Best Practices
Emergency Department Crowding & Ambulance Diversion

Introduction

The problem of emergency department crowding and ambulance diversion has been well documented by more than 100 newsprint articles, television and radio programs, and medical journal articles in just the last year alone. While illustrating the problem, and in some cases the issues, few have addressed real solutions.

The Arizona College of Emergency Physicians (AzCEP) represents nearly 400 emergency physicians in Arizona and our national organization more than 22,000 across the country. Along with emergency nurses, we are the ones on the front line of this crisis and the ones that must live day and night by the policies made at the departmental, hospital administrative, regulatory, and legislative levels.

We cannot express the depth of the desperation we are hearing from our fellow emergency physicians in Arizona and across the country. As a direct result, there have been several emergency physicians in Arizona retire early or choose alternate careers in just the last few months alone. Others with long and distinguished careers are finding their livelihoods jeopardized over this issue. The mantra “desperate times call for desperate measures” has become the battle cry on the front lines.

In response to this, AzCEP released the following position statement Dec. 6, 2000:

The Arizona College of Emergency Physicians hereby goes on record as stating that the emergency physician community has lost confidence in the emergency healthcare infrastructure in Arizona and that current resources supporting emergency care are inadequate to meet the needs of all patients at all times.

Long-term solutions including additional healthcare funding, more capacity infrastructure, better resource utilization, resolving the nursing shortage, and primary care network restoration, etc. are certainly needed. In the meantime, we must resort to measures we feared, but hoped we would never have to use.

The following suggestions are intended to simply raise awareness of potential solutions that have been shown to be beneficial. We realize some of these ideas may not be popular with certain stakeholders, but we believe the time has come to do what must be done no matter how unpopular it may be. The “low hanging fruit” has already been pillaged in healthcare and the easy solutions have been exhausted.

It is time to do the things we “never wanted to do”. Once we accept that reality, we can begin to manage this emergency care crisis.

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Pre-Hospital EMS Best Practices

[Note: Many of the ideas in this section have already been implemented in the Phoenix and Tucson areas. They are reiterated here only for completeness.]

Regional Information Management Systems

1. **EMSystem** is an excellent example of a web-based tool that can help to manage hospital diversion status and collect information for future planning. It is already installed in the Phoenix and Tucson areas. The information collected from this system must be made available to the agencies responsible for planning and disaster management if it is to reach its full potential.

Regional Diversion Saturation Override

1. **Rotational patient distribution** (except as noted under “special circumstances” below): Once a region or sub-region has become saturated with hospital diversions and hospitals are forced to open back up to ambulance traffic, a system to rotate patients between the hospitals would help to “load balance” the effect. Irrespective of this “load balancing”, once hospitals have been forced into this situation there must be a plan at each hospital to deal with the crisis and to relieve the underlying cause of the resource limitation as soon as possible.

2. **Specialty care (i.e. trauma, pediatric) diversion plan**: Hospitals with special capability should be even more vigilant in assuring that every available resource is utilized before declaring diversion for those specialized services. Allowances must be made in any diversion plan to assure these vital resources remain available at all times.

3. **Declaration of regional saturation plan, including contingencies for multi-sub-region saturation**: Contingencies for such a situation remain uninvestigated. The appropriate agencies should move toward developing plans to deal with the situation when every sub-region is saturated and on diversion override.

4. **Diversion override management**: Many of the best practices covered in the following sections apply when hospitals are forced into diversion override. Common sense dictates that such a situation rises to the level of an “internal disaster” or some other similar designation of a critical situation. Therefore, hospitals should have special contingency plans in place to deal with diversion override, as it will have impact on the sub-region or entire region, as well as on patients arriving or already in the ED.

Special Circumstances Diversion Override

1. **Critical patients in close proximity to hospitals already on diversion**: Current diversion plans already address this situation, but tracking and follow-up to assure compliance is crucial to its success.

2. **Recently discharged patient (i.e. less than two weeks)**: There may be situations in which a patient recently discharged from a hospital that is currently on diversion would greatly benefit from an override for that one patient. Sending such patients to a different facility significantly delays care and disrupts established patient-physician relationships.
Hospital Best Practices

Regional Information Management Systems

1. **EMSystem** has proven to be an excellent web-based tool to manage hospital diversion status. A natural extension would be to use a similar system to manage in-patient bed status for area hospitals. Posting of bed availability would help other hospital EDs and primary care physicians in need of specialized services, patient placement, and transfer coordination. The information collected from this system must be made available to the agencies responsible for planning future resource needs of the community if it is to reach its full potential.

