

University of North Carolina at Chapel Hill
School of Dentistry

Program Specific Self-Study Report
DENTAL HYGIENE EDUCATION



Graduate School Review Site Visit
September 8-10, 2015



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DENTAL HYGIENE EDUCATION

A. Program Overview

The Master of Science Degree Program in Dental Hygiene Education at the University of North Carolina-Chapel Hill began in 1979. At the time only six programs existed in the country. Today there are sixteen programs that culminate in a master's degree in either Dental Hygiene or Dental Hygiene Education. Ten of the programs are housed in a School of Dentistry. The UNC MS program has successfully graduated numerous dental hygienists who have leadership roles in academia, industry and research.

All other MS graduate programs in the SOD extend for 33 to 36 months while our program is 21 months. Therefore, the deadlines for DHED students are on an accelerated schedule. We conform to the same set of strict guidelines for progress reports for research projects as the other graduate students in the SOD. In addition, most of our students defend their thesis during the last semester in residence and submit a manuscript for publication prior to graduation in May in year two. The majority of our students graduate after 21 months unless their thesis project is more extensive or family issues delay graduation.

1. Program Mission, Goals, and Objectives

The School of Dentistry at the University of North Carolina at Chapel Hill offers a graduate program in Dental Hygiene Education leading to a Master of Science degree conferred by the Graduate School. The primary goal of the Master of Science degree program is to prepare exceptional educators for allied dental education programs. Objectives of the graduate program are to provide the student with advanced knowledge in dental hygiene education to assume positions in teaching, administration, research, and management.

The curriculum emphasizes advanced knowledge and skill development in several areas including education, leadership, administration, and research related to allied dental education and practice. The curriculum is interdisciplinary in that courses are taken in the schools of Dentistry, Public Health, and Education.

Objectives of the graduate program are to provide the student with the:

- Competencies and skills necessary for effective vision and leadership in teaching, administration, research, and management in Dental Hygiene Education.
- Knowledge and skills to assume teaching and leadership positions in Clinical Education, Management/Administration, Oral Pathology, or Biological Sciences.
- Knowledge and ability to organize and deliver scientific presentations and educational lectures using evidence-based practices.
- Ability to communicate and teach in a clinical setting.
- Vision, knowledge and skills to apply new technologies and information systems to dental hygiene education and practice.
- Knowledge and application of the scientific method and of research design in problem solving.
- Understanding and ability to influence the dental healthcare environment for the provision of culturally competent care to underserved populations and to reflect national trends in dental hygiene utilization.

Mechanisms for Assessing Program Mission

See General Program Overview

2. Demand/Need for Program

Currently there is a national shortage of dental hygiene educators. Reports indicate that almost half of full-time faculty members are nearing retirement age which may create large voids in the numbers of qualified dental hygiene faculty. (Carr et al. J Dent Hyg 2010) Many educational settings require full-time faculty to hold at least a master's degree. (Collins et al. J Dent Educ 2007) There are currently 16 Master of Science degree programs in Dental Hygiene or Dental Hygiene Education in the United States. While the number of masters programs has grown in dental hygiene education in recent years and produced increasing numbers of graduates, there is still a need for many more in the future. These graduates need to have acquired skills and knowledge that will help prepare dental hygienists for future roles in intra and interprofessional health care. In addition, the numbers of undergraduate dental hygiene students is expected to grow 33.3% by 2022 which means that the existing and new programs will need qualified faculty with advanced degrees. (<http://www.bls.gov/ooh/healthcare/dental-hygienists.htm>).

Our program has a history of attracting dedicated and motivated students. The philosophy of the SOD is that all graduate students will attend as full-time students. We are also limited to 3-4 students per year due to restrictions with tuition remission and stipends. Although the number is small in comparison to a few other programs around the country, it is comparable to the other graduate programs within the School of Dentistry. Perhaps our applicant pool would be larger if we had the flexibility to offer a part-time curriculum.

Our MS program is the only one in the United States that is 100% onsite. Being the only onsite program, we are able to appeal to and recruit students with a goal of becoming leaders and future academicians in dental hygiene education. All of the DHED graduate students participate in intra and interdisciplinary original research with world renowned experts in their fields. This experience could not be provided through a distance education program. In addition, all of our graduate students participate as Graduate Teaching Assistants and obtain an abundance of teaching experience in didactic, laboratory and clinical teaching. They teach a variety of students including undergraduate dental hygiene and dental assisting students as well as predoctoral dental students and receive feedback from faculty and students on their teaching.

The feedback we receive from employers of our graduates is outstanding. Due to the level of teaching and research experience the students receive while in the program, they are fully prepared to function in a full-time teaching position upon graduation. Many of our graduates also obtain tenure track positions due to the level of research they conduct in graduate school. We also have a very high publication rate as all students are required to submit a paper for publication upon graduation. The attraction to our program is the high quality of the university and the School of Dentistry and the reputation of the graduate program. We attract students who are interested in completing a graduate program at an onsite program in a School of Dentistry and not through distance education.

3. Interdisciplinary activities

DHED graduate students who select the minor in Biological Sciences or Pathology participate in coursework with the predoctoral dental students. In addition, all of the DHED graduate students teach predoctoral dental students in their preclinical scaling course. Another way that DHED graduate students participate in interdisciplinary activities is through their thesis projects. Several students have conducted projects with faculty in other departments in the School of Dentistry (Operative Dentistry, Prosthodontics, Diagnostic Sciences, Periodontology, and Pediatric Dentistry) as well as faculty in other schools in the university (UNC Gillings School of Global Public Health, UNC and DUKE University Schools of Medicine) and in research units such as the General Oral Health Center and the Sleep Medicine clinic in the School of Dentistry.

In addition, the DHED graduate students are given the opportunity to provide volunteer services for the North Carolina Mission of Mercy (MOM) clinics and the Student Health Action Coalition (SHAC) clinic. These clinics involve general dentistry volunteers as well as volunteers from many dental specialty areas.

