ON-CALL SPECIALIST COVERAGE IN U.S. EMERGENCY DEPARTMENTS

ACEP SURVEY OF EMERGENCY DEPARTMENT DIRECTORS
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American College of Emergency Physicians®

Emergency Medicine Foundation

BACKGROUND

The American College of Emergency Physicians' (ACEP) Emergency Medicine Foundation received a grant from The Robert Wood Johnson Foundation in 2004 to survey medical directors of hospital emergency departments about the effects of current regulations and the practice climate on the availability of medical specialists to provide care in the nation's emergency departments. A national sample survey was conducted in the spring of 2004 and again in the summer of 2005. This report contains the results of the 2005 survey and compares them with the 2004 findings. Results from the 2004 survey are available at www.acep.org.

The findings indicate that on-call coverage in the nation's emergency departments has deteriorated and public policymakers should take note of the largely unintended consequences of the changes made to regulations governing the Emergency Medical Treatment and Labor Act (EMTALA). EMTALA is essentially a non-discrimination law intended to ensure that every emergency patient is seen, regardless of ability to pay. It requires hospitals to screen every person who comes to an emergency department to determine whether an emergency medical condition exists, and if it does, to stabilize the patient. A patient may only be transferred to another hospital if — after all possible stabilizing efforts have been made — the patient's condition requires a "higher level of care" not available at the original hospital. Since its passage in 1986, EMTALA has provided an unfunded safety net program for everyone using the nation's emergency departments. Demand for emergency care continues to grow by 5 million visits each year on average to more than 114 million in 2003, up from 90 million visits in 1993, while capacity continues to decrease, which is stretching resources to the breaking point.[1]

Over the past 20 years, the rules implementing EMTALA became increasingly unwieldy, and in 2003, the Centers for Medicare & Medicaid Services (CMS) implemented revised regulations for hospitals and physicians to comply with EMTALA. The new regulations acknowledged the need to balance hospital and physician legal duties with the realities of today's crowded emergency departments and the concerns of on-call specialists and their practice demands. Specifically, while hospitals are required to maintain a list of on-call physician specialists, physicians are permitted to be on call at more than one hospital at the same time and may limit the amounts of call time they are willing to take. While the EMTALA regulations took a more practical approach by recognizing physician time constraints and willingness to make additional on-call commitments, ACEP was concerned the rules would unwittingly impede hospital and emergency physician efforts to secure medical specialist care in a timely fashion. In addition to the recent regulatory changes, other factors — continued reductions in payment to physicians by Medicare and other payers, the growing number of uninsured patients in America, and the increasing costs of medical liability insurance — are affecting patients' access to timely specialty care in the nation's emergency departments.

The 2004 survey was designed to estimate, in the early months of the new regulations, the extent of problems related to on-call emergency department coverage by specialists. The survey asked emergency department medical directors whether they were experiencing problems with inadequate on-call coverage, given the needs of the patient populations at their hospitals. It also asked about changes in the number of patient transfers to other hospitals and whether physicians and staff were experiencing significant increases in the time spent locating specialists willing to provide care in the emergency department. The current survey updated the 2004 information and provided data on additional areas of concern, such as patients admitted to the hospital who remain in the emergency department, a practice known as "boarding."

The 2005 study findings, coupled with the growing demands for emergency services, provide new evidence of further strain on an already frayed system. Policymakers, physicians and hospitals must work together to ensure that emergency care remains accessible to all. In an effort to provide a national forum on this and other issues related to EMTALA enforcement, Congress established a national EMTALA Technical Advisory Group through the Medicare Modernization Act of 2003. Over a 30-month timeframe, (March 2005 –August 2007), the EMTALA TAG's member/stakeholders will make policy recommendations to the Secretary, U.S. Department of Health and Human Services. The on-call issue has been one of the most important (and challenging) issues discussed over the past several months. The TAG has requested data about on-call issues, and ACEP shared the 2004 report findings. ACEP will provide the 2005 findings to the TAG, CMS staff, and other policymakers this spring.

METHODS

In 2004, the first year of this study, we mailed questionnaires to emergency medical directors at 4,444 U.S. hospitals. This sample comprised nearly all acute-care, general hospitals in the country. Specialty hospitals, pediatric hospitals and federally-owned hospitals were excluded because they do not provide comprehensive emergency care to the general population. We also excluded hospitals (<1% of the total population) where the emergency department medical directors served the same role at a second, larger hospital. To avoid participant fatigue, we mailed the questionnaire only once to the larger hospital in a pair.

