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Editor's Introduction:

A Dialogue with the Resident Education Community

Ingrid Philibert

In September 2001, the ACGME charged a Work Group to develop recommendations for duty hour standards for all accredited specialties, as well as for their enforcement and educational and related activities. At its June 2002 meeting, the ACGME granted preliminary approval to a set of common program requirements for resident duty hours. These will become effective in July 2003. In the months between the formation of the Work Group and the June 2002 meeting, the Work Group and the ACGME engaged in a dialogue with the resident education community, intent on further exploration of the issue of resident duty hours. As the ACGME refines the common duty hour standards and moves toward implementation, it envisions an ongoing dialogue with the community. This special issue of the ACGME Bulletin, dedicated to the issue of resident duty hours, is one element of this exchange of ideas.

Executive Director's Column:

Practical Wisdom and Resident Duty Hours

David C. Leach, MD

David C Leach, MD

How do residents learn to make good clinical judgments? In addition to scientific knowledge and some knowledge of the craft and art of medicine, Aristotle would say that residents need to develop phronesis or the practical wisdom that can only come from the particulars of each clinical case. It is in the particulars of their cases that the "goodness" of judgments is both expressed and developed.

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At its June meeting the ACGME approved the report of the Work Group on Resident Duty Hours and the Learning Environment. The details of that report, its rationale and implementation plan have all been discussed at length and are available on the ACGME web site (http://www.acgme.org) as well as in this issue of the *Bulletin*. The change is incremental rather than radical; nonetheless all change affords the opportunity for unintended consequences. Will our attempts to strengthen education and patient safety actually impair the resident's ability to acquire "practical wisdom?"

The current realities of a resident's life may not promote practical wisdom. Time is compressed. When the length of stay is accepted as an important metric, the system responded by shortening the length of stay. Simultaneously, the criteria for admission were tightened so that sicker patients requiring more complex interventions became the norm. Teaching hospitals were reimbursed less, and those financial constraints resulted in lower numbers of support staff with diminished resources and morale. Residents have to be the heroes of this story; they get things done even when the system makes it hard to get things done. Much of their energy is consumed acquiring not only medical knowledge but also the locally useful knowledge about how to get things done. The practical wisdom that results is real but is designed to respond intelligently to a broken system rather than a sick patient.

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Medicine is not a productive art; it is a cooperative art. It cooperates with the body's natural tendency to heal. To make good clinical judgments it is necessary to have a fairly profound knowledge of the patient as well as the disease. The doctor-patient relationship requires time; and time in the modern hospital is in short supply. Residents may come to recognize the disease but they also need to recognize the patient who has the disease. The science and craft of medicine are essential to good patient care, also essential, especially for good clinical judgments, is a deep understanding of the particulars of the case. Good judgments are evoked from those particulars, not from abstract concepts detached from particulars.

The current realities may have compromised the resident's ability to acquire practical wisdom, but will attempts to reform resident duty hours make the situation even worse? Won't this simply compromise time further?

Time is not really the issue; it is availability. To be fully available to their patients, residents must be both present and attentive. Detecting and responding to the unique details of a given case makes a difference for both the patient and the resident. It is the basis of making and learning how to make good judgments; it is the basis of practical wisdom. What can be done to enhance the availability of residents?

Good systems make it hard to do the wrong thing; and bad systems make it hard to do the right thing. Many of us were taught that health care was a bad system. It is our job to defend our patients against the system. We have to be vigilant about system failures. Needed information was hard to obtain. Patient transportation, dietary prescriptions, timing of drug administration, getting diagnostic tests accomplished – our time in training was consumed by checking and rechecking these and other basic elements of inpatient care. We still have a long way to go. It is time for the faculty to offer to share the burden of system vigilance with the resident; and it is time to add system redesign to the skill set of both residents and faculty. Residents know the system design issues that need attention – just ask them. Their favorite expression is "it's really weird how they do things around here." Yet unlike faculty, residents don't feel empowered to change the system. They are renters, not owners. The faculty needs to do that. The hospitalist movement may help. We will have it right when the technology and processes of inpatient care support rather than consume resident availability.

Good systems have built-in redundancy. Medicine is one of a few high-risk professions that have not consistently used redundancy or rehearsal to enhance safety. In the words of Salas, Cannon-Bowers and Johnston of the Naval Air Warfare Center Training Systems Division we need to "...turn a team of experts into an expert team."[1] The expert team has members from several disciplines. Nurses, pharmacists, health administrators, allied health professionals - all need to develop a similar or at least shared mental model of good health care, to communicate much more openly, to distribute information so that the team can adapt intelligently to emerging clinical realities, and to understand what information each feels is especially important. Rehearsals are good for relationships as well as for patient care. We need to rehearse. As residents shift from 100 to 80 hours per week rehearsals and teams will become more important. The attentiveness and availability of the resident will increase because the team will share the burden.

Practical wisdom is the goal of every resident. It is essential for good patient care. The number of patients

seen by the resident is important. The more we do something, the better we get at it. However, the quality of the interaction takes us beyond craft and into practical wisdom. Our patients and our residents deserve the best. We must design systems that foster attention to the details of particular cases so that they can acquire true practical wisdom.