2. **Regional Specialty Care Coordination & Transfer Coordinator**: As resources become limited and concentrated to smaller numbers of hospitals (i.e. certain specialties – ophthalmology), we must develop ways to expeditiously access that care when needed. Having a patient bleed to death from a ruptured abdominal aneurysm while the emergency physician “shops” for a vascular surgeon when multiple referral centers are on diversion is not acceptable. Such contingencies must be planned for and a regional transfer coordination system would be helpful.

Hospital Resource Saturation


   - Increase staffing, open any unstaffed critical care beds
     - ED patients given priority over “elective” admissions
     - Inpatient unit accommodation of “excess” patients
     - Use of ancillary units (hospital PACU, outpatient surgery PACU)
   - Evaluate inventory of equipment and supplies
   - Request ambulance diversion from EMSystem
   - Early transfer of patients to extended care facilities or to home as appropriate
   - Eliminate elective surgeries and diagnostic procedures (AZ Adm Code: R9-10-213)
   - Transfer critical care patients to step-down or other beds as appropriate
   - Media release discouraging non-emergency visits
   - Activate emergency preparedness plan
   - Local proclamation of disaster
   - State proclamation of disaster
   - Federal proclamation of disaster

2. **“Hospital Resource Utilization Czar”**: A person with a working knowledge of the entire hospital and particularly the ED is given authority over staffing, hiring/firing (human resources), equipment, budget, etc. necessary to deal with the resource limitations from a global hospital perspective. Such a program was instituted at University Hospital at the University of Arizona, Tucson. In 18 months, the crisis situation was mitigated, the ED for the first time was profitable, and patient satisfaction increased to unprecedented levels for peer hospitals. The results of the program will be published in the Annals of Emergency Medicine Spring 2001. [For more information contact: Daniel Spaite, MD, Director of Emergency Services, University of Arizona Health Sciences Center. Phone: (520) 626-7957 or dan@aemrc.arizona.edu]
3. **“Code Help”:** This system mobilizes the entire hospital’s resources to help mitigate an ED saturation situation. Hospital administrators, clerical staff, etc. are enlisted to assist in the ED and view what’s going on. Provisions include dedicated transporters (including administrators), chief medical resident making rounds on all patients and a hand count of floor patients to help identify beds. [Mark Pearlmutter, MD – Boston, MA] *(Supplement B)*

4. **“Crisis Labor Pool”:** A pool of employees from every department in the hospital (secretaries, maintenance, billing clerks, managers, etc.) not already involved in patient care willing to help when certain saturation parameters are reached. Anyone that would be willing to leave their desk or station and come to a patient area and help deliver meals, make beds, transport patients, etc. The current volunteer system might also be used for this purpose, but extended further into the community with volunteers on-call. [Herb McReynolds, MD - ED Medical Director, St. Mary's Hospital, Tucson]

5. **“Alternative Care Areas”:** Identify other areas within the hospital for temporary holding of patients and deploy nursing personnel from the floors to help care for the more acute patients with alternate/volunteer staff to help with the more mundane but necessary tasks. Similar to an internal disaster, but a more voluntary team that could be triggered more routinely when necessary. [Herb McReynolds, MD - ED Medical Director, St. Mary's Hospital, Tucson]

6. **Spanish Translators:** Support for translators so that workups could be shortened and referrals facilitated. [Sue Nedza, MD - Chicago, IL]

7. Working with local long-term care facilities to speed up the process of admission. [Sue Nedza, MD - Chicago, IL]

8. **Admission Issues:** A team of nurses, CNAs or medical technicians available during the peak admission times. The team takes the patient from the ED and gets all the admission paperwork, orders started, families settled etc. This is done when the primary in-patient nurse is busy and unable to take the patient. They also coordinate with the nursing supervisors to make sure that beds are open on the unit. [Diana S. Contino, RN, MBA - Emergency Management Systems, Inc. – San Diego, CA]