4. Interinstitutional Perspective (see Demand/Need)

The UNC DHED program is the only DHED program in North Carolina and one of 16 programs in the United States. Direct comparison of the quality of the UNC program to that of other programs requires outcome measures from those programs that are not readily available. However, there are indirect outcome measures that indicate that the UNC program compares favorably with other programs. One such measure is the number of publication and research awards won by DHED students. And another is the success that UNC graduates have had in securing positions in academic institutions where they were one of a number of applicants. This implies that their training and expertise is being viewed as favorable compared to applicants from other programs.

The unique strengths of the UNC DHED program are based on three critical elements: (1) the on-site instruction and variety of the teaching experiences obtained (2) the quality of the internships in the spring semester of the second year, and, (3) the UNC School of Dentistry and UNC campus environment.

B. Curriculum

1. Course Review and Development

Each year the DHED faculty who teach specific courses meet to coordinate curricular content and make changes within their courses. If a new course is added, we work with the Office of Academic Affairs to follow university procedures. Recently we have had a change in the leadership of the undergraduate dental hygiene program which has impacted the course faculty for the graduate program. In the coming months we plan to schedule an extensive internal curriculum review and discuss potential revisions to the curriculum and assess areas where we may need to add/alter course offerings and course directorship.

2. Course Sequence and Description

Fall	Title
1st Year	
DENG 701	Introduction To Research Design
DHED 715	Current Concepts in Clinical Skills
DHED 720	Educational Concepts
DHED 736	Clinical/Laboratory Teaching Practicum
DHED 760	Seminar in Education and Research
2nd Year	
DENG 703	Applied Dental Research Methods
*DHED 754	Advanced Intraoral Functions (Periodontics)
*DHED 834	Dental Management Seminar
*DHED 705	Local Anesthesia
DHED 860	Seminar in Education and Research
DHED 993	Master's Research and Thesis

*Taken by some 1st or 2nd year students

Spring

1st Year

DENG 702	Biostatistics
DHED 730	Organization and Administration
DHED 836	Advanced/Clinical Teaching
*DHED 896	Independent Study in DHED
DHED 993	Master's Research and Thesis

2nd Year

DHED 837	Internship
DHED 993	Master's Research and Thesis

The course directors for the program courses have been relatively stable over the past five years and the number of enrolled students per course (3 to 4) varies only slightly from year to year since the number of students in each year of the program is very stable. Course syllabi will be available on site.

DHED 720 Educational Concepts

(2 credits) Fall Semester Year 1

Course Director: Shannon Mitchell; 3 students

This course is designed to introduce the graduate student to various teaching philosophies and methodologies. A variety of educational concepts such as methods of presentation, testing, and measurement are explored. Emphasis is placed on the practical application of theory.

DHED 736 Clinical/Laboratory Teaching

3 credits; Semester: Fall; Year 1

Course Director: Shannon Mitchell; 3 students

This course will provide students with the knowledge and skills to function as a competent clinical instructor. Psychomotor skill development and analysis and remediation of performance problems are two topics related to clinical teaching that are stressed. Clinical evaluation and faculty calibration are also included. Instruction includes seminar and clinical application sessions.

DHED 760 Seminar in Education and Research

1 credit; Semester: Fall; Year 1

Course Director: Rebecca Wilder; 3 students

This course is designed to provide knowledge and stimulate discussion about pertinent topics in dental and dental allied education and research. Part one of a two-course sequence, the course will examine issues related to the academic setting. Topics include current issues in the American Dental Hygienists' Association, International Association of Dental Research and the American Dental Education Association. In addition, the students will gain information about the research process and identify a research question. Students will be expected to complete a literature review on their research question by the end of the fall semester and present the literature review via a PowerPoint presentation to their peers.

DHED 730 Organization and Administration

3 credits; Semester: Spring; Year 1

Course Director: Rebecca Wilder; 3 students

The course is designed to provide information and experiences in leadership, administration, and accreditation for dental hygiene education programs. Critical issues and trends facing dental education, allied dental education and higher education will be addressed.

- DHED 993 Thesis**
3 credits; Semester: Multiple semesters-Spring, Fall; Year 1, 2
Course Director: Rebecca Wilder; 7 students
 Structured research experience under guidance of a research faculty member. Research experience is ongoing throughout the curriculum.
- DHED 860 Seminar in Education and Research II**
1 credit; Semester: Fall; Year 2
Course Director: Rebecca Wilder; 4 students
 This course is designed to provide advanced knowledge and to stimulate discussion about pertinent topics in dental and dental allied education and research. Part two of a two course sequence, the course will examine issues related to the academic setting. Topics will include the process of publication as well as presenting research through oral and poster presentations; interviewing for academic position and formulating a marketable curriculum vitae and teaching portfolio.
- DHED 837 Internship**
9 credits; Semester: Spring; Year 2
Course Director: Shannon Mitchell; 4 students
 A one semester planned and supervised professional internship designed to allow the intern to apply knowledge and skills acquired in previous didactic graduate courses.

BIOLOGICAL SCIENCES

The biological science minor was developed to address a need to enhance the academic qualifications of allied dental educators in the basic science area in order to lessen the need to rely on the expertise of educators whose primary responsibility is to other educational programs. However, no students have selected the Biological Sciences minor in 5 years. In the coming year, the DHED faculty will access if this minor should remain an option for DHED students

CLINICAL EDUCATION

The clinical education minor is designed to prepare clinical educators and supervisors for allied dental programs. Prerequisites: DHED 715, DHED 736

- DHED 836 Clinical Management (3)**
3 credits; Semester: Spring; Year 1
Course Director: Jennie Brame; 3 students
 This course continues the content presented in DHED 136, including information related to the role of a clinical administrator. Topics include the development of clinical requirements, grading, student counseling, clinical facilities, and scheduling and planning of faculty to support the clinical program.
- In addition to DHED 836, graduate students select 2 of the following 3 courses in the Clinical Minor:
- DHED 754 Current Concepts in Periodontology**
3 credits; Semester: Fall; Year 1 or 2
Course Directors: Rebecca Wilder/Lynne Hunt; 1 student
 This course will provide the student with advanced knowledge of current concepts and factors involved in the occurrence and treatment of periodontal disease. These issues will be studied through lectures, case presentations and the periodontal literature. Graduate students will also obtain experience in didactic and laboratory teaching of periodontology.
- DHED 705 Medical Emergencies/Local Anesthesia**
2 credits; Semester: Fall; Year 2
Course Director: Dr. Glenn Reside; 4 students