The final response rate for the first year of the study was 53% (2,343 hospitals). This response was greater than what we published in our 2004 report (1,427/4,444 hospitals; 32% response rate), because it reflects a third mailing of the questionnaire to non-respondents in late 2004.

In 2005, we conducted a follow-up survey by sending a new questionnaire approximately one year later to all emergency department directors who responded in the first year, which contributed to the higher response rate. Questionnaires were mailed to 2,343 emergency department medical directors between August and November 2005. The 2005 results reflect 30% of the entire study population of U.S. hospitals (and 57% of the 2005 sample). Survey recipients were given the option of completing the questionnaire on paper or by logging onto a Web site hosted by ACEP. Consent to participate was implied by the return or submission of a completed questionnaire. This study was approved by the Institutional Review Board of Johns Hopkins University.

RESULTS

The large majority of respondents were from non-teaching community hospitals (92%), while the rest were from major academic teaching hospitals (8%). This response mirrors the distribution of teaching/non-teaching hospitals in the country at large, but the responses were skewed toward a greater proportion of smaller and urban hospitals (Figure 1).

Sixty-nine percent of responses were from not-for-profit hospitals, 18% were from public hospitals and 13% were from for-profit hospitals. This distribution over-represented not-for-profit hospitals and significantly under-represented public hospitals. These differences between respondents and the larger population of all hospitals may reflect a response bias. Emergency department medical directors experiencing greater problems with on-call coverage also may have been more inclined to respond to the surveys. Furthermore, three-quarters (76%) of the responses came from emergency department medical directors in hospitals with no formal trauma-center designation; the other 24% practiced at advanced trauma centers (level I or level II).

Figure 1

Hospital Characteristics Among Respondents

	Total Population Surveyed	Survey Respondents 2004	Survey Respondents 2005
Number (response rate)	4444	2343 (53%)	1328 (30%)
Hospital Size			
≥100 inpatient beds	55%	64%	66%
Hospital Location			
Urban – within a metropolitan statistical area (MSA)	53%	61%	65%
Academic Status			
Major Teaching Hospital	8%	7%	8%
Hospital Trauma Level			
Level 1	5%	7%	8%
Level 2	11%	14%	16%
Not a higher level center	84%	79%	76%
Hospital Ownership			
Not-for-profit	62%	66%	69%
For-profit	13%	13%	13%
Public	25%	21%	18%

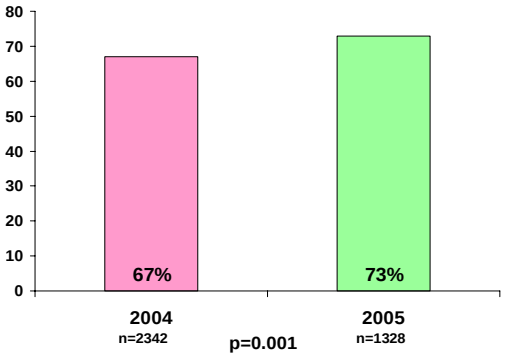
This proportion of level I and II trauma center responses was higher in the sample than in the nation. The data on hospital characteristics in Figure 1 for both respondents and non-respondents were obtained from the American Hospital Association, (The available national trauma designation data, however, are almost three years old, and the difference most likely reflects an ongoing trend among states and hospitals to designate additional hospitals as level II trauma centers).[2]

Access to specialists in the nation's emergency departments has deteriorated. Nearly three-quarters (73%) of emergency department medical directors reported inadequate on-call specialist coverage (Figure 2), compared with two-thirds in 2004.

Figure 2

"Does your ED have a problem with inadequate on-call coverage by specialist physicians?"

Percentage of ED directors who responded "YES"



This problem continues to affect hospitals of all sizes (as measured by emergency patient volume and in all U.S. geographic regions (Figures 3 and 4). In comparing the four major U.S. census regions, the North Central region had significantly fewer hospitals (63%) reporting on-call coverage problems than the South, Northeast and West (81%, 74% and 72% respectively).

The only major region with a statistically significant change between 2004 and 2005 was the South, where 81% of respondents indicated new problems with on-call coverage (vs. 71%). Among respondents, hospital size did not seem to be related to the perception of a problem, but a greater percentage of respondents in urban hospitals (77%) versus rural hospitals (64%) indicated that on-call coverage was inadequate at their hospitals. Of greater concern is that a majority of level I and II trauma centers also cited on-call coverage as a problem (Figures 5 and 6).

