



Rayburn Barton
Executive Director

October 5, 2000

MEMORANDUM

To: Mr. Dalton B. Floyd, Jr., Chairman, and Members,
Commission on Higher Education

From: Ms. Dianne Chinnes, Chairman,
Committee on Academic Affairs and Licensing

DC/gmm

Follow-Up Report on Statewide Review of Dentistry Education/1997

Background

In October 1996, the Commission on Higher Education conducted a statewide review of dental education. There is only one College of Dental Medicine in South Carolina, located at the Medical University of South Carolina, in Charleston. The review was conducted in conjunction with the professional accrediting visit by the American Dental Association.

The Commission's report (August 25, 1997) which resulted from the statewide review stipulated that the Medical University was to report by June 1, 2000, on progress made in the implementation of the recommendations as follows:

- To develop a plan for increasing enrollments and graduation rates of women and African-Americans
- To work with the staffs of the State Budget and Control Board's Office of Research and Statistics and the Commission on Higher Education to study during 1997-1998 the current and future demographic needs for additional dentists in South Carolina
- To add sufficient faculty members to create a viable research cadre as part of the permanent faculty
- To institute a system of post-tenure review for tenured faculty members consistent with the requirements of performance funding.

In May 2000, the Commission received a report from the Medical University of South Carolina on this topic, accompanied by a letter of transmittal from the Dean of the College of Dental Medicine.

Findings

The report demonstrates that the Medical University has made substantial progress in the implementation of the four recommendations cited above. Specifically, the following efforts can be cited as signs of institutional momentum:

- Since the CHE statewide review visit, the Medical University has made a concerted, systematic effort to produce and implement a plan to recruit minorities to the College of Dental Medicine.
- The plan which MUSC has produced is targeted to a variety of student bodies in South Carolina's Historically Black Colleges and Universities (HBCU) group with the goal of establishing a credible pipeline of academically prepared, potential dental students.
- According to the MUSC report, the College of Dental Medicine is recruiting and retaining through graduation a percentage of women students who approach the national average of 34%; no 'plan' is apparently being employed to achieve this figure.
- Persons at the Medical University have worked with the statisticians of the Office of Research and Statistics at the Budget and Control Board to produce a plausible set of scenarios for judging how many dental students should be recruited to and graduated from the College of Dental Medicine over the next fifteen years.
- A report has been issued showing progress made in the implementation of a plan to create a viable cadre of research-oriented faculty members and to reward research in the College of Dental Medicine.
- A report has been issued to show that a system of post-tenure review has been established for the College of Dental Medicine.

Summary

The Medical University supplied the progress report requested by the Commission by the date requested. The report shows considerable forward momentum by the institution to address the concerns of the consultant as encapsulated in the recommendations adopted by the Commission. The workforce model developed shows that current class size is adequate to meet current needs, but may be inadequate in about ten years if the assumptions on which the model is based are accurate.

Although the report shows impressive steps have been taken to hire a Director of Diversity, a graduate of the College of Dental Medicine herself, there are no data yet that demonstrate that the programs which have been initiated to work with young African-American students from the state's historically black institutions of higher education have yet produced any increase in the numbers of qualified applicants, students, or graduates who are minorities. Nothing in the report shows that the Medical University has a specific plan to recruit and enroll increased numbers of women although the percentage enrolled shows a slight upward trend from 29% in the Class of 2000 to 33% in the Class of 2004. The report notes, however, that the University now has an active chapter of the American Association of Women Dentists and that all female students in the Class of 2000 graduated and earned their degrees.

A copy of MUSC's report is attached.

Recommendation

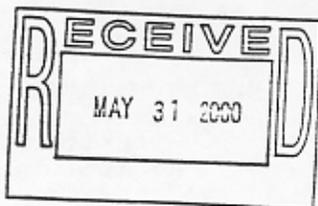
The Committee recommends that the Commission accept this report submitted by the College of Dental Medicine at MUSC as filling the recommendations made by the Commission's consultant. The staff further suggests that the College of Dental Medicine and the Medical University be thanked for the progress made to date and be encouraged to set specific goals to continue to increase the numbers of qualified women and minorities in the student body until their enrollments reflect more closely their percentages in the general population.

Enclosure

MUSC

MEDICAL UNIVERSITY
OF SOUTH CAROLINA

COLLEGE OF DENTAL MEDICINE
OFFICE OF THE DEAN
175 ASHLEY AVENUE • BSB 447
PO BOX 250507
CHARLESTON • SC 29425
Ph (843) 792-5811
Fax (843) 792-1576
E-Mail: dechamp@musc.edu



May 30, 2000

Mr. Rayburn Barton
Executive Director
South Carolina Commission on Higher Education
1333 Main Street, Suite 200
Columbia, SC 29201

Dear Mr. Barton:

Your letter of August 26, 1997 to Doctor James B. Edwards required that we report on the progress made in implementing the recommendations proposed by the CHE consultant.

A copy of our progress report is enclosed for your review. Please feel free to contact me if we can provide any further information or documentation.

Sincerely yours,


Richard W. DeChamplain, D.M.D.
Dean and Professor of
Oral and Maxillofacial Surgery

skt
Enc.

cc: Doctor Raymond Greenberg
Doctor Rosalie Crouch
Doctor Tom Higerd

Recommendation a.

- a. **Develop a plan for increasing enrollments and graduation rates of women and African-Americans.**

The most significant step taken in this area is the appointment of the Director of Diversity for the College of Dental Medicine. Dr. Gwendolyn Brown, a 1986 graduate of CDM is the Director of Diversity and has developed and implemented a strategic plan on diversity for the College of Dental Medicine.

The section of the strategic plan in relation to increasing the number of underrepresented minority predoctoral dental students is enclosed (Appendix a-1).

The following are the programs which we have initiated and participated in our efforts to further increase the number of African Americans (AA) students matriculating in the CDM.