9. **Discharge Issues:** Early discharge planning is often lacking. A team (attending physician &/or resident, nursing supervisor, social services) is responsible for identifying patients who should be going home in the morning. Discharge orders are written in advance, prescription medications are filled, social services, home care readies the necessary equipment, referrals and follow-up appointments are made. The family participates in the discharge education and is aware of the discharge the night before so that the patient can go home after physician rounds at 8am. [Diana S. Contino, RN, MBA - Emergency Management Systems, Inc. – San Diego, CA]

10. **"Patient Educator Program”:** Patient education is a very time consuming process. Experienced nurses work 8a-4p and 2p-10p with the responsibility of educating all patients and documenting the education and progress, standardizing the education for the unit and sharing it with the rest of the hospital, training new nurses how to educate patients. This has been an extremely effective program because the patients are more knowledgeable about their condition, they are ready on the day of discharge and the physicians have reported that the education is correct, the patients are more compliant with taking medications and treatments/exercises etc. [Diana S. Contino, RN, MBA - Emergency Management Systems, Inc. – San Diego, CA]
11. **Attending Physician Issues**: Attending physicians must be incentivized to complete rounds on patients early, write discharge orders the night before when possible and allow the nursing staff to proactively involve social services, home care etc. The admission and discharge process needs to be easy. [Diana S. Contino, RN, MBA - Emergency Management Systems, Inc. – San Diego, CA]

12. **Ideas that don’t seem to work:**
   - **Discharge holding areas**: Staffing is an issue, monitoring patients, feeding patients etc. is a problem. The nursing shortage has left many facilities with the lack of staff to maintain this kind of unit.
   - **Admitting holding units**: Many complain this just delays the process. They ultimately turn their holding areas into admission units rather than focus on getting the patient where they need to be in the first place. [Diana S. Contino, RN, MBA – Emerg. Management Sys., Inc. – San Diego, CA]

13. **EDs Crowded with Inpatients**: This is an inpatient problem, not an ED problem. When we have to put an ED patient in the hallway, we are officially over census, and the bed czar or ADN on duty assigns admissions to inpatient hallway beds (including telemetry). Patients are distributed to the floors (1-2 patients per ward). This unburdens the ED and keeps us open and able to care for incoming patients. ICU patients obviously can't be put in a hallway so are still problematic. Over time, this has become second nature and a part of the culture. It has been amazing how quickly beds are being found for patients who previously would have waited more than 12 hours in the ED for a bed. Inpatients have become the inpatient services problem and so resources are directed appropriately to solving the real problem. [Peter Viccellio, MD - Vice Chair ED, School of Medicine SUNY - Stony Brook, NY]

14. **“Ten High Leverage Strategies For Improving ED Flow And Capacity”**-The Abaris Group (Suppl. C)

   (1) Establish a state-of-the-art Fast Track.
   (2) Match staffing to demand.
   (3) Reduce unnecessary utilization.
   (4) Synchronize the delivery system.
   (5) Reconnect the ED to the hospital system.
   (6) Establish a realistic relationship between the ED physician and private physician.
   (7) Expedite the ED as a transition point.
   (8) Establish customer service initiatives at the patient, staff and medical staff levels.
   (9) Establish short and long-term physical plant changes in the ED.
   (10) Develop and reinforce performance standards for the ED.

15. **Ancillary in-patient units** (temporary mobile home-like structures often used for temporary office space or classrooms) could be set up during the busy seasons to handle patient overflow.

16. **Mobile urgent care** (RV-like vehicle) or even an **ICU on wheels** (semi-truck like those used for mobile CT/MRI scanners) that could be dispatched to hospitals in times of crisis to help handle the overload.

17. **State of New York, Department of Health** – December 11, 2000 letter (Supplement D)


19. **National ACEP Policy Statements** [These documents are not necessarily endorsed by AzCEP] (Supplement G):
   - Boarding of Admitted and Intensive Care Patients in the Emergency Department
   - Ambulance Diversion
Community Health Resources

Primary Care Network

1. Increase awareness of need for accommodation of same-day urgent appointments.  
   *(See Supplement F: American Medical News - January 29, 2001)*

2. Primary care extended hours on weekdays and weekends during peak influenza season.

Urgent Care Centers

1. Alternative sites for medical care, such as urgent care centers, have often been touted as a solution for hospital ED crowding. In many regions these are little more than “periodic” care primary care offices used by those who do not have an established physician. Providing more than basic “office” type care in these centers can be as or more expensive than hospital EDs due to resources necessary to be a “full service” emergency care center. Nevertheless, there are good examples where these centers service their communities well (e.g. West Valley Urgent Care).