[1.] Salas, Eduardo; Cannon-Bowers, Janis; Johnston, Joan. How can you turn a team of experts into an expert team?: Emerging training strategies. In *Making decisions under stress: Implications for individual and team training.* J.A. Cannon-Bowers and E. Salas, Editors. Washington, DC. APA. 359-370, 1998

The ACGME's Common Standards for Resident Duty Hours

Ingrid Philibert

When the new ACGME common standards for resident duty hours will become effective in July 2003, resident duty hours in all specialties will be limited to 80 per week. Other elements of the new standards are a 10-hour minimum rest period between duty periods; and a 24-hour limit on continuous duty time, with an added period of up to 6 hours for transfer of care and didactic activities. The new duty hour standards incorporate the current ACGME requirements that one (24-hour) day in seven must be free of patient care responsibilities, and that in-hospital call be scheduled no more frequently than every third night. They also address call from home (pager call), by requiring that when residents take home call and are called in, the time spent in the hospital must be counted toward the 80-hour weekly limit.

Through the Institutional Requirements, the ACMGE emphasizes the role of the sponsoring institution in overseeing compliance with the duty hour standards, and ensuring that education has priority over service in the allocation of residents' time. An example of this is the current standard that institutions have in place support for intravenous, phlebotomy, and transport services to reduce resident time spent on routine activities. The ACGME's new approach to address duty hours further enhances sponsoring institutions' responsibilities. To highlight the importance of attention to resident duty hours from the perspectives of safe patient care and resident learning and well-being at the highest levels of the organization, the standards call for an annual report to the sponsoring institution's governing body on compliance with duty hour standards in all accredited programs. In keeping with the emphasis on duty hours as just one aspect of the learning environment, the standards also emphasize supervision and faculty support/consultation as vital elements that contribute to high-quality education and safe and effective patient care.

Formulation of the duty hour standards also sought to make use of the scientific information on sleep deprivation and performance. The new standards call for program directors and faculty to monitor residents for signs of sleep deprivation and fatigue, and to take action when it is determined that these may be affecting safe patient care and resident learning. The ACGME recognizes this will require education of the faculty and residents in recognizing and addressing sleep deprivation and in applying preventive and operational countermeasures, and this is also called for in the standards.

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Attending to the issue of resident duty hours is not a new activity for the ACGME. In 1980-81, the program requirements for several specialties began to incorporate language on resident duty hours, and in 1987 the Council adopted a few requirements in all specialties. Over the years, the standards and their enforcement have been continuously refined. The new common duty hour standards build on these requirements.

The Council is aware that consistent, unwavering enforcement is as important as the standards themselves. Enforcement will be based on three key activities. The first involves increasing the amount of information the

Council collects related to duty hours in accredited programs. Second, the ACGME will shorten the response time in cases of alleged non-compliance with the standards, and solicit from programs and their sponsoring institution plans for how duty hours will be brought into compliance in a brief time frame. The third critical element is recognition that programs, sponsoring institutions and the accrediting body are collectively responsible for programs' adherence to the standards. This involves boosting the internal monitoring mechanisms within the ACGME to ensure consistent, meticulous enforcement of the standards.

As Dr. Leach noted in this issue of the *ACGME Bulletin*, "in many ways, the new duty hour standards represent incremental change." A number of accredited specialties already have more restrictive standards, developed by their Residency Review Committees prior to the ACGME's global effort. Evidence from the education community also suggests that duty hours in many programs are shorter than the 80 hours per week stipulated in the new standards, including some programs in disciplines that maintain that long hours are necessary from a purely educational perspective. Still, in a significant number of programs, the new standards will necessitate change. For these programs, success will depend in large part on the efforts of the program and its sponsoring institution to adapt to the new standards, and to monitor that their resident hours promote high-quality education, safe patient care, and resident well-being.

The Perspective of an ACGME Public Member

Duncan McDonald, ACGME Public Director

In September 2001, I was one of two ACGME public members appointed to the Work Group on Resident Duty Hours and the Learning Environment. As a non-physician and public member wrestling with the complicated and contentious resident duty hour issue, I was captured by two emotions, which have yet to release me: astonishment and admiration.

Although I was astonished by the complexity of the duty hour issue, I was also struck by the wide range of emotions (and reasoning) within the medical community about duty hours and the rigor of resident training. I had one other surprise during my research and deliberations – the lack of understanding of medical education on the part of the general public.

"My regular review of media coverage of the duty hour debate suggests an all-too-simple reductionism – that fatigue and safety can't peacefully co-exist."

The stronger emotion was admiration. At the heart of the duty hour issue is a commitment to excellence in education, teaching and performance. At the heart of the solution to the duty hour issue is a sensible, realistic balance of the needs of education and of patient service. Unfortunately, what is little understood is the existence of an all-consuming dedication to standards, to preparation, to responsiveness, and therefore, to service. The teaching, the oversight, the follow-through all contribute to a graduate medical education system that should make us proud. It is difficult to overstate my appreciation for the thoughtfulness, the rigor and amazing spirit of volunteerism that permeates the resident education community. It is vitally important the public understands this unflagging commitment to its welfare and well-being.