Figure 3

On-Call Coverage Problems by ED Volume

"Does your hospital have a problem with inadequate on-call coverage by specialty physicians?

ED Annual Volume (Patient Visits per Year)	2004	2005
< 10,000	53%	56%
10,000 – 29,000	72%	76%
30,000 – 49,999	73%	78%
50,000 – 69,000	68%	72%
≥ 70,000	66%	73%

Figure 4

On-Call Coverage Problems By Geographic Region

"Does your hospital have a problem with inadequate on-call coverage by specialty physicians?

	2004	2005	
Northeast	71%	74%	
North Central	57%	63%	p=0.001
South	71%	81%	
West	70%	72%	

Fisher's Exact p-values are shown only for statistically significant year-to-year differences

Figure 5

On-Call Coverage Problems by Hospital Location and Size

"Does your hospital have a problem with inadequate on-call coverage by specialty physicians?

(95% Confidence Interval)

	2004	2005	
Rural Hospitals *Not* located in a metropolitan statistical area (MSA)	59% (56 – 62%)	64% (60 - 69%)	
Urban Hospitals Located in an MSA	72% (69 - 74%)	77% (74 - 79%)	p=0.04
Smaller Hospitals < 100 licensed inpatient beds	62% (59 - 65%)	67% (62 - 72%)	
Larger Hospitals ≥ 100 licensed inpatient beds	70% (68 - 74%)	75% (72 - 78%)	

*Fisher's Exact test, two-sided (p-values shown for significant year-to-year differences)

Figure 6

On-Call Coverage Problems by Hospital Trauma Level Designation

"Does your hospital have a problem with inadequate on-call coverage by specialist physicians?"

(95% Confidence Interval)

	2004		2005	
	N	%"Yes"	N	%"Yes
Level 1 hospitals	173	55% (47-63%)	107	57% (47-67%)
Level 2 hospitals	320	69% (64-74%)	212	74% (67-79%)
All others	1,850	68% (65-70%)	1,009	73% (70-75%)

*None of the differences between years are statistically significant

Survey respondents also were asked about other changes in their emergency departments related to the adequacy of coverage by specialists. Fifty-one percent reported deficiencies in coverage occurred because specialists left their hospitals to practice elsewhere. The top five specialties cited were orthopedics, plastic surgery, neurosurgery, ear nose & throat, and hand surgery. Many who remain have negotiated with their hospitals for fewer on-call coverage hours—42% in 2005 compared with 18% in 2004—(Figures 7 and 8).

Figure 7

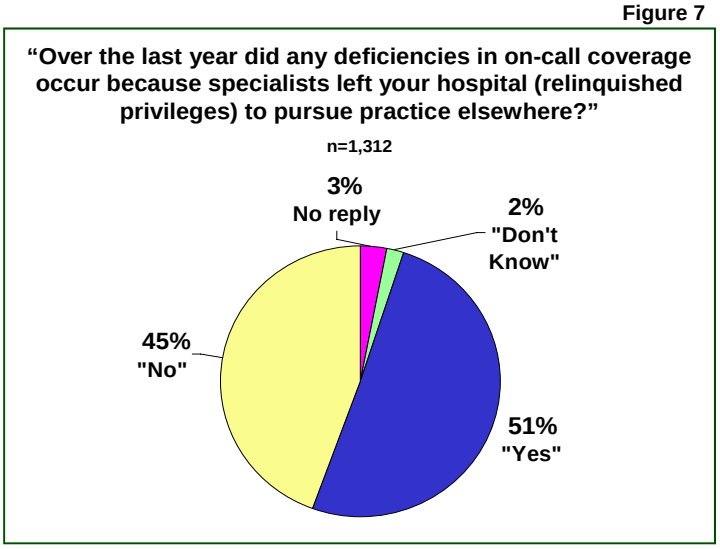
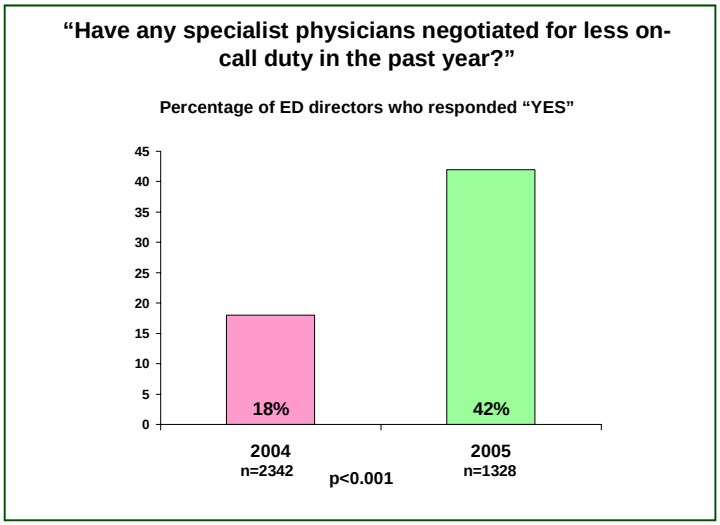