This course in local anesthesia is taken with predoctoral dental students. The course covers pharmacology, neuroanatomy, anatomy, neurophysiology as well as administration and techniques of local anesthesia. It also serves as an introduction to clinical medicine as well as the evaluation and management of commonly encountered medical emergencies in the dental office. The integration of basic scientific concepts and the application of sound principles of clinical management into the safe and effective delivery of patient care are stressed. The use of nitrous oxide inhalation sedation as an adjunct to patient comfort and reduced stress during dental care is included in this course.

DHED 896

Independent Study

3 credits; Semester: Fall/Spring; Year 1 or 2

Course Director: Rebecca Wilder; 4 students

Students study and participate in completion of projects with a clinical faculty member in a clinical course taught to dental, dental hygiene or dental assisting students. DHED graduate students participate in course planning, weekly teaching of the didactic, laboratory and/or clinical content.

MANAGEMENT/ADMINISTRATION

The management/administration minor is designed to prepare the graduate student for management roles in health care organizations or administrative settings.

DHED 774

Personnel Management

2 credits; Semester: Spring; Year 1

Course Director: Rebecca Wilder; 0 students in 2014/15

This course is designed to 1) introduce the DHED graduate student to personnel management issues in allied dental education and general business 2) teach the student necessary personnel management skills to function as a productive, effective manager of an allied dental education program or dental business setting. Through readings and seminars, students will learn methods that have achieved success in the areas of management.

DHED 834

Principles of Management/Administration

4 credits; Semester: Fall or Spring; Year 1 or 2

Course Director: Rebecca Wilder; 0 students in 2014/15

This course is designed to provide the DHED graduate student with knowledge and skills in basic management and administration. Course format will include seminars led by guest speakers in management/administrative positions, the course director and the students in the class. The management / administrative externship will consist of 6 hours per week in a facility of interest to the student, based on the student's individual career goals.

Elective

3 credits; Semester: fall or Spring; Year 1 or 2

Course Director: Varies with course; 0 students in 2014/15

An elective course with an administrative/management focus is selected by the student. Courses may be taken in other disciplines such as Public Health or Adult Education (NCSU).

ORAL PATHOLOGY

The oral pathology minor was designed to prepare allied dental educators to assume teaching roles in the area of oral pathology. However, no students have selected the Oral Pathology minor in 5 years. In the coming year, the DHED faculty will access if this minor should remain an option for DHED students).

3. Course Evaluation

Evaluation of program specific courses is based on feedback from students on an ongoing basis as well as during the biannual evaluations and during exit interviews. Meetings are scheduled with students each semester to obtain feedback about the curriculum and course offerings.

Upon completion of the program, all students participate in an exit interview where questions are asked as follows: Strengths and weaknesses of the program, research core courses, topics that should be added to the courses/curriculum, GTA experience, collaboration with other graduate students, format of the program, research experience, staff support, mentoring, and internship experience.

4. Requirements for Degree MS

See General Curriculum Overview. The DHED students all conduct original research, present their research at a national/international meeting and submit a paper for publication. The thesis committees are typically interdisciplinary. While there is not a particular focus area for the projects, all students are required to conduct research that supports the American Dental Hygienists' Association National Dental Hygiene Research Agenda. http://www.adha.org/resources/docs/7111_National_Dental_Hygiene_Research_Agenda.pdf

The DHED graduate students are required to pass a comprehensive examination at the end of the fall semester, second year. The examination consists of six questions (4 from core course and 2 from courses in the minor). Students are allowed to take 60 minutes per question. The examination takes place in a classroom in the School of Dentistry and all students are on a one hour per question schedule. They are required to pass each question at a 75% level. Each question is graded by the faculty member who wrote and submitted the question.

Failure to pass the comprehensive examination on the first attempt will lead to the development of an educational enhancement plan and an opportunity to re-take the examination. Failure to pass the Comprehensive Examination a second time will result in dismissal from the Program

5. Evaluation of Progress of Students

DHED students are evaluated frequently on their performance. All classes are very small so feedback from faculty and peers is a common occurrence. At the initiation of the program, all students are assessed on their clinical and radiology skills to facilitate faculty in determining if remediation is required. Once students begin their graduate teaching assistantship, they are evaluated by faculty on their communication and teaching skills (see Table 1). Students are evaluated on every lecture they provide to dental, dental hygiene or dental assisting students. In addition, they are required to provide several presentations to their peers where they are evaluated by the professor and their peers. When students are GTAs they are evaluated like other clinical faculty in the School of Dentistry and provided feedback at the end of the semester. The full time dental hygiene faculty also provide informal feedback to students and observe their teaching in the clinical setting.

Table 1. Didactic TEACHING EVALUATION form used for Graduate Teaching Assistants

NAME _____ DATE _____

TOPIC _____

EVALUATOR _____

A. INTRODUCTION	POSSIBLE POINTS	POINTS EARNED
1. Introduces topic	4	
2. Relates importance of material	4	
3. Establishes a knowledge base	4	
4. States objectives	4	
B. AUDIOVISUALS AND SUPPORT TECHNIQUES		
1. Speaks to the audience with good body language	5	
2. Appropriately uses audiovisuals and equipment	3	
3. Handouts are well prepared and useful	8	
C. CLOSURE		
1. Summarized major points	5	
D. TEACHING TACTICS		
1. Involved students	5	
2. Utilized appropriate questioning tactics	5	
3. Provided time for the audience to think, formulate and respond	5	
4. Exhibited enthusiasm	5	
E. VERBAL AND NON VERBAL BEHAVIOR		
1. Voice control	6	
2. Eye contact with audience	6	
3. Movement	5	
4. Facial expression	5	
F. OTHER		
1. Organization	5	
2. Logical sequencing	5	
3. Appropriate pace	5	
4. Knowledge of subject matter	6	

FINAL GRADE _____ COMMENTS (Please provide specific comments that will assist in the development of the student. Add extra pages if needed or write on back of paper)

The DHED program director provides feedback from course grades, GTA evaluations, and informal feedback from faculty to students based on the Academic Performance Committee meetings held at the end of each semester. Members of the DHED APC are Professors Rebecca Wilder, Shannon Mitchell and Jennifer Brame.

