Examining the Methods and Effects of Implementing New Duty-Hour Limit Policies for Medical Residents in Teaching Hospitals

Adam Geller

University of North Carolina at Chapel Hill

ABSTRACT: The structure of the system meant to train medical doctors was shaken when a new policy went into effect July 1, 2003, limiting the number of duty-hours that graduate medical residents can work each week in a teaching hospital. This paper provides a policy driven approach for understanding the purpose of these changes in a historical and national context as well as impact through an examination of the implementation approach of UNC Health Care one year after the official policy adoption.

LENGTH: 2,170 words

The work day began almost 24 hours ago.

It's Tuesday, and already he's logged more than 40 hours on the job.

But he's looking forward to Thursday when he'll have a full day off and won't be on call – that's his one day off this week.

This is the very typical life of one of the 102,487 people training as doctors in the United States this year.

It may seem that these are harsh working conditions, but they are part of new policy put into effect July 1, 2003, by the Accreditation Council for Graduate Medical Education that *limits* duty hours for residents. The ACGME is a private organization entrusted with accrediting U.S. residency programs since 1981.

Before the new policy, there were no restrictions placed on scheduling residents for work. Now the trainees are protected by the following:

- On-duty hours limited to 80 per week
- Work day lasting no longer than 24 hours
- At least 10 hours off after every shift
- One full day in seven free from any duty
- House-call duty no more than once every three nights.

Like any broad, sweeping policy, there is some flexibility. For instance, the weekly limits are when averaged over four weeks, and the 24-hour limit can be extended by up to six hours. Additionally, programs can submit petitions to their GME coordinators for up to an eight hour extension to the work week.

Surely the mental and physical health of residents was a factor in reform, but the overbearing reason for a broad change of this nature is found in years of studies showing

that patient care is sacrificed when the medical residents are overworked and overtired. The most famous case dealing with this matter involved the death of 18-year-old Libby Zion in a New York hospital, March 1984.

Zion received sub-par treatment from the medical residents which resulted in her death only a few hours after being admitted. When the case was reviewed, it was not the service providers who were found to be at fault but the system itself. This led to the 1989 Bell Regulations legislation in New York limiting the number of resident work hours. The Bell Regulations established work limits almost identical to the new ACGME standards. The new national guidelines regulate an entire system of medical resident education, more than 7,800 accredited programs.

The new work-hour restrictions add structure where there was previously none. Before the new policy, residents in the department of neurosurgery at the University of Florida often worked more than 100 hours per week, worked longer than 24 hours, and had less than 10 hours off between shifts, according to documents released by Dr. William A. Friedman for a presentation at the AAMC conference in September.

Luckily, for hospitals, the need to adjust to the new policy did not come suddenly. Talk about a national guideline surfaced several years before the final mandate and, at one point, was even discussed among members of congress. Much of the national attention paid to this issue, and belief to the success of reform, stemmed from the Libby Zion case. Zion's father, former federal prosecutor and writer for the New York Times, made sure that his daughter's death and the flaws of the system did not go untold and unnoticed by all.

Some programs did not need to do much changing. Dr. Debra Weinstein of Partners HealthCare System in Boston, Mass., reported that three-fourths of her system's 84 accredited programs were already compliant with the new requirements. And for those that were not compliant, they had plenty of time to evaluate their systems, look for ways to economize and then implement the changes.

At UNC Hospitals in Chapel Hill, N.C., work began nearly three years before the policy went into effect. A committee comprised of all program directors; Dr. Robert Cefalo, the medical school's associate dean for GME; and Cindi Trnidad, the program director for GME, met every month throughout the three years to establish a long-term plan for becoming compliant.

Cefalo's main job has been to oversee and ensure that the individual programs developed methods of reducing resident work hours. He also worked with Trinidad to develop institution-wide tools to help create systems of accountability and compliance. Cefalo said stepwise preparation allowed reform of the educational process without taking the education away from the experience of residency.

One of the most noticeable scheduling changes at UNC directly related to the reducing hours worked is the implementation of a night float system. Under this system, residents are scheduled two months out of the year for night-time shifts with about 76 hours per week. This system allows for more stable patient care and guards against continuity issues for long-term care because there are essentially two crews of doctors administering patient care in any 24 hour period, a fourth year resident reports.

