Children's Hospital Boston

GME ON-CALL

Volume 1, Issue 1 - Fall 2009

A Message From The Co-Chairs Of The GME Committee

Welcome to the new and improved Graduate Medical Education newsletter: GME-ON CALL! We hope to use this new newsletter regularly to bring faculty, resident and fellow house-staff physicians, administrative staff, and students up to date regarding exciting developments in medical education at Children's Hospital. The needs and concerns of those physicians in training and those who are providing that education, whether on the wards, in the emergency department, or in the surgical suite, will be the focus of this quarterly publication. We will use that focus to alert you to changes in ACGME regulations, new opportunities for Hospital-wide training, duty hours-related information, Hospital-wide educational programs and services, and how-to tips for residents, fellows, faculty and staff. There will be 'just-in-time' information, resources to help you in your everyday work. Regular columns will be devoted to internal reviews, minutes from the GME Committee meetings, news from the ACGME, and FAQs. We also hope to bring to you reviews of seminal articles in Medical Education and how the science of this discipline is evolving. We are collaborating with other related programs in the Hospital, including the Office for Faculty Development, The Academy at Children's Hospital, the Office for Fellowship Training, and the Program for Patient Safety & Quality to bring you news of upcoming education-related events and activities

We encourage this to be a two-way communication, with contributions from anyone within the Hospital family who wants to share their new idea or program, creative initiative, or their opinion about innovative directions in education that would help the Hospital in its training mission.

Operations within the Office of Graduate Medical Education are led by Tery Noseworthy, the Manager for GME, with support from Ida Burroughs, our administrative associate. Mary Beckman, our Director of Compliance, provides consultation regarding training compliance issues and other Hospital administrative and fiscal matters. Dr. Mira Irons is Director of Internal Reviews at Children's Hospital and has expertise in all aspects of national RRC requirements and general fellowship training. The GME Office is located in the Wolbach Building; the telephone number for assistance is 617 355.4372.

We are energized by the challenges that lay ahead of us in improving education at Children's Hospital and hope that this newsletter will be one tool to help you help us contribute to this critically important effort

Alan Woolf, MD, MPH & Frederick H. Lovejoy, Jr., MD

Inside this issue:

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REIMAGINING HOUSESTAFF 'HANDOFFS': PILOT STUDY OF AN ETOOL

Amy Jost Starmer, MD

Medical errors cause the deaths of up to 98,000 Americans each year.

1. These errors most often result from multiple failures within complicated systems, rather than negligent actions of individual providers. In acute care hospitals, where many providers are needed to care for the same patient, communication failures are both common and hazardous. In fact, the Joint Commission has found communication errors to be a contributing cause of approximately two out of every three sentinel events.

2. The "handoff," or transfer of patient information and responsibility between health care providers, is an especially critical point of vulnerability to communication error. The development and implementation of solutions to this problem is feasible, and urgently needed to reduce the incidence of preventable injuries in pediatric hospitals across the country.

In an effort to address these concerns, an ongoing research study led by Christopher Landrigan, MD, MPH and Amy Jost Starmer, MD, at Children's Hospital Boston (CHB) is planning to study the effects of a new computerized handoff tool on patient safety, physician workflow, and resident experience. The computerized handoff tool will be implemented in conjunction with training on techniques to improve teamwork and effective oral and written communication in the verbal sign-out process.

The development of this computerized handoff tool, which will be integrated into PowerChart, has been targeted as a prioritized initiative by CHB Chief Information Officer Dan Nigrin, MD, and Chief Medical Information Officer Marvin Harper, MD. The computerized tool will have the ability to automatically import demographic and administrative data, allergies, current medications, recent laboratory results, vital sign ranges, resuscitation status, and medical problem lists. The tool will also contain structured free text fields that allow residents to summarize key elements of the patient history, generate task lists, and document contingency planning for each patient.

The research study will first assess the impact of the new handoff program on a pilot general pediatric inpatient unit at CHB. The study team will measure medical error rates, written and verbal miscommunications, resident workflow patterns and resident satisfaction for three months before and three months after implementation of the new handoff tool which is scheduled to go live in late September 2009.

Assuming the implementation of the computerized handoff program is a success, it is the intent of the development team to gradually roll out the tool to additional patient teams throughout the hospital. Over the next few months, the handoff project group will be seeking the input of end users from various subspecialties in order to customize the program for use by these individual teams. The team also hopes to integrate the resident physician tool with a similar tool for nurses in an effort to facilitate enhanced nurse-physician communication.

