

Resident Work Hours

American College of Physicians

A Position Paper

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A Position Paper of the American College of Physicians

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Executive Summary

The American College of Physicians (ACP), representing over 115,000 internal medicine physicians and medical students, including 20,000 residents and fellows, has a long-standing commitment to ensure that internal medicine residents and subspecialty fellows have a good working environment and positive educational experience. As the largest medical specialty society and the second largest medical society in the United States, the College is particularly concerned about the issue of resident duty hours, as well as the effects on educational goals and patient care.

This position paper reviews current duty hour standards and examines standards newly proposed by the medical profession, as well as legislative and regulatory initiatives. The paper also details the College's position on the issue of resident work hours, suggesting steps to be taken to alleviate the number of hours residents work in order to protect patient safety, ensure resident well-being, and allow residents to attain their educational goals.

Public Policy Positions of the ACP

1. The primary goal of residency training should be to provide quality education and superior patient care.
2. Residency education and training should provide physicians in training with opportunities to learn through the provision of patient care services under supervision.
3. Residency training should be provided in an environment and under conditions that are safe for patients and residents.
 - a. Residents' total duty hours must not exceed 80 hours per week, averaged over a four-week period.
 - b. Continuous time on duty should be limited to 24 hours, with up to six additional hours to complete the transfer of care, patient follow-up, and education. No new patients should be accepted after 24 hours.
 - c. A 10-hour minimum rest period should be provided between duty periods.
 - d. On-call should be no more frequent than every third night, averaged over a four-week period. Additionally, there should be at least one consecutive 24-hour duty-free period every seven days, averaged over a four-week period.
4. Program directors should establish guidelines for patient care activities that are external to the educational program, i.e., moonlighting. Moonlighting hours should be included in the total allowable hours, and program directors should only allow such moonlighting if it does not result exceeding the hours outlined in item 3 above. Moonlighting by residents should not conflict with or interfere with residents' primary responsibilities for education and training.
5. Measures should be taken to alleviate the financial distress of residents.
6. The ACP opposes regulation of resident work hours by individual states or the federal government.
7. The ACP supports further studies related to resident working conditions, particularly the effects of work hour regulation, not only on the residents' well-being but also for their education and the safety of patients.

Background

The working conditions of medical and surgical interns and residents have been the subject of controversy for many years. Considering the valid concern that patient safety and resident well-being may be compromised by excessive duty hours, this is an extremely important issue for residents and students that must be resolved. The working environment of internal medicine residents and subspecialty fellows, particularly the issue of resident duty hours, as well as the effects on educational goals and patient care, is a matter of great concern for ACP.

The Institute of Medicine's (IOM) 1999 report "To Err Is Human: Building a Safer Health System" drew much attention to the problem of overworked residents. The most compelling of the statistics uncovered by the IOM report was that between 44,000 and 98,000 people die annually in the nation's hospitals as a result of medical errors.¹ The extent to which overwork and fatigue of residents and interns contribute to these errors is not clear. However, a survey of 114 residents who admittedly made a mistake in treating a patient indicates that there is a connection between medical error and fatigue.² According to the study, mistakes included errors in diagnosis, prescribing, evaluation and communication, and procedural complications. Patients had serious adverse outcomes in 90% of the cases, including death in 31% of cases.² A total of 41% of the respondents reported that fatigue had contributed to their mistakes.² Additionally, respondents revealed that job overload contributed to 65% of mistakes.²

While residents are concerned about patient safety and medical errors, they are also worried about the impact of resident overwork on their personal health and work environment. The link between excessive work hours and vehicle crashes among the resident population is a concern for both residents and supporters of reform.³ Nonstandard hours, such as rotating and night shifts, have been identified as risk factors in sleep-caused vehicle crashes in an American Medical Association Council on Scientific Affairs report.⁴ Furthermore, another study found that 58% of nearly 1,000 emergency medicine residents reported one or more near-crashes, and 8% of the residents reported having been in crashes, the vast majority after a nightshift.⁵