With residents working less hours, the ACGME claims that residents receive an enhanced educational experience. It is true that residents benefit from more personal time

and sleep, and this claim is echoed in several reports released by presenters at the Association of American Medical Colleges conference in September 2003 about implementing the new requirements.

But the negative impacts of the new policy are not yet completely clear. Dr. William Friedman from the University of Florida said there has been a shift in resident attitude toward their work. Before the policy residents did whatever necessary to provide care, but now residents have an hourly worker mentality, according to Friedman. Residents, themselves, report that the new policy cuts into teaching time such as case reviews and lectures.

In many hospitals, new systems of teaching place a larger workload on the supervisors who are responsible for teaching. In a report at the AAMC conference, this burden was described as “huge” in large, bold letters during a University of Washington presentation.

Several UNC residents report that the duty-hour limit has changed the yearly work load for all residents. Under the previous system, working very hard each week for several months throughout the year was “repaid” by several months of lighter scheduling. Now, each resident works a standardized schedule of 80 hours each week, year-round.

And for the older residents who used to put in the long hours in their first year and then receive progressively lighter workloads throughout the rest of their residency, they now work 80 hours per week throughout their tenure.

Regardless of the difficulties that change presents in any large institution, hospitals are willing to do whatever it takes to come into compliance. Remaining ACGME

accredited is very important to hospitals: a hospital must be accredited to receive *any* graduate medical education subsidies from the government.

GME subsidies started in 1983 to help defer the identified costs of running teaching hospitals, including costs related to additional staffing to supervise students. Now teaching hospital budgets depend on a large amount of assistance through GME subsidies. The other basis for GME subsidies lies in the fact that residents often provide care to those otherwise unable to pay for care, and those unable to pay for care are those most likely to be on federal subsidy programs such as Medicare and Medicaid.

UNC's Trinidad noted two changes she feels are critical to the hospital's overall compliance with the new policies: an anonymous hotline for residents to report working violations and a web-based hour-log for easy reporting of hours worked. But these critical systems may not be as effective as intended.

From random interviews, it appears that the residents are unaware of the anonymous hotline. Several residents in different departments reported that they had never heard of the hotline, and others reported hearing about it casually from a friend. A first year resident said that he did hear about the hotline from hospital GME staff during a meeting several months into the start of his term. Trinidad identified no concerns with the implementation of the hotline.

Trinidad said that tracking resident working hours has been the biggest challenge of coming into compliance. She and Cefalo agree that systems like an online hour log make the residents the key to becoming compliant. In essence, the residents are the ones who must be responsible for not working more than they are allowed.

The University of Washington has implemented a similar web-based tracking system. Dr. Karen Horvath, residency program director for the surgery department, reported that this system is successful because it is simple and, as a result, has the support of the faculty for its use.

But it is already clear that residents may lie about hours worked in self-reporting systems. At the University of Florida, this is a known problem. At UNC, a third year internal medicine resident confirmed that she has knowledge of residents purposefully reporting hours worked inaccurately, as much of the reporting is done on a weekly basis and on the honor system.

Compounding issues of honesty are issues of using the reporting system. A first year UNC anesthesiology resident said that he had received no information about keeping track of his hours worked and, until the time of the interview, had heard nothing about the online hour log. The failsafe for non-reporting or inaccurate reporting, according to an internal medicine resident, falls to the chief resident of each specialty.

To aid residents working more efficiently and within the guidelines, UNC tried to transfer some resident duties to other trained staff, like having nurses start IVs and phlebotomists draw blood. Additionally UNC now staffs more interpreters to reduce the waiting time before communication between doctor and patient can be made and care can begin. Ob-gyn residents said they had noticed the extra interpreters and agreed that measures such as this helped speed delivery of patient care.

No matter how many systems of efficiency are developed, Cefalo estimates that there is still at least a 2,500 work-hour shortage each week from time previously logged by residents.

To fill this void, Todd Peterson, executive vice president and chief operating officer of UNC Hospitals, said that some of the lost man-hours were filled by new staff.

Peterson reported that the 2003 budget added several new expenses: 16 resident physicians, 5.5 phlebotomists, 4 interpreters and translators, 14 inpatient unit coordinators (clerical workers) and 4 nurse practitioners. This cost the hospital an additional expense of $1.6 million, with at least $1 million directly attributable to the new rules, according to Peterson. The physicians, alone, cost $733,000.

Peterson noted that there is not any additional net revenue associated with this "unfunded mandate."