1 Brennan TA, Leape LL, Laird NM, et al. Incidence of adverse events and negligence in hospitalized patients. Results of the Harvard Medical Practice Study I. N Engl J Med. Feb 7 1991;324(6):370-376.

2 The Joint Commission. Improving America's Hospitals: The Joint Commission's Annual Report on Quality and Safety. 2007. Available at http://www.jointcommissionreport.org/performanceresults/sentinel.aspx.

GME at Children's Hospital Boston By The Numbers

39
Accredited Training Programs

47
Interns

150
Residents

279
Clinical Fellows

1077
Active Staff Members

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MEDICAL EDUCATION ARTICLE REVIEW:

CHANGING CONVERSATIONS: TEACHING SAFETY AND QUALITY IN RESIDENCY TRAINING

Voss JD, May NB, Schorling JB, Lyman JA, Schectman JM, Wolf AMD et al.Academic Medicine 2008; 83 (11): 1080-1087

Improving patient safety in health care is of paramount importance nationally, and fostering life-long interests and skills in changing clinical practice to improve patient outcomes begins during medical training. In this article, researchers in the Division of General Medicine at the University of Virginia describe a prospective, longitudinal, experiential curriculum in quality improvement for internal medicine residents that evolved over a 6-year period. Their intent was to address resident competencies in both systems-based practice (SBP) and practice-based learning and improvement (PBLI).

Concepts such as the 'Inside Outside' (OSIS) model of interactions between systems and human factors, the "Five Whys" methodology, and a step-wise 'Root Cause Analysis (RCA)' are introduced during fall seminars in the 1st year of training. Computerized simulation exercises force residents to make practice adjustments to maximize patient volume, staffing, and clinical service, while maintaining educational and financial objectives. Role playing, brainstorming, teamwork, and case analysis are process tools used during the seminars. 'Homework' requires them to analyze real-life case experiences they have had using RCA and propose helpful interventions.

A 'final quality project' involves the RCA analysis of safety and quality data on patient services and outcomes drawn from a resident's own continuity practice. Such data is compared to that of other residents and overall hospital performance; and the resident designs an improvement addressing an identified problem, analyzing barriers to its implementation as well as its potential yield. These 4-8 page formatted reports are then presented to the group at the final seminar. A total of 16 seminars comprising 48 hours of instruction are delivered to each cohort of 35 residents over a two-year curriculum.

The authors analyzed the results of 237 satisfaction evaluations completed by 38 residents over a 3-year period. There was an evidence of a shift in thinking and an appreciation by residents of the inherent complexities within the health care system. Qualitative analysis supported the conclusion that residents had gained both knowledge and skills in the pre-determined domains defined by the curriculum. However authors still identified disconnects between residents' understanding of theory versus their comfort-level with their ability to introduce real-life practice changes to effect improved patient outcomes.

I found the article to be interesting and thought-provoking. The generalizability of the authors' experiences is hampered by the intense resources and customized approach they used. Their faculty and curriculum development were supported with over 6 years of funding from (RWJF) and the Health Resources and Services Administration (HRSA) Title VII grants. Yet even with these intense efforts, there were attitudinal questions of resident empowerment within a large hospital system and their own skepticism as to the prospects for an individual's success in bringing about change in such a complex environment. The authors conclude that these curricular tools cannot be divorced from real-life work on multi-disciplinary hospital teams and hands-on institutional QI initiatives. There is no substitute for working on the real problems confronting the hospital. It is a cautionary tale that might well persuade others to take a slightly different tact in approaching the same goals and objectives for resident instruction in these vital, educational areas, by fully integrating residents much earlier into ongoing hospital-wide QI processes.

Alan Woolf, MD, MPH

ACGME By The Numbers

1981
Year Established

28
Review Committees

130
Specialties

112,506
Residents Nationwide

in **8,770**
ACGME-Accredited Programs

200
Site Visits Conducted Annually

IOM WEIGHS IN ON DUTY HOURS

Alan D. Woolf, MD, MPH

On December 5, 2008, the Institute of Medicine issued its much anticipated report: Resident Duty Hours: Enhancing Sleep, Supervision, And Safety. This monograph reviews the quality of medical training in the U.S. and presents the evidence for the effects of resident fatigue on patient safety. In the report, IOM details examples of weaknesses or deficiencies in the present system of clinical training that may put trainees at undue risk for making serious errors in judgment, affecting their own well-being as well as that of the patients they care for. The report cites evidence that excessive resident fatigue can contribute to such poor judgment and consequently medical errors. The IOM report concluded that the current system is in need of dramatic changes in how training is accomplished and how the oversight of training programs by the national regulatory body: the Accreditation Council on Graduate Medical Education (ACGME) should be upgraded. The IOM Report included the following recommendations (these are only the major changes, not an exhaustive list):