There is also concern regarding the connection between resident work hours and mental illness. The rate of clinical depression among medical residents has been reported to be 30%, and 25% of these residents were reported to have had suicidal ideation.⁶ A 1998 study of internal medicine residents revealed that 35% of respondents reported having four or five depressive symptoms, including appetite changes, mood swings, decreased recreational activity, depressed mood, and sleep disturbance.⁷

Excessive work levels are also associated with obstetric complications for female residents. A study involving 4,412 female residents and 4,136 wives of male residents showed increased rates of preterm labor (11% vs. 6%) and higher rates of preeclampsia or eclampsia (8.8% versus 3.5%) among the female residents when compared with the male residents' wives.⁸ Another study revealed an increased rate of spontaneous and induced abortions among female residents.⁹

ACP notes that there are limitations to many of the studies cited in this section, some of which are outdated and others that rely on self-reported information. There is a clear need for updated research. Nevertheless, it is evident that residents, educators, and public policymakers are concerned about the impact of excessive duty hours on the quality of patient care, as well as the mental health and well-being of residents.

Accreditation Council for Graduate Medical Education (ACGME)

Current Standards

The Accreditation Council for Graduate Medical Education (ACGME) is a private, nonprofit professional organization responsible for evaluating and accrediting over 7,700 graduate medical education residency training programs in 110 medical specialties and subspecialties in the United States.¹⁰ The body is sponsored by the American Board of Medical Specialties, the American Hospital Association, the American Medical Association, the Association of American Medical Colleges, and the Council of Medical Specialty Societies. The Council establishes and updates educational standards for residency programs, including duty hours and resident supervision.

Residency programs must comply with both specialty-specific Program Requirements established by each respective discipline's Residency Review Committee (RRC) and the ACGME's general Institutional Requirements, which apply to all residency programs.¹¹ While the majority of disciplines *suggest* that residents should not work more than 80 hours per week, internal medicine is the only specialty to make compliance with hourly limits *mandatory*.¹²

The ACGME's Institutional Requirements call for the sponsoring institution to ensure that each residency program establishes formal written policies governing resident duty hours that foster resident education and facilitate the care of patients. The guidelines also state that duty hours must reflect the fact that responsibilities for continuing patient care are not automatically discharged at specific times, and that resident duty hours and on-call shifts cannot be "excessive."¹¹ The ACGME measures compliance with these standards through on-site inspections, including interviews with residents, with every program being visited approximately every four years.¹¹ The ACGME issues citations and monitors delinquent programs for "substantial compliance" with their guidelines.¹¹ The accreditation of programs that do not improve can ultimately be withdrawn, although, to date, no residency program has ever lost accreditation on this basis.

New Proposed Standards

At its June 2002 meeting, the ACGME Board of Directors approved new proposed requirements for resident duty hours.¹³ The ACGME said that the standards aim to respond to changes in health care delivery and concerns that sleep-deprived medical residents could have a detrimental impact on patient safety, education, and resident safety and well-being.¹³ The standards state that a medical resident must not be scheduled for more than 80 hours of work per week, averaged over a four-week period. However, individual programs may apply to their sponsoring institutions' Graduate Medical Education Committee for an increase in this limit of up to 10%.¹³

Additionally, residents must have at least one full 24-hour day out of seven free of patient care duties, averaged over four weeks. The standards limit continuous time on duty to 24 hours, "while residents may remain on duty for up to six additional hours to participate in didactic activities, maintain continuity of medical and surgical care, transfer care of patients, or conduct outpatient continuity clinics."¹⁴ The standards specify that residents should have a minimum of 10 hours' rest between work shifts. The new standards are expected to be implemented by July 1, 2003.