What will happen next? In my view, ACGME and its affiliate organizations have a pressing task: outreach and continuing education. My regular review of media coverage of the duty hour debate suggests an all-too-simple reductionism – that fatigue and safety can't peacefully co-exist. So, in both news coverage and editorials alike, one sees our media "stunned" by a workweek that can exceed 100 hours and not at all placated that such a regimen could be reduced to an average of "only" 80 hours. As translated by a public whose concerns about our health care

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system may be at an all-time high, this means that people will easily agree that they should have physicians who are alert and focused and ready to attend to their medical needs. At the same time, people will likely not want a substitute for their "regular" doctor, and they no doubt will express concern about the anticipated increase in health care costs that may accompany the new duty hour protocols.

As scrutiny of duty hours increases and as reports come in regarding compliance, I predict that the media will look closely at two related issues that received much attention during the work group's deliberations: moonlighting and educationally relevant work by medical residents. It will be interesting to see how program directors will manage the moonlighting issue, and I suspect that ACGME will need to review this regularly. I also believe that there will be increased pressure to ensure that resident education closely follows the complex needs of the specialty and not serve as a safety valve for hospital under-staffing.

"...there will be increased pressure to ensure that resident education closely follows the complex needs of the specialty and not serve as a safety valve for hospital under-staffing."

I recently discussed the duty hour issue with two friends who are nearing retirement. In the course of the conversation, I asked them what they worried most about their retirement years. Both said, without hesitation, "good medical care."

Both are physicians, with a combined 70 years of experience in their specialties. They know what training is required, and they well remember (and are generally thankful for) the rigors of that training. They wonder what's ahead. As do we all.

Duncan McDonald is one of the three public directors of the ACGME. He is a professor of journalism at the University of Oregon in Eugene.

Duty Hours: Common Standards or "One Size Fits All?"

Paul Friedmann, MD, W. T. Williams, MD, Ingrid Philibert,

Is there cause to believe that the ACGME has decided that one size fits all — all being the range of accredited specialties? The new "common duty hour standards" will become effective July 2003. To some, they represent a departure from ACGME requirements for each specialty that reflect the educational and patient care needs of the given discipline. However, the intent is not for the Council to espouse a "one size fits all" mentality. The common standards represent a minimum to be met by all programs, set at a level intended to foster safe patient care and resident well-being. They are in keeping with the ACGME's approach, which is based on programs meeting or exceeding minimum standards, and on promoting improvement through the accreditation process.

"Residents will tell you that what matters is not just the amount of exposure to patients, but the quality of the experience and the extent to which there is supervision and teaching."

Many have asked what persuaded the ACGME to adopt an approach that uses common standards in addition to the ACGME's established approach of having standards that reflect the needs of each specialty. The answer lies in developments within the education community and the larger health care system that is the setting and context for resident education. The first of these is change in the delivery of health care that increased the acuity of patients and the intensity of services. This affects the residents, especially during inpatient rotations. The second is public concern that the residents' long hours may compromise the safety of patients and the well-being of the residents. Stated

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another way, the public does not understand why it should take twice the average workweek or more for a period of three to seven years to complete the education of a physician. Residents will tell you that what matters is not just the amount of exposure to patients, but the quality of the experience and the extent to which there is supervision and teaching. A second development is the accumulation of a sizable body of scientific knowledge on sleep and performance. Several literature reviews have shown a negative effect of sleep loss on performance; these include studies of resident physicians.[1,2] The assertion that long duty hours are not in the best interest of the residents or their patients is not new. In 1971, Friedman et al. noted that first-year residents who were on call the night before made more errors than rested residents in reading standardized electrocardiograms.[3] Some studies have shown no difference in performance on cognitive tasks between post-call residents and those who were not on duty. However, researchers have suggested that, the definition between sleep deprived and rested may be blurred. For example, FirthCozens and Greenhalgh noted that one such study defined "sleep deprived" residents as those having received less than four hours sleep the previous night, and "rested" as those who received more than four hours of sleep.[4] Potentially, the general level of sleep deprivation in some programs may have contributed to the findings, with studies essentially comparing two sleep deprived cohorts.

In this context, duty hour standards that incorporate the learning on sleep and performance, that are sensitive to the increasingly complex nature of residents' duties, and that can be understood by the public, are needed. This does not suggest a diminished emphasis on the learning needs of each specialty, and a key advantage of standards created by the profession is that they can be sensitive to educational considerations. New York State's experience with regulation of duty hours illustrates that meeting uniform standards is not uniformly easy for all programs. Tim Johnson's article in this issue of the *Bulletin* points out that 54 of 82 teaching institutions in New York were recently cited by the Department of Health for failing to comply with the regulations. The ACGME recognized that some programs, and potentially a few specialties, might need added flexibility beyond an 80-hour weekly limit. This flexibility was built into the standards, in the form of a waiver. With this, programs have the option of extending their weekly duty hours by up to 10 percent (or up to 88 hours). It requires a sound educational rationale and approval from the sponsoring institution and the Residency Review Committee. Programs will need to demonstrate that all hours in the educational program contribute to resident learning, as should all duty hours in any residency program. Programs and their sponsoring institutions also need to show that they have systems and monitoring functions in place to guard against the added hours compromising patient safety or resident well-being.

An 80-hour week still is not easily explained to the public. It was chosen because facilitating the residents' eucation is the primary goal of residency. This limit should offer residents sufficient time for learning, including learning about the profession of illness and about continuity of care. Residents should also be able to contribute to the provision of care, all while being more rested and alert.

