School of Medicine Charlotte Campus:

1. Builds on existing academic infrastructure, and leverages a relationship which has spanned half a century

2. Aligns with the organizational mission of Carolinas Healthcare System

3. Immediately links the Charlotte Campus to a top-tier school of medicine, with a path to a four-year school

4. Addresses a critical physician workforce need in an immediate and cost-effective manner
Charlotte Medical School #3

Cocktail

TOM CRUISE

Carolinhas HealthCare System
Uncompromising Excellence. Commitment to Care.
Charlotte Medical School #4
WHAT?


Carolinias HealthCare System
Uncompromising Excellence. Commitment to Care.
In response to this identified need, the UNC Board of Governors (BOG) developed a plan to increase class size at the UNC School of Medicine by 70 students (from 160 to 230) starting in 2009. This was to occur utilizing branch campuses in Charlotte (N=50) and Asheville (N=20).

The state provided planning dollars, but the economic downturn has prevented the allocation of funds to enact the full initiative.

Despite the current financial challenges, given the state’s accelerating manpower needs, the UNC School of Medicine (UNC SOM) has moved ahead with planning, in partnership with Carolinas HealthCare System (CHS) and Mission Health System.
Projected Student Rotation Volume

Student-months/year

AY 7/8  AY 8/9  AY 9/10  AY 10/11  AY 11/12  AY 12/13  AY 13/14  AY 14/15  AY 15/16  AY ?/?

AHEC 3rd Year  4th Year  Total

Carolina HealthCare System
Uncompromising Excellence. Commitment to Care.
In Summary

- Expanded use of regional campuses was recommended by the AAMC as a strategy to meet the needed 30 percent increase in physicians.

- The recession currently prevents full expansion to 50 students-per-year in Charlotte and 20-per-year in Asheville. However, smaller pilot expansion plans have moved forward.

- Further expansion is ongoing, and will accelerate once the legislature is able to support all related capital and operational needs.

- The current plan results from years of careful analysis and planning to bring a top ranked academic brand to Charlotte and Asheville.

- It is cost-effective, and moves physician candidates into the pipeline much more quickly than other expansion options.