1. Post-Baccalaureate Reapplication Education Program (PREP) is funded by CDM with a purpose to increase the number of AA applicants who could successfully matriculate in the CDM. A copy of the dental PREP program contract is enclosed (Appendix a-2).
2. Participation in the federally funded Summer Health Career Opportunity Program has provided a pool of qualified students (underrepresented minorities) for consideration and eventual matriculation into CDM Appendix a-3 provides a schedule of the program offered in summer 1999.
3. Participation in the South Carolina HBCU/MUSC Health Profession Pipeline Initiative Summer Institute. The purpose of this program is to attract and academically prepare the students from HBCU's who could eventually matriculate into MUSC colleges including CDM. A sample one week activity of this program is enclosed as Appendix a-4.

Careful consideration of credentials, DAT scores, and interviews by the Admissions Committee has ensured matriculation of qualified students and their ultimate graduation from CDM. The Director of Diversity and the Associate Dean for Academic and Student Affairs regularly monitor the academic progress of students. Students in potential academic difficulty are identified and appropriate assistance is provided. The Director of Diversity and the Associate Dean are available to provide help and assistance in any life situations which may negatively impact an academic performance. The Center for Academic Excellence and the Office of Counseling and Psychological Services are utilized for assistance to students.

We are pleased to report that all five AA students of the senior year (DMD 2000) have graduated this year and have earned the DMD degree.

Enrollment of women in the MUSC CDM is at or above the national average statistics (34% in 1998). The following table outlines the gender statistics of CDM classes of the past five years.

College of Dental Medicine
Medical University of South Carolina
Gender Statistics

DMD Class	Male	Female	% of Females Enrolled	% of Males Enrolled	Totals
Class of 2004	37	18	33%	67%	55
Class of 2003	35	18	34%	66%	53
Class of 2002	34	20	37%	63%	54
Class of 2001	40	16	27%	71%	56
Class of 2000	39	16	29%	71%	55

Our efforts will continue to enroll qualified women to matriculate into the CDM. We now have an active American Association of Women Dentists Chapter at CDM. Female students have been recipients of many prestigious scholarships, have held national offices in student organizations, and have earned residency positions in highly ranked institutions. All female students of the DMD class of 2000 graduated and have earned their DMD degrees.

**Strategic Plan on Diversity
for the
College of Dental Medicine**

Submitted by the CDM Ad Hoc Committee on Diversity rev.1/13/00

Goals

Goal 1 - To increase the number of underrepresented minority pre-doctoral dental students.

Objective #1 - To increase the acceptance rate among underrepresented minority students offered a place in the College of Dental Medicine pre-doctoral program.

The following strategies will be implemented as part of the action plan to help the College of Dental Medicine achieve this objective:

- Create a Health Science Foundation Expendable Fund for the expressed purpose of providing scholarships for African American applicants accepted for admittance into the College of Dental Medicine.

Persons Responsible Director of Diversity and Dean, College of Dental
Medicine, MUSC.

Date to be Accomplished October 1, 1999

Rationale The CDM has lost several African American applicants to other dental schools which have offered scholarship money in the last few years, even when the total cost would still be cheaper at MUSC. The mere gesture of offering a scholarship should increase the percentage of African American applicants who attend MUSC CDM. Historically less than 50% of African American students accept an offer of admission from the MUSC CDM.

Date Accomplished - November 1, 1999

- Reach out to underrepresented minority dentists in South Carolina, especially the African American Alumni of the CDM for donations to the HSF Fund for African American Dental Scholarships

Cost None

Persons Responsible Director of Diversity and Dean, College of Dental
Medicine, MUSC.

Date to be Accomplished November 1, 1999

Objective #2 - To increase the number of underrepresented minority student applicants meeting the standards of admission to the College of Dental Medicine from 8 to 20 per year (250% increase) over the next 5 years.

The following strategies will be implemented as part of the action plan to help the College of Dental Medicine achieve this objective:

- Develop a good relationship with the Healthcare Advisors at the Historically Black Colleges and Universities in South Carolina and Southeast and other colleges and universities in South Carolina with large minority populations, eg. Clemson University, The University of South Carolina, The Citadel, Charleston Southern University, the College of Charleston, Wofford University, Winthrop, Furman University etc.

Cost \$ 1,000
 Persons Responsible Director of Diversity and Student Services Program Coordinator, College of Dental Medicine, MUSC.
 Date to be Accomplished December 1, 1999
 Rationale Healthcare advisors at the HBCU's are not enthusiastically recommending MUSC to their pre-dent students. It is important that we change their misconception that MUSC CDM is a hostile environment for African American students.

- Identify potential dental school applicants early in the admission process.
 1. Obtain from the AADSAS Application Service by November 1 and December 1 a listing of all underrepresented minority students who have applied to AADSAS Service. Contact potential students via letters and telephone.
 2. Obtain from the DAT Testing Service by July 1, Oct. 1, and Feb.1 of each admissions cycle a listing of all underrepresented minority students who have taken the DAT test and contact potential students via letter and/or telephone.
 3. Develop a Dental Career Day at MUSC and/or individual colleges and universities for both students and faculty to increase awareness of dental career opportunities. Focus on the idea of fostering an interest in dentistry at MUSC.

Persons Responsible Director of Diversity and Dean, College of Dental Medicine, MUSC.

4. Develop a comprehensive recruitment package for the College of Dental Medicine. This package should include a brochure about the college, information about Charleston, MUSC environment, letter from the Dean, profiles of faculty and students, a video, etc. Modify the College of Dental Medicine's website to present a dynamic image of the College of Dental Medicine's students and faculty.

Persons Responsible Dean, Associate Dean for Academic and Student Affairs, Director of Diversity for the College of Dental Medicine, the College of Dental Medicine computer technical assistant, and the CDM Student Services Program Coordinator.

Date to be Accomplished June 2000, on going

Dental PREP Program Contract

By reading the following statement and signing below, you acknowledge all conditions of the Post-baccalaureate Reapplication Education Program (PREP) with regard to purpose, eligibility, continuing participation, and outcome.

The purpose of the program is to increase the number of minority applicants eligible for admission to the College of Dental Medicine by means of well-defined, integrative, and preparatory courses of study prescribed for academically under-prepared but promising MUSC applicants to be taken at the College of Charleston over the course of one year. The ultimate goal is to promote better dental health among the citizens of the State of South Carolina, with special focus on meeting the needs of rural and underrepresented populations

The key elements of the post-baccalaureate program are defined herewith and are intended to serve as a guided implementation of the program.