Regarding the evaluation of research progress, a Research Mentoring form is completed by the thesis mentoring committee chair each semester that the student is enrolled in DHED 993, Thesis. This process informs us of the needs of students in the research / thesis area.

6. Learning Assessments

Learning outcomes assessment is a continuous process that constantly evaluates student progress, the effectiveness of courses, and the quality of teaching. The report below was as submitted to the Southern Association of Colleges in January 2015.

Curriculum

Assessment: Core Faculty Evaluation of Student Progress

Frequency: The Graduate Program Director monitors the performance of graduate students in all core and elective courses, including teaching in clinical courses for BS Dental Hygiene or DDS students. The Academic Performance Committee meets at least biannually to discuss student progress.

Outcome: Any concerns or deficiencies are addressed with the student and educational enhancement plans developed as needed. The Graduate Program Director meets with each student at the end of each semester 2012-2014: All Students have performed at a satisfactory or above level.

Action: Students are evaluated by the faculty they have worked with at the end of each semester. Student evaluations are maintained in the program office. Evaluation systems are reviewed annually by the program faculty to ensure that areas and content evaluated are sufficient so that students receive necessary feedback for improvement.

Assessment: Teaching evaluations

Frequency: Year 1- End of spring and summer semester Year 2, end of fall semester

Outcome: Graduate students are formally evaluated by the students they teach in the clinic and/or classroom. The Program Director discusses the results with them and advises them on improvement strategies.

2012-2014: All students have performed at a satisfactory or above level

Action: The faculty course director formally evaluates the teaching of each student using specific criteria. When a student provides a lecture in a lecture, the faculty director formally evaluates the student with specific criteria.

Assessment: Departmental Meetings/Retreats

Frequency: Periodic departmental meetings are held year- round. Graduate program and curricular matters are discussed often in these meetings. Minutes are maintained on file in the department.

Outcome: The Program Director communicates with the graduate students as changes in the program or curriculum are made based on departmental meetings.

Action: None

Education Goals

Assessment: Comprehensive written exams

Frequency: Once during the program: end of year 2, fall semester, prior to conducting their teaching internship. The examination consists of 6 questions (4 from core courses and 2 from the minor courses). They are provided one hour to complete each question.

Outcome: Student must score a minimum of 75% on the written comprehensive exam.

2012: 100% met criteria

2013: 1 student did not meet criteria and remediated

2014: 1 student did not meet criteria and remediated

Action: None

Research Goals

Assessment: Thesis submission, research presentations, manuscript publications and awards/scholarships

Frequency: Each graduate student completes, orally defends and submits a thesis on an original research problem per guidelines of the UNC Graduate School

Outcome: Graduate student research culminating in a presentation, award scholarship and/or publication is documented in graduate student/resident or alumni files with the department.

2012-2014: All students completed MS requirements on time

2013: 3 (4) students received external research awards

2014: 4 (4) students received external research awards

2012: 4 (4) published

2013: 4 (4) published

2014: 4 (4) published

C. Faculty

Only 1 faculty member, Professor Rebecca Wilder, is committed to the program more than 30% percent time. Professor Wilder also is the Director for Faculty Development. Faculty in the BS program in Dental Hygiene also actively participate in the DHED program (see Table 2). Bio-sketches for BS DH and DHED faculty are found on the flashdrive.

1. Faculty Research

DHED faculty participate in research and grantsmanship according to their terms and conditions of employment. Since Professor Mitchell and Professor Brame are on Fixed Term Appointments their requirements for research are not as stringent as tenure track faculty. However, all of the faculty are publishing approximately 1 (or more) paper per year and participating in thesis committees. Professor Wilder has received funding through Corporate Foundations and Contracts in the last 5 years. See **General Faculty Overview (Research)** for a listing of faculty involved in externally funded research.

2. Teaching Distribution

Teaching schedules are planned between the Graduate DHED Program Director and the Program Director for the Undergraduate Dental Hygiene Program. Three faculty teach the DHED courses and minor courses in Clinical Education and Management/Administration. Other courses are taken from current offerings in the School of Dentistry, School of Public Health or other schools in the university system.

3. Teaching Evaluation

There is not a definitive process for evaluating program graduate courses like there is for undergraduate courses. Graduate course faculty can devise their own evaluation system for their courses. Since the program and number of students is so small, DHED faculty generally receive feedback through informal mechanisms. Upon completion of the program, all students participate in an exit interview where questions are asked as follows: Strengths and weaknesses of 1) the program, 2) research core courses, 3) topics that should be added to the courses/curriculum, 4) GTA experience, 5) collaboration with other graduate students, 6) format of the program, 7) research experience, 8) staff support, 9) mentoring, and 10) internship experience. In addition, meetings are scheduled with students each semester to obtain feedback about the curriculum and course offerings.

4. Teaching Innovation

The faculty are consistently revising their courses and making changes to the way content is delivered to students. Internship sites are constantly added to make that experience more innovative for students. For example, a site was added in 2014 that allowed 2 students to participate in an internship at the University of Portsmouth in the United Kingdom in a Dental Hygienist/Dental Therapist program. In addition, this year we used current technology to access expertise in accreditation from ADEA staff. This content was part of the students' course in Leadership and Administration (DHED 730).

