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Do today's medical residents really have it better?

"WHEN I WAS AN INTERN..." is a phrase veteran physicians often utter as they recall their own residency years ago. This speech goes on to portray residents of eras past as more eager, more dedicated, more committed, harder working, and just plain "tougher" than today's residents.

Besides the distortion that nostalgia imbues, some very real changes in the nature of residency have shaped this attitude. In the name of patient safety and an improved educational experience, limits have been placed on both the total number of hours and the number of 24-hour shifts house staff may work. Such changes have reduced the staggering physical demands physicians-in-training endured in the past.

Adverse changes in health care more than offset any positive changes in residency programs

Yet despite changes designed to make medical education more humane, I believe it is not easier to be an intern now. As perceived flaws in the physician training experience were being corrected, adverse changes taking place across the whole spectrum of health care in the United States more than offset any positive changes in residency programs. Generally, today's patients are sicker; however, because of ever-decreasing length-of-stays, today's interns and residents spend less time with patients and thus can no longer provide the continuity of care that was such a valuable way to learn.

Adding to the pressures on the hospital floor, the rising cost of physician education is increasing the financial pressure on new physicians. House officers have more debt, so they must moonlight. Also, the attending physicians do not have sufficient time to get to know the house officers and to teach as they did in the past. Consequently, the quality of medical education is declining.

A DAY IN THE LIFE OF AN INTERN—DECADE BY DECADE

A survey of the evolution of medical training sheds some light on current problems.

1920s and 1930s—Medicine as a way of life

In general, most interns in the 1920s and 1930s received no pay, except perhaps for a nominal honorarium. It was thought they would come to a hospital and work for the teaching opportunity alone. Room, board, and laundry were provided by the hospital. Marriage was forbidden. Medicine was to be their entire life.

They were in the hospital 24 hours a day, and the emphasis was on bedside teaching. This is a key point, as one intern related: "We were to learn the diagnosis and course of disease [and] the immediate and delayed effect of treatments by *continuously examining our patients*"[1] (emphasis added).

1940s and 1950s—Postwar changes

By end of World War II, medical residents were older and more experienced, often had families, and did not want to or could not afford to continue their training without pay—$60 a month. House officers were on duty for 36 hours and off for 12 hours.

1960s—Decline of the mixed and freestanding internship

This decade saw the decline of the mixed internship in favor of the straight internship. (Mixed internships provided rotations of 1 to 3 months in medicine, surgery, obstetrics, psychiatry, and pediatrics. In contrast, residents in straight internships spend their entire 12 months in one discipline.) This focus narrowed the patient population and the opportunity for broad-based learning. During this time 70% of all internships were in university hospitals. In 1966, the Mills Report was released, which highlighted the total discontinuity of accreditation involving three principal areas: schools, internships, and residencies. It recommended that the freestanding and independent entity of the internship be abandoned and that the graduate years as a whole be planned by a single authority.

Residents went on strike over long hours and poor working conditions

1970s—Labor strife and "year of the strike"

In 1975, the American Medical Association (AMA) announced the incorporation of the internship into the residency review process. No internship was approved unless it was integrated into a residency program.

The '70s were a time of intense labor relations involving residents and interns; 1975 became known as "the year of the strike." It started in November 1974, when the Howard University House Officers Association at Freedmans Hospital went on strike for 12 days over multiple grievances including burdensome work hours and poor working conditions.

In March 1975, committees of interns and residents in New York went on strike at 15 volunteer hospitals and six public hospitals over the issues of excessive work hours and out-of-title work (ie, "scut work"). More than 1,500 residents and interns joined the picket lines. They had the support of the AMA. The resulting 2-year contract with New York limited call to 1 day on call and 3 days off, increased residents' pay, and extracted a pledge from the hospitals that they would meet the AMA's essentials for internships.

Subsequently, the interns and residents of Los Angeles, after a 1-week strike, obtained a 5% increase in pay and established a patient-care fund to buy more and new equipment for ancillary staff.

In the fall of 1975, house staff at Cook County Hospital in Chicago went on strike, demanding a committee of attending physicians and house staff to oversee patient care improvements, the establishment of more intravenous therapy teams and faster labs, and a reduction in call duty from every third day to every fourth.

1980s—Libby Zion case transforms training

The most powerful force of change occurred in 1984, after Libby Zion, an 18-year-old woman, died 6 hours after admission to the New York Hospital.[2] Her father, an attorney and a writer for the *New York Times*, claimed that his daughter had received inadequate care from the overworked, undersupervised house officers. He convinced then-New York District Attorney Robert Morganthau to convene a grand jury investigation into his daughter's death.

The grand jury found that there was insufficient evidence against the hospital and the physicians to support criminal charges. It did, however, file a report, released in 1986, to indicate the circumstances that it believed contributed to Libby Zion's death, and which should be corrected:

- No attending physician saw her in the emergency room.
- No attending physician saw her when she was admitted to the floor.
- The house officers on the floor had been at work for 18 hours.
- When Ms. Zion became agitated, the intern ordered her to be restrained without examining her again.
- There was no computerized system to check for contraindications to combinations of drugs, such as phenelzine and meperidine (both of which she was taking).

The grand jury report went on to recommend that hospitals should staff their emergency departments at all times with physicians specifically trained in emergency medicine; all junior residents should be supervised personally at all times; and hospitals should limit the consecutive hours that interns and junior residents could work.