The program is administered by MUSC's College of Dental Medicine and the College of Charleston. Dr. Tariq Javed, Associate Dean for Academic and Student Affairs, and Ms. Ericka J. Evans, Student Programs Coordinator, will coordinate the PREP Program and will convene bimonthly and planning meetings for enrolled students.

Being that the Medical University of South Carolina is a state supported institution, our first priority is to our South Carolina applicants. If there are no applicants that meet the minimum requirements, our search will then move to out-of-state applicants. All students must initially apply through the ADSAS process. PREP students will be invited to the College for an interview and the results will be sent to the College of Dental Medicine Admissions Committee. The Admissions Committee will then forward the names of the selected students to the PREP Committee. Members of both committees will be familiar with the goals, objectives, and special nature of the post-baccalaureate program. Selection criteria will be agreed upon and consistently approved by these committees to ensure that underprepared but promising applicants are equitably chosen.

Selected PREP students will:

1. Enroll in individually designed courses at the College of Charleston
2. Audit selected courses at The Medical University of South Carolina
3. Attend one half-day clinic visit per month

Each PREP student will be assigned a dental student mentor to assist with integration into the social and cultural life of MUSC.

Requirements PREP Students

Once selected/enrolled the PREP student must:

- Maintain a minimum average GPA of 3.0 in science coursework and attend audited classes at MUSC for admission once all of the criteria for the program have been successfully completed. Students whose grades are below 3.0 but higher than 2.5 at the end of the first semester will be placed on Academic Probation. Grades will be reviewed again at the end of the second semester at which time students must have a cumulative GPA of 3.0 or higher. If at the end of the Spring semester the student does not possess a minimum 3.0 GPA, the student will not be guaranteed admission and must go through the regular application process.
- Participate in the Health Careers Opportunity Program offered by the Office of Diversity for MUSC (if available)
- Retake the DAT in the fall and increase their current score.
- Required tutoring for all courses will be through the Center for Academic Excellence, and attend a course whose primary focus is addressing writing, speaking, learning strategies, interviewing skills, and other areas pertaining to student development.
- Meet with the Office of Diversity for the College of Dental Medicine and Academic and Student Affairs twice a month

Upon successful completion of the PREP program, students will begin their first year of Dental School in June 1999 with Summer Gross Anatomy. Students will be notified of their individual admissions status once their final grades have been verified and the DAT scores have been received.

The PREP program will provide a loan in the amount of \$13,000.00 for one year. From this amount students are expected to pay all tuition and fees (College of Charleston and MUSC), DAT test fees, and living expenses. The first check, for \$6,500.00 will be disbursed in August once the Fall semester bills have been received and a copy has been placed in file in the Office of Diversity for the College of Dental Medicine. The final check will be awarded in December 1998. Upon completion of the College of Dental Medicine, students are required to begin the repayment cycle one year after graduation.

I, _____, hereby agree to the above contract and accept the PREP program loan on _____.

Witness

Dean

Date

Associate Dean

Dental Medicine

Summer Health Careers Opportunity Program June 7 - July 30, 1999

Time	Monday	Tuesday	Wednesday	Thursday	Friday
9:00-10:50	Biochemistry Lecture Basic Science Bldg. 302	Biochemistry Lecture Basic Science Bldg. 302	Anatomy Lecture Basic Science Bldg. 302	Anatomy Lecture Storm Eye Institute HA 809	Anatomy Lecture Basic Science Bldg. 302
11:00-12:00	Biochemistry Lecture Cont.	Biochemistry Lab (See Instructor)	Anatomy Lab (See Instructor)	Anatomy Lab (See Instructor)	Weekly Review
12:00-12:30					Weekly Review
12:00-1:00	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH 12:30-1:00 (ONLY)
1:00-3:00	Clinical Observations ONLY	Free Time	Learning Strategies/ Diversity Training (see attached for Dates) Clinical Science Bldg 628H	Free Time	Dental Morphology 1:00-4:00 Basic Science Bldg. 5th Floor Lab
3:00-4:00	FREE TIME	DAT (3:00-6:00) QF 302 A	FREE TIME	DAT (3:00-6:00) QF 302 A	Dental Morph cont.
4:00-5:00	FREE TIME	DAT	FREE TIME	DAT	FREE TIME
5:00-6:30	Dental Terminology Perio Library		Dental Terminology Perio Library		FREE TIME

Special Events

Monday, June 7, 1999 All Day Orientation

Wednesday, June 9, 1999 Diversity Training with Dr. Bell
(Mandatory 1:00-3:00)

Saturday, June 19, 1999 HCOP Social (Free Your Mind!!!)
James Island County Park
12:00 - 6:30 p.m.
Transportation provided

Monday, July 5, 1999 Holiday

Wednesday, July 7, 1999 1:00 2nd disbursement of stipend

Tuesday, July 13, 1999 Rural Mission (bus will leave at 5:30)