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The new standards do not represent a "one size fits all" approach. Instead, they are part of an unambiguous,

comprehensive program to address resident duty hours, based on common standards that have the goal of promoting safe patient care and resident well-being and, ultimately, learning.

[1] Weinger, MB; Ancoli-Israel, S. Sleep deprivation and clinical performance. Journal of the American Medical Association. 2002; 287:955-957.
[2] Samkoff, JS; Jacques, CHM. A review of studies concerning effects of sleep-deprivation and fatigue on residents' performance. Academic Medicine. 1991; 66:687-693.
[3] FirthCozens, J; Greenhalgh, J. Doctors' perceptions of the links between stress and lowered clinical care. Social Science and Medicine. 1997; 44: 1017-1022.
[4] Friedman, RC; Bigger, TJ; Kornfeld, DS. The intern and sleep loss. New England Journal of Medicine. 1971; 285:201-203.
[5] Samkoff, JS; Jacques, CHM. 1991.

Paul Friedmann, MD, and W. T. Williams, MD, were the co-chairs of the ACGME Work Group on Resident Duty Hours; Ingrid Philibert staffed the Work Group.

New York's Experience With Resident Duty Hour Limitations

Tim Johnson

Teaching hospitals in New York are subject to resident duty hour limitations through regulations included in several sections of Part 405 (also referred to as the State hospital code) of the New York State Code of Rules and Regulations. These regulations, which limit resident duty hours and establish standards for supervision and faculty physician presence, are generally referred to as the "the 405 regulations." The specific requirements most commonly cited are found within one section of this hospital code, Section 405.4, which regulates the delivery of services by the hospital's organized medical staff. They were adopted as emergency regulations in 1988, with an effective date of July 1, 1989, following a report by the State Department of Health Ad Hoc Advisory Committee on Emergency Services. This committee is often referred to as the "Bell Commission," after Bertrand M. Bell, MD, who chaired the group.

Components of the Regulations

The regulations state that schedules of resident physicians in the departments of anesthesiology, family practice, medicine, surgery, obstetrics, pediatrics, and other services that have a "high volume of acutely ill patients," and where night calls are frequent and physician rest time is inadequate, shall meet the following criteria:

- The scheduled work week shall not exceed an average of 80 hours per week over a four week period;
- Such trainees shall not be scheduled to work for more than 24 consecutive hours.

The hospital has the flexibility to develop and document alternative scheduling arrangements for other trainees (e.g., pathology residents), who are not formally subject to these two requirements, although in practice, most hospitals have developed compliance policies that include all residency trainees within the limitations for the sake of administrative consistency.

The regulations also state that, for all trainees, scheduled assignments must be followed by a non-working period of 8 hours, and that trainees must be provided with at least one 24-hour period of scheduled non-working time per week. There are two additional provisions that specifically apply to emergency department scheduling and surgical trainees. In hospitals with over 15,000 unscheduled visits to an emergency service each year, assignment of trainees and attending physicians shall be limited to no more than 12 consecutive hours. The Commissioner of Health has the authority to approve schedules of up to 15 hours for attending physicians if certain conditions are met.

"In practice, some hospitals have not been able to utilize this provision allowing the trainee to work for longer periods and therefore design their schedules to stay within the 24 consecutive-hour and 80-hour weekly limitations."

For surgical trainees, the regulations state that on-call duty during the night is not included in the 24-consecutive-hour

limitation and the 80-hour weekly limitation if certain conditions are met. These conditions must all be met in order to satisfy this provision, which is sometimes referred to as the "surgical exception.' The conditions are:

- The hospital *documents* that during the night shift, the surgical trainee is generally resting and the interruptions for patient care are infrequent and limited to patients for whom the trainee has continuing responsibility;
- Such duty is scheduled for each trainee no more than every third night;
- Such an assignment is followed by a non-working period of 16 hours; and
- Policies and procedures are developed and implemented to immediately relieve a trainee from the assignment when fatigue due to an unusually active on-call period is observed.

The "surgical exemption" was not included in the original set of recommendations of the Bell Commission. It was adopted at a later date following consultation with a group of prominent surgeons. The purpose of this provision, according to David Axelrod, M.D., the New York State Commissioner of Health at the time, was to address the need from an educational and quality-of-care perspective for a member of the surgical team to be on-site during the immediate post-operative period. It should be noted that this provision was adopted along with more explicit prescriptions for supervision of surgery residents. In practice, some hospitals have not been able to utilize this provision allowing the trainee to work for longer periods and therefore design their schedules to stay within the 24 consecutive-hour and 80-hour weekly limitations. Some hospitals are unable to take advantage of this exemption due to the frequency with which their surgical trainees are interrupted on the night shift. That is, the hospital cannot satisfy the "generally resting" condition. Other hospitals do not utilize this provision due to several factors, including a desire for a consistent set of institutional requirements for all residents and the more complicated scheduling and documentation requirements associated with the provision. Those hospitals that do utilize this provision must be vigilant in monitoring the rest time and interruptions of surgical trainees during the on-call period, and the longer post-assignment non-working requirement, or risk being found to be out of compliance.

