

**UNC Hospitals Graduate Medical Education  
2009-10 Annual Report to the Medical Staff**

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Designated Institutional Official

In compliance with the Accreditation Council for Graduate Medical Education institutional requirement I.B.4.b, this report is presented by the Office of Graduate Medical Education to the Medical Staff regarding activities of the Graduate Medical Education Committee during the 2009-2010 academic year.

**Demographic Data**

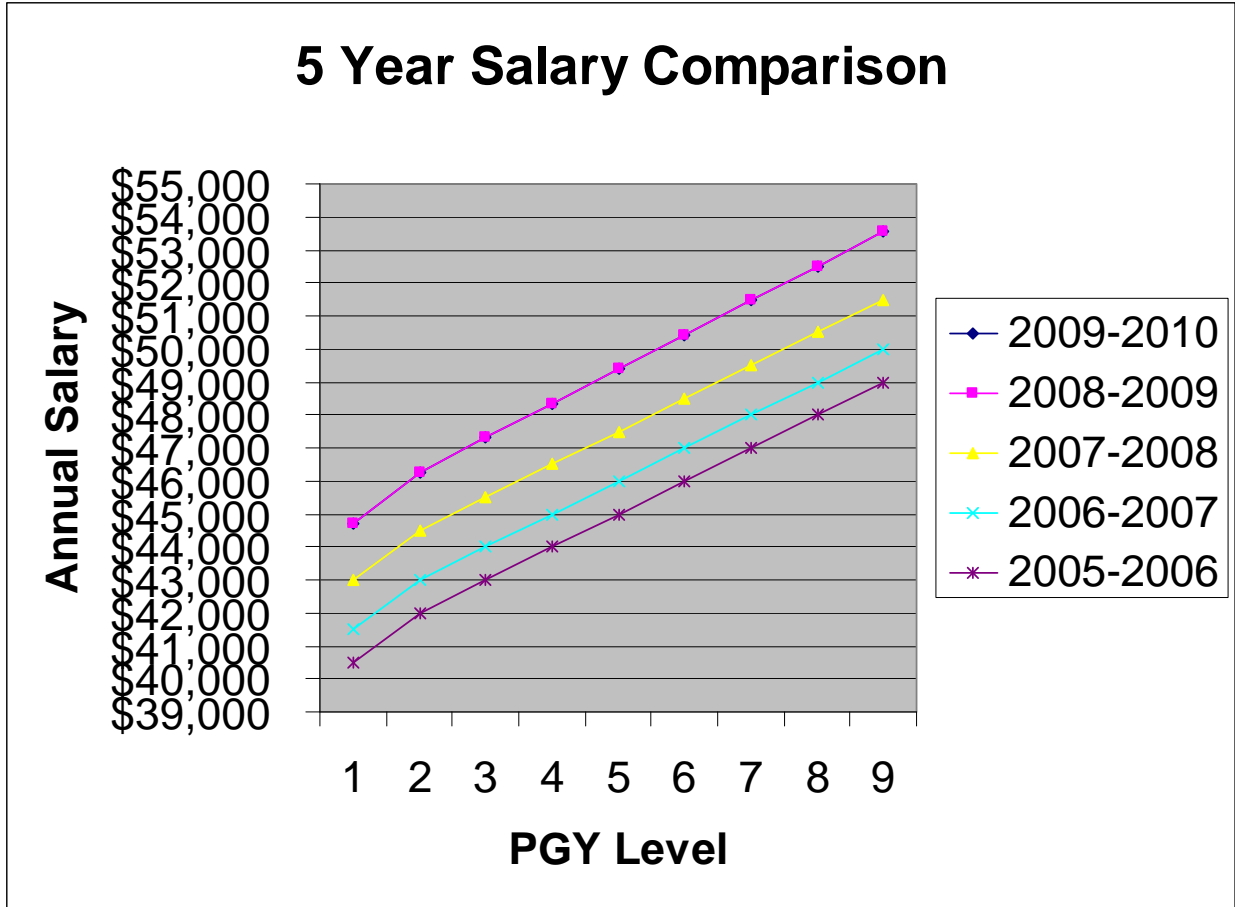
UNC Hospitals is the sponsoring institution for 64 ACGME-accredited specialty and subspecialty residency training programs. In addition, residents in Dental Ecology, Pediatric Dentistry, Oral & Maxillofacial Surgery, McLendon Labs, and fellows in Ob/Gyn subspecialties are appointed through the OGME.

For the 2009-10 academic year, the number of residents and fellows appointed through the Office of Graduate Medical Education (OGME) is as follows:

Specialty Residents	545
Subspecialty Residents	149
Residents in Dental Programs	31
Ob/Gyn Fellows	8
McLendon Labs	5
Total Appointed to GME	738

Salaries for residents and subspecialty residents have increased over the past five years as follows:

2009-2010	2008-2009	2007-2008	2006-2007	2005-2006
\$44,720	\$44,720	\$43,000	\$41,500	\$40,500
\$46,280	\$46,280	\$44,500	\$43,000	\$42,000
\$47,320	\$47,320	\$45,500	\$44,000	\$43,000
\$48,360	\$48,360	\$46,500	\$45,000	\$44,000
\$49,400	\$49,400	\$47,500	\$46,000	\$45,000
\$50,440	\$50,440	\$48,500	\$47,000	\$46,000
\$51,480	\$51,480	\$49,500	\$48,000	\$47,000
\$52,520	\$52,520	\$50,500	\$49,000	\$48,000
\$53,560	\$53,560	\$51,500	\$50,000	\$49,000



**ACGME Communications**

We received 45 communications from the ACGME during the 2009-10 academic year:

ACGME Action	Program(s)
Initial accreditation	Thoracic Surgery-Integrated, Transplant Hepatology
Continued accreditation	Otolaryngology, Pathology, Molecular Genetic Pathology
Notification of Scheduled Site Visit	General Surgery, Anesthesiology, Pediatric Anesthesiology, Pediatric Emergency Medicine, Physical Medicine & Rehabilitation, Cardiothoracic Surgery, Pediatrics, Medicine/Pediatrics, Pediatric Critical Care, Pediatric Endocrinology, Pediatric Hematology/Oncology, Pediatric Nephrology, Neonatal-Perinatal Medicine, Pediatric Pulmonology, Psychiatry,

<b>ACGME Action</b>	<b>Program(s)</b>
	Forensic Psychiatry
Acknowledgement of Progress Report	Dermatology, IM-Infectious Disease, Allergy & Immunology, Otolaryngology, Emergency Medicine
Approve requested increase in complement	IM-Endocrinology
Deny requested increase in complement	Pediatric Anesthesiology
Approve requested change in program structure	Neurosurgery, Neurology
Uphold previous decision to withhold accreditation	Transplant Hepatology
One year extension of accreditation cycle for IM programs with 4 or 5 year review cycles	Internal Medicine, IM-Cardiology, IM-Endocrinology, IM-Gastroenterology, IM-Infectious Disease, IM-Nephrology, IM-Rheumatology, IM-Geriatrics, IM-Interventional Cardiology, IM-Hematology/Oncology, IM-Pulmonary/Critical Care Medicine
Warning of potential non-compliance with duty hour standards	Internal Medicine; copy to institution for oversight and monitoring
Delete participating site	Plastic Surgery

Accreditation letters included the following citations:

<b><u>Citation Category</u></b>	<b><u>Number of Citations</u></b>	<b><u>Programs</u></b>
<b>1. Institutional Support</b>		
A. Sponsoring Institution	1	Otolaryngology
B. Program Director	1	Otolaryngology
C. Participating Institution	0	
D. Facilities-Educational Space Including Library	0	
E. Facilities-Clinical Space	0	
F. Medical Records Retrieval	0	
G. On-call Rooms	0	
H. Appropriate Food Services	0	
I. Safety/Security	0	
J. Patient Support Services	0	
<b>2. Resident Appointment Issues</b>	0	
<b>3. Faculty</b>		
A. Qualifications of Program Director	0	
B. Responsibilities of Program Director	4	Otolaryngology; Pathology
C. Qualifications of Faculty (including # of faculty)	1	Otolaryngology
D. Responsibilities of Faculty	0	
E. Other Program Personnel	0	
F. Resources	0	
<b>4. The Education Program</b>		

A. Progressive Resident Responsibility	0	
B. ACGME Competencies	0	
C. Patient Care Experience	1	Pathology
D. Procedural Experience	0	
E. Service to Education Imbalance	0	
F. Scholarly Activities	0	
G. Supervision	0	
H. Duty Hours and Working Environment	0	
1. 80 hours per week	0	
2. 1 day in 7 free	0	
3. 10 hour rest period	0	
4. Call day: 24 + 6	0	
5. Call greater than every third night	0	
6. Moonlighting	0	
7. Other	0	
8. Oversight	0	
<b>5. Evaluation</b>		
A. Evaluation of Residents	2	Transplant Hepatology; Molecular Genetic Pathology
B. Evaluation of Faculty	1	Molecular Genetic Pathology
C. Evaluation of Program	1	Otolaryngology
D. Performance on Board Scores	0	
<b>6. Experimentation and Innovation</b>	0	

### **Graduate Medical Education Committee Responsibilities**

The Graduate Medical Education Committee is chaired by Dr. Philip Boysen, Executive Associate Dean for Graduate Medical Education and Designated Institutional Official, and is composed of specialty program directors, three subspecialty program directors appointed to represent all subspecialty programs, the Housestaff Council officers, one additional resident, and other institutional representatives as listed on the attached roster. The GMEC meets monthly.

Standing agenda items for each meeting are the following:

<b>Agenda Item</b>	<b>Institutional Requirement/Common Program Requirement #</b>
Required Program Documentation	IR III.B.; CPR V.A.2.
Duty Hour Requirements	IR III.B.; CPR V.F.
Review ACGME Correspondence	IR III.B.8.
Housestaff Council Update	IR II.F.
Review Moonlighting Requests	IR II.D.4.j.; CPR VI.D.

In addition to the standing items, the following business was conducted by the GMEC during the academic year:

<b>Agenda Item</b>	<b>IR/CPR #</b>	<b>Date</b>
ACGME Resident Survey Responses	IR III.B.	6/09, 7/09, 3/10, 4/10, 5/10
Appointment of New Program Director	IR III.B.10.e.	6/09, 9/09, 10/09, 1/10, 4/10, 5/10
Review of Policies and Institutional Compliance	IR III.B.1.	8/09, 9/09, 10/09, 11/09, 1/10, 2/10, 3/10, 4/10
Review Internal Review Report	IR IV.B.1.	8/09, 10/09, 11/09, 12/09, 1/10, 3/10, 4/10, 5/10
Review Request for Change in Resident Complement	IR III.B.10.b.	6/09, 7/09, 10/09, 11/09, 12/09, 1/10, 2/10, 3/10, 4/10, 5/10
Issues Affecting Resident Work Environment	IR II.F.2.; CPR III.D	6/09, 7/09, 8/09, 9/09, 11/09, 2/10, 3/10, 4/10
Review Program Progress Report	IR III.B.10.f.	6/09, 8/09, 9/09, 11/09, 12/09, 2/10
Request for Change in Program Format	IR III.B.10.c.	6/09, 8/09, 9/09, 11/09, 2/10
Request to Add or Delete Participating Site	IR III.B.10.d.	10/09
Duty Hours	IR II D.4.i., CPR VI	6/09, 7/09, 10/09, 11/09, 12/09, 1/10, 2/10, 3/10, 4/10, 5/10

### **Housestaff Council**

The Housestaff Council continues to meet regularly to represent and promote the interests of those enrolled in programs of graduate medical education and to improve the quality of patient care at UNC Hospitals. In addition to quality improvement and patient safety initiatives (see below) the HSC sponsored a Triple Charity Breakfast to raise money for the Ronald McDonald House and the SECU Family House and to collect food for the Food Bank and toys for Toys For Tots. The 2009-2010 HSC officers were the following:

President	Qionna Tinney Railey, MD, Psychiatry
Vice President	Kate Johnson, MD, Psychiatry
Secretary	Jennifer McEntee, MD, Medicine/Pediatrics
Treasurer	Kris Ross, MD, Family Medicine

Officers elected for the upcoming academic year are

President	Jeffrey Dehmer, MD, Surgery
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Vice President        Justin Scruggs, MD, PM&R  
Secretary            Eldesia Granger, MD, Medicine/Pediatrics  
Treasurer            Karen Speck, MD, Surgery

## **Resident Participation in Quality Improvement, Resident-As-Teacher, and Patient Safety Initiatives**

### Allergy & Immunology

Each Allergy & Immunology resident is assigned a quality improvement project. The projects are designed to improve patient safety or care delivery. The residents implement the project under the supervision of a faculty member and then write up the project and keep it in their portfolio.