Figure 8



Another strategy that hospitals have employed to keep specialists on call is to pay stipends whether or not they actually see patients. Thirty-six percent noted their hospitals were paying stipends compared with eight percent in 2004. This may reflect increased awareness among emergency physicians about a growing practice for hospitals in many areas of the country, particularly the West Coast (Figures 9 and 10).

Figure 9

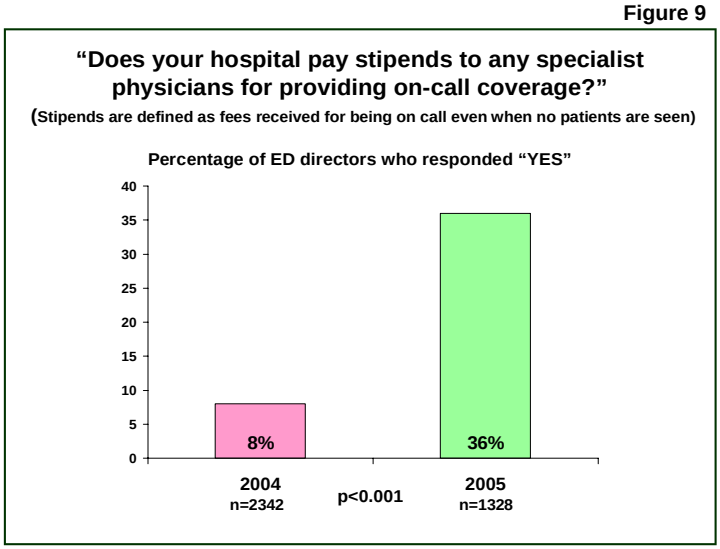


Figure10

Stipends By U.S. Major Census Region 2005*

Region (Number of responses)	# "YES"	%	(95% CI)
West (n=296)	156	53%	(47-59%)
South (n=386)	136	35%	(30-40%)
North Central (n=353)	109	31%	26-36%)
Northeast (n=274)	74	30%	24-36%)

*Percent of ED directors who indicate their hospital pays stipends to specialists for on-call coverage

General surgeons top the list of specialists receiving stipends (Figure 11). Despite the inducement of stipends, emergency physicians say they continue to spend more time seeking specialists to come to the hospital to care for emergency department patients, further straining resources (38% vs. 33% in 2004). (See Figure 12). An even more serious capacity issue for a growing number of emergency departments was the number of patients who are admitted, but no hospital bed was available for them, so they remained in crowded emergency departments. This ties up staff and resources to care for additional patients, a practice called "boarding." It was defined in this study as any admitted patient who remained for more than four hours in the emergency department waiting for an inpatient bed.

Figure11

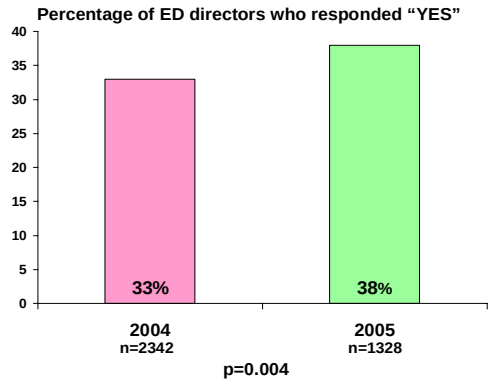
"Does your hospital pay stipends to any specialist physicians for providing on-call coverage? Which specialties?"
(Stipends are defined as fees received for being on call even when no patients are seen)

n=1,072 (year 2005)

Specialty	Number	%	(95%CI)
General Surgery	265	25%	(22-27%)
Orthopedics	210	20%	(17-20%)
Neurosurgery	174	16%	(14-19%)
OB/Gyn	126	12%	(10-14%)
ENT	79	7%	(6-9%)
Ophthalmology	69	6%	(5-8%)
Plastic Surgery	64	6%	(5-8%)
Psychiatry	60	6%	(4-7%)
Hand Surgery	54	5%	(4-7%)
Vascular Surgery	47	4%	(4-6%)
GI	39	4%	(3-5%)

Figure 12

"Over the last year, are your ED physicians & staff spending more time placing calls to reach specialists who are on call for your ED?"