5. Faculty Mentoring/Support

See General Faculty Overview. The DHED program director is the only faculty member who does not also have course responsibility in the undergraduate dental hygiene program. All of the faculty are very interactive and participate with students in all of the allied programs (undergraduate and graduate). All faculty in the DHED program or undergraduate DH program participate as either a mentor or a mentee in the School of Dentistry Formal Mentoring Program. In addition, the DHED program director mentors all DHED faculty in goal setting, teaching, service, scholarship and research. Within the BS Dental Hygiene and DHED programs, faculty members constantly interact and discuss various aspects of their research/teaching and how improvements can be made.

6. Faculty Teaching/Professional Awards for FY2010-11 thru FY 2014-15

2015	Professor Shannon Mitchell: Old Dominion University Distinguished Alumni Award
2014	Professor Rebecca Wilder: UNC School of Dentistry Four Corners Study Club Faculty Mentoring Award recipient (Inaugural award)
2011	Professor Rebecca Wilder: Dr. Bicuspid Award: Most Effective Dental Hygiene Educator elected by national voting process
2010-2014	Professor Jennie Brame: Dental Hygiene Teacher Excellence Award given by the undergraduate dental hygiene students.

7. Faculty Advising / Mentoring of Students

All DHED students participate in a comprehensive 2 day orientation in August before classes begin. All students receive an evaluation of their clinical and radiology skills. Other content includes Graduate School and School of Dentistry requirements for graduate students, Graduate Teaching Assistantship responsibilities, details about the thesis requirement and general information about the university and surrounding community.

Table 2. Faculty participation in Advising / Mentoring of Completed MS/PhD and non-MS Student Projects from FY 2010-11 thru FY 2014-2015

Faculty	Appointment	MS		PhD		Non-MS**
		# Mentor	# Committee Member	# Mentor	# Committee Member	# Mentor
Hunt, Lynne C	Clin Assist Prof	0	1	0	0	0
Sams, Lattice	Clin Assist Prof	0	0	0	0	0
Deaver	Clin Assist Prof	0	0	0	0	0
Hayes, Cheryl	Clin Assist Prof	0	0	0	0	0
Brame, Jennifer		1	3	0	0	0
Mitchell, Shannon	Clin Assoc H	0	1	0	0	0
Mauriello, Sally M	Professor	4	1	0	0	0
Wilder, Rebecca	Professor	5	8	0	0	0

During their first semester in the program, students complete a required course which culminates in a research topic/question and the selection of a thesis committee chair. The chair then facilitates the selection of the other committee members (usually 2 in addition to the chair). Selection follows the guidelines outlined by the University of North Carolina Graduate School. We typically have one dental hygiene faculty member on each thesis committee or as the thesis chair. Strict deadlines are followed to ensure that students can begin data collection in the spring/summer of their first year.

8. Graduate Teaching Assistants

The DHED Graduate Teaching Assistant (GTA) Program has both formal structure and informal components. Graduate students serve as GTAs during their 21-month education program. The goal of the GTA Program is to foster the development of professional educators in the specialty. Because a significant number of our graduate students pursue professional careers in academia and research, we take seriously the opportunity to conduct a GTA Program and serve as role models and mentors for our GTAs. This experience also serves to enhance the didactic coursework they receive in principles of education. The overall philosophy of the program is to provide GTAs increasingly sophisticated opportunities to act as young instructors for undergraduate dental hygiene and predoctoral dental students. During the first six months of their program, assignments are limited primarily to highly focused instruction and laboratory experiences. The GTAs also assist faculty with laboratory and clinical preparation. There are a few opportunities to serve as facilitators with other projects or seminars offered by full time faculty. During the spring semester of the first year and throughout the second year, GTAs serve as laboratory and clinical instructors. Occasionally, GTA's assist faculty with didactic instruction.

In preparation for their clinical teaching assignments in the spring semester of the first year, all students are required to take (DHED 736) in "Clinical Teaching". The course has both a didactic and clinical component. Students are given special orientation to the clinical teaching program and are assigned to work side-by-side with the DH faculty in the preclinical setting where they become acquainted with the administrative and logistical demands and the clinical teaching setting. During the course, students complete assignments which further acquaint them to the clinical requirements and facility. They have the opportunity to work side-by-side with the full-time faculty members where they have the opportunity to study the faculty member's teaching style and to interact with the full-time faculty member in such a way as to refine and build on GTAs teaching skills. In addition, the students attend a weekly preclinical calibration meeting to acquaint them to the teaching techniques to be used for the following week. This is an ideal instructional setting for young GTAs to learn how to teach because the student faculty in the preclinical setting is much lower than is the case in clinic. Before each semester, all faculty and GTAs are required to attend a half day calibration session.

GTA activities of DHED students in the DHED Graduate Program

Following are examples of the type of Graduate Teaching Responsibilities students may be assigned to during the DHED MS program. Students are assigned approximately 6 hours in the Fall 1 semester and 9 hours in the Spring 1 and Fall 2 semesters.

Year 1			
Semester	Course	sessions/ week	hours/session
Fall	DHYG 252 (Dental Radiology)	1	1 st year graduate students work with the course director and observe/teach first year dental hygiene students in radiology. Prior to this assignment, the graduate students receive an extensive evaluation of their skills and an orientation to the course.

	DHYG 253 Dental Anatomy lab	1	1 st and 2 nd year graduate students assisted with lab activities, answer questions for students; grade laboratory assignments.
	DHYG 257 (Introduction to Dental Hygiene)	1	1 st year graduate student work with the course director to prepare for labs and lectures and perform other functions as needed.
Spring	DHYG 367(Clinical Dental Hygiene)	3	Students are clinical instructors in the dental hygiene clinics.
	DHYG 265 Dental Materials	1	Student work with course director to provide lectures, lead laboratory activities and grade laboratory exercises; provide remediation to students.
	DENT 113 (Preclinical Scaling for DDS Students)	1	Students were laboratory instructors with the 1 st year dental students teaching instrumentation skills.
Summer	DENT – Preventive Recall Clinic	3	Students teach in 3 clinic sessions per week to the DDS 1 students

Year 2			
Semester	Course	sessions/week	hours/session
Fall	DHYG 357/367(Clinical Dental Hygiene)	3	2 nd year graduate students are clinical instructors in the dental hygiene clinics.
	DHYG 257L (Preclinical Dental Hygiene)	3	Students provide preclinical instruction during 2 clinic sessions per week (6 hours total)
	DHYG 253 Dental Anatomy	1	Students assist with lab activities, answer questions for students; grade laboratory assignments.
Spring	Students are in teaching internships		

Students receive a stipend of approximately \$6,900 a year. This amount is modest considering the amount of teaching they do in the dental hygiene, dental assisting and predoctoral programs.