Teaching is taught and practiced in many ways. Residents participate in an annual all-day symposium offered by the Department of Pediatrics. This symposium has sessions devoted to improving teaching effectiveness. Residents are required to participate in several didactic sessions weekly at which on a rotational basis, they are expected to “teach” their other residents and faculty about a topic. They present 3 Grand Rounds each year. All their teaching is critiqued and feedback for improvement is offered. Teaching in the clinic is practiced by having them work with medical students and other residents that rotate through the clinics.

### Anesthesiology

Our residents are highly involved in systems management that yield the highest patient safety possible.

Longstanding tradition of great teaching residents continues in our department. Lectures are given to ANES401 students and daily intraoperative teaching of medical students occurs.

### Anesthesiology – Pain Management

The program utilizes a voluntary system of reporting any adverse events - ranging from simple scheduling problems to poor patient outcomes - to the division chief; forms utilized for these reports are available in both outpatient clinics. Required M&M conference is held several times a year to review and discuss quality assurance issues deriving from events that are reported. Trainees are required to participate in reporting any adverse events or concerns, and in the subsequent analysis and development of opportunities for improvement.

Fellows are required to present lectures in the weekly series throughout the year, provide supplemental presentations in CME programs and related services (e.g. nursing), and actively participate in the supervision and education of students and core program residents who rotate on the pain medicine services. Evaluations by the pain faculty are based on direct observation, and feedback is provided.

Fellows serve on the program’s education committee.

### Anesthesiology – Pediatric

The fellows attend morbidity and mortality conferences which occur bimonthly. They are asked to complete daily clinical quality improvement forms on each patient. Untoward events marked on the forms are discussed at the morbidity and mortality conferences. The fellows are asked to present at this conference when appropriate.

The pediatric anesthesia fellow is expected to function at a level commensurate with a resident at the CA 4 (or greater) level of training. He or she will be expected to develop a knowledge base and the clinical skills necessary to serve as a practitioner and consultant in Pediatric Anesthesia. As the year of training progresses, pediatric anesthesia fellows are given a greater degree of autonomy relative to CA 1 – 3 residents and they are given the opportunity to function in a supervisory and teaching role for residents and CRNA's. This is done with attending physician backup and supervision. The expectation is that they should be able to function autonomously as a pediatric anesthesiologist by the end of their fellowship year. Pediatric anesthesia fellows are also expected to teach by participating in the didactic lecture series, morbidity and mortality conferences and journal clubs throughout their fellowship. Other fellows and residents rotating on the pediatric service attend these lectures, conferences and journal clubs.

#### Dentistry – General Practice Residency (Dental Ecology)

Residents are involved in quality improvement components of The Quality Improvement Plan for the Hospital Dental Program at UNC Hospitals that allow them to understand the process and contribute to patient care improvement. They participate in Morning rounds, Mock codes, Chart review, Treatment plans and Credentialing/Certification.

The PGY2 residents participate on the Resident Selection Committee.

#### Dentistry – Pediatric

All residents take part in two seminars that help to ensure patient safety and quality improvement. For two hours each Monday all residents take part in the Diagnosis and Treatment Planning Seminar. During this seminar the residents present cases that they have treated to their fellow residents and faculty members. These cases are then critiqued by all in attendance. In addition, for one hour every Friday, all residents take part in the Emergency Treatment Seminar. During this seminar the residents present emergency cases that they have treated. Both of these seminars serve as ways to review patient care decisions. In addition, all patient records are reviewed and signed by the attending faculty after every patient visit.

All third year residents serve as Graduate Teaching Assistants (GTA). To prepare for this, these residents are required to take a two hour GTA orientation seminar and then take part in a week long intensive experience working one on one with an experienced attending faculty member. In addition, when serving as a GTA, the residents always work alongside an attending faculty member.

#### Dermatology

Systems-based practice (including patient safety and quality improvement) is best learned by the residents during the monthly Quality Assurance conference. In this conference, departmental administrative and management issues are at the forefront. In this setting, residents and/or administrative staff present issues that require analysis, change, or improvement. Open discussion by all involved allows participants to appreciate impact of issues and changes from financial, patient, nursing staff, and physician perspectives. Past conferences have addressed issues of scheduling, patient flow, billing, coding, and patient safety.

Over the years, we have had residents participate in multiple quality improvement activities. Recently, Dr. Poindexter identified an opportunity to improve our nurses' information collection regarding patient medical histories and medications. They presented the need at our Quality Assurance meeting and worked to draft a form to be used in our practice. The drafts were supervised by Dr. Thomas and assisted by nursing and administrative staff. The form was recently presented at a Quality Assurance meeting and

implemented in Dr. Runge's clinic. Currently, a revised form is being constructed for future implementation.

Residents have opportunities to teach and receive teaching feedback via a yearly mini-symposium for new residents joining the program, monthly UNC/Duke conferences, and Grand Rounds weekly presentations. Residents are evaluated on their performance.

Residents have served on the following committees: Education Committee (Department), GMEC Internal Review Committee, Housestaff Council, and Chief Residents IT Committee.

### Emergency Medicine

Quality improvement and patient safety initiatives include the following:

- retrospective review of the quality of UNC in-hospital resuscitation, titled, "In-Hospital Resuscitation Documentation", that was accepted for presentation at the Society Academic Emergency Medicine mid-Atlantic region conference
- Senior Residents lead Morbidity and Mortality Conferences
- Second Year EM residents lead multidisciplinary trauma conference
- Participation with Quality Improvement Office to work on throughput for ST Elevation MI

Resident As Teacher activities include:

- senior resident serves as resident medical student education director allowing for innovation and greater resident involvement in medical student education
- increased use of high fidelity simulation for medical students rotating in Emergency Medicine (residents often as teachers)
- Teaching how to teach session provided by Julie Byerley and Alan Liles in past (did not do this year)
- plans to start "teaching shifts" for senior residents in Emergency Department to allow them to dedicate time to teaching medical students

Residents have served on the following committees:

- Housestaff Council
- Emergency Department/ Internal Medicine Patient Holding Orders Committee
- Emergency Department Clinical Operations Group
- Emergency Department Throughput Committee
- UNC Healthy Heels
- American College Emergency Physicians Resident Wellness Committee

### Family Medicine

Each second year resident completes a 6 week rotation entitled "Putting Quality Improvement into Practice" in which he/she functions as the "quality officer of the month", conducting patient safety conferences and working with the practice on quality improvement projects.

The program's conference series in June of every academic year has multiple sessions devoted to teaching the residents to be better teachers and leaders.



The residents serve on the following committees:

Hospital: Housestaff Council

Department: Education committee, Residency Management Team, Executive Committee, Clinical Management Team, Strategic Planning Committee

#### Internal Medicine

In the 2009-2010 academic year a number of residents have participated in these types of projects in our Continuity Clinic site. The following are some of the projects undertaken: Cervical cancer – screening and pap smear tracking; Colon cancer –screening; Depression- screening and treatment; Obesity and Wt. Loss – algorithm tools; Clinic “No Shows”; Communication of test results

Each spring, the Department holds a retreat for rising second year residents about effective teaching. In this day-long retreat, proven techniques for effective clinical teaching are reviewed. There are also sessions on leadership and recognizing the problem resident or student.

Residents have served on the following committees:

Department of Medicine Education Committee- representatives from each class serve for one year  
UNC Hospitals Chief Residents IT Committee  
Housestaff Council  
UNC Hospitals CPOE committee

#### IM-Endocrinology

Endocrinology Fellows complete the required LMS modules involving Patient Safety and Risk Assessment. Fellows participate in our cross-divisional M &M conference and attend the Department of Medicine M&M conference. Fellows participate in our monthly divisional conferences as they pertain to issues of outpatient clinic operations, inpatient consulting services, and quality improvement. Fellows formally present cases to the combined faculty in endocrinology, pediatric endocrinology and reproductive endocrinology faculty weekly (Weekly Fellows Case Conference), and during which discussions of safety and quality improvement are routinely addressed with cross-divisional input.

We have held formal discussions and/or conference with faculty from related divisions during which fellows have actively participated, including the following:

- 1) Nuclear Medicine and protocols for followup of Benign and Malignant Thyroid Disease
- 2) Ophthalmology and protocols for referral and use of glucocorticoids for treatment of grave's ophthalmopathy
- 3) Neurosurgery and follow-up of patients after Minimally Invasive Pituitary Surgery (MIPS)

Endocrinology fellows participate in the 10 Small Group Teaching Sessions of 2<sup>nd</sup> year medical students in a graduated fashion. 1<sup>st</sup> year fellows are initially paired with a seasoned faculty member whom they observe during initial sessions, and then are given increasing responsibility for running the sessions under direct observation of the faculty preceptor, with feedback provided by the faculty member. In their 2<sup>nd</sup> year of fellowship, fellows are assigned as the sole preceptor to these groups of 30 medical students, thus allowing for progressive teaching responsibility for teaching initially under direct faculty observation. The quality of their teaching is reviewed by the medical students and shared with fellows and faculty.

Endocrinology fellows are assigned to review and discuss a series of complex teaching cases on a rotating basis to 4<sup>th</sup> year medical students who are on elective rotation. The quality of their teaching is reviewed by the medical students and shared with them.

## IM-Gastroenterology

Our resident-fellows are required to attend and participate in our Mortality & Morbidity (M & M) Conference the first Tuesday of each month as part of our Clinical Case Conference (GI Grand Rounds) encounter for the reporting of any complications resulting from procedures incurred in our unit and by our service. At this venue, we review suboptimal outcomes for improvement in the management of patient care, to reduce or minimize risk recurrence towards continuous improvement in the quality of our service and the satisfaction of our patients. We have also been part of a nation-wide initiative “ERCP Quality Network” to help improve safety standards in carrying out advanced biliary procedures.

In addition, our weekly GI medicine-surgery conference helps attendees understand strategies for the evaluation and management of gastrointestinal disorders that have surgical implications or options; to recognize the indications, contra-indications, and alternatives to common gastrointestinal surgeries; and to appreciate difficult situations and controversial issues regarding gastrointestinal disorders with surgical implications or options.