Finally, the requirement for at least one 24-hour period of scheduled non-working time per week has been somewhat complicated to fully comply with, in part due to the State Department of Health interpretation that a two-to three-hour period of "transition time," which is allowable at the end of a scheduled 24-hour assignment, cannot be counted as part of the required 24-hour period of scheduled non-working time per week. So, for example, if a trainee is scheduled to end an assignment at 7 a.m., but then spends two hours discussing patients with the incoming resident and writing notes, leaving the hospital at 9 a.m., he is technically not allowed to return before 9 a.m. the following morning (24 hours later), even though the hospital would prefer he begin his assignment the following morning at 7 a.m. in order to participate in morning rounds with the attending physician and other residents.

Enforcement and Recent Findings

Following survey activity by the State Department of Health in the late 1990s, the Health Care Reform Act of 2000 required the State to contract with a third-party organization to conduct annual audits of the 115 teaching hospitals in New York to assess compliance with the resident duty hour regulations, and increased the financial penalties for non-compliance to as high as $50,000. The State contract was awarded to IPRO, the local peer review organization, in 2001, and IPRO began its surveys in November 2001.

As of June 2002, 54 of the 82 hospitals surveyed (66 percent) had been found to be out of compliance. On specific aspects of the regulations, 56 percent were found to be in violation of the 24-consecutive-hour limitation requirement, 34 percent were found to be in violation of the 80-hour weekly limitation requirement, 23 percent were cited for not providing residents with 24 hours off, and 13 percent did not ensure that residents were provided required hours off between work assignments.

The Residents' Perspective

Betty Chang, MD, PhD and Rebecca Minter, MD

When we were asked to represent the resident perspective on the ACGME Work Group on Resident Duty Hours and the Learning Environment, we were excited. Finally, there would be an opportunity to institute some substantive changes. This could represent the end of hearing the complaints of our fellow residents: "My wife is angry with me; I fell asleep during date-night." "I don't want to sit down I might fall asleep, then I'll never get home." "I need to get home, I have not had time to do laundry in weeks."

Duty hours are not a concern for all residents, but for the residencies in which they are a concern, they are a significant one. In a period of reduced patient care payments and shortages in nursing and other health professionals, residents comprise a highly educated and relatively inexpensive workforce. They have become the glue that holds together the patient care system in many institutions. This scenario, combined with the high acuity of the patients we care for, has left some residents scrambling to find time for their education, the very reason they are in residency. Through our efforts as members of the Work Group, we hoped we would contribute to a system that protects resident education from some of the forces that compete for residents' time.

As we approached the complex task of developing common standards for duty hours for all specialties, the principle of "continuity of care" was important to us – as physicians and potential patients. The perspective of members of the public changes, as they transition from healthy individuals to patients dependent on care from a physician. As healthy individuals, they see residents as overworked, and believe they should go home, rest and see their families. In the vulnerable role of patient, they are troubled when the doctor they have come to trust is not available. We recognize that it is not healthy or practical for physicians to be in the hospital 24 hours a day, seven days a week. Yet patients may need their doctors at any of these times, and they expect the physician caring for them to know their story and current situation.

As we deliberated on the common duty hour standards, we recognized the need for better mechanisms of transferring the care of the patient among individual physicians or care teams. Whatever system is ultimately adopted, there will likely be a greater number of these transfers, and the systems for physician sign-out need to be strengthened so patient care will not suffer.

With these and other issues in mind, the Work Group approached its charge. The goal was to develop "common standards," applicable to residency programs in all specialties. The members comprised program directors, department chairs, residents, representatives from the general public, institutional officials, and a teaching hospital chief executive. Although both of us were resident representatives on the Work Group, we found our perspective on certain issues differed. One poignant example of this was home call, which means different things to different specialties. Betty, a pulmonary/critical care resident, found that call from home six days a week involved being called at all hours of the night to discuss patients in the ICU, new patients in the ER, and crashing patients on the wards was onerous. It made sleep virtually impossible. Rebecca, a surgical chief resident, wanted to be available from home to provide continuity of care for her post-operative patients, with whose care she was familiar. This does not consider the needs of residents in obstetrics-gynecology, pathology and other specialties. How would the group create a single standard for home call that would cover different scenarios? One option was

"As healthy individuals, they see residents as overworked, and believe they should go home, rest and see their families. In the vulnerable role of patient, they are troubled when the doctor they have come to trust is not available."

to leave home call for the individual RRCs to decide. Unfortunately, the new standards themselves could result in increased abuse of home call, as in-house call and total hours are limited to a greater degree. We surveyed other residents. They felt strongly that standards for home call were needed to prevent shifting of the workload from in-house call to home call. As one can imagine, if home call created this much debate, other aspects of the standards were even more complex.

"In our role as representatives for the residents, we surveyed other residents about various aspects of the proposed standards."

The Work Group dealt with this complexity and the differing views by thorough deliberation of the issues, reviews of the literature, and soliciting broad input from the community. In our role as representatives for the residents, we surveyed other residents about various aspects of the proposed standards. The group initially agreed that a major factor affecting resident and patient safety was the number of continuous hours without sleep. The standards address this through a limit on time on task, ultimately set at 24 hours, with up to six added hours for continuity of care and didactic activities. When the group's recommendations were presented to the February 2002 meeting of the ACGME, it also became apparent that the medical education community and the public felt strongly that a weekly limit on duty hours was needed as well, to address chronic sleep restriction and fatigue. The Work Group resumed its deliberations and information collection process. Through this, the standards evolved to the set that was approved at the June meeting of the ACGME.