9. Faculty Strengths and Areas of Concern

All dental hygiene faculty that teach or supervise students in the DHED program have a Master of Science Degree or a doctoral degree. The Graduate Program Director's time allocation to the graduate program is approximately 40-50%. Two other dental hygiene faculty teach core courses in the DHED program. However, the two faculty also have course and administrative responsibilities in the undergraduate dental hygiene program and one teaches a major course in the spring in the predoctoral curriculum.

Only two of the full-time faculty members in Dental Hygiene are tenure track/tenured. For future growth and succession planning, it would be beneficial to hire 1-2 tenure track faculty members in the future.

D. Students

1. Admission

See General Student Overview. Once applications are completed in the UNC-CH Graduate School system, the admissions committee, consisting of four members (Wilder, Chair, Brame, Mitchell, Hunt) reviews each application. All candidates are evaluated on the following criteria: GPA, schools attended, previous work experience, letters of recommendation (outstanding, good, average, below average), admissions questionnaire (outstanding, good, average, below average), subjective rating (outstanding, good, average, below average) based on personal or telephone interview. The admissions committee has a final meeting after all interviews are conducted to make final selections.

2. Academic Environment

The DHED graduate students are treated very well by all faculty in the School of Dentistry. We have a detailed orientation (2 day) for the students upon arrival and welcome reception soon after they begin. The students have a graduate room with a desk and other supplies to assist them in their graduate studies. The program director (through program CE and Dental Foundation funds) assists the students with funding for travel to professional meetings and other professional development opportunities. In addition, students are welcomed at interdisciplinary activities throughout the School of Dentistry and University.

3. Alumni

See General Student Overview

a.) Research and Professional Awards Received by Alumni FY 2010-11 thru FY 2014-15

FY 10-11	Jonathan	Owens	<i>Winner of the Olav Alvares Awards for Outstanding Articles by Junior Scholars published in the Journal of Dental Education in 2011.</i>
FY12-13	Brittany	Minichbauer	ADEA/Crest Oral-B Scholarship for Dental Hygiene Students Pursuing Academic Careers, ADEA-American Dental Education Association
FY12-13	Lambert	Cynthia	American Dental Hygienists' Association (ADHA)/Sigma Phi Alpha Journalism Award, ADHA-American Dental Hygienists Association <i>Winner of Best Paper Award for papers published in the Journal of Dental Hygiene in 2013</i>
FY12-13	Qun	Tang	ADEA/Crest Oral-B Scholarship for Dental Hygiene Students Pursuing Academic Careers, ADEA-American Dental Education Association
FY13-14	Brittany	Minichbauer	ADEA/Crest Oral-B Scholarship
FY 13-14	Megan	Mosley	<i>Runner-up winner of Best Paper Award for papers published in the Journal of Dental Hygiene in 2014</i>
FY 13-14	Vivana	Ruiz	<i>Winner of the Olav Alvares Awards for Outstanding Articles by Junior Scholars published in the Journal of Dental Education in 2014.</i>
FY14-15	Viviana	Ruiz	Olva Oleares Award - Outstanding Article by Junior Scholar in J Dent Educ
FY14-15	Jessica	Holloman	ADEA/Crest Oral-B Scholarship for Dental Hygiene Students Pursuing Academic Careers
FY14-15	Kristin	Dillow	Am Acad of Dental Sleep Medicine Student Research Award
FY14-15	Kristin	Dillow	1st Place Graduate Student Research award DENTSPLY/Am Dental Hygiene Association
FY14-15	Whitney	Simonian	Honorable Mention: Masters/Doctoral category in the ADHA/Sigma Phi Alpha Journalism Competition
FY14-15	Brittany	Minichbauer	Am Acad of Dental Sleep Medicine Student Research Award
FY15-16	Anna	Hilla	ADEA/Crest Oral-B Laboratories Scholarships for Dental Hygiene Students Pursuing Academic Careers;
FY15-16	Jennifer	Harmon	International Association of Dental Research (IADR) Behavioral, Epidemiologic and Health Services Research (BEHSR) group Outstanding Student Abstract Award.
FY15-16	Demah	AlGheithy	DENTSPLY/ADHA Graduate Student Clinicians Dental Hygiene Research Program at the American Dental Hygienists' Association Center for Lifelong Learning

b.) Publications of students (1st or co-author) in FY 2010-11 thru FY 2014-15. Students' names are in bold.

Spring 2015 Graduates

Jennifer Harmon: Harmon JB, Sanders AE, Wilder RS, Essick GK, Slade GD, Hartung JE, Nackley AG. Circulating Omentin-1 and Chronic Temporomandibular Disorder Pain. Submitted to the *J Oral Facial Pain Headache*.

Li Chen: Chen L, Mauriello SM, Platin E, Arnold RR. Sporicidal activities of three commercial disinfectant wipes for surface decontamination. To be submitted to JADA.
Thesis Committee: Dr. Sally Mauriello, Chair; Dr. Roland Arnold, Dr. Ricardo Platin.

Melani Decker: A qualitative pilot assessment of oral health information delivered in the medical home. Thesis Committee: Dr. Rocio Quinonez, Chair; Dr. Gary Rozier, Prof. Rebecca Wilder, Dr. Steiner. Paper in preparation and will be submitted to the *Journal of Pediatrics*.

Demah AlGheithy: AlGheithy D, Mitchell S, Platin R, Brame J. The effectiveness of a self-instructional radiographic anatomy module on the improvement of test performance for dental hygiene faculty. To be submitted to the *Journal of Dental Education*.