Our GI fellows’ handbook contains information regarding UNC Health Care policy as it relates to Commitment to Caring, JCAHO, patient safety, and infection control. GME fellows must attend a documentation seminar given by hospital Medical Information Management (MIM) on a yearly basis, in addition to a coding and compliance seminar given by the SOM Compliance Office on a yearly basis.

Our fellows have been involved in developing research projects instrumental in preventive measures towards patient quality assurance and improvement, including

**Colorectal cancer:** screening for hereditary non-polyposis colorectal cancer; oral contraceptives, hormone replacement therapy and risk-associated rectal cancer; thiazolidinedione use and rectal cancer in diabetics: a population-based control study; locoregional staging of rectal cancer: comparison of EUS and MRI and their impact on management

**Endoscopy:** advantages of using single balloon enteroscopy; narrow band imaging (NBI) and its effectiveness in colonoscopy for detection of polyps proximal to the rectum; quality of colonoscopy reporting in community practice

**Esophageal:** health-related quality of life in patients with Barrett’s esophagus; development of a formulary for the use of proton pump inhibitors

**Inflammatory Bowel Disease and Malabsorption:** Accutane as a potential cause for IBD; use of statins in the treatment of IBD; possible correlation between celiac disease and infertility; bone health quality initiative in patients with IBD; effects of estrogen-containing contraceptives on disease severity in women with Crohn’s disease resulting from analysis taken from the CCQI here at UNC; determination of primary care provider within the IBD patient population; incidence and risk factors for non-melanoma skin cancer in patients with IBD; suboptimal rates of cervical testing among women with IBD; immunizations and their necessity in IBD; diagnostic ionizing radiation exposure in a population-based cohort with IBD; medical management of surgical IBD; safety of current biologic therapy for IBD with a special focus on malignancy and infectious complications

**Liver and Liver Transplant:** ERCP as a predictor for post-liver transplant mortality; effectiveness of interferon therapy; practice patterns in screening for varices; influence of NASH and associated comorbidities on liver transplant outcomes; screening for hepatocellular carcinoma

Our weekly epidemiology conference teaches fellows about the design and implementation of data sets, scholarly writing, and modes of presentation for research related to health outcomes and disparities.

Patients and their families are invited to attend our annual Irritable Bowel Syndrome (IBS) and Inflammatory Bowel Disease (IBD) Patient Education Days. Fellows and other health care providers have the opportunity to attend our yearly GI Division CME Event, Hepatology CME Event, and NC Society of Gastroenterology to enhance their fund of knowledge and keep current on state-of-the-art treatment modalities. Our monthly Journal Club teaches fellows how to appraise the current medical literature in relation to the medical decision-making process.

Our most important conference is our weekly clinical case conference or GI Grand Rounds. This conference gives us the opportunity to review and teach using interesting and challenging cases of the week (seen by consult or in clinic) with faculty and fellow physicians within the GI Division and outside physicians. The learning objectives include 1) delineate the principles of gastroenterology and hepatology as illustrated by each week's most instructive patients seen in UNC-Hospitals and clinics; 2) describe the changing methods and therapies applied in the UNC setting; 3) develop a habit of critical thinking through active discussion between trainees and faculty colleagues; 4) provide feedback to individual practices and groups.

Our luminal and hepatology consult fellows work closely with all internal and external medical students and residents. They participate in their evaluation process at the end of the rotation and provide feedback to the precepting attending, who signs the final report. Medical students and residents have an opportunity to evaluate the consult fellow at the end of their rotation. As mentors, consult fellows ensure that they attend required didactics, and, in order for them to gain practice in presentation skills for an audience in a different medical setting, the consult fellow often encourages the student or resident to present a case at our weekly GI Grand Rounds. Medical student and resident feedback has been uniformly outstanding in identifying the warmth and approachability of our fellows, who are patient in explaining complicated issues and who make them feel as though they are an integral part of the team.

Our fellows are expected to present talks each year to disseminate the nature of unusual or complicated cases on our consult and outpatient clinic service, in addition to proposed or ongoing research initiatives and projects for the cross-sharing of information and the solicitation of constructive feedback from co-fellows, faculty members, and other professionals. Twice a year ancillary co-workers are asked to provide feedback on fellow performance. Speaking venues include our weekly epidemiology conference, clinical case conference (GI Grand Rounds), GI medicine-surgery conference, pathophysiology conference, research seminar, and our monthly Journal Club and Functional GI Disorders Discussion Group.

Our fellows have also contributed content development for our GI course required of 2<sup>nd</sup>-year medical students; last year, two fellows in our epidemiology program taught a course in basic epidemiology in our School of Public Health.

Because we have two national Centers of Excellence (Inflammatory Bowel Disease and Functional GI Disorders), fellows subspecializing in these areas work closely with GI fellows from outside programs who visit our host program for a month to learn more about these specialty areas, since their respective programs do not have concentration or depth in these areas.

We encourage fellows to remain in academic medicine and provide opportunities for them to move in this direction. Each year we send interested fellows to the Academic Skills Workshop and Methodologies in Healthcare Outcomes Conference, both sponsored by the American Gastroenterology Association (AGA) and its Gastroenterology Research Group (GRG). The American Society of Gastrointestinal Endoscopy (ASGE) offers an Academic Skills Workshop as well, and the American College of Gastroenterology (ACG) offers an Annual Scientific Meeting and Post-Graduate Course. Fellows doing epidemiology work are able to attend the Evidence-Based Medicine Workshop. Certain fellows have expressed interest

in attending the national Fellowship2Leadership Conference. The School of Public Health offers a one-year leadership program leading towards an M.P.H. degree. Fellows subspecializing in a GI entity such as Inflammatory Bowel Disease (IBD) are able to attend educational forums such as Advances in IBD Workshop or Annual Research & Clinical Conference sponsored by the CCFA (Crohn's and Colitis Foundation of America).

Both our program director and coordinator have been active participants in task forces created to help improve quality of education, including a Conference Task Force and an Education Task Force (Working Group), of which the results of the latter were presented to faculty at our recent annual Faculty Retreat.

Two fellows serve as representatives (one senior and one junior) on our Fellowship Educational Oversight Committee, which meets on a quarterly basis and comprises select faculty members. This committee reviews and discusses issues such as curriculum development and recruitment of prospective fellows.

### IM-Geriatric Medicine

All of the fellows within the Geriatric Program are expected to complete a Quality Improvement Project as part of their academic work during their first year of training. Projects have included work on the inpatient service, screening for alcohol abuse in our retirement communities, and establishing electronic transfer notes between nursing care facilities and the hospital. The fellows all meet at least once a month with Dr. Laura Hanson to review their scholarly work, research ideas, and these projects. Dr. Hanson has research and Quality Improvement expertise and works closely with each fellow to ensure that this competency is met in a meaningful activity.

Expectations that the fellows will be teachers is outlined in their curriculum and discussed at the time of orientation. There is a specific component to the curriculum that centers upon their development as teachers and leaders. To this end, the fellows have several conferences that focus upon teaching in the clinical setting, giving large group presentations, giving and receiving feedback, and leading a clinical team. In addition, the fellows are expected to have an active role in the education of the inpatient team during their time on the wards – they all lead teaching rounds with the team, and these sessions are observed by the attending and feedback on their performance is given at that time. In addition, the fellows participate in student education at many different levels. Again, the fellows are observed in these activities and feedback is given to improve upon their teaching. Dr. Ellen Roberts who works with our division and the Office of Medical Education is actively involved in these teaching activities and feedback with the fellows.

The fellows serve on a variety of committees such as the Geriatric Interdisciplinary committee, work with the ED in transitions of care, and work with a committee to create and develop a Latino clinic.

### IM-Hematology/Oncology

Our fellows are participating in the Quality Oncology Practice Initiative QOPI project which is sponsored by the American Society of Clinical Oncology.

We endeavor to have our residents become excellent teachers. Several years ago we held a ½ seminar on how to give a presentation. The process was well received. We are working this into our “Fellows Seminar” program for 2010-2011. Each fellow in the second and third year will be coached prior to and after their presentation on their presentation content and style. We believe that more can be done to facilitate excellence in their area.

Dr. Collichio, an Associate Director of our program, is the chair person of the ASCO In-Training examination for 2011. She will endeavor to work with ASCO to bring teaching practices and plans to the program. The other Associate Director, Dr. Alice Ma, is the Chair of the Faculty Development Committee of the Academy of Educators. Her work with the Medical School has enhanced the teaching programs such as providing a structure for the board reviews and a method of evaluating research

Our fellows have opportunity to be on several committees. We have a fellow representative from each year of training on the Fellows Education Committee. We have at least one fellow on the Schwartz Center Rounds Committee each year. Our fellows rotate through the Lineberger Comprehensive Cancer Center Committee on compliance with clinical trials. Fellows can also participate in the Bone Transplant Committee.

### IM-Infectious Diseases

ID subspecialty residents participate in regular M&M conferences which examine complicated patients on the in-patient or out-patient service who had bad outcomes, including death. The residents also direct the Wednesday morning weekly unknowns case conference. During this conference 2 complicated patients are presented by the consult team omitting the diagnosis and care plan until the end of the discussion. A fellow who is unfamiliar with the patient being discussed is called upon to discuss possible diagnoses and care plans. Attendings who are unfamiliar with the case then present their diagnoses for discussion. The consult resident on service then gives a didactic summary of the case with all of the teaching points. At the end of the discussion, a different attending reviews the performance face to face with the resident who had to come up with a diagnosis. Finally, there is an ID Clinic Providers meeting with all faculty, fellows and staff who work in the clinic to discuss the quality of care in the clinic including coding for billing, examining various indicators of care and discussing and implementing programs to improve care.

Our Infectious Diseases Fellows/Residents have numerous opportunities to improve as teachers as well as mentoring on how to do that. As mentioned previously, ID Fellows teach the rest of the division every Wednesday during the unknown case conference. They also teach during the monthly journal club when each one of them discusses an article of interest. We have a monthly research conference where the ID Fellows present their ongoing research to their colleagues and their mentors. Finally, ID Fellows lead sections of the Microbiology course case based seminar and they supervise medical students and medical residents on the ID Consult service.

### IM-Nephrology

Fellows have participated in the following programs in the 2009-10 academic year:

- Outcomes of Laparoscopic Peritoneal Dialysis Catheter Placement in Pediatric Patients
- Optimization of Bone Mineral Disorder in chronic kidney disease
- Development of an educational web-resource page for UNC Kidney Fellows
- Enhancement of training in fluid and electrolyte disorders

Second year fellows are assigned a faculty mentor in teaching. The mentor meets with the fellow prior to the second year medical school course in Renal Pathophysiology to discuss educational methodology, as well as on a daily basis during the course. Fellows receive specific training in small group teaching, and participate as faculty in the second year course. Fellows are directly supervised by their assigned faculty mentor, and receive feedback on a daily basis as well as a summative evaluation at the conclusion of the course. Fellows also receive guidance and feedback from the Program Director in the development of presentations for Nephrology Grand Rounds.

Fellows have participated on the UNC Hospital CPOE Committee for development of computer entry dialysis orders and the UNC Kidney Center Nephrology Education Committee.