2. Most urgent care centers are not regulated and have no obligation to see patients without a guarantee of payment. Expanding these services may simply shift “paying” patients away from hospital EDs and further burden them with indigent care.

Free Clinics

1. Expanding access to health care for the indigent population may alleviate some of the burden on hospital EDs, but since emergency care is self-directed, education would have to be an integral part of such a system.

2. Such systems represent long-term solutions to the overall healthcare access issues and would do little in the near term to alleviate ED crowding.

Hospital Public Health Information Campaign

1. Health education for current patients (and future patients who will contract the flu while in the waiting area) about common illnesses and home treatment utilizing video and print media.

2. Promote the use of primary care resources instead of EDs for routine care.  
   *[Jeff Hudson, Phoenix Baptist's Hospital]*

Hospital Nursing

This is undoubtedly the most critical aspect of the current crisis. Ideas include:

1. Government policy initiatives such as tax credits, student loan forgiveness, scholarships, public information campaigns, etc.

2. Hospital human resource departments must adopt a new culture in hiring and in nurse retention. Money is simply not enough and adopting techniques used in other industries is imperative. Onsite 24 hour well and sick childcare, perks (on-site health clubs, better food service, stress reduction programs – massage), guaranteed regular work breaks, etc.
Global Regional Disaster Plan

1. Crises such as this must be managed at multiple levels starting with pre-hospital providers (AEMS/SAEMS), individual hospitals (AzHHA), and finally state (ADHS) and local governments (e.g. County Health Departments). AEMS/SAEMS and AzHHA have done a considerable amount of work dealing with the areas within their jurisdiction and their efforts are ongoing. To date, little has been heard from the state and county levels.

2. State and county agencies need to address these issues from a “top down” perspective and develop workable plans for when total saturation occurs in a region (i.e. all 3 Phoenix sub-regions or 2 Tucson sub-regions). These might include:
   - Identify temporary alternative medical beds (e.g. excess nursing home capacity, outpatient surgery centers, and other licensed facilities).
   - Identify and plan for using resources of last resort such as the American Red Cross, the National Guard, and the Federal Emergency Management Agency (FEMA).

Regional, State, & National Healthcare Policy

As a stark example, the current energy crisis in California is, at least in part, due to a lack of a national/state energy policy. Ultimately, Texas may be the only state protected because they maintain their own power grid isolated from the rest of the U.S. and have managed the need for power in such a way as to assure its future availability.

One can surmise that the current crisis in available hospital beds and emergency care is due, at least in part, to a similar failure to properly manage the necessary resources to meet current and future demand in healthcare. As a result, we have been experiencing “rolling blackouts” in available emergency care for the last several weeks.

In contrast, Arizona’s state, regional, and local transportation planners have pooled their efforts to plan for mass transit and highway improvements to meet the needs of our growing population. Even direct initiatives by the people have been utilized to approve sufficient funding for schools, transportation, sports complexes, and AHCCCS. Similar steps must be taken to plan for sufficient future resources for essential healthcare services (ambulance/emergency care) & hospital infrastructure (beds and specialized care such as trauma, pediatrics, ICU, etc.). For example, a recent study by AzHHA demonstrated the critical need for additional pediatric hospital resources, particularly in the West Valley. Should efforts to convince our state and local government to meet these needs fail, perhaps it would be prudent to involve the citizens of Arizona in an initiative.

Government’s Role

The state (ADHS or another agency) &/or county governments need to routinely monitor and plan for the future healthcare needs of Arizona. Population based studies can easily dictate the needed number of hospital beds and emergency services necessary to meet the needs of our expanding population.

No one is suggesting a return to the days of “Certificate of Need”, but quite the contrary. That system was designed to prevent excessive spending on “unnecessary” healthcare services. What we are suggesting is that there is now a role for government to develop policy, including financial and other incentives, to assure that necessary healthcare services will be available to meet the current and future needs of the citizens of Arizona. Such policy is not without precedent in other industries and it is time to apply these same principles to healthcare.
Appendix A

INDIVIDUAL HOSPITAL RESPONSE STRATEGIES FOR SATURATION

Hospital saturation response strategies may be implemented within facilities or regional sectors to assist both local emergency medical services agencies and general acute care hospitals.