Spring 2014 Graduates

Brittany Minichbauer: *Minichbauer B, Sheats R, Wilder RS, Essick G. Sleep medicine content in dental hygiene education. *J Dent Educ.* 2015, 79 (5): 484-92.

Jessica Holloman: Holloman J, Mauriello SM, Pimenta L, Arnold RR. Comparison of suction device with saliva ejector for aerosol and spatter reduction during ultrasonic scaling. *J Am Dent Assoc.* 2015, 146(1):27-33

Kristin Dillow: Dillow KD, Essick GK, Sanders AE, Sheats RD, Brame JL. Physician evaluation among dental patients who screen high-risk for sleep apnea. Submitted to JADA.

Whitney Simonian: *Simonian W, Brame J, Hunt L, Wilder RS. Practicum experiences: effects on clinical self-confidence of senior dental hygiene students. *J Dent Hyg.* 2015, *in press*.

Spring 2013 Graduates

Brandon Johnson: Johnson KB, Ludlow JB, Mauriello SM, Platin E. Reducing the risk of intraoral radiographic imaging with collimation and thyroid shielding. *Gen Dent* 2014, 62:34-40.

Megan Mosley: *Mosley M, Offenbacher S, Phillips C, Granger C, Wilder RS. North Carolina Cardiologists' Knowledge, Opinions and Practice Behaviors Regarding the Relationship between Periodontal Disease and Cardiovascular Disease. *J Dent Hyg.* 2014 Oct;88(5):275-84.

Antiana Perry: *Perry A, Patton LP, Wilder RS, Iida H. Knowledge, perceived ability and practice behaviors regarding oral health among pediatric hematology and oncology nurses. *J Dent Hyg., in press*.

2012 Graduates

Nuha Ahmad: *Ahmad NE, Sanders AE, Sheats R, Brame JL, Essick GK. Obstructive sleep apnea in association with periodontitis: a case-control study. *J Dent Hyg.* 2013 Aug;87(4):188-99.

Cynthia Lambert: Lambert CA, Sanders A, Wilder RS, Slade GD, Van Uum S, Russell E, Koren G, Maixner W. Chronic HPA axis response to stress in temporomandibular disorder. *J Dent Hyg.* 2013;87:73-81.

Reprinted: *Lambert CA, Sanders A, Wilder RS, Slade GD, Van Uum S, Russell E, Koren G, Maixner W. Chronic HPA axis response to stress in temporomandibular disorder. *J Dent Hyg.* 2014;88 Suppl 1:5-12.

Viviana Ruiz: *Ruiz VR, Quinonez RB, Wilder RS, Phillips C.. Infant and toddler oral health: attitudes and practice behaviors of North Carolina dental hygienists. *J Dent Educ.* 2014 Jan;78(1):146-56.

Qun Tang: Three Intraoral Radiographic Receptor-Positioning Systems: A Comparative Study. Thesis Committee: Dr. Sally Mauriello, Chair; Dr. John Ludlow; Dr. Enrique Platin. Paper submitted for publication (2014).

2011 Graduates

Julie Sutton: Sutton JD, Ranney LM, Wilder RS, Sanders AE. Environmental tobacco smoke and periodontitis in U.S. non-smokers. *J Dent Hyg.* 2012 Summer;86(3):185-94.

2010 Graduates

Kathryn Bell: Bell KP, Phillips C, Offenbacher S, Paquette D, Wilder RS. Incorporating Oral-Systemic Evidence into Patient Care: Practice Behaviors and Barriers of North Carolina Dental Hygienists. *J Dent Hyg.* 2011 Spring;85(2):99-113.

Jonathan Owens: Owens JB, Southerland J, Buse JB, Malone RM, Wilder RS. Knowledge, Opinions and Practice Behaviors of North Carolina Endocrinologists and Internists Regarding Periodontal Disease and Diabetes. *J Dent Educ.* 2011 Mar;75(3):329-38.

Mary Vinson Lopes: Lopes M, Southerland J, Buse JB, Malone RM, Wilder RS. Diabetes Educators' Knowledge, Opinions and Behaviors Regarding Periodontal Disease and Diabetes. *J Dent Hyg.* 2012 Spring;86(2):82-90.

Aubree Chismark: Chismark A, Asher G, Stein M, Tavoc T, Curran A. Use of Complementary and Alternative Medicine for Work-related Pain Correlates with Career Satisfaction among Dental hygienists. *J Dent Hyg.* 2011 Fall;85(4):273-84.

c.) Employment and Professional Contributions of Alumni FY 2010-11 thru FY 2014-15

Katie Bell (2010)

Current: Assistant Professor of Dental Hygiene Faculty

Pacific University, Hillsboro, OR

Leadership Positions: Faculty Senator; Secretary of the Oregon Dental Hygienists' Association

Member: American Dental Hygienists' Association Institute for Oral Health Research Grant Review Committee

Aubree Chismark (2010)

Current: Assistant Professor of Dental Hygiene Faculty

West Coast University, Anaheim, CA

Jonathan Owens (2010)

Faculty

Current: Assistant Professor

Howard University SOD, Washington, DC

Olav Alvares Award for Outstanding Articles Published in the Journal of Dental Education

Leadership Positions: Advisory Board for the National Center on Dental Hygiene Research and Practice

Mary Vinson (2010)

Current: Not working

Julie Sutton (2011)

Faculty

Previous: Instructor

Hawkeye Community College, Waterloo, IA

Current: Assistant Professor

Faculty

University of Missouri-KC, Kansas City, MO

Leadership Positions: ADHA State Educator Network representative, Missouri

Lisa Barron (2011)

Current: Teaching FT

Faculty

Central Carolina Community College, Sanford, NC

Current: Dean of Health Sciences

Administration

Central Carolina Community College, Sanford, NC

Leadership Positions: IOH Liaison and Governmental Chair for NCDHA

Jessica Peek Scott (2011)