- Maximum 80 hours of work/week (no change from current regulation)
- Internal/external moonlighting counts towards 80-hour total and other duty hours limits apply to and are inclusive of moonlighting hours
- Maximum 16 hours shift with no protected sleep period
- Maximum every 3rd night in-house call frequency, no averaging
- 4 night maximum frequency of in-hospital night shifts, plus 48 hours off after 3-4 consecutive nights
- Mandatory 5 days off per month and 1 day off per week, no averaging
- Mandatory one 48-hour period off per month

The IOM estimated that such changes in the delivery of health care might cost upwards of $1.8 billion to implement nationally. While the ACGME is under no obligation to implement all of these changes, there is considerable external pressure upon the ACGME to consider adopting some or all of them, while providing a solid rationale for taking whatever actions it decides.
At Children's Hospital the GME Office, working with Hospital administration, has already responded to the IOM report with six specific activities:

- Implementation of a taxi voucher system to avoid putting residents at risk for motor vehicle accidents after an extended period of in-hospital call (an IOM recommendation, although our program preceded the recommendation by 3 years).
- Routine annual educational opportunities aimed at both trainees and faculty regarding the effects of physician fatigue on work performance (an IOM recommendation and an ACGME regulation, which Children's Hospital has already accommodated for the past 5-6 years).
- Monitoring of resident and clinical fellow duty hours' compliance by a weekly electronic reporting system facilitated by the New Innovations software, implemented in January, 2009.
- Empanelling a Hospital-wide Task Force on Duty Hours to consider staffing changes to ensure the Hospital remains in compliance with future ACGME regulations while promoting an optimal educational experience for its trainees. I chair the Task Force and other members include Drs. Michael Freed (Pediatric Cardiology), Jeff Burns (Pediatric Critical Care), Craig Lillehei (Pediatric Surgery), Vinny Chiang (Associate Program Director, Pediatrics), Ted Sectish (Program Director, Pediatrics), Jim Kasser (Pediatric Orthopedics), Laura McCullough (Pediatrics Resident), Tregony Simoneau (Pediatrics

Facts From the AAMC

Average age of basic science faculty in 2007 was **52.9** years old

Average age of clinical faculty was **47.8** years old

29% of medical school faculty were **53** years or older in 2007

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DUTY HOURS

(Cont'd)

Resident), Kate Madden (Fellow, Pediatric Critical Care), and Michael Green (Fellow, Pediatric Critical Care). The Task Force has already met twice and reports to the Hospital's Medical Staff Executive Committee Implementing, through the GME Office, a 'gap analysis' (current versus future patient care staffing needs) by a survey, gathering the opinions of all of the Hospital's residency and fellowship training directors.

- Initiating pilot studies of related issues, such as altered house-staff coverage of certain ward services, changes in "hand-offs" procedures, and/or changes in attending staff supervisory patterns.

The ACGME is now in a period of information-gathering, when it is soliciting independent opinions of groups of health professionals nationwide and convening groups of stakeholders to discuss proposed regulatory changes. It is also commissioning a study of the extant scientific evidence on patient safety and physician fatigue that may have some bearing on the decision-making process.

The IOM Report proposes a 24-month period of transition to full implementation of its recommendations. The ACGME has indicated that through its deliberate process there will likely be changes in the duty hour regulations with a phase-in process beginning in the academic years of 2011 or 2012. In any event, Children's Hospital aims not only to comply, but to be proactive in leading the way for other health care institutions in configuring its clinical services so as to minimize the risks to its trainees while maximizing their education as well as the safety of the Hospital's patients.

INTERNAL REVIEW SUMMARY

Mira Irons, MD

The beginning of 2009 has been a very busy year for Internal Reviews at Children's Hospital Boston. Of the 35 ACGME-accredited training programs at Children's, 18 internal reviews were completed from Fall, 2008 through the end of June, 2009. Although all of the programs fall under the auspices of CHB GME, three of the programs are based at Boston Medical Center and those reviews were completed on site at BMC.