#### IM-Transplant Hepatology (New Program)

The transplant hepatology fellow will participate in Morbidity and Mortality Conference monthly either on the gastroenterology side or the transplant surgery side. The transplant hepatology fellow will become familiar with transplant protocols at UNC which are designed to improve patient care such as post-transplant CMV management, renal-sparing immunosuppression post liver transplant, or management of acute cellular rejection. Transplant hepatology fellows will also familiarize themselves with national society guidelines for management of specific liver diseases such as hepatitis B and hepatitis C, or the AST guidelines for combined liver-kidney transplant. The fellow will be given copies of appropriate guidelines as part of the didactic sessions in the core curriculum. Lastly, we will also teach the transplant hepatology fellow how to track specific metrics in order to foster improvements in patient care such as 1) identifying an area of potential deficiency 2) performing a chart review to document the frequency of the problem 3) implementing a plan to help correct the deficiency and 4) repeating a chart review to determine if the intervention made an improvement in patient care.

The transplant hepatology fellow will be expected to present at liver case conference every 2-3 weeks and to present at GI Grand rounds every 3 months. As the “senior” fellow on the inpatient liver service, they will give informal “chalk talks” on pertinent topics for the junior fellow as well as any residents or medical students on the rotation. During the second half of their liver fellowship, they will be asked to give teaching rounds for the internal medicine housestaff at least once. The fellow’s teaching skills will be evaluated by the attending faculty and areas for improvement noted. The attending hepatologist will also provide the fellow with any slides or educational materials which would improve their repertoire as educators in transplant hepatology. We will also offer the hepatology fellow opportunities to “teach” in non-medical settings such as community outreach programs or health fairs.

#### Medical Genetics

Residents participate in at least one Quality Improvement project during their two year residency. Examples of these are revisions of the lab order form and the pre-visit patient and family history form sent to new patients.

Our residents have participated in the educator course taught in the Department of Pediatrics. Projects they have completed as part of this course include development of a website for residents and students rotating through the Division of Pediatric Genetics and Metabolism on electives. The website has a Power Point slide presentation on The Dysmorphology Exam, with a pre and post test, to teach the student the approach to a patient with a possible syndrome. There are also suggested and required readings for the rotation posted on this site.

Our residents give presentations at our weekly genetics conference Current Topics in Medical and Human Genetics, at our monthly Cytogenetics Conference and Molecular Diagnostics Conference. They are given appropriate feedback after their presentation by the Program Director and other program faculty. Topics include review of a newly recognized syndrome or genetic disorder, an interesting patient(s), or a case that raised ethical issues.

Our residents also function as team leader when we have other residents and students rotating on our service. They provide bedside teaching to other members of the team.

#### Medicine/Pediatrics

Residents may elect to serve on patient safety committees with the categorical internal medicine and pediatric residents. All med/peds residents are required to complete a QI project during residency. Residents may use either the pediatric QI curriculum or the internal medicine curriculum.

Residents attend conferences on teaching with the categorical internal medicine and pediatric residents.

Residents have participated on the following committees:

Loren Robinson, PGY-1 Internal Medicine Education Committee

Jennifer McEntee, PGY-2

- Secretary, Housestaff Council
- Duty Hours Subcommittee of UNC GME
- Pediatric Intern Selection Committee
- Pediatric Rapid Response Committee

William Kwan, PGY-3, Pediatric Education Committee

Lauren Galpin, PGY-4, Internal Medicine Education Committee

### Molecular Genetic Pathology

The fellow gains competency in and awareness of service issues in the larger context of health care (e.g., practices cost-effective medicine, provides prompt and efficient service). Quality improvement initiatives often focus on improving turn-around-time and protecting safety of patients and healthcare workers. Laboratory meetings within each section help the MGP fellow gain experience with issues impacting on the larger healthcare system such as budget and finance, personnel, space and renovation, regulatory compliance, selection and interview of candidates, strategic planning, equipment acquisition, quality assurance, cost-effectiveness, education, test validation, prioritization of resources, innovations, etc. The MGP fellow must actively participate in the lab meetings pertinent to each rotation.

The fellow is prepared for academic medical practice. Teaching skills are acquired as part of the core curriculum (along with clinical, administrative, and research skills). Formal teaching is done regularly by the fellow in conferences (Molecular Diagnostics and Genetics Journal Clubs, Case Conference, R&D meeting, Cytogenetics Conference) and informally in multidisciplinary meetings that are held during core rotations (e.g. micro lab rounds with ID clinicians, Parker Conf with heme/transplant clinicians). Fellows teach in the Molecular Diagnostics and Cytogenetics Course, providing an opportunity for the trainee to convey to others what they have learned through delivering lectures, case presentations, and precepting laboratory sessions. Teaching performance is a component of the fellow's competency evaluation.

### Neurology

Patient safety and quality assurance objectives are routinely discussed during Ward Rounds. Resident educational objectives in these areas are also met via monthly M&M conferences with supervising faculty. In addition, each resident presents once a year in a monthly patient conference that focuses on difficult management issues or difficult diagnoses.

Quality of patient care is also assessed annually by ancillary staff, and an award is presented to the resident with the highest evaluation by the staff.

Residents are expected to teach at every level of their training. Senior residents on the Ward and Consult teams are expected to teach junior residents, interns, and medical students on their teams. Each resident is also responsible for leading one Journal Club a year.

Residents are exposed to medical student teaching in multiple arenas. Residents routinely supervise and teach medical students on the Ward and Consult services. Medical students also shadow residents in outpatient clinic, and residents are expected to teach during these interactions. Finally, residents are encouraged to participate in medical student teaching modules during the Neurology clerkship as well as during the first and second years of medical school. Residents are evaluated by medical students at the end of each rotation, and these evaluations are reviewed by the Neurology Clerkship Director as well as by the Neurology Residency Program Director. Monthly evaluations of residents by faculty also take into consideration each resident's interest and ability with regards to medical student teaching.

Residents have participated on the following committees:

Fawad Khan (PGY 3): University of North Carolina Hospitals Housestaff Council

Aleksandra Stark (PGY 3): Department of Neurology Clerkship Committee

Avrom Kurtz (PGY 4): Department of Neurology Clinic Committee; Department of Neurology Resident Education Committee

Suvarchala Somayajula (PGY 4): Department of Neurology Resident Education Committee

#### Neurology – Child

Patient safety and quality assurance objectives are routinely discussed during Ward Rounds. Resident educational objectives in these areas are also met via monthly M&M conferences with supervising faculty. In addition, each resident presents once a year in a monthly patient conference that focuses on difficult management issues or difficult diagnoses. Quality of patient care is also assessed annually by ancillary staff, and an award is presented to the resident with the highest evaluation by the staff.

Residents are expected to teach at every level of their training. Senior residents on the Ward and Consult teams are expected to teach junior residents, interns, and medical students on their teams. Each resident is also responsible for leading one Journal Club a year. Residents are exposed to medical student teaching in multiple arenas. Residents routinely supervise and teach medical students on the Ward and Consult services. Medical students also shadow residents in outpatient clinic, and residents are expected to teach during these interactions. Finally, residents are encouraged to participate in medical student teaching modules during the Neurology clerkship as well as during the first and second years of medical school. Residents are evaluated by medical students at the end of each rotation, and these evaluations are reviewed by the Neurology Clerkship Director as well as by the Neurology Residency Program Director. Monthly evaluations of residents by faculty also take into consideration each resident's interest and ability with regards to medical student teaching.

While on Child Neurology the resident on child neurology is required to make presentations at the weekly Clinical Case Conference. In addition, residents provide lectures to medical students. They also participate in the Introduction to Clinical Medicine course for MS 2.

Dr. Yael Shiloh-Malawsky participated on the Neurology Clinic Committee and the Hospital's Chief Residents IT Group.

#### Neurology – Vascular

Patient safety and quality assurance objectives are routinely discussed during daily patient rounds. Resident educational objectives in these areas are also met via weekly Stroke Center meetings and weekly Neurovascular Conference with supervising faculty. The resident also participates in a monthly



Multidisciplinary Stroke Center Meeting with members of allied health. Aggregate safety and outcome data from all stroke patients is reviewed at this meeting as part of the quality improvement process.

The VNR is expected to assist the Stroke Service attending in teaching residents and medical students under the attending's supervision. As the VNR progresses during the year, he/she will take on primary responsibility for daily teaching conferences for residents and students. In addition, the VNR will be expected to present at least 6 conferences for the Neurovascular Conference.

The VNR is exposed to medical student teaching in multiple arenas. The resident routinely supervises and teaches medical students on Stroke Service. Medical students also shadow the VNR in outpatient clinic, and the VNR is expected to teach during these interactions. Finally, the VNR is encouraged to participate in medical student teaching modules during the Neurology clerkship as well as during the first and second years of medical school. Residents are evaluated by medical students at the end of each rotation, and these evaluations are reviewed by the Neurology Clerkship Director as well as by the Vascular Neurology Residency Program Director. Monthly evaluations of the VNR by faculty also take into consideration the VNR's interest and ability with regards to medical student teaching.

### Neurosurgery

All of our residents participate in varied patient safety and quality improvement initiatives. For example, Dr. Tiffany Perry, a senior resident in neurosurgery, is a member of the working group that oversees electronic critical care nursing documentation. There are numerous other examples of residents participating in varied quality improvement initiatives. As opportunities such as these become available and the Division Chief and Program Director learn of these, we routinely assign residents to various committees and taskforces.

Each resident participates in a number of teaching activities, formal and informal. The neurosurgical service is made up of residents at various levels of training. It is customary for the more senior residents to mentor and guide the junior residents with regard to several different aspects of patient care. Senior residents are continuously involved in the teaching of junior residents with regard to the practical aspect of running a clinical service and also with regard to the more didactic aspects of learning about patient's pathophysiology, diagnosis and treatment.

Additionally, all residents are intimately involved in teaching responsibilities with our medical students. Medical students frequently rotate through the neurosurgical service at both the 3<sup>rd</sup> and 4<sup>th</sup> year level. When medical students rotate through our service during a typical two week rotation, they are given a series of lectures by the residents on topics related to neurosurgical care, such as cauda equina syndrome, management of intracranial hypertension, hydrocephalus and several other important fundamental topics. Finally, residents are involved every year in the 1<sup>st</sup> year medical student gross anatomy course during which time they assist the cadaver laboratory during the spine and intracranial portions of the course.

Residents have served on the following committees:

Deanna Sasaki-Adams – Chief Resident IT Committee  
Alim Ladha – Chief Resident IT Committee  
Tiffany Perry – E-chart Committee  
Jenny Orning – GME Internal Review Committee

### Nuclear Medicine

The NM residents' participation in patient safety and quality improvement includes participation in the monthly Department of Radiology Morbidity and Mortality and Imaging Path Conference as well as NM-internal quality improvement conferences. The latter concern issues directly related to patient safety, and indirectly through improvement in imaging acquisition and interpretation.

Residents participate in teaching of medical students and other residents by giving twice a year the monthly Radiology noon conference. The Program Director assigns the residents to work with a faculty member in selecting a subject and preparing the lecture.

### Obstetrics & Gynecology

All clinical rotations and inpatient and outpatient care provide daily opportunities for residents to tangibly address the objectives of patient safety and quality improvement. In both inpatient and outpatient care settings, resident interactions with consulting specialty services (UNC-based and based across the state), inpatient and outpatient nursing staff, Operative Room Scrub and Circulating Nursing Staff, allied health specialties (Pharmacy, Occupational Therapy, Physical Therapy, Speech Therapy, etc.), IV Team, Phlebotomy Services, and Radiology Technicians provide frequent opportunities for educational clinical experiences that address these objectives. Regular interactions with the Financial Planning Team, particularly in the out-patient OB/GYN clinic setting, as well as with the inpatient-based Discharge Planning service also provide additional opportunities that reliably address Systems-Based Practice objectives. Our very interactive, weekly Morbidity and Mortality Conference also provides weekly opportunities to address issues of patient safety and quality improvement.