Previous: Director and Instructor

Administration/ Faculty

Kaplan School for Dental Assistants, Charlotte, NC

Current: Department Chair of Allied Health Sciences

Administration/ Faculty

Central Carolina Community College, Sanford, NC

Leadership Positions: Vice President of the Durham Orange Dental Hygiene Association

Nuha Ahmad (2012)

Current: Lecturer

Faculty

King Saud University, College of Applied Medical Sciences

Dental Health Department, Dental Hygiene

Riyadh, Saudi Arabia

Cynthia Lambert (2012)
 Previous: Clinical Assistant Professor of Dental Assisting Faculty
 University of North Carolina-Chapel Hill School of Dentistry
 Current: Instructor of Dental Assisting/Dental Hygiene Faculty
 Central Carolina Community College, Sanford, NC
 Leadership Positions: Vice President of the Durham Orange Dental Hygienists' Association (2012-14);
 Secretary of the Dental Assisting Section of ADEA

Qun Tang (2012)
 Current: Instructor of Dental Hygiene Faculty
 Milwaukee Area Technical College, Milwaukee, WI

Viviana Ruiz (2012)
 Upon graduation with MS, entered International Program for Dentists
 University of Illinois at Chicago
 Current: Private Practice Dentist, Chicago, IL Private Practice-Dentistry
 Olav Alvares Award for Outstanding Article Published in the Journal of Dental Education

Antiana Perry (2013)
 Previous: Instructor Faculty
 Halifax Community College Dental Hygiene

Megan Mosely (2013)
 Previous: Part time Clinical Instructor of Dental Hygiene
 UNC Chapel Hill, NC
 Current: Private Practice DH Clinician Private DH Practice

Brandon Johnson (2013)
 Previous: Part time Clinical Instructor of Dental Hygiene
 UNC Chapel Hill, NC
 Current: Clinical Assistant Professor Faculty
 Department of Diagnostic Sciences
 UNC Chapel Hill School of Dentistry, Chapel Hill, NC

Whitney Simonian (2014)
 Current: Clinical Instructor of Dental Hygiene
 Central Carolina Community College, Sanford, NC Faculty
 Leadership positions: Durham Orange Dental Hygiene Association
 Treasurer: North Carolina Dental Hygienists' Association

Kristin Dillow (2014)
 Current: Research Assistant, Department of Prosthodontics Research

Jessica Holloman (2014)
 Current: Program Director: Innovations in Oral Health: Research
 Technology, Instruction, Practice, Service
 Bouvé College of Health Sciences
 Northeastern University, Boston, MA

Brittany Minichbauer (2014)	
Previous: Clinical Instructor (part-time) of Dental Hygiene UNC Chapel Hill School of Dentistry	Faculty
Current: Private Practice Clinician	Private Practice
Jennifer Harmon (2015)	
Current: Adjunct Clinical Assistant Professor of Dental Hygiene UNC Chapel Hill School of Dentistry	Faculty
Demah AlGheithy (2015)	
Current: Lecturer King Saud University College of Applied Medical Sciences, Dental Health Department Riyadh, Saudi Arabia	Faculty
Melanie Decker (2015)	
Currently unemployed (moving to a new location with husband)	
Li Chen (2015)	
Current: Private Practice Clinician	Private Practice

E. Leadership and Support

See General Leadership and Support overview

1. Administrative Support

One full time Student Services Manager position is allocated to both the dental hygiene undergraduate and graduate programs. This individual serves a vital role in recruitment, admissions, student registration, electronic calendar support, and all student related functions, such as textbook ordering, student orientation and student advocacy. The staff member also provides clerical support including duplication of materials, travel requisitions and purchase orders.

Clinical support staff is not separate from that serving the School of Dentistry. Clinical support staff members available to support the program include appointment clerks, dispensary clerks, sterilization technicians, radiology technicians, financial coordinators, insurance clerks, and dental assistants.

2. Facilities

Each of the full time dental hygiene faculty members has a private office in a suite of offices in the First Dental Building. The staff student services manager has a private office. Dental hygiene graduate students share a large office space, which accommodates eight students. Each student is supplied a workstation. Printers are shared by the students.

With the addition of the Koury Oral Health Sciences Building, our facilities, classroom, laboratory and research space are superior. The graduate students and faculty have ample space and equipment to conduct their teaching and research responsibilities.

F. The Future

Program Size

The size of the program is likely to stay the same given the number of faculty we have to support the program and the rigor of the thesis requirement. It would be beneficial to hire another tenure track faculty member in the Dental Hygiene programs for future growth in the area of scholarship and grantsmanship.

Student Resources

Our resources to assist graduate students with research funding and travel are very limited. To date, we use continuing education funds or monies from the Dental Foundation of North Carolina Graduate Dental Hygiene Education fund. More funding for these endeavors are necessary for student exposure and growth.

Curricular Changes

We would like to have an external program review conducted to provide us with objective analysis regarding the future direction of the program. We are satisfied that the program is graduating students who are competent and ready to enter an academic position. However, we are considering adding new minors that will provide contemporary content for future growth in the dental hygiene profession. For example, we might consider a minor in interprofessional education and collaboration or Public Health. A minor in Clinical Research is another option. We are also considering the addition of a course or content in online teaching. To date we have not made decisions about future changes or implementation.

Quality Improvement of Graduate Education

The research core of courses is changing and the DHED students will only be able to participate in 2 of the 3 courses. We need to determine a way to help them to obtain that content.

The quality of the thesis projects is excellent and we will strive to continue providing the graduate students with a strong research and writing foundation.

Student Qualifications

We will continue recruiting from BS Dental Hygiene programs as well as practicing dental hygienists. We are receiving applications from highly qualified applicants and will continue to strive for this level of student in the future.

Racial, ethnic, and gender diversity in the graduate program

The DHED graduate program is very diverse and we will continue to strive to maintain diversity.

Quality of mentoring

We have a formal mentoring program for junior faculty at the UNC School of Dentistry. This program provides guidance to faculty as they navigate and strive for promotion and/or tenure. The faculty within the dental hygiene program participate in the mentoring program.