Tuesday, July 27, 1999 Wrap up for DAT

Friday, July 30, 1999 HCOP Closing Ceremon
Storm Eye Institute

HBCU MUSC Summer Institute June 5 - June 9, 2000					
	Monday	Tuesday	Wednesday	Thursday	Friday
7:30 AM	ORIENTATION	PHYS 101 LAB (7:45 - 10:45) BIOL 201 (7:45 - 9:30) BIOL 111 (7:45 - 9:30)	PHYS 101 LAB (7:45 - 10:45) BIOL 201 (7:45 - 9:30) BIOL 201 LAB (10:00-1:00)	BIOL 201 (7:45 - 9:30) BIOL 201 LAB (10:00-1:00)	BIOL 201 (7:45 - 9:30) BIOL 201 LAB (10:00-1:00)
8 AM	ORIENTATION	BIOL320 (8:00-10:00)	BIOL320 (8:00-10:00)	BIOL320 (8:00-10:00)	BIOL320 (8:00-10:00)
9 AM	ORIENTATION	BIOL320 Cont.	BIOL320 Cont.	BIOL320 Cont.	BIOL320 Cont.
10AM	ORIENTATION	BIOL320 LAB (10:00-1:00) BIOL 201 LAB (10:00-1:00) BIOL 111 LAB (10:00 - 1:00)	BIOL320 LAB (10:00-1:00) BIOL 201 LAB (10:00-1:00) BIOL 111 LAB (10:00 - 1:00)	BIOL320 LAB (10:00-1:00)	BIOL320 Cont.
11AM	ORIENTATION	BIOL320 LAB (10:00-1:00) PHYS 101 (11:00 - 12:45)	BIOL320 LAB (10:00-1:00) PHYS 101 (11:00 - 12:45)	BIOL320 LAB (10:00-1:00) PHYS 101 (11:00 - 12:45)	PHYS 101 (11:00 - 12:45)
12 Noon		BIOL320 LAB (10:00-1:00)	BIOL320 LAB (10:00-1:00)	BIOL320 LAB (10:00-1:00)	PHYS 101
1 PM	ORIENTATION	LUNCH (1-2)	LUNCH (1-2)	LUNCH (1-2)	LUNCH Brown Bag Seminars
2 PM	ORIENTATION	Rhetoric 403 Harper Ctr.	Rhetoric 403 Harper Ctr	Statistical Analysis 438 Admin/Lib.	Statistical Analysis 438 Admin/Lib.
3 PM	ORIENTATION	Rhetoric Cont. 403 Harper Ctr	Rhetoric 403 Harper Ctr	Statistical Analysis 438 Admin/Lib.	Statistical Analysis 438 Admin/Lib.
4 PM	ORIENTATION	Study Skills	Study Skills	Study Skills	

COLLEGE OF CHARLESTON:

BIOL320 - Histology - MTWRF - 8:00 am - 10:00 am

LAB - TWR - 10:00 am - 1:00 pm

PHYS 101 - Physics - MTWRF - 11:00 am - 12:45 pm

LAB - MTW - 7:45 am - 10:45 am

BIOL111 - INTRO CELL MOLEC BIOLOGY - MTWRF - 7:45 - 9:30

LAB - MTW - 10:00 - 1:00

Recommendation b.

- b. **Work with the staff of the State Budget and Control Board's Office of Research and Statistics and the staff of the Commission on Higher Education to study the current and future needs for additional dentists in south Carolina.**

Dr. Linda Kaste, Director of the Division of Epidemiology and Dental Public Health of the College of Dental Medicine (CDM) has worked with the MUSC Center of Health Care Research (Drs. David Bradford, Paul Nietert) and the South Carolina Budget and Control Board (Ms. Jeannie Watson) in developing the enclosed response (Appendix b).

Dr. Kaste will continue to work with the following individuals as we address the issues related to dental manpower in South Carolina.

Dr. John Simkovick
Director, Trident Health District
SC DHEC, Dental Coordinator
Telephone: (843) 740-0815

Dr. _____
Director of Dental Public Health
State of South Carolina
(State position - recruitment near completion)

Mr. Mark Jordan
Director
SC DHEC Office of Primary Care
Telephone: (803) 898-0766

South Carolina Dental Workforce Model
for Estimates of Appropriate College of Dental Medicine Class Size
December 1999

This report was prepared in response to a request from the South Carolina Higher Education Commission to the Medical University of South Carolina College of Dental Medicine. The request was to study the current and future demographic needs for additional dentists in South Carolina. This request was operationalized for the College of Dental Medicine to the terms of appropriate pre-doctoral dental class size.

Methods:

Population estimates were obtained for S.C. from Census data for the years 1995-2025. Since the estimates were reported for only the years 1995-2000, 2005, 2015, and 2025, linear interpolation was used to determine population estimates for the individual years 2001-2004, 2006-2014, and 2016-2019.

The S.C. Office of Research and Statistics provided data on licensed dentists in S.C. from 1995 through 1999. From these data, the number of licensed dentists in 1999 was determined to be 1,577. Since these dentists worked on average, 38.04 hours per week, the number of dentist full time equivalents (FTEs) was determined to be 1,500 ($1,577 * 38.04 / 40$). Since the 1999 S.C. population was estimated to be 3,821,000, the dentist FTE/population ratio was calculated to be 39.25 dentist FTEs per 100,000 people (1 dentist to 2,548 people). The workforce model assumes that this ratio remains constant over the next 20 years. Using this ratio, the number of

dentist FTEs required was determined for each of the years 2000-2020. By 2020, 1,769 dentist FTEs will be needed to maintain the current FTE/population ratio.

Over the next 20 years, the dentists who will satisfy the S.C. dental FTE needs will come from several sources. First, the majority of these dentists will be comprised of those already working in S.C., which is referred to as the "current cohort." Another source of dentists that will help satisfy the dental need will be dentists migrating into S.C. from other states. This group is designated "immigrants." The final source of dentists helping to satisfy the workforce needs in S.C. will be those MUSC dental school graduates who decide to stay in S.C. It is important to note, however, that some members of each of these groups are likely to leave the S.C. dental workforce, either by moving outside S.C., by retiring, or by dying.

To account for the rate at which dentists leave the S.C. workforce either by moving outside S.C., by retiring, or by dying, a logistic regression model was developed using data from dentists licensed in S.C. in 1998 and 1999. Thus it could be determined whether each dentist stayed in S.C. from 1998 to 1999. The logistic regression model was used to determine the probability of leaving (whether by retiring, moving, or dying) the S.C. pool of dentists, with adjustments for age, race, and sex. The probability of leaving was high among younger dentists, presumably from them moving elsewhere. This probability declined among those 45-64, rising again in those over age 65, presumably when retirement is most likely. The probability of leaving was then used to model how each of the groups of dentists mentioned earlier (current, immigrants, and graduates) moves out of the S.C. pool of dentists.

Current cohort

Using the age distribution of the cohort of dentists currently working in S.C. in 1999, the number of FTEs supplied by this group was determined for each of the years 2000 to 2020. In order to make these calculations, several factors were taken into consideration. First, younger dentists tended to work more hours than older dentists. Second, the probability of leaving the S.C. pool of dentists was associated with age. For each age group, knowing the current number of dentists, the probability of leaving, and the average number of hours worked per week, the total number of FTEs supplied by this cohort was determined for each year 2000 to 2020.