In three-quarters of sampled hospitals, patients were boarded on a daily basis, and for 16% of respondents, the number of boarded patients averaged more than 10 per day (Figure 13). This situation has worsened since the Government Accounting Office surveyed hospitals in 2002, and it may become a more serious threat to quality and patient safety.[3]

Figure 13

"Over the last month in your ED, what was the average daily number of 'boarded' patients?"

Boarded patients are defined as those who waited more than 4 hours in the ED after being admitted before they are transferred to a room.

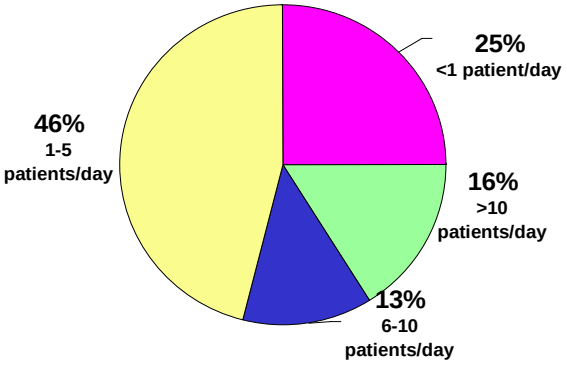
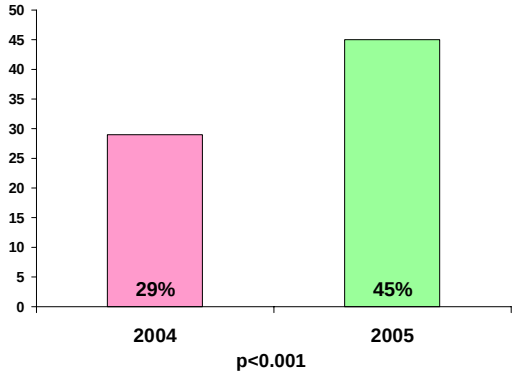


Figure 14

"Is the number of *patients who leave your ED* prior to being seen by a physician increasing?"

Percentage of ED directors who responded "YES"



At the other end of the spectrum, 45% of respondents indicated that more patients leave crowded emergency departments before being seen by a physician, compared with less than 30% in the previous survey (Figure 14).

The transfer of patients between hospitals occurs primarily when a higher level of care is required and not available at the sending hospital. While many cases require a higher level of care in the form of teams of physicians and ancillary staff, equipment and other resources, certain patient transfers may occur only because access to a single specialist is needed. An increase in the volume of inter-hospital patient transfers also may be a symptom of inadequate on-call specialist availability.

Survey participants were asked about increases in the volume of patient transfers both from and to their hospital. Overall, fewer respondents indicated that the number of transfers from their facility to another hospital was increasing in 2005 (33% compared to

39% in 2004, p=0.002). Despite this change, however, significantly more respondents reported an increase in the number of patients transferred to their hospital in 2005 (25% versus 20% in 2004, p=0.002). When queried about their experiences with these transfers, a majority of emergency department directors at level I trauma centers agree that at least 1 in 10 patient transfers they receive is inappropriate and could have been managed at the sending hospital. Two-thirds of emergency department directors in level I and II trauma centers say that over half of all patient transfers are made because of lack of timely access to specialty physicians at the sending hospital.

Figures 15 and 16 depict increases in patient transfers according to emergency department size and hospital trauma level designation. One unexpected finding is the large proportion of level I trauma centers in both 2004 & 2005 (21% and 20%, respectively) where the number of patient transfers out to another center is reportedly increasing. Together with data from Figure 6, this result suggests that access to specialists is threatening the care of patients not only at community hospitals but also at the most sophisticated centers in the country.