As residents, we know now that the common duty hour standards have been approved, the real task – the implementation process – lies ahead. It will have far-reaching implications, both financial and organizational, for teaching hospitals. What will be needed are innovative solutions on the part of residency programs and program directors, especially for the smaller programs with a limited resident complement. These issues will need to be addressed; they do not constitute a reason to stop the process of moving forward with the necessary changes. If the community fails to respond, there will likely be some form of government intervention. We cannot assume that federal regulation will provide for much flexibility or accommodate educational concerns, it will likely focus primarily on patient safety. More important, addressing the issue of duty hours is the necessary and right thing to do for the medical education community.

The most rewarding – and sometimes difficult – aspect of our experience on the Work Group was being part of a deliberative process to establish consensus around a set of standards to deal with a complex matter. These standards seek to strike a balance between resident education and patient and resident safety. The education community will soon need to begin the task of making these standards part of the everyday experience in residency programs. We thank our fellow residents for the honor of representing them on this Work Group; it was a challenging but rewarding experience.

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Betty Chang, MD, PhD, recently graduated from a pulmonary medicine fellowship at John Hopkins University, and is the resident member of the ACGME Board of Directors. Rebecca Minter, MD, is a surgical resident at the University of Florida, and the Chair of the ACGME's RRC Resident Council.

Frequently-Asked Questions about the Common Duty Hour Standards

Ingrid Philibert

In June 2002, after its Board of Directors granted preliminary approval to the new common duty hour standards, the ACGME began to solicit comments on the proposed standards, to clarify and refine them prior to final approval and implementation. Comments have been requested through the ACGME web site and via written notice to the Council's appointing organizations, the resident education and program director community and other stakeholders. This process will continue through mid-August.

From these comments, some questions about the standards and how they will be applied have emerged, and this article addresses some of the most frequently asked. The responses are based on the intent of the ACGME Work Group on Duty Hours as it developed its report. Clarifying the standards is one goal of the ACGME's customary approach of soliciting comments prior to their final approval. Selected areas of the new duty hour standards will be discussed at the September meeting of the ACGME and the Program Requirements Committee, and will be refined in the months between now and the implementation date of July 2003.

***Question:* How is the 24-hour limit on in-house call duty applied?**

Answer: The activity that drives the 24-hour limit is "continuous duty." If a resident spends 12 hours in the hospital caring for patients, performing surgery, or attending conferences, followed by 12 hours on-call, he/she has spent 24 hours of "continuous duty" time, and may be given up to 6 additional hours for the transfer of care, educational debriefing related to care provided while on-call, and formal scheduled learning activities.

***Question:* What is the definition of "on-call duty"?**

Answer: On-call duty is defined as a scheduled continuous duty period between the hours of approximately 7 or 8 pm and 7 or 8 am the next morning, generally viewed in conjunction with a day of regular duties scheduled prior to it. By definition, on-call duty excludes regular duty shifts worked during these hours, as is done in Emergency Medicine, or night float used in some specialties to replace on-call shifts or reduce the continuous waking hours and strenuous nature of certain on-call rotations. Neither straight duty shifts occurring at night nor night float are bound by the constraint that in-house call not be scheduled more frequently than every third night.

***Question:* Which standards apply to time spent in the hospital after being called in from home call?**

Answer: For call taken from home (pager call), only the time residents spend in the hospital after being called in is counted, and these hours only apply toward the weekly duty hour limit. They do not count toward the 24-hour limit on continuous time on task, or the hours of required time free from patient care duties. The requirement that call be scheduled no more frequently than every third night does NOT apply to home call. However, the requirement that one day in seven must be free of patient care responsibilities applies.

***Question:* How is home call counted, if the resident is called into the hospital and has to stay for several hours?**

Answer: All hours spent in the hospital after being called in apply toward the weekly limit on duty hours. In addition, if call from home regularly requires residents to spend many hours in the hospital, a second standard, namely "The program director and faculty must monitor the demands home call places on residents in all programs, and make adjustments as necessary to address excessive demands and fatigue" also applies. The intent is to guard against programs inappropriately substituting home call for in-house call. Home call should be used only for rotations where the frequency of being called is low, and where being called in generally does not result in the resident needing to spend extensive amounts of time in the hospital.

***Question:* Is it permissible for residents to take call from home for extended periods, such as a month?**

Answer: The requirement that one day in seven must be free of patient care responsibilities would prohibit residents from being assigned straight home call for an entire month. Assignment of a partial month would theoretically be permissible, because the requirement for one day off in seven is averaged over a four-week period. However, the same requirement for monitoring against excessive use of home call as in the last question applies here, and the program leadership would need to assess the intensity of the activities on such an extended home call rotation, and the extent to which this might

preclude adequate time for education, rest and personal responsibilities.

***Question:* What is meant by "patient care activities external to the educational program that occur in the primary program and institution?"**

Answer: This term denotes what is generally referred to as "internal moonlighting." To further clarify this requirement, because the meaning of "primary program and institution" was not clear to many readers of this standard, the ACGME has revised the language. It now states: "Patient care activities (moonlighting) external to the educational program that occur in the sponsoring institution (or primary clinical site if the sponsor is not a hospital) and the affiliated institutions utilized by the residency program must be counted toward the weekly limit on duty hours."