The ACGME stipulates that all programs must have an internal review conducted by the sponsoring institution mid-way through the program's accreditation cycle. Although the majority of programs have 5 year accreditation cycles, there are several programs with 3 and 4 year cycles for various reasons necessitating earlier review. The internal review process involves a committee that consists of either Mira Irons or Alan Woolf, Tery Noseworthy, a training program director, and a resident member of the GMEC. The committee reviews information provided by the program in the form of a "mini-PIF", meets with all available trainees for smaller programs or a representative group of trainees for larger programs for an hour, and then meets with the training program director and representative faculty members for another hour. The main goal of the internal review is to review the program's compliance with ACGME-policies and procedures and make recommendations for improvement that can be put into place prior to the program's next official ACGME site visit. As the term "internal review" implies, this is a completely internal process and is meant to be of assistance to program directors and faculty. A report of the review is sent to the program director and the GME Committee, but is not shared

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Facts From the AAMC

130
accredited medical schools in the U.S. (AY2008)

In 2009, there were
18,488
U.S. medical students

Median family income of entering medical students (1987)
$50,000

INTERNAL REVIEW SUMMARY

(Cont'd)

with the ACGME, so it is truly an "internal process" that is meant to be helpful.

As Tery and I have met with many of the trainees and faculty over the course of the year, there have been several recurring themes that are apparent across programs. These can be summarized in two broad categories: strengths and evolving areas for improvement.

The major message that we have learned from all of our meetings with trainees concerns what they perceive as the strengths of our training programs. Overwhelmingly, residents and fellows have indicated that faculty teaching and volume and variability of patient exposures are both outstanding and the main reasons that they choose to train here. They also report that they are well-supervised and that faculty educators are cognizant of the need to allow the trainees to assume increasing degrees of responsibility while still being available when needed.

All programs are continuing to work on integrating the competencies into their educational programs, improve their evaluation procedures, and implement Scholarship Oversight Committees when required. Recurring themes in these areas include the following:

1. Competencies:
    a. Competency-based learning objectives are required for each rotation and for each level of training, and should be reviewed by all trainees and faculty at all rotation sites.
    b. While most programs have integrated the Medical Knowledge and Patient Care competencies, many are struggling with developing evaluation tools for the Communication, Professionalism, Systems-based Practice, and Practice-Based Learning competencies. Some recommended tools include:
        i. 360 evaluation to include two groups other than faculty members
        ii. Simulations
        iii. Individualized learning plans and Self-assessment tools

2. Evaluations:
    a. Trainees should have access to their evaluations and program directors are required to meet with each trainee at least twice each year to review their progress. This meeting needs to be documented in writing.
    b. Trainees should have the opportunity to evaluate each rotation, the program as a whole, and all faculty members confidentially and in writing.
    c. The faculty should have the opportunity to evaluate the program confidentially in writing each year.
    d. A yearly program meeting of the faculty with at least one trainee present should take place to discuss and review the program. Minutes of this meeting should be taken. Any changes in the program that are implemented as a result of this meeting and resident/fellow feedback should be documented.

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Facts From the AAMC

Median family income of entering medical students (2006)

$100,000

Average debt load for graduating medical students in 2008

$141,750

17.7%

graduating U.S. medical students in 2008 had loans exceeding

$200,000

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Questions?
Contact the
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INTERNAL REVIEW SUMMARY

(Cont'd)

3. Research:
   a. Most programs have implemented Scholarship Oversight Committees (SOC) and all meet the minimal standard, although some programs do more. Finding adequate time to identify a research project during the busy first clinical year is a concern for many trainees in many programs.

4. Patient Safety/QI education:
   a. This is clearly in its infancy and the requirements have not been completely articulated by the ACGME. However, it appears that the following is true
      i. Both didactic and experiential learning should be provided for trainees in QI and patient safety.
      ii. Presenting at M&M conferences, utilizing the SERS database, and other patient safety/QI measures that are part of daily work are not adequate to comply with this requirement.
      iii. The GME Committee is working closely with the Program for Patient Safety and Quality to help develop hospital-wide initiatives to help program directors satisfy this requirement.

5. Duty Hours:
   a. Most programs are compliant, although there are specific rotations that are non-compliant for some programs with in-house call.
   b. Program directors should keep an eye on at-home call to ensure that phone calls throughout the night do not become onerous and interfere with adequate rest.

Although this year has been a busy one for internal reviews, we have enjoyed meeting with all of the trainees and faculty members and would like to thank all of you for your efforts. We would also like to thank all of the program directors and residents who volunteered to participate in the internal review process as committee members. Participation in this process helps all of us improve our programs. We truly appreciate all of your efforts on behalf of our trainees.

GRADUATE MEDICAL EDUCATION SUPPORT AT CHILDREN'S HOSPITAL BOSTON