And he emphasized that the "bottom line deteriorates further and further" and price increases for the few patients who are still sensitive to the prices of obtaining medical services.

Why does the bottom line deteriorate? Why can the hospital not raise more capital?

Recall why hospitals are willing to spend extra money and time to ensure their successful accreditation: to receive GME funding.

While hospitals try to come into compliance to maintain current GME funding, they receive no extra funding for the increased cost associated with running a teaching program with residents. For 2003, UNC spent approximately $1,666 more to educate each resident because of the implementation of the new policies, a number obtained by dividing the total new expenditure by the number of residents.

This policy has created a lose-lose situation for hospitals. If hospitals reduce their number of residents, they must forgo a portion of their GME funding and cut services to

the public. But, if they maintain current levels of residents and services, they must spend more money each year to do so, without receiving extra subsidy from GME grants.

Hospitals, from years of practice, have become accustomed to residents serving in roles outside a medical care giver and, as one ob-gyn resident said, more as cheap labor. For example, in the UNC ob-gyn resident training program, each resident serves a two month rotation where 40 hours of each week are budgeted for paperwork and records keeping. Additionally, in the ob-gyn ward, residents spend an average of one hour each day doing what they term secretarial work. More emphasis on patient care has increased pressure to hire more data processing staff.

The fiscal policy and operational policy for GME have diverged. Operationally, the system has been updating and reinventing itself to deal with changes. Fiscally, the formulas for subsidy have stayed the same since 1999.

What will most likely continue to happen is hospitals will continue to spend more money on adapting to the new policies such that they become the standard operating procedure and, no longer, the "new rules." As more hard data becomes available, rather than just financial projections, and reveals the increased costs to hospitals to run the same programs, law makers will realize that they must change the system of awarding funds to hospitals.

As residents enjoy more rest and shorter shifts, hospitals are suffering. The formulas for funding graduate medical education will need to change in the future because the costs associated with educating a medical resident have changed.

American Association of Medical Colleges. Conference materials from Sept. 29-30, 2003. *Resident Physician Duty Hours: Implementing the New Requirements*

--- *Medicare Indirect Medical Education (IME) Payments,* available http://www.aamc.org/advocacy/gme

--- *Patient Safety and Graduate Medical Education*. Feb. 2003

American Medical Association. *Medicare Calculations-GME and IMEA,* available http://ww.ama-assn.org/ama/pub/category/2392.html

Code of Federal Regulations. *Direct graduate medical education payments,* 42CFR413.86

--- *Special Treatment: Hospitals that incur indirect costs for graduate medical education,* 42CFR412.105

Council on Graduate Medical Education. *The Effects of the Balance Budget Act of 1997 on Graduate Medical Education,* 2000

Department of Health and Human Services. *Changes to FY 2000 Hospital Inpatient Prospective Payment System (PPS)Policies As Required by the Medicare, Medicaid, and State-Child Health Insurance Program Balanced Budget Refinement Act of 1999 (BBRA), P.L. 106-113.* Transmittal No. A-00-17. April 2000.

Health Resources and Services Administration. *Graduate Medical Education and Public Policy*, Dec. 2000

Kwan, Rita and Levy, Robert. American Medical Student Association. *.APrimer on Resident Work Hours: Everything you always wanted to know but were afraid to ask.* 4th ed, 2003.

Mechanic, R., Coleman, K. and Dobson, A. Journal of the American Medical Association. *Teaching Hospital Costs: Implications for Academic Missions in a Competitive Market.* Sept. 16, 1998.

United States Public Law. *Medicare, Medicaid, and SCHIP Balanced Budget Refinement Act of 1999*, Title IV.A.401

Wynn, Barbara and Kawata, Jennifer. *Analysis of the Children's Hospital Graduate Medical Education Program Fund Allocations for Indirect Medical Education Costs,* RAND Health

Data about UNC came from communication with:

Robert Cefalo, UNC Medical School associate dean for GME
Michelle Cassara, 3rd year resident, Internal Medicine
Vimal Derebil, 2nd year resident, Internal Medicine
Caroline Hoke, 4th year resident, Ob-gyn
Cynthia King, 2nd year resident, Ob-gyn
Jeannette Lager, 1st year resident, Ob-gyn
Cindy Trinidad, UNC Hospitals program director for GME
Todd Peterson, executive vice president and chief operating officer of UNC Hospitals
Deryk Walsh, 1st year resident, Anesthesiology