***Question:* What is meant by "sound educational justification" for a request to increase the weekly limit on duty hours by up to 10 percent?**

Answer: The intent is to ensure that programs request such an increase only when the sole intent is to improve the residents' educational experience. The practical answer is that all hours in the requested extended workweek must contribute to the residents' education. A general example is that a surgical program would need to demonstrate that residents would not get their required case experiences in some categories, unless resident hours were extended beyond the 80-hour weekly limit. It is important to note the programs can ask for an extension that is less than 10 percent (less than 8 hours) of the standard weekly duty hour limit; and that extensions can also be requested for just a given level of residents (e.g., chief residents) or for individual specific rotations or experiences.

Also, the exemption only extends the 80-hour weekly limit. It cannot be applied to extend the 24-hour limit on continuous duty, or the limit on up to six additional hours for transfer of care and didactic activities.

***Question:* What constitutes a "new patient" in the requirement "no new patients may be accepted after 24 hours"?**

Answer: The intent of the Work Group was for the added time of up to six hours after on-call activity to be devoted solely to "wrapping up" and transferring patient care activities started during the call period and formal didactic activities. At the September ACGME meeting, the Council and the Program Requirements Committee will discuss this requirement, with the intent of further clarifying and refining the standard. They will discuss the effect of this standard on continuity of care requirements in some specialties. They will also consider how the definition "no new patient" will apply to specialties that do not take primary responsibility for patients, such as radiology and pathology.

Resident Duty Hours – Issues for Consideration by the ACGME

Ingrid Philibert

The June 2002 ACGME meeting included a half-day retreat for the members of the Board of Directors and RRC Council of Chairs, to investigate aspects of the Council's plan to address resident duty hours, focusing on the implementation process. Approximately 70 board members, RRC chairs and ACGME staff members participated in small group exercises and a plenary reporting session. The goal of the retreat was to develop recommendations that would assist in the implementation of the new duty hour standards, and enforcement and related efforts. The time frame for the recommendations was "activities that would require the ACGME's attention in the coming 18 to 24 months."

During the small group exercises, one-half of the groups were assigned an aspect of the Council's approach to addressing duty hours - the standards, enforcement provisions, or education and related activities. These groups explored on how a specific element of the strategy for addressing resident duty hours would affect all stakeholders of resident education. The other groups were asked to represent a stakeholder population. Stakeholders included program directors, faculty, teaching institutions, the "academic community," and residents, patients and the public. These groups analyzed how stakeholders would react to the various elements of the proposed approach. Essentially, the groups conducted an in-depth exploration of either a component of the approach or the views of one constituency, focusing on actions that could be taken by the ACGME to assist the implementation process.

In the reporting session, a spokesperson for each group presented a list of recommended activities for the ACGME to carry out in the coming months. Excerpts from these recommendations are shown below.

Results of the Group Exercise from the June 2002 ACGME Retreat

- The ACGME should assess the impact of the new duty hour standards and enforcement provisions on the quality of resident education, using established measures. This must include collection of data to assess the effect of the standards on the quality of patient care and education, including potential changes in medical errors, patient satisfaction, and resident learning and satisfaction. The Council should collaborate with its member organizations and others to ensure that this information also assesses the cost implications of the new duty hour standards.
- Enforcement of the standards, especially addressing instances of non-compliance in a timely and fair manner, will be an important element of the overall process. The ACGME will need to explore systems to ensure that its data collection related to compliance yields accurate and complete information. This may need to include enhancing the systems to protect residents from potential retribution, so they feel confident they can provide accurate information on duty hour compliance.

"Throughout its efforts to implement and enforce the new duty hour standards, the ACGME should recognize that medical resources – educational, human, and financial – are limited."

- Throughout its efforts to implement and enforce the new duty hour standards, the ACGME should recognize that medical resources – educational, human, and financial – are limited. Implementation of the duty hour standards may contribute to stress in the allocation of these resources. The ACGME may need to collect data on the extent to which this occurs at specific types of programs and institutions.
- Another associated monitoring activity for the ACGME involves exploring the effect of the policies related to professional activities external to the educational program (moonlighting) on programs and residents.
- The ACGME should contribute to the collection of information on best practices across disciplines. This should include best practices for how to educate residents and faculty about sleep deprivation and its influence on performance, and how to monitor residents for sleep deprivation. The ACGME should also work with its member organizations and other groups in the resident education community to share best practices for the transfer of care, in recognition that reductions in resident duty hours may result in more frequent "patient hand-offs.'
- To foster the success of the effort to address duty hours, the member organizations, professional societies, institutions, and program directors should join the ACGME in garnering broad public support for its duty hour standards and enforcement policies. This should include deepening the public's understanding of the benefits and problems of graduate medical education, and the positive effect of the proposed duty hour standards.

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None of these findings were surprising. Some of the points had been stated in the report of the ACGME Work Group on Duty Hours; others had been mentioned previously in the on-going dialogue on duty hours among the ACGME's leadership and the larger community. The utility of having them reiterated in the retreat exercise is that it highlights an emerging consensus on a set of critical activities the ACGME will focus on in the coming 18 to 24 months.

Editor's Occasional Column
Endurance and Learning: Another Generation Gap?