The Department of Obstetrics and Gynecology has had a long-standing commitment to education and promoting educational excellence in its resident trainees. This commitment and excellence has been recognized nationally. The assembled experience of the faculty and daily emphasis on collaborative teaching in the department is a "part of daily life" in the department. In addition to this daily focus, quarterly Grand Rounds presentations in the Department of Obstetrics and Gynecology specifically address issues of Residents and Faculty as teachers. These Grand Rounds presentations are led by Dr. AnnaMarie Connolly who is recognized for her expertise in Medical Education both at an institutional and national level. Topics addressed in the Academic Year, 2009-2010 included:

1. "Clinically Teaching While You Work: Keeping It Effective and Efficient Using the One Minute Preceptor"
2. "Assessing Professionalism in the Clinical Setting"
3. "Keep the Fire Burning and Don't Crush the Passion: Life Long Learning During Residency Training and Beyond"
4. Leadership & Working Styles: Leading While You Work".

Residents have served on the following committees:

GME Housestaff Council:

Amantia Kennedy, MD

Department Residency Education Committee:

Kacey Eichelberger, MD  
Kevin Schuler, MD

Dept Resident Continuity Clinic Task Force:

Kacey Eichelberger, MD  
Kevin Schuler, MD

### Ophthalmology

Quality improvement is done via M&M Conferences – these are conducted with UNCH Risk Management present. From these conferences, we identify systems based issues that the residents actively assist in modifying. One example involved Dr. Aschbrenner working with all the critical care in-patient services to change the standard admission orders to include scheduled ocular lubrication on all ventilator patients to help reduce the morbidity of exposure keratopathy – an intervention documented in the literature to be an effective preventative measure.

Residents spend one-on-one time with medical students rotating through our service in addition to working with students at the SHAC eye clinic monthly. We have them involved with teaching the first year students about eye anatomy during the eye dissection portion of their anatomy class. They are also involved with second year med students during their neurology block in a lab teaching basic eye exam skills.

Residents served on the following committees: Housestaff Council and Clinic Operations Team

### Oral & Maxillofacial Surgery

UNC Oral and Maxillofacial Surgery residents participate in patient safety and quality improvements as set forth by the UNC School of Dentistry for the resident clinic which is in the UNC School of Dentistry. They also participate in medical emergency updates, grand rounds, morbidity and mortality conferences. Residents follow all safety guidelines of UNC Hospitals while in the hospital.

All residents are involved in teaching in the student clinic in the area of oral and maxillofacial surgery. This usually adds up to approximately 1 clinic session per week with resident coverage.

All residents serve on the Admissions Committee for oral and maxillofacial surgery residents.

### Orthopaedics

Residents participate in our monthly Morbidity and Mortality conference, which focuses on CQI and patient safety issues. They also meet regularly with the institutional Social Work personnel on individual patient issues and system wide issues. In addition, residents participate in the EMTALA task force.

Residents serve on the following committees: MSK Course for MS2s, Education Committee, Resident Selection Committee, Orthopaedic Curriculum Committee, ad-hoc WebCIS Technology Committee.

### Otolaryngology

Residents participate in the Resident As Teacher Conference conducted by the Department of Surgery.

### Pathology

Our residents are required to participate in the Quality Assurance program of the McLendon Clinical Laboratories. This QA program focuses on all aspects of patient safety and quality improvement. The program also provides each resident with experience in the competency of practice-based learning.

Our residents are encouraged (with a free lunch) to participate in the biweekly teaching meetings that our faculty members in Pathology hold for those involved in medical-student teaching (all residents are involved in medical-student teaching). At these meetings, the residents are instructed on how to teach specific topics in the Pathology course. The residents are also given the student feedback on the Pathology course.

#### Pathology – Blood Banking

The fellow is involved in multiple aspects of patient safety and quality improvement. First, the fellow is involved in several aspects of blood utilization. This includes prospective review of all blood product requests that do not meet established indications. The fellow must evaluate and discuss appropriate transfusion orders with clinical physicians. Next, the fellow participates in the UNC Hospital Transfusion Committee which meets quarterly where blood product utilization, outdates, and non-approved requests are reviewed. Third, during the second half of the fellowship, the fellow participates in our weekly Supervisor's meeting where quality monitors and blood product utilization is reviewed monthly. In some situations, the fellow will also collect data to present to these committees. Finally, familiarization with the administrative and technical regulations required by the transfusion service accreditation agencies (FDA, AABB, and CAP) are achieved by the fellow's participation in mock inspections and/or by accompanying one of several Transfusion Medicine Service employees who serve as accrediting agency inspectors on inspections at outside institutions.

The fellow participates in teaching residents, visiting fellows, and medical students. Our current fellow is developing a project that involves the design and implementation of computer based educational modules to improve resident and medical student teaching. Beginning in the 2010-2011 fellowship year, our program will also partner with other larger programs in the institution to include our fellow in their events and training opportunities related to improving residents as teachers.

The fellow serves on the UNC Hospitals Transfusion Committee.

#### Pathology – Cytopathology

Residents attend the monthly departmental M&M/QA meeting.

#### Pathology – Hematopathology

The Hematopathology subspecialty resident is responsible for reporting any patient safety issues to the appropriate QA (M and M) conference.

The Hematopathology subspecialty residents are responsible for teaching pathology residents around the scope and feedback is provided directly to the Hematopathology subspecialty residents.

#### Pathology - Forensic

The Forensic Pathology resident is actively involved in quality improvement efforts in the Medical Examiner System through case review of cases completed by the medical examiners throughout the State. This includes review of autopsy reports on medical examiner cases completed by regional pathologists.

Residents have direct teaching responsibility with Pathology residents and medical students rotating through the service. The Forensic Pathology resident also participates as an instructor in the medical-legal seminar held each June.

### Pathology – Neuropathology

Our Neuropathology resident is required to participate in the Quality Assurance program of the McLendon Clinical Laboratories. This QA program focuses on all aspects of patient safety and quality improvement. The program also provides each resident with experience in the competency of practice-based learning.

Our Neuropathology resident is encouraged (with a free lunch) to participate in the biweekly teaching meetings that our faculty members in Pathology hold for those involved in medical-student teaching (the Neuropathology resident is involved in medical-student teaching). At these meetings, the residents are instructed on how to teach specific topics in the Pathology course. The residents are also given the student feedback on the Pathology course.

### Pediatrics

Resident participation in patient safety and quality improvement is under the direction of Dr. Mike Steiner and Dr. Greg Randolph, and there is a robust QI program for the pediatric residents. All residents are required to participate in at least one QI project during their training. They receive training in basic QI methods and work with faculty on a variety of QI projects related to systems improvement, patient safety, and professionalism.

Under the direction of Dr. Julie Byerley, residents have conferences on improving their teaching skills. Topics include: 1. Giving feedback. 2. One minute preceptor. 3. Small group teaching. 4. Presenting to a large audience. 5. Designing a short curriculum of study.

Residents serve on the departmental Education Committee; the Continuity Clinic Committee; the Resident Selection Committee; the QI Oversight Committee; the Chronic Care Initiative; and the PICU Improvement Committee (PICME).

### Pediatrics – Critical Care

UNC Health Care in partnership with Research Triangle Institute completed a 2-year project to implement and measure the effectiveness of TeamSTEPPS™: Strategies and Tools to Enhance Performance and Patient Safety. The project was completed in October 2009. TeamSTEPPS™ is an evidence-based teamwork system aimed at optimizing patient outcomes by improving communication and other teamwork skills among health care professionals. It includes a comprehensive set of ready to-use materials and training curricula necessary to integrate teamwork principles successfully into the health care system. The project included TeamSTEPPS training in the Pediatric and Surgical Intensive Care Units and spread to areas throughout the healthcare system. Dr. Benny Joyner, PICU fellow, was part of the TeamSTEPPS improvement program in the last year of the project. He successfully completed the TeamSTEPPS Master Training course in 2009 which involves 2 full days of didactic and simulation training and became a certified TeamSTEPPS Master Trainer at UNC. QI methods including Model for Improvement were used to design, implement, and sustain this project including a project charter, implementation framework, PDSA cycles, and maintenance program. Teamwork observations were completed using a validated teamwork observation tool and showed statistically significant improvements in teamwork behaviors in both ICUs where the project was implemented. Dr. Joyner specifically assisted with training, Plan Do Study Act cycles in completing debriefings, coaching and feedback to teams, as

well as communication structures that continue to be used in the pediatric ICU. The faculty leaders of this project included 3 PICU faculty TeamSTEPPS Master Trainers all with Quality Improvement Training in Model for Improvement and Six Sigma methodologies.

A variety of methods are employed to train fellows in becoming effective educators. First, a core curriculum has been created for the fellows that presents an overview of principals of teaching. A website has been created by the Dept of Pediatrics entitled “The Teaching Center” with reading and reference material for “Doctors who teach.” Fellows are then taught by example by the PCCM faculty who serve as role models for the fellows in how to communicate with patients/parents/extended family members in crisis during a PICU hospitalization. Particularly difficult discussions about communicating “bad news”; death and dying; organ donation; and hospice care; frequently occur and in the context of a multidisciplinary team. As fellows progress through training, they are given an increased role and responsibility in communicating this information and leading the team. Fellows teach their peers, residents, medical students, and other healthcare providers in several ways including: bedside teaching; formal powerpoint presentations; invited speakers, etc. As fellows develop and then complete their research project, multiple forms of teaching are engaged from small group “blackboard” sessions to formal presentations at national meetings (i.e., Society of Critical Care medicine). Fellows are evaluated both informally by face to face critiques of teaching and formally through several written evaluation tools. These include the 360 evaluations of fellow which occurs each 6 months and the individual lecture evaluation form. In these ways the PCCM fellows receive broad and comprehensive training in “how to teach.”

#### Pediatrics – Developmental-Behavioral

Fellows have participated in a seminar regarding teaching skills posted by a nationally recognized physician educator. They also are required to make formal presentations three times per year with feedback from faculty and other participants. These can be center based presentations or outside talks given to AHEC sites. Specific recommendations based on this feedback are given to each fellow.

#### Pediatric Endocrinology

All residents are required to participate in patient safety or quality improvement projects during fellowship. Residents must demonstrate active involvement in a multidisciplinary project with defined goals and objectives. Progress toward these goals is monitored by the program director and the Scholarship Oversight Committee at least twice yearly and reviewed regularly every third week of the month during the faculty and fellow quality improvement educational meeting.

All specialty residents participate in the pediatric department’s ‘Core Curriculum for Fellows and Sub-specialty Residents’ held near the beginning of each academic year. This curriculum includes the following three sessions led by faculty members including faculty from the UNC-Teaching Center:

- 1. Teaching in the clinical setting***
- 2. Effective Teaching***
- 3. Journal Club: ‘How To’***

Within our program all specialty residents will participate to the Endocrine Core Curriculum that includes two sessions on:

- 1. How to prepare a successful presentation***
- 2. How to give a journal club presentation***

The Pediatric Core Curriculum and the Endocrine Core Curriculum are required for all specialty residents.