**Event: ED saturation/diversion**
- Increase staffing, open any unstaffed critical care beds
- Eliminate elective surgeries and diagnostic procedures*
- Transfer critical care patients to step-down or other beds as appropriate
- Request ambulance diversion from EMSystem
- Media release discouraging non-emergency visits
- Activate emergency preparedness plan
- Evaluate inventory of equipment and supplies

**Event: Hospital-saturation/diversion**
- Increase staffing, open any unstaffed medical/surgical/ICU/CCU/Tele beds
- Eliminate elective surgeries and diagnostic procedures*
- Early transfer of patients to extended care facilities or to home as appropriate
- Activate emergency preparedness plan
- Evaluate inventory of equipment and supplies

**Event: Disaster Condition**
- Activate emergency preparedness plan
- Local proclamation of disaster
- State proclamation of disaster
- Federal proclamation of disaster

*Excerpt from Arizona Administrative Code: R9-10-213
“B. 7. The Department recognizes that emergency situations do occur in which a general hospital may temporarily need to exceed its licensed capacity. The medical need to admit patients in excess of licensed bed capacity as indicated by service category as shown on the current license shall be determined by a committee of other organizational structure of the medical staff. During any period in which the hospital’s census exceeds its licensed bed capacity by category of service, it shall suspend all elective admissions to that service until its census is reduced to less than licensed bed capacity of that service category.”

Complete AEMS Guidelines Available At: http://www.aems.org/diversion_guidelines.htm
CODE HELP (H): EMERGENCY DEPARTMENT POLICY

PolicyNo: 111-MS-20

Prepared by: Date of MEC Approval: 4/00
Mark Pearlmutter, MD Date of EMC approval: 4/00
Assaad Sayah, M.D. Date of Board of Trustees Approval:
Joan Vitello, RN, MSN, FAAN

Recommended by: Policy Effective Date: 5/26/00
Mark Pearlmutter, MD Date of Renewal:
EVP/COO Supersedes Policy:
Thomas J. Lynch, M.D. Dated:

Code Help (H) is an internal pre-diversion rapid response to a situation where the Emergency Department (ED) requires additional resources to safely care for patients. Code Help will be initiated for no more than a 4-hour period and then a reevaluation will occur.

POLICY:
1. Charge nurse and ED attending will determine the need for a Code Help according to ED volume and acuity.
2. The ED will notify the on call ED medical director/designee for approval.
3. The ED will page the ED patient Care Manager (PCM) and Nursing Supervisor (ACN) to notify of Code Help.
4. The ED will notify the operator to implement and announce "CODE HELP Emergency Department”.

PROCEDURE:

Mon.-Fri. Days (7:30AM-4:00PM)
1. The VP, Patient Care Services/or designee reports to the ED.
2. The VP, Patient Care Services/or designee assigns a RN to assist in the ED if needed.
3. PCM’s are responsible for ensuring immediate acceptance of patients to respective nursing unit.
4. The Director of General Services or designee:
   • Assigns an extra Transporter to ED
   • Assigns Housekeeping Supervisor to ED
   • Notifies Security
5. The Charge nurse on each med/surgical/psych nursing unit will evaluate bed availability and notify admitting immediately of accurate bed count.
6. The Director of Admitting or designee calls a bed meeting in Admitting notifying all Patient Care Managers/the Chief Medical Resident and Chief Surgical Resident
7. The Chief Residents contact their respective department chairs to facilitate patient discharges and conduct rounds to evaluate patient discharges or transfers.
8. The ED PCM/Charge Nurse or designee calls CSR, Pharmacy, IS etc. as needed.

During Weekend/Holidays/Sat.-Sun./Days and Every Evening (4:00PM-12:00MN)
1. The ACN reports to the ED.
2. The ACN assigns nursing personnel to assist in the ED if needed.
3. A Transporter will be re-assigned to the ED.
4. The Admitting Supervisor reports to the ED and reviews bed availability on weekend day/evenings.
5. The ACN ensures rapid acceptance of patients to nursing unit.
6. The ACN or ED Charge Nurse calls CSR, Pharmacy, Security IS, etc. as needed.
7. The med/surg/psych Charge Nurses will assess bed availability and notify admitting within 20 minutes of accurate bed count.