Immigrants

In 1999, there were 33 dentist immigrants into S.C. That is, 33 dentists were licensed in S.C. who were not licensed in S.C. in 1998 and who were not MUSC graduates. An assumption was made that the number of immigrants into S.C. each year would be directly proportional to the growth in the total S.C. population. Since, on average, the S.C. population was projected to increase by 1% each year, the number of immigrants was assumed to increase 1% each year, with 41 immigrants expected in 2020. A population model was constructed for immigrants that accounted for the expected increase in the number of immigrants each year, their age distribution, and the probability of leaving the S.C. dental pool.

New MUSC graduates

In order to determine how many graduates from the MUSC dental school would be needed each year to maintain the current dental FTE/population ratio, the model needed to account for the fact that new graduates might leave S.C. immediately (thus never becoming

licensed in S.C.). The model assumed that 50% of the MUSC graduates would remain and become licensed in S.C. A population model was created for those that become licensed in S.C. As with the immigrant population model, the MUSC graduates population model accounted for the age distribution of the graduates and the probability of leaving the S.C. dental pool.

The number of MUSC graduates that need to become licensed in S.C. to maintain the current FTE/population ratios was calculated by subtracting the number of FTEs supplied by the cohort of dentists currently working in S.C. in 1999 and the FTEs supplied by the population of immigrant dentists from the projected need for dentist FTEs. The number of total MUSC graduates was then determined by multiplying the number of required S.C. licensed MUSC graduates by 2, reflecting the fact that 50% of MUSC graduates do not become licensed in S.C.

The robustness of the assumptions of immigration and retention were viewed by running several models to see how changing the values altered the estimates of Class Size.

Results

Table 1 contains the results from the basic workforce model. Shown is the number of MUSC dental school graduates needed each year to maintain the current dentist FTE/population ratio based on a 1 percent immigration rate and a 50 percent MUSC graduate retention rate.

Table 1. Immigration at 1% and Retention of MUSC Graduates at 50% (Model 1)

Year	Class Size
2000	44
2001	54
2002	52
2003	58
2004	60
2005	60
2006	64
2007	66
2008	72
2009	76
2010	78
2011	84
2012	84
2013	90
2014	92
2015	90
2016	90
2017	90
2018	96
2019	96
2020	96

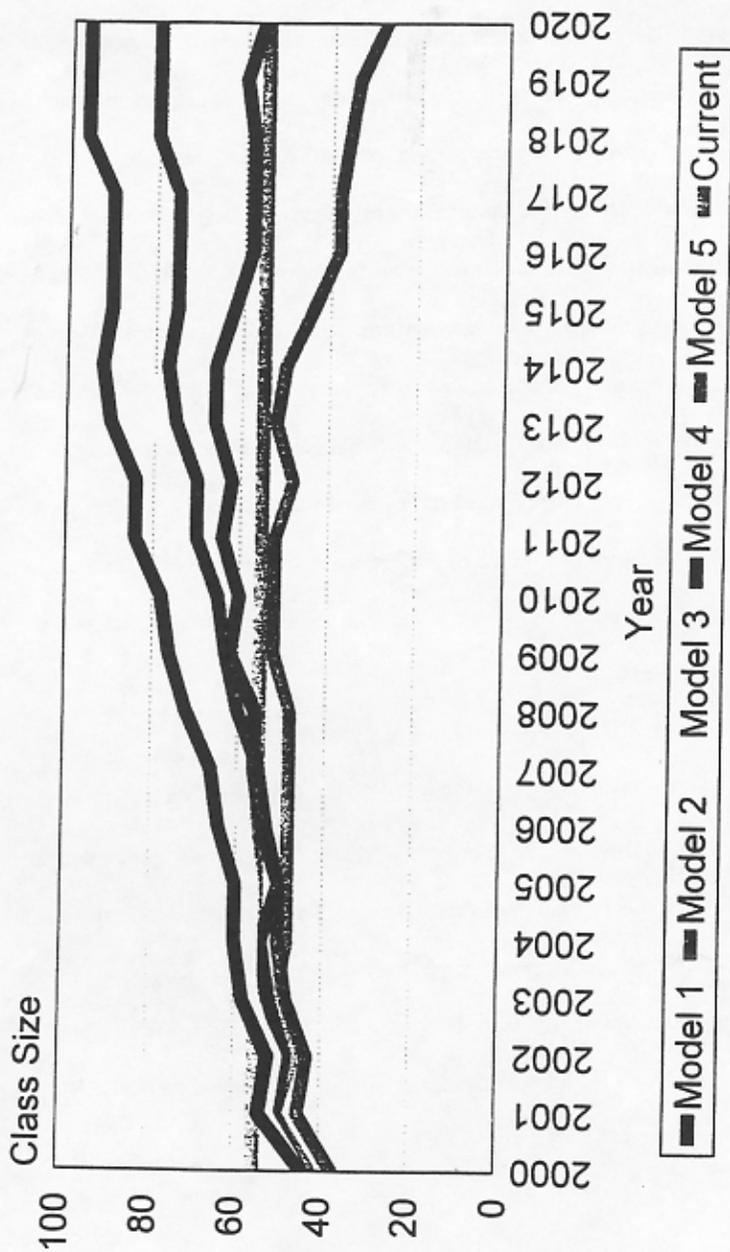
Table 2 demonstrates the effect of changing the basic assumptions of the rate of dentist immigration from outside South Carolina and retention rate of MUSC graduates. Four conditions were assessed 1) maintaining immigration at 1 percent and increasing retention to 60

percent of the graduates, 2) holding retention at 50 percent and increasing immigration to 2 percent, 3) holding retention at 50 percent and increasing immigration to 3 percent, and 4) holding retention at 50 percent and increasing immigration to 4 percent. Figure 1 provides a graphic view of the class size estimates of the various models.