Policy of the American Medical Association

The American Medical Association (AMA) House of Delegates approved new policy in June 2002 regarding its position on the working conditions for resident physicians, including imposing limits on the number of hours they can work. The policy was presented in a report by the AMA's Council on Medical Education.¹⁵

The policy calls for limiting total residency duty hours to 80 per week, averaged over a two-week period, allowing for a 5% increase for some training programs, if appropriate; restricting scheduled on-call assignments to 24 hours, with up to six additional hours to complete transfer of care, patient follow-up, and education; limiting scheduled on-call shifts to no more than every third night and with one day off in seven; and requiring that any limits on total duty hours must not adversely affect resident physician participation in the organized educational activities of the residency program.¹⁵

Legislative and Regulatory Activity

State Initiatives

While California, Hawaii, Massachusetts, and Pennsylvania have all considered adopting work hour limitations for residents, New York is the only state to pass legislation directly related to the problems of excessive work hours, resident fatigue, and their effect on public health.¹⁶ The tragic 1984 death of 18-year-old Libby Zion, who was admitted to the emergency room of a New York hospital with an extremely high fever and tremors, triggered the reform effort.¹⁷ A medical resident administered a drug that was contraindicated with her scheduled medication, causing Zion to suffer fatal respiratory failure. A grand jury investigation concluded that both the resident's lack of supervision and excessive work hours contributed to Zion's death. An Ad Hoc Advisory Committee on Emergency Services, also known as the Bell Commission, composed of nine distinguished New York physicians and chaired by Bertrand Bell, MD, was formed to investigate these matters and issue recommendations.¹⁸ The Bell Commission reviewed the grand jury's report and concluded that "inadequate attending supervision, combined with impaired house staff judgment due to fatigue, were contributory causes of Zion's death."¹⁸ In 1989, motivated by the grand jury's findings and the recommendations of the Bell Commission, the New York State Legislature amended the health code to include provisions that limited medical residents' work hours. The Bell Regulations limit resident hours to 80 hours per week, averaged over a four-week period, and no more than 24 consecutive hours.¹⁶

Despite initial reports that shift hours were being rigidly applied at some New York City public hospitals, a 1998 New York State Health Department report based on a survey of 12 teaching hospitals showed widespread abuse of resident working hour limits, particularly among surgical residents in New York City.¹⁹ Compliance continues to be a problem, as evidenced by the New York State Health Department's most recent report, which cited 54 out of the 82 teaching hospitals in New York State with violations related to resident work hours during the period of November 1, 2001 to June 21, 2002.²⁰

In an effort to increase enforcement and improve compliance, New York Governor George Pataki included funding in the state's Health Care Reform Act of 2000 (HCRA 2000) to support inspections that focus on resident working hours and increase fines on teaching hospitals for noncompliance. A maximum fine of \$6,000 per violation may now be imposed against hospitals cited for resident working hour violations. Hospitals cited for recurring violations can face a

maximum fine of \$25,000 for a second offense and \$50,000 for a third offense. Prior to the HCRA 2000 legislation, the maximum fine was \$2,000 per violation.²⁰

Currently, New Jersey is the only state actively considering enacting state regulations to limit resident work hours. In February 2002, Assemblyman Eric Munoz, a trauma surgeon, introduced New Jersey State Assembly bill 1852.²¹ The bill would limit the hours of residents to 80 hours per week, averaged over four weeks, and 24 consecutive hours at any one time. A hospital or nursing facility that is in violation of these staffing requirements would be subject to fines of up to \$2,500 for each day the facility is in violation.²¹ On June 20, 2002, the New Jersey Assembly passed this bill overwhelmingly, with 70 yes votes, zero no votes, and two abstentions. It has now been referred to the state's senate.²²

Federal Initiatives

The Patient and Physician Safety and Protection Act of 2001 (H.R. 3236), introduced in the United States House of Representatives by Representative John Conyers, Jr. (D-MI) and 12 other members of Congress in November 2001, currently has 71 cosponsors.²³ The legislation calls for federal regulation to limit resident work hours and a system for monitoring and enforcement through the Department of Health and Human Services (HHS).²³ Under the bill's provisions, residents may work no more than a total of 80 hours per week and 24 hours per shift; must have at least 10 hours between scheduled shifts; and must have one full weekend off per month.²³ The legislation does not allow for averaging of the hours limited in the bill. The bill also charges HHS with handling all violations and complaints alleging violations and with enforcing the regulations by assessing fines up to \$100,000 for each residency training program in any six-month period.²³ H.R. 3236 also calls for the appropriation of funds to HHS to provide additional payments to hospitals for costs incurred, in order to comply with the new requirements.²³ On June 12, 2002, Senator Jon Corzine (D-NJ) introduced S. 2614, companion legislation to the House bill.²⁴