Since the academic year 2005-2006, the UNC-Teaching Center, developed within the Department of Pediatrics, has offered the annual course "Becoming an Effective Medical Educator" to fellows, chief residents and faculty. The course consists of 8 two-hour sessions that occur once a month. Sessions are interactive and utilize many teaching strategies such as brainstorming, buzz groups and role play. Topics included in the course: [Clinical Teaching](#), [Small Group Teaching](#), [Large Group Teaching](#), [Feedback](#), [How to get a paper published](#), [How to prepare a Teaching Portfolio](#), [How to create a curriculum](#), [How to use evidence-basis in educational scholarship](#), and [How to assess learners](#). PowerPoint slides for many of these topics are also available on-line at: <http://teachingcenter.med.unc.edu/pmwiki.php?n=HowtoTeach/HomePage>

Specialty residents have multiple opportunities to learn the teaching skills necessary to educate patients, families, students, and other residents from effective teacher models within, but not limited to, members of our division. The process starts with observation that leads the fellow to progressively become an effective teacher. The specialty resident is expected to teach in several settings, all monitored by faculty:

- running teaching rounds with residents and students
- giving formal lectures to medical students that rotate in our specialty
- participating in the small group teaching sessions for the MS2 (Medical Student year-2) Endo/Nutr course.
- Giving a presentation of his/her research projects to the Division as part of the Endocrine Educational Core Curriculum
- Presenting (i.e. QI projects, clinical cases, journal club articles) to our Division and Endorama Conferences

Specialty residents are encouraged to seek assistance in lecture preparation from faculty and program director. Lectures are evaluated and real-time feedback is offered to the specialty resident by the faculty members. Effectiveness of the specialty resident as a teacher also is provided through the twice yearly evaluations which include 360° evaluations from faculty, patients and families, self, peers about teaching.

All the Pediatric Endocrinology Residents have served as members of the UNC Pediatric Diabetes Program-Diabetes Advisory Committee and the Program Educational Committee.

#### Pediatrics – Hematology/Oncology

In one recent quality improvement activity, a first year fellow (Katherine Wallen, M.D.) initiated a study to improve the detection of iron deficiency, with or without anemia, in the outpatient clinic setting. This was a project which Dr. Wallen began in her last year of pediatric residency at UNC. Her review of the literature taught her the importance of iron in neurodevelopment as well as in hematopoiesis, and she hypothesized that adding inexpensive ferritin measurements to routine hemoglobin levels would be a more effective screen for iron deficiency. Working with two attendings in the general pediatrics clinic with dedicated interest in quality improvement, Dr. Wallen designed a project in which subjects were 1 or 2 years old, insured by Medicaid, and had a well child care appointment between January and March, 2009. New process interventions included specially-colored, pre-filled out laboratory order sheets as reminders to health care personnel which included serum ferritin measurements on all patients. Laboratory outcomes were based on conventional definitions: hemoglobin < 11.0 g/dL was considered to be anemia, ferritin  $\leq 10$  ng/mL was "definite" iron deficiency, and ferritin > 10 and  $\leq 25$  ng/mL was "possible" iron deficiency. Seventy-eight/ 91 (87%) of eligible patients were screened (others failed to have blood drawn before leaving the clinic), compared to only 60% before use of the special form (p.037). Of these, 18% had anemia, 18% had definite iron deficiency, and 45% had possible iron deficiency. Among patients with normal hemoglobin, 17% had definite iron deficiency and 50% had

possible iron deficiency. Thus ferritin levels increased sensitivity compared to hemoglobin alone of detecting iron deficiency. The project led to the conclusion that iron deficiency screening triggered by using a special order form improves screening rates, and that a large percentage of children with Medicaid have possible iron deficiency not always detected by the standard of care hemoglobin screening. As a result of this study, UNC general pediatrics clinics have incorporated ferritin measures in screens of all 1-2 year old. During her first year of fellowship, Dr. Wallen presented an abstract at the Department of Pediatrics' Evening of Scholarship. Both general pediatrics and pediatric hematology oncology faculty critiqued the design, analysis, and presentation.

Fellows develop teaching skills necessary to educate patients, families, students, and other residents through a "see one, do one, teach one" approach on the inpatient services and in the clinic. During the course of year 1, they sit in on separate sessions with each attending as they obtain consent for clinical trials, and with our PNPs during clinic or inpatient visits where we go over issues of central line care and chemotherapy with families. Faculty then sit with fellows (and provide input) as they obtain consent from subsequent patients. Throughout the training, fellows sit in on lectures by faculty in the division and department, and participate in teaching rounds. They observe and present in multiple settings including our lecture series, tumor board, and rounds. The division provides real-time feedback based on faculty observation of fellows as teachers, as well as the twice yearly evaluations which include 360° evaluations from patients and families about teaching interactions. In addition, the Teaching Center of the Department of Pediatrics (<http://theteachingcenter.org/>) offers eight 2-hour sessions each year, "Becoming an Effective Medical Educator", which are an option for interested fellows. Several of our fellows with particular interests in teaching have participated. Sessions are interactive and utilize teaching strategies such as brainstorming and role play. Segments of this course have been included in the required annual departmental core curriculum. The Teaching Center also provides input to fellows who are preparing abstracts for UNC's annual Evening of Scholarship or for national meetings. The division has incorporated the Teaching Center's evaluation tools for teaching. All of our fellows perform self-evaluation of their teaching skills as part of their twice yearly review with the program director.

### Pediatrics – Neonatal-Perinatal Medicine

#### Quality

- 1) All fellows are required to participate in at least one multidisciplinary quality improvement project during fellowship.

#### Examples of ongoing projects

- Non-invasive ventilation in the NICU: increasing the use of CPAP in the NICU. Fellow: Dr. Grebe, Advisor: Dr. Veness-Meehan
- Post-operative antibiotic usage: Decreasing antibiotic usage post-operatively. Fellow: Dr. Johnson, Advisor: Dr. Wood
- How's my baby? Improving discharge teaching through a standardized parent questionnaire. Fellow: Dr. Aliaga, Advisor: Dr. McCaffrey.
- Team Training in Neonatal Resuscitation: combining team training with crisis management to improve crisis management for residents. Fellows: Drs. Abelli, Aliaga, and Johnson, Advisor: Dr. Price
- Saving Eyes and Lungs: maintaining appropriate oxygen saturation limits in the NICU. Fellow: Abelli, Advisor: Dr. McCaffrey
- Developing consistent post-operative care for patients with Gastroschisis. Fellow: Trembath. Advisor: Price and Veness-Meehan

- 2) All fellows attend an introductory quality improvement workshop sponsored by the hospital



(yellow belt). In addition, fellows also can attend advanced level QI training and workshops or may complete an online QI educational module from IHI.

#### Safety

- 1) All fellows attend TeamSTEPPS™ training
- 2) Team training: after any code, the fellow gathers all involved to discuss the performance of the team, including a self-assessment
- 3) All fellows attend a required lecture on Medical Errors
- 4) Fellows receive an Introduction to “Just Culture” for error reporting
- 5) Fellows are active participants in safety rounds

Fellows present and discuss cases for Mortality and Morbidity Conference

The Pediatrics Core Curriculum is required for all NPM fellows. This curriculum includes the following two sessions led by Pediatrics Teaching Center faculty:

- **Teaching in the Clinical Setting:** fellows are introduced to adult learning theory for the purpose of focusing their clinical teaching; explore effective teaching strategies to use in the clinical setting; learn the basic principles of delivering effective feedback to learners; and practice their skills in teaching and feedback scenarios.
- **Effective Teaching:** fellows are introduced to basic principles of educational program planning and curriculum development; learn methods of producing and documenting scholarship in medical education; explore effective strategies for small and large group teaching; and address challenges in being a clinical educator.

The Teaching Center website also offers elective online modules that cover clinical teaching, small group teaching, large group teaching, and giving feedback.

Fellows teach in several settings:

- Teaching during patient rounds  
Fellows are evaluated by housestaff and faculty on their teaching skills after each rotation
- One-on-one teaching and mentoring of housestaff in the NICU  
Fellows are evaluated by housestaff on their teaching skills after each rotation
- One-on-one teaching and counseling of families on the Labor and Delivery ward, in the NICU, in family meetings, and in Special Infant Care (follow-up) Clinic.  
Fellows are evaluated by families on their communication skills using an evaluation tool  
Fellows are evaluated by faculty on their family communication skills after each rotation
- Fellows give didactic lectures as part of the housestaff NICU ‘core curriculum’  
Fellows are evaluated by housestaff monthly after each rotation
- Formal assigned pathophysiology lectures as part of the NPM Fellows Conference series  
Lectures are evaluated using an evaluation tool  
Specific feedback is offered to the fellow by the PD
- CMIH Multidisciplinary Conference: Fellows present teaching points that relate to the cases presented.  
Feedback on these presentations is incorporated into twice-yearly evaluations
- Outreach Education: Each fellow is required to participate in outreach education (lectures, NRP teaching, and NICU skills education)

The following fellows have participated on committees:

#### Sofia Aliaga

NCCC: Family Centered Care

NCCC: “How’s My Baby” – Parent Satisfaction Subcommittee Co-Chair

NPM: Resident Education Committee  
NPM: Team Training in Neonatal Resuscitation Committee

Melissa Bauserman  
NCCC: Medication Safety Committee

Gina Abelli Geis  
NPM: Team Training in Neonatal Resuscitation Committee  
NPM: Fellow Orientation Committee

John Grebe  
NCCC: Pain Committee  
NCCC: Respiratory Committee

Lynn Johnson:  
NPM: Fellow Education Committee  
NCCC: Medication Safety Committee  
UNCH: Family Advisory Board  
NPM: Team Training in Neonatal Resuscitation Committee

#### Pediatrics - Nephrology

Fellows have participated in the following programs in the 2009-10 academic year:

1. Outcomes of Laparoscopic Peritoneal Dialysis Catheter Placement in Pediatric Patients
2. During dialysis rotations, the fellow participates in regularly scheduled monthly QI meetings
3. Evaluation of safety and cost effectiveness of same day renal biopsies in pediatric patients

All fellows participate in the pediatric department's 'Core Curriculum for Fellows and Sub-specialty Residents' held near the beginning of each academic year. This program includes several interactive sessions entitled to 'Teaching in the clinical setting', 'Effective Teaching', and 'How to participate in a Journal Club'.

The fellow is expected to teach in several settings, all monitored by faculty. These include formal presentations to small groups of physicians and students during the pediatric fellowship conferences, running teaching rounds with residents and students, several lectures to the pediatric residents and medical students at their daily teaching conferences, present journal club several times annually, and prepare and present at least one annual formal 'Renal Grand Rounds' presentation to a group of more than 50 physicians, students, and research staff. Faculty attend all of these conferences and provide feedback to the fellow.

Patient education is a critical portion of fellowship. Fellows are observed by faculty during patient interactions. In a small program such as ours, each fellow gets a large amount of individualized attention and regular feedback. Fellows have also participated with faculty in the development of patient educational material available on the Divisional website, [unckidneycenter.org](http://unckidneycenter.org). These include both written materials and podcasts.

Fellows participate on the Pediatric Nephrology Education Committee.

#### Pediatric Pulmonology

Each fellow is expected to have a quality improvement project during the fellowship. For each project, a mentor helps guide the fellow during the process. A list of clinical quality improvement activities include (1) transition from the pediatric to the adult cystic fibrosis program; (2) improving management of patients with cystic fibrosis liver disease; (3) improving reference equations for lung function testing in the biracial population; (4) improving palliative care in patients with end of life issues (transplant, cystic fibrosis); (5) developing a survival guide for patients with cystic fibrosis that are hospitalized and (6) initiating Asthma Control Tests in clinic for asthmatics. The mentor guiding the fellow through the process is the key faculty member involved in the QI initiative. The mentor will meet with the fellows during the QI initiative, review the data and the fellow will present the findings to the larger pediatric pulmonary group.