Ingrid Philibert

"Il faut d'abord durer," which roughly translates to "first, one must endure," was one of Ernest Hemingway's favorite expressions. Hemingway did not speak about medicine, but the expression well suits the traditional medical education model. Endurance is a central theme for both residents and patients. Both struggle with the relationships between time, suffering and benefits. In the case of the resident, years of education through undergraduate school, medical school and residency, long hours and strenuous work may result in sufficient experience to become a competent physician. In the case of the patient, time, uncertainty, and humbling encounters accompany variable degrees of pain and suffering down a path that may lead to healing.

Endurance is part of the reality of resident education in many specialties: "Internship is the most stressful year in a physician's medical career, because interns work long hours, have fewer coping resources available, and have less control over their time.[1]" To many, it is considered a necessary element of preparing them for a demanding profession. Others would like to expose endurance expectations placed on residents as a means for hospitals to obtain low-cost, versatile labor. There are also those who would like to proliferate models of their own residency, which they see as intimately linked with endurance.

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Those who advocate against a "first, one must endure" approach have emphasized potential adverse effects for both residents and patients. Exhaustion, depression, and suboptimal education for the resident and potentially compromised safety for the patient are raised as concerns. They ask that the education community reject this educational model.

A brief article in the July 6th edition of "The Economist" alluded to the $40,000 annual salary for residents, and the weekly duty periods that top 100 hours in some specialties.[2] The author concluded that many young people simply do not want to enter a profession that sets these expectations at the entry to one's career. Are their negative views of endurance evidence of a "generation gap" in medicine? Certain parallels to the 1960s are suggested in the contrast of beliefs. It pits the views of many established physicians that endurance is an element of the duty one owes to one's patients and profession, against the outlook of a younger generation that contends that this allegiance has failed to examine both the underlying principles and the results this system produces.

"What the comparisons generally fail to consider about resident education is that faculty physicians are ultimately responsible for patient care, and supervise and teach the residents."

Two unlike views about the role of endurance exist. On one side there is conviction that "willingness to endure" is a primary prerequisite for medicine, that it is a necessary element of medical practice. Others contend that it results from an environment where society and the physicians themselves benefit from the profession's long hours, and that it could be eschewed altogether with a different approach.

A gap exists. Can it be bridged? Both sides understand that residency, like the final preparation of highly-skilled individuals in many professions, must occur in an environment that emulates the setting in which the profession will be practiced. In many specialties, practice

of the profession requires endurance. Exposure of professionals-in-training to real-life practice is a complex issue, and one not well understood by the public. It produces concern and statements like: "...medicine allows its least experienced members – residents – to care for its sickest patients; whereas aviation uses simulation to safely train pilots." "Residents work long hours; aviation has imposed strict limits for many years."

What the comparisons generally fail to consider about resident education is that faculty physicians are ultimately responsible for patient care, and supervise and teach the residents. What they ignore about training in aviation is that pilots learn on simulators until they are "fully-trained" – that is, fully trained in a simulator, not fully trained in flying a real plane. The seat on the right of the cockpit is more visible than the analogous position of the residents. Yet, at some point, in both professions, relative novices with some degree of proficiency and supervision have responsibility for human lives.

The context of "responsibility for human lives" has loomed large in the dialogue about resident duty hours. It has produced comparison between accreditation of residency programs and regulation of industries such as aviation. Limits on duty hours are a means of setting appropriate boundaries on endurance expectations. Other practices can also be adapted from aviation to medicine, including the process for training teams, the need for redundancy, and the need for enhanced communication. But what should be avoided are comparisons based on naïve concepts, and ones that "sensationalize" legitimate differences between these industries and how they educate and promote safety.

When residents alone serve as the first line of defense in a strained system, and faculty supervision of care and teaching are absent, discomfort with "residents caring for the sickest patients" is warranted. But that is not the model espoused by institutions that make high-quality education and patient care a priority, or the model stipulated by the ACGME's standards.

Reconciling the divergent views on the role of endurance in the preparation of physicians requires clarifying the degree to which endurance in residency is a legitimate educational objective, and the degree to which it is "practice in the service of the system."

"Our views about what constitutes an acceptable amount of endurance appear to be changing."

Our views about what constitutes an acceptable amount of endurance appear to be changing. This change started a number of years ago. Fourteen years ago, an article entitled "Beyond the Men of Steel" pointed out that the stress common in residency has the "capacity to support and hinder the trainee's education and well-being.[3]" A certain element of stress or demand for endurance can contribute to the primary goal of residency – facilitating the residents' education. We have observed this in patient care settings when "residents rise to the occasion." But is it a certain amount of stress, not a pervasive demand for endurance. Thus, some level of endurance is educationally legitimate, but learning, not endurance is the primary focus. In the end, we may want to adapt Hemingway's quotation to education in 2002: "first, one must learn." Given the need to prepare individuals for a role that includes some demanding work and requires stamina, endurance will continue to be part of the picture.

"...the stress common in residency has the "capacity to support and hinder the trainee's education and well-being."

[1] Alexander, D; Bushell, IW. Coping with night call: Part I: Understanding the benefits and challenges of traditional call. *Hospital Physician.* 1999; 53-69.
[2] Training Doctors: Too little money, too much paper. *The Economist.* July 6, 2002.
[3] Levin, R. Beyond "the men of steel": The origins and significance of house staff stress. *General Hospital Psychiatry.* 1988; 10:114-121.

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