New York City Council President Andrew Stein published a Health Department study suggesting that resident mistakes were to

blame for many, if not all, of the deaths in New York City hospitals. In this climate, David Axelrod, commissioner, New York State Department of Health, appointed an ad hoc committee to inquire further. The committee initially agreed with the grand jury's recommendations, but after finding that implementing them would cost billions of dollars, came up with its own set of 19 recommendations. One of the most pivotal stated: "Individual residents who have responsibility for patient care in areas other than ER shall have a work week that shall not exceed 80 hours per week over a 4-week period. They should also not be scheduled to work more than 24 consecutive hours."

On July 1, 1989, this recommendation became part of New York State Health Code (commonly called "the 405 regulations"). These rules are now used throughout the country as guidelines for work schedules. Three months after New York made these rules part of the New York State Health Code, all internal medicine residencies were subjected to the same standard by the Residency Review Committee through the enforcement powers of the Accreditation Council on Graduate Medical Education.

1990s—ARE CONDITIONS REALLY BETTER?

The day-to-day existence of today's house officers is superior to that of their predecessors in meaningful respects:

- Most are married and enjoy some kind of family life.
- Many can take maternity or paternity leave if needed.
- They are paid more than in the past.
- They work fewer hours. Residents are on call just 1 day and off for 4 or 5 days.
- Ancillary services have been expanded and scut work reduced.

But do these benefits mean that today's interns and residents have it better? Are they learning more? Probably not.

Continuity of patient care lacking

Continuity of patient care, the ability of a resident to follow a patient through from admission to discharge, has decreased. With this decrease has come a loss of the many learning opportunities from such continuity and concentrated interaction with the patient.

More patients, sicker patients

The patients today's residents care for are sicker than the patients of yesteryear—and there are more of them. For example, from 1985 through 1996 at the Cleveland Clinic, not only did total admissions double, but the percentage of patients with severe illness (respiratory failure, diabetic ketoacidosis, HIV infection, acute renal failure, sepsis) increased as well. In addition, the patient population grew older, with increasing numbers of medications and chronic medical conditions.

These facts are coupled with decreasing length-of-stay and a relatively constant house-officer pool. Overall, each resident has more patients, requiring more intense care, and more clerical and administrative work—and less and less time to do everything. This intensity of care is not unique to the Cleveland Clinic.

Today's residents cannot follow patients from admission to discharge

Crushing debts and moonlighting

Although patient workloads have increased, pay—in real dollars—has decreased. The mean salary for residents today is approximately $32,000 per year. But this does not take into account the level of educational debt. From 80% to 85% of young physicians enter residency in debt, at a mean level of $63,000. One in five residents owes more than $75,000.

Petersdorf[3,4] estimated that if a house officer owes $75,000, he or she would have to earn $140,000 per year to pay the debt off comfortably. Since most house officers have to begin paying off their loans in the second year of residency, and their average salary is only $32,000, many of them moonlight.

When do residents actually see patients?

One of the tenets of teaching in earlier eras was to continuously examine patients. But do house officers today see patients? Lurie and colleagues[5] looked at house officers' activities at night, to determine how much time was spent evaluating patients. Excluding chart review, while house officers were on call, they touched or spoke to patients only 17% of the time. The rest of the time was spent in writing

in the chart, talking on the phone and answering pages, performing laboratory tests, sleeping, eating, being in transit, and reviewing old records. A Duke University[6] time-and-motion study, using random beepers to signal house officers to record their activity, found a similar amount of touching or talking time with patients.

In a study on the difference between on-call and off-call activities, Wood and colleagues[7] found that residents perceived the evaluation of acutely ill patients during night call as being the most educational.

This latter finding leads us to ask, "What have the '405 regulations' done to the quality of education, by limiting work hours of house officers?" If the most enlightening thing residents do is to work up patients at night, are interns who have limited night call learning anything? Norcini and colleagues[8] found that the knowledge level of U.S. medical graduates is getting worse and that of foreign medical graduates is getting better.

The average resident is $63,000 in debt

To assess the impact of the "405 regulations," Conigliaro[9] polled house staff and attending staff on problems with the night float system imposed by these regulations. Two thirds of house officers said there were generally more benefits, but one third said the regulations induced a "shift mentality"—the notion that when the "shift" was over, the resident's obligation or responsibility for the patients was also over, regardless of the patients' needs—and continuity of care has decreased. Attending staff said they saw no benefit.

WHAT SHOULD BE DONE?

Intense patient care requires intense training. The 80-hour work week should be eliminated. Residents should again "reside" in the hospital for months at a time. For example, the internship should comprise 3-month blocks of alternating inpatient and outpatient rotations. Inpatient months would require total commitment by the house officer. Residents destined for outpatient practice would spend the remaining 2 years in the outpatient department. Those wishing to be hospitalists or subspecialists would complete 2 more years with 3-month inpatient blocks alternating with research and consultative medicine. We also need to develop a national strategy to reduce the costs of medical school, or a program of repayment (ie, national service).

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CORRECTION

An error appeared in the article by Dr. Franck G. Skobieranda, "A 30-year-old woman with headache" (*Cleveland Clinic Journal of Medicine* 1997; 64:293–297). In TABLE 3 on page 296, the term "monoamine oxidase inhibitors" was incorrectly indented. This part of the table should have been as follows:

Antidepressants
- Nonsedating
  - With less anticholinergic effects
    - Fluoxetine
    - Sertraline
    - Paroxetine
    - Venlafaxine
    - Monoamine oxidase inhibitors
    - Nefazodone
    - Buspirone
    - Bupropion