On April 30, 2001, Public Citizen, the American Medical Student Association (AMSA), and the Committee of Interns and Residents (CIR) filed a petition with the Occupational Safety and Health Administration (OSHA) requesting that OSHA adopt federal regulations limiting work hours for resident physicians to 80 hours per week with at least one 24-hour off-duty period per week and limiting shifts to a maximum of 24 consecutive hours.³ The petition alleged that work hours in excess of the requested limits are physically and mentally harmful to medical residents and fellows and argued that a federal work-hour standard is necessary to provide a safe working environment.³ Of particular relevance to the petitioner's request that OSHA exert jurisdiction over this matter is the 1999 finding by the National Labor Relations Board (NLRB) that medical interns are employees rather than students and, as such, are able to collectively bargain and are "therefore entitled to all the statutory rights and obligations that flow" from their classification as employees.⁴²⁵ The petition also states that, while the ability to collectively bargain is secured by these statutory rights, these rights also entail the expectation that OSHA "will protect them as employees from unsafe labor practices."³

In an October 4, 2002 letter to Public Citizen, OSHA stated that ACGME and other entities were well-suited, experienced, and in a good position to bring together the various complex interests needed to address this issue. The Agency cited the ability of the ACGME to revoke accreditation and conduct follow-up monitoring of accredited residency programs as an effective and precisely focused enforcement tool.

Public Policy Positions of the ACP

- 1. The primary goal of residency training should be to provide quality education and superior patient care.**

Residents should spend a minimal amount of their on-call time on routine service activities that are of limited educational value. Hospitals that sponsor residency programs should provide the resources necessary to meet the service demands of patient care.

A comparison of 1988 and 1997 data for internal medicine residents revealed that participants in 1997 spent 38% of their time on case review and documentation, while the residents in the 1988 study spent only 14% of their time in this activity.²⁶ Moore and colleagues concluded that “whether such paperwork truly contributes to better patient care or education is a matter open to serious debate and one that should be researched.”²⁶

- 2. Residency education and training should provide physicians in training with opportunities to learn through the provision of patient care services under supervision.**

The spirit of the relationship between residents and supervisors and the manner of supervision are as important as the formal rules governing supervision; that relationship needs to be clearly defined and monitored by program directors. Although attending physicians bear ultimate responsibility for care of their patients, residents and attending physicians must share that responsibility in a manner that respects the principle of meaningful patient responsibility for residents.²⁷

- 3. Residency training should be provided in an environment and under conditions that are safe for patients and residents.**
 - a. Residents’ total duty hours must not exceed 80 hours per week, averaged over a four-week period.**
 - b. Continuous time on duty should be limited to 24 hours, with up to six additional hours to complete the transfer of care, patient follow-up, and education. No new patients should be accepted after 24 hours.**
 - c. A 10-hour minimum rest period should be provided between duty periods.**
 - d. On-call should be no more frequent than every third night, averaged over a four-week period. Additionally, there should be at least one consecutive 24-hour duty-free period every seven days, averaged over a four-week period.**

Most of these standards are in line with the current Program Requirements for Residency Education in Internal Medicine. Additionally, as of 1998, all RRCs recommend that, on average, residents have one in every seven days free of program responsibilities and that residents be on call no more than every third night.