The Pediatrics Core Curriculum is required for all fellows. This curriculum includes the following two sessions led by Teaching Center faculty:

### **Teaching in the clinical setting**

1. fellows will outline adult learning theory for the purpose of focusing their clinical teaching.
2. fellows will discover effective teaching strategies to use in the clinical setting.
3. fellows will learn the basic principles of delivering effective feedback to learners.
4. fellows will practice their skills in teaching and feedback scenarios.

### **Effective Teaching**

1. outline basic principles of educational program planning and curriculum development.
2. be exposed to methods of producing and documenting scholarship in medical education.
3. learn and discuss effective strategies for small and large group teaching.
4. address challenges in being a clinical educator.

The pediatric pulmonary fellows develop teaching skills through a number of other mechanisms: (1) observation of faculty; (2) developing lectures for residents/students; (3) educating families in clinics, in the hospital and over the phone and (4) presenting lectures to the faculty/fellows as well as at national meetings. The fellows observe faculty during conferences and through this mechanism learn skills in powerpoint presentations and teaching of students. The fellows all develop informal lectures during the inpatient rounds and deliver these to the residents/students. In addition, the fellows give lectures at noon conference and have a faculty member review the powerpoint presentation and give feedback. Faculty observe fellows as they educate families/parents/nurses in the outpatient clinic setting and inpatient setting. Feedback is given to the fellows on how best to educate families. Fellows also observe faculty educate families. Finally, fellows give lectures to the faculty at chest conference and at clinical as well as research conferences. Feedback is given and for national presentations, fellows are given intense feedback on their slides and verbal communication with the audience. All fellows present at national meetings and at the UNC Department of Pediatrics Evening of Scholarship. These feedback sessions are extremely helpful in teaching the fellows how best to present to other investigators.

Fellows also receive a formal evaluation on teaching and education of families as part of the 360 degree process. These evaluations are performed twice a year and the Program Director reviews these findings with the fellows.

Since the great majority of pediatric pulmonologists work in academic settings at teaching institutions, teaching of residents, fellows, and medical students is an important aspect of Pediatric Pulmonology. Another overall goal of this Fellowship is therefore to improve teaching skills.

### **Specific teaching objectives:**

- Throughout training, develop and demonstrate the ability to present clear, concise discussions of clinical topics to residents and medical students on inpatient wards and in outpatient clinics
- Throughout training, organize and moderate the weekly Chest Conference while on the inpatient rotation. This is a clinical case conference in which residents and students present interesting pulmonary cases from the wards, for discussion by faculty pulmonologists, radiologists, infectious disease specialists, and others. The responsibility for this conference generally rests with the Fellow on inpatient service. It is expected that short (10 min.) presentations on relevant clinical topics will be provided by Fellows in this setting.
- Organize and present topics at the weekly Pediatric Pulmonary Fellows' Conference. This conference is a forum for in-depth, didactic presentations of clinical topics related to pulmonology, as well as research topics from within the Division. Each Fellow will present 2 times/year at this conference; generally this will consist of 1 clinical + 1 research presentation during Year 1, and 1 clinical + 2 research presentations during Years 2 and 3.
- Present research findings at the UNC Pediatrics Department annual "Evening of Scholarship," a departmental conference designed to highlight research activities of residents and Fellows in training. This may be done during all 3 years of training but is expected during Years 2 and 3.

Present research findings at national meetings such as the American Thoracic Society meetings, North American Cystic Fibrosis meetings, or Society for Pediatric Research meetings. This may be done during all 3 years but is expected in Year 3.

Residents participated on the following committees: Cystic Fibrosis (CF) Transition Committee, Adult Cystic Fibrosis (CF) Quality Improvement, Pediatric Rapid Response Committee

#### Physical Medicine & Rehabilitation

Two of our PGY-4 residents are involved in chart review projects investigating the incidence of DVTs in specific sub-populations of our inpatient rehabilitation patients. Their projects will be helpful in determining specific risk factors for DVT in these patient populations and will help to guide appropriate strategies to prevent DVT's in these patients.

The residents have the opportunity to teach medical students participating in PM&R rotations. A list of relevant teaching topics is provided to the residents to aide in the effectiveness of the teaching. The residents also have the opportunity to teach rehabilitation staff, patients and families. They are observed directly by the attending faculty and given feedback on the effectiveness of the interactions.

In addition to teaching opportunities in the clinical setting, the residents also receive a lecture during their lecture series that introduces the "One Minute Teacher: Six Microskills for Clinical Teaching" protocol. Following the introductory lecture the residents participate in a role playing session that allows them to practice this technique on each other.

Residents participated on the UNC Hospitals Housestaff Council. Justin Scruggs served as the Council's Chair of Marketing during the 2009-10 academic year and was elected Vice President for the 2010-11 academic year.

#### Plastic Surgery

The Plastic Surgery residents participated in a six sigma project looking at patient safety process and improvement and efficiency in microsurgery. This resulted in improvements in OR times and length of stay with significant financial benefits to both the physicians and the hospital. Other areas of quality improvement include helping design and participating in a professionalism seminar which included didactic sessions, required readings, and small group discussions. This project has been converted into a program for fourth year medical students interested in surgery with focus on professionalism in surgery.

Plastic Surgery residents participate in the annual Resident As Teacher conference sponsored by the Department of Surgery, the quarterly leadership book club sponsored by UNC Health Care, and have served on internal review committees for the Graduate Medical Education Committee.

### Preventive Medicine

All Preventive Medicine residencies are required to conduct a rotation in healthcare administration and quality improvement. Past residents have conducted this rotation with UNC-Hospitals, UNC outpatient clinics, community health centers, or local health departments.

Preventive Medicine residents participate as co-teachers of the MSII Clinical Epidemiology class, where they are paired with more senior teachers and are mentored throughout the process.

### Psychiatry

Residents participate in our monthly Morbidity and Mortality Conference. These conferences tend to highlight negative outcomes, and discuss preventative measures. The chief residents also participate in the Psychiatry Inpatient Leadership Committee, where they serve with nursing staff and faculty. This committee addresses issues on our inpatient units, including admissions from the Emergency Department, direct admissions, and transfers from outside hospitals.

During orientation, residents get instruction on teaching/interacting with medical students from the medical student clerkship director. Residents also get anonymous medical student feedback about their teaching efforts.

Residents served on the following committees:

Housestaff Council- Kate Johnson served as Vice President during the 2009-10 academic year.  
Psychiatry Inpatient Leadership Committee  
Residency Education Committee  
Curriculum Committee  
Education Task Force  
Curriculum Task Force  
Rank Order List Committee  
Psychiatry Outpatient Clinic Committee

### Psychiatry – Child & Adolescent

UNC Child and Adolescent Psychiatry residents have a heightened focus on patient safety and quality improvement. Given the transitions and state of mental health reform in North Carolina, the residents have been directly impacted by changes in the clinical environment and systems of care. Issues relating to duty hours, education regarding resident fatigue, changes in clinical environment, and balancing patient

safety and resident learning are all addressed to enhance patient safety. Residents directly participate in individual and group supervision, practice-based learning conferences, and conferences that address systems-based care. As an example, child psychiatry residents are involved in diagnostic and treatment review conferences, morbidity and mortality conferences, and administrative conferences. These provide opportunities for practice based learning, reviewing systems of care, and targeting areas of quality improvement.

Given the state of mental health reform in North Carolina, residents have had to address the ever-changing system complexities. In addition to community psychiatry rotations, residents also rotate at Dorothea Dix State Psychiatric Hospital (DDH). Residents are exposed first hand to disposition challenges and a lack of community resources, which are factors when attempting to step down a patient to an appropriate level of care.

Residents are involved in a bi-monthly child and adolescent psychiatry residency administrative meeting. Residents and faculty review curriculum, program effectiveness, and systems of care concerns. Residents are exposed to, and participate in, program planning, resource allocation concerns, and problem-solving around identified patient or systems issues. Second year child psychiatry residents also participate in a two-hour weekly professional development seminar. The goal of the seminar is to focus on career development with additional areas to include child psychiatrists as administrator, as supervisor, as health care advocate, and as ethical clinician. Issues pertaining to patient care, patient safety, allocation of clinical resources, systems based issues, and practice based learning are often focus areas.

Examples of quality improvement objectives are as follows:

1. The first objective is addressing the quality improvement measure at the DDH Raleigh site of systemically querying in a developmentally appropriate manner about physical abuse and substance abuse of patients.
2. A second quality assurance objective initiated at UNCH involves assessing the system for patient referral, scheduling, and decreasing both wait times and no show rates at outpatient clinics at UNC's Department of Psychiatry.
3. A third quality improvement objective at the DDH site is incorporating a pain and nutritional assessment for all new diagnostic outpatient admissions to ensure a comprehensive psychiatric evaluation and to comply with Joint Commission requirements.

Our Program offers multiple opportunities for residents to enhance their roles as teachers. Their supervisors and mentors help them to enhance their skills in this domain. Through modeling, structured supervision on teaching strategies and didactics addressing systems of care and their role as teacher and advocate in the community, they gain competency in the teaching arena. During their first and second year of the residency they may be teamed with an attending; working in concert to create a ½ day to 2 day program for a community Area Health Education Center (AHEC) to address defined learning goals on various topics depending on the audience.

Residents are expected to teach a didactic seminar to the PGYII General Psychiatry residents during the PGYIIs' Child Psychiatry Seminar Series. They seek input from the course director and supervisors on the seminar goals and objectives, effective teaching strategies, and generating a power point presentation to accompany the presentation.

The residents also organize a Selected Topics and Reading Seminar. In addition to working with the course director on outlining curriculum and inviting speakers, they also assume responsibility for teaching various components of the Seminar.

During the second year of residency, they supervise PGYII General Psychiatry Residents on their child psychotherapy cases. They address issues related to child, adolescent and parent psychiatric diagnostic evaluations, formulation of cases and therapeutic approaches and other topics related to child psychiatry and career development. The child psychiatry residents receive supervision/instruction on their supervision and teaching style during a weekly Professional Development Seminar.

Child Psychiatry Residents are asked to keep a log of their various didactic presentations. These presentations could be formal teaching opportunities through diagnostic consensus conferences, community outreach, seminar series and AHEC sites, or informal opportunities on rounds or in clinics.

Residents have served on the following committees:

UNC Child and Adolescent Psychiatry Residency Administrative Meeting (core components – curriculum review, residency education, and program effectiveness).

UNC Child and Adolescent Psychiatry Residency Education Policy Committee

UNC Department of Psychiatry Residency Education Meeting

UNC Child and Adolescent Psychiatry Residency Selection Committee

UNC Hospitals Housestaff Council – Qionna Tinny Railey served as President during the 2009-10 academic year.

#### Psychiatry-Forensic

Forensic Psychiatry residents participate in regularly scheduled meetings that cover patient safety and quality management including risk assessment panels at the Federal Medical Center and UNC Forensic Clinic. Residents have the opportunity to participate in an ongoing quality improvement project regarding pretrial evaluations.

Forensic Psychiatry residents are required to lead at least one forensic seminar session, make multiple clinical presentations during case conferences, and participate in teaching law students at the UNC School of Law.