Table 2. Variation in Class Size Estimates When Immigration and Retention are Altered

Year	Immigration=1% Retention=60% Class Size Model 2	Immigration=2% Retention=50% Class Size Model 3	Immigration=3% Retention=50% Class Size Model 4	Immigration=4% Retention=50% Class Size Model 5
2000	37	44	44	42
2001	45	52	50	50
2002	43	50	48	46
2003	48	56	52	50
2004	50	56	54	48
2005	50	56	50	48
2006	53	58	54	48
2007	55	62	56	48
2008	60	64	56	48
2009	63	70	62	52
2010	65	68	60	52
2011	70	74	64	52
2012	70	74	62	48
2013	75	80	66	52
2014	77	78	66	50
2015	75	78	62	44
2016	75	76	58	38
2017	75	76	58	38
2018	80	78	58	36
2019	80	80	60	34
2020	80	78	56	28

Figure 1. Projections of MUSC CDM Class Size
 By Models with Variations in Dentist Immigration and MUSC Graduate Retention



Limitations

The model does not account for the influences of the supply of dental auxiliaries, changes in demand for dental treatment, alternations in dentist productivity such as through changes in technology or disease patterns, and the distribution of dental specialists. Anticipated factors are identifiable concerning these influences. One of these is the major increase in South Carolina dental Medicaid reimbursement to begin January 2000. The change in Medicaid reimbursement is expected to be the actualization of demand for dental services by persons covered by Medicaid dental programs. Another potential limitation is that the model assumes that the current dentist/population ratio is optimal, when it may not be. To the extent that the current ratio is too low or high then the projected estimates of class size will be under or over estimated.

The general strength of projections is weakened by the distance in time from the starting point. Many potential influences exist for the size of South Carolina's population.

Other Dental Workforce Activities in South Carolina

The Health Resources and Services Administration (HRSA) awarded South Carolina a grant in the Fall of 1999 to provide a report on the status of the dental workforce in South Carolina. It is intended that that activity will be more comprehensive than this current one and will include such considerations as the supply of dental auxiliaries. That report is expected around the Summer of 2000. Department of Health and Environmental Control Director of Primary Care Mr. Mark Jordan is the South Carolina lead on the HRSA project.

Conclusions

The current class size at the College of Dental Medicine appears to be in the middle of projected need for approximately the next ten years. Beyond that point, the current class size appears to be insufficient to meet the current population to dentist ratio in four of the five models. Since further assessment of dental workforce is being conducted for South Carolina, it would be prudent to wait for that information to complement these current projections. Together these two assessments will provide a basis for optimizing the number of graduates from the College of Dental Medicine. This current model suggests that the current status appears appropriate for current needs, but that the dentist to population ratio may be low in the number of dentists in the future about 10 years from now. Further monitoring of the class size should be conducted.

This report was provided as a collaborative effort of the College of Dental Medicine (Dr. Linda Kaste), the MUSC Center of Health Care Research (Drs. David Bradford, Paul Nietert, and Linda Kaste), and the South Carolina Budget and Control Board (Jeannie Watson).

Recommendation c.

- c. **Add sufficient faculty members to create a viable research cadre as part of the permanent faculty.**

The administrative structure of research and basic sciences of the College of Dental Medicine (CDM) has been reorganized. Dr. Steven D. London was appointed the Associate Dean for Research and Basic Sciences of CDM. Dr. London holds both a D.D.S. and a Ph.D. degree with extensive background and experience in research grant writing and a track record of receiving competitive grants from NIH and NIDCR. Dr. London has provided leadership, stimulation and focus towards dental research by faculty members in the CDM and MUSC.

Following are the permanent faculty members of the CDM who are pursuing their research interests in various areas of dental medicine.

Investigator	Department	Research Interest
Robert Boackle, Ph.D., Professor	Stomatology (Oral Biology)	Complement Biochemistry, protective functions of salivary proteins
Robert Draughn, M.S., D.Sc., Professor	Materials Science	Biomedical applications of composite materials, adhesive bonding, orthopedic biomaterials
Linda Kaste, D.D.S., M.S., Ph.D. Associate Professor	Dental Public Health and Oral Epidemiology	Childhood caries, occupational risk factors in dentistry, health disparities
Steven D. London, D.D.S., Ph.D. Associate Professor	Microbiology & Immunology	Mucosal immunity, salivary and pulmonary immunopathology
Susan Reed, D.D.S., M.P.H. Dr.P.H. Assistant Professor	Dental Public Health and Oral Epidemiology	Periodontal disease etiology and co-microbidities
William Ries, D.D.S., Ph.D. Professor	Stomatology (Periodontics) and Pediatrics	Bone cell physiology, mechanisms of periodontal disease osteopetrosis
Carlos Salinas, D.M.D. Professor	Pediatric Dentistry	Oral-facial genetic syndromes
Franklin A. Young, Jr., D.Sc. Professor	Materials Science	Biomaterials

Following are permanent faculty members of the College of Medicine and the College of Graduate Studies who are pursuing their research interests in various areas of dental medicine.

Investigator	Department	Research Interest
Joseph Dolan, Ph.D. Assistant Professor	Microbiology & Immunology	Yeast genetics and biology
Gillian Galbraith, M.D. Associate Professor	Microbiology & Immunology	Immunopathogenesis and genetics of periodontal disease
Ann-Charlotte Granholm, D.D.S., Ph.D. Professor*	Physiology & Neuroscience*	Neurophysiology, neuroregeneration
Janardan Pandey, Ph.D. Professor	Microbiology & Immunology	Immunogenetics of periodontal and connective tissue diseases

* Dr. Granholm is currently Professor of Basic Science and Oral Research at the University of Colorado Health Science Center in Denver. Effective August 1, 2000, she will relocate to the Medical University of South Carolina as Professor of Physiology & Neuroscience.