- 4. Program directors should establish guidelines for patient care activities that are external to the educational program, i.e., moonlighting. Moonlighting hours should be included in the total allowable hours, and program directors should only allow such moonlighting if it does not result in exceeding the hours outlined in item 3 above. Moonlighting by residents should not conflict with or interfere with residents’ primary responsibilities for education and training.**

The 2001 Report of Findings from the Internal Medicine In-Training Examination Resident's Questionnaire revealed that only 15% of residents who moonlight do so for more than 32 hours per month, and 51% do so for less than 16 hours per month.²⁸ Program directors and residents share responsibility for assuring that moonlighting activities are reasonable and do not jeopardize the quality of patient care services provided through the residency program. The effect of moonlighting on resident performance must be monitored, and permission should be withdrawn if the activities adversely affect resident performance.

The restrictions of moonlighting will cause an inherent loss of income, which will have a negative impact on residents and their families. Loss of opportunities for moonlighting will need to be evaluated with regard to implications for the need for higher resident stipends and on the financial situation of teaching hospitals.

5. Measures should be taken to alleviate the financial distress of residents.

According to data released by the Association of American Medical Colleges (AAMC), the mean stipend for first year medical residents in 2001 was \$37,383.²⁹ The mean stipends for second and third year residents in 2001 were \$38,940 and \$42,319, respectively. However, after accounting for the effects of inflation, the median inflation-adjusted stipend for first year residents is \$7,288, an amount that has been relatively constant since 1970.²⁹

In a 1998 study of 4,128 internal medicine residents, the reported educational debt was at least \$50,000 for 42% of the respondents and at least \$100,000 for 19%.⁷ The study also revealed that 33% of PGY-2 through PGY-5 residents responding had moonlighting jobs and that moonlighting progressively increased with increasing educational and credit card debt.⁷ Fifty-four percent of moonlighting respondents had at least \$50,000 in educational debt.⁷

Scholarship programs, tax credits, expansion of state and federal programs that offer deferral of interest and payments on student loans during residency training, and greater opportunities for loan repayment through programs such as the National Health Service Corps that provide loan forgiveness in exchange for service are possible ways to help alleviate the financial burdens of residents.

6. The ACP opposes regulation of resident work hours by individual states or the federal government.

The goal of residency training is to provide the best possible clinical education within the context of providing the best patient care. Planning for changes in policy governing residency training must be coordinated among the many jurisdictions responsible for maintaining this balance, including directors of medical residencies, chairs of academic departments of medicine, hospital directors and chiefs of staffs, the ACGME, and the appropriate RRCs.³

Moreover, varying standards from state to state would lead to inconsistent regulation. While New York has been successful in passing state legislation, compliance with the regulations has been inadequate. The recent inspections by the New York State Health Department revealed widespread violations in 66% of the state's teaching hospitals.¹⁹

It is the responsibility of the medical profession to self-regulate resident work hours and working conditions. The profession fulfills this responsibility largely through the ACGME and its accreditation program. The ACGME already has a system in place to regulate resident work hours and assure high-quality graduate medical education and training. This system can be strengthened to further improve monitoring and enforcement to ensure compliance; however, it should not be replaced by federal or state regulatory bodies.

7. The ACP supports further studies related to resident working conditions, particularly the effects of work hour regulation not only on the residents' well being but also for their education and the safety of patients.

As noted when this issue first attracted public attention in 1993, "further study at other hospitals is warranted to determine staffing strategies that optimize quality of care for patients, as well as medical education and quality of life for house officers."³⁰ The ACP also supports studies relating to the complex issue of moonlighting, including the financial impact on residents and teaching hospitals, as moonlighting opportunities are limited. Additionally, the effects of sleep loss, chronic sleep deprivation, and fatigue should be further evaluated. An anonymous survey published in the Journal of the American Medical Association in 1991 found that 41% of 114 residents said exhaustion was behind their most serious medical error.² A 1997 paper reported that staying awake for 24 hours and a 0.1% blood alcohol level produced similar impairments in cognitive psychomotor performance.³¹ These troubling statistics warrant further research into the relationship between resident performance and sleep deprivation.

Conclusion

The ACP recognizes that education and patient care are integrally related. Residency training programs should provide an appropriate balance between patient care and training in an environment conducive to both quality resident education and superior patient care. It will take a coordinated effort by the medical community to adequately address resident work hours and working conditions.

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