#### Radiation Oncology

We have a resident representative on the departmental quality assurance committee. This committee meets on a monthly basis. The committee members include supervisors from all aspects of the department, assuring that residents get an in-depth exposure to the full scope of quality assurance evaluation. We also have daily quality assurance peer review conferences which we term “Simulation Review”. In these sessions, we review the treatment planning CT’s of patients who are about to undergo treatment. This is a very open meeting where faculty and residents freely comment on and critique each other’s work. We have a weekly chart rounds conference, where we review the isodose distributions and port films for all the patients who initiate treatment during the prior week. We have multiple morning conferences during the year dedicated to patient safety and quality improvement. During the past year we moved from a paper chart to an electronic medical record. This entire process involved multiple meetings with the faculty, residents and mid-levels to facilitate this change. The adaptation of the electronic medical record afforded the opportunity to enhance our quality initiatives and involve residents in policy-making. These include the use of electronic checklists, implementation of a time out process for daily treatments on the linear accelerators and in the brachytherapy suite, and pre-treatment full IMRT QA processes.

The residents deliver morning conference approximately once every two weeks. The residents provide formal morning conferences three days per week or about twelve days per year. We have five residents,

so the residents present approximately twice a month. At these conferences, they present a formal PowerPoint presentation to the department (typically about 15-20 people including faculty, other residents, and medical students, as well as students in dosimetry, therapy and other staff).

The residents are also responsible in large part for the rotation of medical students within the department. The residents are teamed with rotating medical students, and serve as teachers and mentors in that capacity.

Finally, all of our residents are involved extensively in research collaborations ranging from basic laboratory, translational and clinical research. Their academic productivity is impressive and includes presentations at local and national meetings, the publication of peer-reviewed research papers in prestigious journals, and educational publications such as reviews and book chapters. The creation of these materials enhances their educational experience.

Residents have served on the following committees:

Departmental Quality Assurance Committee: Drs. Kimple and Harris  
Departmental Resident Education Committee: Drs. Kimple and Harris  
Departmental Resident Admission Committee: Drs. Kimple and Harris  
House Staff Council: Dr. Nate Sheets  
Chief Resident IT Committee: Dr. Steve Harris, Dr. Randy Kimple

### Radiology

As required by the ACGME RRC for Diagnostic Radiology, each resident identifies and participates in a patient safety/quality improvement project during the course of his/her residency. DRAD residents must document their QA/QI project in their resident learning portfolio and review these projects with their program director at their ACGME-required semi-annual evaluation meeting.

New residents gain experience initially by observing other residents present during case-oriented noon conferences and later by participating in and preparing conferences. All DRAD residents are also required once per rotation to lecture medical students taking our Department's UNC School of Medicine course RAD 401 (Introduction to Diagnostic Radiology).

On clinical duty, upper-level residents are expected to participate in teaching patient care to lower-level residents as a means of further solidifying concepts.

Residents have participated on the following committees:

UNC Hospitals Housestaff Council – Monty Shah  
UNC Hospitals E.R. Safety Committee – Lauren Brubaker  
UNC Hospitals Chief Residents IT Group/Committee – Darren Kies, Devon Begley  
UNC Department of Radiology Physics Curriculum Committee – Lauren Brubaker, Stephen Bagg, Darren Kies, Yueh Lee  
UNC Department of Radiology Diagnostic Radiology Curriculum Committee – Lauren Brubaker, Stephen Bagg, Darren Kies  
UNC Department of Radiology Education Committee - Darren Kies, Devon Begley, Lauren Brubaker, Stephen Bagg  
UNC Department of Radiology Research Committee – Devon Begley

### Radiology - Vascular/Interventional



Each VIR resident is encouraged to identify and participate in a patient safety/quality improvement project reflecting their observations of how to improve patient care delivery and service.

VIR subspecialty residents participate in weekly Vascular conferences and are required to present one oral boards case review (“Hotseat”) to Diagnostic Radiology residents every six months.

### Sleep Medicine

As part of the sleep fellowship the fellow is required to identify, measure and propose a solution for a quality of care aspect of sleep medicine. This component must be completed prior to the end of the fellowship and must add value to the functioning of the sleep center. Quality assurance projects may take the form of issues of management, process, technical or leadership. Ability to measure the identified issue and develop a potential answer are key components. For those projects with shorter observation times, solutions may be implemented and re-measuring to identify outcome will be encouraged. The fellow is required to present the proposal, findings, solutions and outcomes at the monthly Sleep Center Meeting.

As part of the sleep fellowship the fellow is required to propose, create and incorporate a project centered on an educational aspect of sleep medicine. This component must be completed prior to the end of the fellowship and must add to the educational opportunities for future fellows, residents or students. Educational projects may take the form of educational or instructional slide sets, series of case examples with supplementary information, video tapes, teaching sets, or written summaries.

The fellow will be required to write an educational proposal outlining the goals of the educational project, the methods of education used and a method for judging the educational effectiveness. The fellow will be required to review the project and its assessment with the key faculty prior to the end of the fellowship. Through this process the fellow should learn about various learning modalities and mechanisms for instilling learning in learners. The fellow should include a reflective statement of the educational experiences at the end of the project.

### Surgery

Quality assurance is conducted through divisional and departmental morbidity and mortality conferences. On the divisional level at the weekly M+M conference, patients who have suffered a complication or whose care has been compromised by system-based errors are presented by the residents that are involved in their care discussed. The resident completes a case summary form, a moderator evaluates the nature/cause of the complication or system error and this is forwarded to Risk Management. Cases of particular educational value are then presented at the weekly Departmental Educational M+M conference. This is a 15 minute presentation by the resident which includes a presentation of the case with its error or complication, a review of the literature and a discussion among faculty and residents. The resident receives written feedback of this presentation.

Quality assurance also occurs during the weekly meetings the PD and Chair have with the residents. At these meetings, problems associated with system-related aspects of patient care are always discussed (Labs, patient transport, IT issues, duty hours, relations with nursing and clinical care managers, etc). The PD then looks into these issues and communicates these concerns to the GME office.

The department sponsors an annual "Resident as a Teacher" conference, a 1/2 day conference held at an outside location where visiting speakers with special expertise in education, particularly surgical education, participate in a forum dedicated to teachings and learning techniques.

Residents participate on the following committees: WebCIS, Chief Resident IT Committee, Housestaff Council. Jeff Dehmer and Karen Speck were elected as officers for the 2010-11 academic year.

### Surgery – Cardiothoracic

M & M conferences are held each month and serve as a source of identifying clinical problems which are responsible for recurrent suboptimal patient outcomes. Once identified, the resident along with an assigned attending will perform a literature search of the problem and propose possible solutions. These are discussed and a change in practice is initiated and then followed to see if there is any change in the identified clinical outcome.

The residents are intimately involved in the education of patients, families, students, and peers. They receive a series of lectures regarding clinical education as part of their orientation sessions. In addition in the process of daily attending rounds and attendance in clinic they receive mentoring and role modeling from the faculty regarding these various teaching interactions. As they progress through the program, they assume greater responsibility for these educational interactions under the observation of the faculty. This allows for immediate feedback to the residents with suggestions for improvement. In addition, the Department of Surgery puts on an annual Resident as Teacher Conference which is a two day retreat which incorporates a lecture from a nationally recognized expert in education, as well as experiences in small group discussions, role playing, and evaluation and constructive criticism of the activities.

### Surgical Critical Care

Fellows attend the ICU advisory team meeting (Formerly CPIT), attend department and divisional morbidity and mortality conferences, lead the surgical critical care morbidity and mortality discussions, meet regularly with the CN III/IV SICU nursing group to work on quality issues in the ICU, participate in debriefings and Team STEPPS. Also, they are involved in daily checklists in the ICU for central line and ventilator bundles and design of a new ICU progress note template. Fellows also attend the Trauma Program Trauma advisory council (TAC) and multidisciplinary trauma conference (MTC) meetings.

Fellows attend the Resident as a Teacher conference held yearly by the Department of Surgery.

### Urology

Residents participate in weekly and monthly conferences dealing with patient safety, quality of life, improvement in safety, mortality and morbidities.

PGY1 residents are required to attend the Resident as Teacher conference held yearly by the Department of Surgery.

Residents have served on the following committees:

UNC Urology Education Committee: Aaron Lentz and Javier Miller

Outside UNC:

Angela Smith, American Urological Assn Sectional Committee

Javier Miller, Southeastern Section of the American Urological Association Board of Directors

### Vascular Surgery

Quality assurance is conducted through divisional and departmental morbidity and mortality conferences. On the divisional level at the monthly M&M conference, patients who have suffered a complication or whose care has been compromised by system based errors are presented by the residents that are involved care discussed. The resident completes a case summary form, a moderator evaluates the nature/cause of the complication or system error, and this is forwarded to Risk Management. Cases of particular educational value are then presented at the weekly Departmental Educational M&M Conference. This is a 15 minute presentation by the resident which includes a presentation of the case with its error or complication, a review of the literature and a discussion among faculty and residents. The resident receives verbal feedback of the presentation.

Quality assurance also occurs during the quarterly meetings the PD and the Chair have with the residents. At these meetings, problems associated with system-related aspects of patient care are always discussed (labs, patient transport, IT issues, duty hours, relations with nursing and clinical care managers, etc). The PD then looks into these issues and communicates these concerns to the GME office.

Graduate Medical Education Committee

Philip G. Boysen, MD, MBA, Chair of GMEC and Designated Institutional Official  
Thomas Bacon, DrPh, AHEC  
Lee Berkowitz, MD, Internal Medicine  
Kevin Biese, MD, Emergency Medicine  
George Blakey III, DDS, Oral & Maxillofacial Surgery  
Thomas Bouldin, MD, Pathology  
Edmund Campion, MD, Orthopaedics  
Culley Carson III, MD, Urology  
AnnaMarie Connolly, MD, Obstetrics & Gynecology  
Karon Dawkins, MD, Psychiatry  
Betty Dennis, PharmD, Pharmacy  
Clark Denniston, MD, Family Medicine  
Georgette Dent, MD (ex officio)  
Amelia Drake, MD, Otolaryngology  
Amy Fowler, MD, Ophthalmology  
Brian Goldstein, MD (ex officio)  
Margaret Gulley, MD, Molecular Genetic Pathology  
Eldad Hadar, MD, Neurosurgery  
Harvey Hamrick, MD, Pediatrics  
Tom Hartley, RN, MS, Nursing  
David Huang, MD, Neurology  
C. Scott Hultman, MD, Plastic Surgery  
Katherine Johnson, MD (Housestaff Council)  
Ellen Jones, MD, Radiation Oncology  
Amir Khandani, MD, Nuclear Medicine  
Mark Koruda, MD, General Surgery  
Michael Lee, MD, Physical Medicine & Rehabilitation  
David Mayer, MD, Anesthesiology  
Susan Maygarden, MD, Cytopathology (Subspecialty representative)  
Jennifer McEntee, MD (Housestaff Council)  
Paul Meggett, Assoc. Counsel  
Michael Milano, DMD, Pediatric Dentistry  
Michael Mill, MD, Cardiothoracic Surgery  
Dean Morrell, MD, Dermatology  
Lauren Patton, DDS, Dental Ecology  
David Peden, MD, Allergy & Immunology  
Deborah Porterfield, MD, Preventive Medicine  
Cynthia Powell, MD, Medical Genetics  
Kris Ross, MD (Housestaff Council)  
George Sheldon, MD, Advisor  
J. Keith Smith, MD, PhD, Radiology  
Rena Stafford, MD, Surgical Critical Care (Subspecialty representative)  
Anne Stephens, MD, Med/Peds  
Qionna Tinney Railey, MD (Housestaff Council)  
Bradley Vaughn, MD, Sleep Medicine