PLANS FOR FUTURE ADDITION OF RESEARCH FACULTY:

1. An exemplary working relationship exists among the various biomedical sciences departments and the College of Dental Medicine. The chairs of biomedical sciences departments appreciate and value the need and importance of dental research. With the encouragement and support of the Dean of the College of Dental Medicine, the recruitment of dual degree (DMD+Ph.D) scientists or scientists with documentable dental research interests will be pursued. An example of such a recruitment is Dr. Ann-Charlotte Granholm who holds D.D.S. and Ph.D. degrees and will pursue research in neurophysiology.
2. The clinical departments of CDM are also planning a maximum emphasis on recruitment of clinicians with interest and expertise in dental research. An example of such a recruitment is Dr. Monica Cayouette, who will be pursuing research in the area of dental implants. She will be spending the summer 2000 at the University of Washington, School of Dentistry, summer research program for clinical investigators. The program provides superior orientation in research methodology, grant writing, and various available funding sources.
3. Our Dental Medicine Scientist Training Program (DMSTP) is in the third year of its existence. The program is directed by Dr. Steven London. The goal of the program is to award D.M.D. and Ph.D. Degrees simultaneously, and is called the dual degree program. Four students are enrolled in this program and the first graduate of this program is expected in 2003. Recruitment of the graduates of this dual degree program will greatly enhance our cadre of research faculty and enhance our research mission.

In summary, we have made significant progress in creating a viable research cadre as part of the permanent faculty of the College of Dental Medicine. These faculty members are pursuing significant and meaningful funded dental research. The limitations of funds and research space availability has hindered our rapid progress in some areas, but with innovation, cooperation, and persistence, we will be able to develop the MUSC, CDM into a noteworthy research institution.

Recommendation d.

- d. **Institute a system of post-tenure review for tenured faculty members consistent with the requirements of performance indicator funding:**

A post-tenure review policy and procedure was developed by an ad-hoc committee of the faculty senate. Following review and approval of the policy by MUSC administration, the "Post-Tenure Review Policy" was approved by the MUSC Board of Trustees on February 13, 1998. This policy is now in effect and is listed in the 1999 Faculty Handbook (pages 22-25, 6.4 Post-Tenure Review). A copy of this policy is provided as appendix d. The policy is also available in the faculty handbook at <http://www.musc.edu/facsen/handbook99.html>.



Faculty Senate Handbook

MEDICAL UNIVERSITY OF SOUTH CAROLINA

FACULTY HANDBOOK

REVISIONS JULY , 1999

MEDICAL UNIVERSITY OF SOUTH CAROLINA
FACULTY HANDBOOK

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Handbook99.html](http://www.musc.edu/facsen/Handbook99.html)

6.4 POST-TENURE REVIEW

6.4.1 Policy

Tenure shall be the assurance of continuous appointment to a particular faculty rank, with continuation of salary commensurate with the rank, as long as duties are performed in accordance with accepted standards, subject to termination for cause, upon retirement, on account of financial exigency, or the change or abolition of institutional programs. Tenure rests in the college or department of primary appointment only. The initial letter of appointment and/or contract and annual renewals shall specify status with regard to tenure.

The following full-time faculty are not eligible for tenure: (a) faculty holding limited term appointments and (b) faculty holding modified ranks or special appointments as designated in Sections 4.2 and 4.3.

The tenure of a faculty member who also holds an administrative position, such as dean or department chair, extends only to the faculty position which holds conjointly with such an administrative position. Full-time administrators or administrative staff holding faculty rank are not tenured unless their notices of appointment or promotion specifically state that tenure is carried with the faculty rank.

The assurance of continuation of salary commensurate with academic rank shall apply to that base salary which is agreed upon by the individual department head and faculty member. The amount of the base salary shall be commensurate with rank in the appointee's department, and defined in the annual contract. It shall not apply to supplemental or additional sources of funding including, but not limited to, clinical practice income, consultation fees, administrative payments, and special payments.

6.4.2 Criteria for Tenure

The faculty member must demonstrate competence and promise of long-term usefulness to the missions and programs of the University to be considered for tenure. Each college, through its Appointments, Promotions and Tenure Committee shall develop a set of criteria to be used in the consideration of granting tenure and which shall have received the approval, through appropriate channels, of the Board of Trustees. Each committee shall also publish and distribute these criteria to its faculty. Such criteria should reflect the specific missions of the individual colleges and should be formulated to promote faculty excellence within the institution as a whole.

6.4.3. Procedures for Granting Tenure

The department chair or his/her designee initiates and forwards a recommendation to the dean after consultation with the departmental Appointments, Promotion and Tenure Committee and, where appropriate, with students, faculty outside the department, and professional colleagues. After consideration, the college Appointments, Promotion and Tenure Committee submits its recommendation to the dean.

The dean reviews recommendations and forwards approved recommendations to the Vice President for Academic Affairs and Provost, and through him/her to the University Tenure Committee. The recommendations of the University Tenure Committee are reviewed by the Vice President for Academic Affairs and Provost and approved recommendations are then forwarded to the President and the Board of Trustees for final action.

If the recommendation for tenure is disapproved, the faculty member shall be notified of the disapproval and the reason for it prior to the tenure deadlines.

Tenure is ordinarily awarded once a year on January 1.

6.4.4. Post Tenure Review

Preamble: At every stage of a faculty member's career (the annual review process, reviews for promotion and tenure, as well as post tenure review) all efforts should be made to identify strengths and weaknesses in performance, and through appropriate advice and action, provide opportunities for faculty to correct weaknesses and realize their full professional development.

1. All tenured faculty members shall normally be subject to a review of professional performance and progress ("post tenure review") every 6 years. The process will be based upon the performance of the faculty member during the previous six years as assessed by annual faculty evaluations which are summarized on a five-point scale (unsatisfactory, marginal, satisfactory, very good, outstanding) using the standard Faculty Performance Evaluation Form for all colleges and units of the University (See Appendix B).
 2. The initial phase of the post-tenure review process will be conducted by the Chair/Director who will review the performance records of the faculty member and take action according to the following guidelines:
 - a. A faculty member who has been rated as satisfactory or above in the majority of applicable categories in all annual performance evaluations in the preceding six years will be considered as satisfying the criteria for meeting the standards of the university for a tenured faculty member of the given rank. The Departmental Chair/Director shall send to the Appointment, Promotions and Tenure (APT) Committee of the faculty member's college a letter stating that the faculty member has received satisfactory or above in the majority of applicable categories on all of the annual performance evaluations in the preceding six years and, thus, is performing in accordance with standards of the university for a tenured faculty member. Copies of this letter shall also be sent to the Dean and faculty member under review. No further action will be required.
 - b. If a faculty member has been rated below satisfactory in a majority of applicable performance categories in one of the six preceding annual evaluations, and the deficiencies have subsequently been corrected, the Chair/Director shall send to the APT Committee of the faculty member's college a letter stating that the faculty member has received satisfactory or above in the majority of applicable categories on all but one of the annual performance evaluations in the preceding six years, that deficiencies have subsequently been corrected, and that the faculty member is performing at a level in accordance with standards of the university for a tenured faculty member. Copies of this letter shall also be sent to the Dean and faculty member under review. No further action will be required. If a faculty member is rated below satisfactory in a majority of applicable performance categories in the sixth year of the cycle, the process will be extended for one additional year to allow the faculty member to correct identified deficiencies before further action is taken.
 - c. If a faculty member has been rated below satisfactory in a majority of applicable performance categories in more than one annual evaluation in the preceding six years, post-tenure review of the faculty member's performance shall be conducted by the APT Committee of the faculty member's college.
- To initiate action, the Chair/Director must submit a letter to the APT Committee of the college indicating that the faculty member requires a full six year review of performance and progress ("post tenure review"). A copy of the letter shall also be sent to the faculty member under review.