Figure15

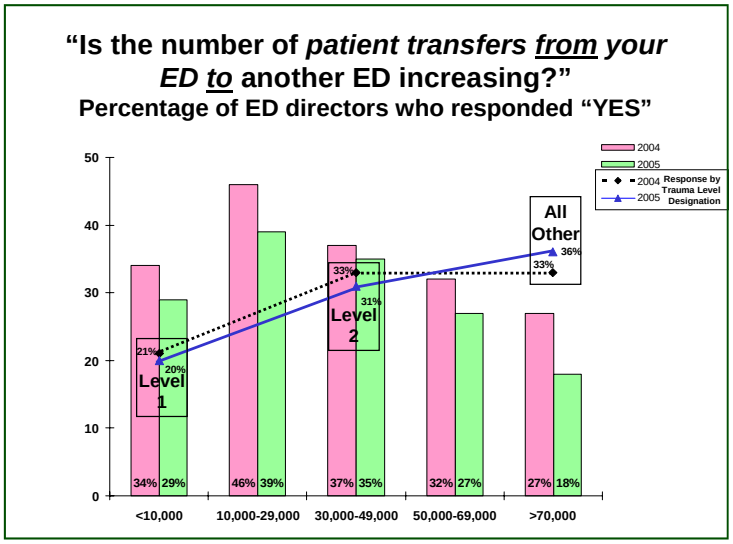
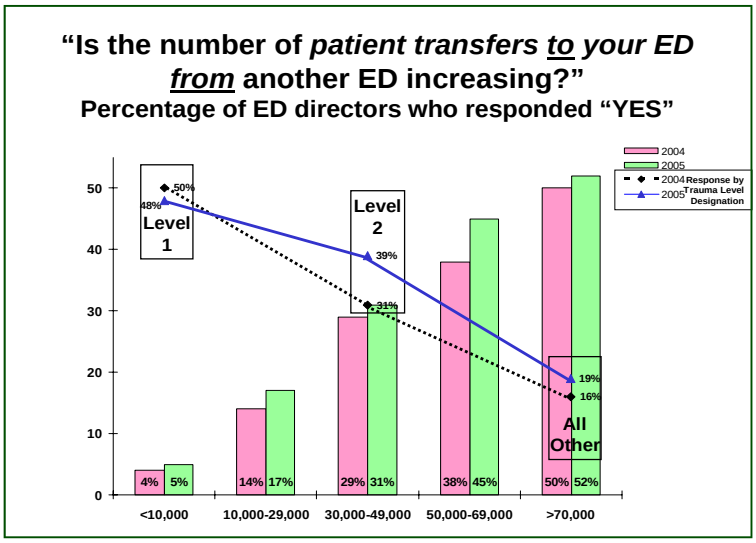


Figure16



CONCLUSIONS

The continuing erosion in the availability of medical specialists in the nation's emergency departments is growing and symptomatic of a much larger problem with the current health care delivery and payment system. While a large majority of specialists continue to see new patients and participate in the Medicare program, they are less willing to cover the nation's emergency departments. The survey findings reflected a significant downward spiral, with nearly three-quarters of emergency department medical directors citing problems in 2005. As the Centers for Disease and Control and Prevention (CDC) has reported overall emergency department use continues to grow, and the elderly population of emergency department users, who have the largest share of serious emergency medical conditions, is about to soar as baby boomers reach Medicare age. The CDC forecasts that this group will fuel demand for more specialty care in the emergency department. In a new study on the growing number of elderly patients who arrive at emergency departments by ambulance, the CDC documents how ambulance diversions to other hospitals due to crowded emergency department conditions reduces patient access to timely care.[4] The CDC forecasts increased use of ambulance transportation to emergency departments by the elderly and a high level severity of medical problems in this segment of this population. Since it is clear the large majority of emergency departments are operating above capacity on a daily basis, the additional demands of an aging population will not bode well for timely access. More daunting is the need for bioterrorism and pandemic flu preparedness that cannot begin to be met with current resources.

The results of this second survey quantify the effects of a few aspects of an increasingly complex set of health system issues that affect availability of timely emergency care services all over the country. Responsibility for on-call coverage remains with the nation's hospitals, but despite increased financial incentives offered by hospitals, the services appear to be falling short of the need for coverage. The factors driving this complex problem — reduced health insurance coverage, reduced federal and private funding, and ongoing medical liability concerns — must be addressed at the federal level. National discussion of the on-call dilemma is taking place at the EMTALA Technical Advisory Group among experts appointed by the Secretary, DHHS. This public discussion is an important first step, but much work remains to be done to provide an adequate network of emergency services for everyone.

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