d. Whenever a tenured faculty member has been rated below satisfactory in a majority of applicable performance categories on an annual evaluation, the Chair/Director shall meet with the faculty member to document the deficiencies, to outline the steps of improvement to be taken to correct the deficiencies and the source of the resources (funds) that will be provided to support the plan. The goal shall be to restore satisfactory performance. A written summary of the meeting, including a reasonable timetable for correcting deficiencies and a statement of the resources provided, shall be prepared for the faculty member. If the Chair/Director finds that the tenured faculty member fails to make substantial progress toward meeting the performance goals that had been set and continues to be rated below satisfactory in a majority of applicable performance categories on two succeeding annual evaluations, a special review by the College APT Committee may be requested by the Chair or supervising administrator independent of the six year review cycle.

To initiate action, the Chair/Director must submit a letter detailing the deficiencies of the faculty member under review with corroborating documentation and appropriate documents as described under section 3 to the College APT Committee. A copy of the letter detailing the deficiencies will also be sent to the faculty member under review.

3. When a review of a faculty member's performance and progress is requested, the College APT Committee will utilize:

a. A full report on the faculty member from the Chair/Director, consisting of copies of the previous six years' annual performance evaluations conducted by the Chair/Director for the period in question using the standard Faculty Performance Evaluation Form for all colleges and units of the University (See Appendix I), written summaries that document deficiencies and plan(s) of remediation, plus the Chair's written analysis of the faculty member's performance, and supplemented by any other documents and information that the Chair/Director wishes to submit.

b. The faculty member's curriculum vitae, plus a copy of the faculty member's annual reports for the period in question detailing his/her activity and progress, and including such aspects as the outcome of any sabbatical leave, professional development courses taken, etc. The faculty member under review shall be given the opportunity to appear before the committee and/or submit any documents that he/she wishes to be considered.

c. Evaluations of teaching performance, in addition to those provided in the annual review by the Department Chair/Director. These would typically include such evaluations as PACE, and comments by the directors of courses in which the faculty member has taught.

d. Any other documents or reports relating to the performance of the faculty member in any of the areas of professional activity that the Department Chair, the faculty member, or the members of the APT Committee wish to be considered.

4. The College APT Committee will review the faculty member's performance based upon written standards and criteria which are developed by the College APT Committee and approved by the majority of faculty of the college or unit. These criteria will be periodically reviewed by the faculty. Such criteria should reflect the specific missions of the individual Colleges and the University. Each College APT Committee shall publish and distribute these criteria to its faculty. The basic standard for appraisal shall be whether the faculty member under review discharges conscientiously and with professional competence the duties appropriately associated with his or her position, not whether the faculty member meets the standards for the award of tenure as those will have changed since initial granting of tenure to that faculty member. The review must also be flexible enough to acknowledge different expectations in different disciplines and changing expectations at different stages of faculty careers. In reviewing a faculty member's performance, the College APT Committee will recognize not only the diverse talents, activities and accomplishments of faculty within that College, but also that individual faculty are expected, in consultation with their Chair/Director, to focus their efforts in selected areas of endeavor. The APT Committee shall, after completing their review, make a report to the Department Chair/Director. The report, which shall be a permanent part of the faculty member's personnel file, will contain:

a. An appraisal of the faculty member's performance and progress, including the perceived strengths and weaknesses.

b. An analysis of the faculty member's potential for further professional development. Opportunities for development should be identified (e.g.; encouragement of research initiatives, granting of sabbatical leave, potential mentorships in teaching and research, appropriate professional development courses that could be taken, etc.).

5. A clear recommendation shall be made to the Dean on whether the faculty member's performance, in the Committee's judgment, meets the standards of the University for retention of tenure. A failure to meet these standards shall result in a recommendation for remediation by the faculty member or for removal of tenure.

A recommendation by the College APT Committee for retention of tenure, for remediation, or removal of tenure of a faculty member shall be forwarded to the Dean. When removal of tenure is recommended by the College APT Committee, the Dean reviews the recommendation and, if in agreement, forwards the recommendation to the Vice President for Academic Affairs and Provost for review and action by the University Tenure Committee. The Dean shall provide to the faculty member and College APT Committee memoranda indicating his/her action.

6. If the University APT Committee, after a full hearing of the case, supports the recommendation for removal of tenure, this recommendation will be forwarded to the Vice President for Academic Affairs and Provost and will activate the Grievance and Appeal Procedure for the faculty member as described in the Faculty Handbook (8.1).

7. If the Grievance and Appeal Procedure results in an unfavorable decision for the tenured faculty member, the faculty member will then function under the guidelines for non-tenured faculty.

8. The outcomes of evaluations shall be confidential, that is, confined to the appropriate college or university persons or bodies and faculty member being evaluated, and shall be released only with the written consent of the faculty member.

9. Year one of the post-tenure review cycle will begin upon approval of this policy by the Board of Trustees and shall apply to all tenured faculty after the effective date.

10. In accordance with the review process mandated by the Faculty Handbook, the above policy and standards and criteria developed to carry out this policy should be evaluated biannually with respect to the effectiveness in supporting faculty development and redressing problems of faculty performance.