During Night Shift Code HELP
1. ACN reports to the ED.
2. ACN is responsible for immediate acceptance of patients to nursing unit.
3. ACN assigns a nursing personnel to assist in the ED if available.
4. The ACN will page beeper 1100 if transport is needed.

Supplement B – 1 of 2
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<th>Responsible Party</th>
<th>Goals</th>
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| Chief Medical Resident  
Chief Surgical Resident | Facilitate expected patient discharges. | Contact respective house staff Conduct rounds to facilitate patient discharges. |
| Care Managers  
Physician | Facilitate patient discharges. | To directly contact attending of appropriate patients to facilitate patient discharges. |
| Director/Supervisor of Transport | Prompt deployment of transport. | 1. To assign transporter to ED.  
2. Ensure immediate response to all floor discharges. |
| Director of Hospitality Services | Prompt deployment of housekeeping | To prioritize cleaning of discharged patients bed and room (target will be to clean room within 10 minutes). |
| PCM's/ACN's | Ensures immediate patient acceptance to designate nursing unit. | Alert nursing staff of need to accept ED patients to designated nursing unit. |
| Med/Surg/Psych Charge Nurse | Obtain accurate bed availability. | The charge nurse on each med./surg/psych nursing unit will evaluate bed availability and notify admitting immediately. |
Ten High Leverage Strategies For Improving ED Flow And Capacity
By Mike Williams, President, The Abaris Group

Emergency departments have been suffering from overload and saturation for over a decade. The factors that contribute to this problem are complex and multifaceted but often include:

- Growth in ED visits
- Reduction in the number of ED's
- Out-of-date ED physical designs
- Nursing shortages
- Limits to ED and hospital bed capacity
- Inappropriate use of ED's
- Lack of alternative healthcare resources

The list of contributing factors is growing and will result in further ED overload and saturation unless health care policy makers make significant changes. Within the control of ED managers and directors though are a series of steps and practices that, when followed, will dramatically improve ED flow and capacity.

Poorly designed and operating ED's slow flow, consume excess resources and artificially reduce bed capacity. It is obvious that a patient with a six-hour throughput time consumes more resources and nursing hours than a two-hour patient. Further, the six-hour patient that does not need to be in the ED for the six hours limits that bed availability for two other two-hour patients. Changes to practices and policies can improve flow and thus ultimate capacity.

After considerable study and analysis of trends, our firm has discovered that as few as ten strategies will yield significant results in improving flow and increasing capacity for most ED's. These ten strategies are as follows:

1. **Establish a state-of-the-art Fast Track.**

   Fast tracks, simply stated, are the most effective short-term tool to reducing ED throughput times and increasing capacity. However, many ED's tried and failed at the fast track, quick care or ED urgent care concept in the 1980s. These earlier attempts were designed as a hospital product using the same inefficient hospital procedures, staffing patterns and performance expectations. These problems included overstaffing with high-cost clinical staff (e.g. RNs), poor performance from staff that were in place as evidenced by slow throughput times, and inaccessibility to lab and x-ray services. Simply stated, too costly, too slow and too limited resources to get the job done.

   Lately, as these same fast tracks have come back into vogue, these same mistakes are creeping back into the model. Suffice it to say, many ED fast tracks are really "slow tracks" and need re-engineering to operate as "lean", "mean" urgent-care "fighting machines". The problem is if you take this tool away (or operate a fast track inefficiently) you take away the most potent tool to effectively improve ED capacity.

2. **Match staffing to demand.**

   Industry practitioners have often thought that we could not predict emergencies. But in fact, ED volume ebbs and flows with consistency, albeit with different iterations of peak and slack volumes for each month, each week of the month and each day of the year. We have found that ED physician, nursing and support staffing is often out of "sync" with these changes and therefore not precisely matched to peak volume. Broad attempts at "adjusting for Mondays" is not sufficient to meet the peak-load demands for most ED's. It is also important to adjust ancillary, registration and other support department staff to better meet our peak needs. Matching staffing to demand also means “heading off” rising peak volume during the day rather than responding to it as it occurs.

3. **Reduce unnecessary utilization.**

   Many ED managers and directors begin ED improvement projects by pointing fingers at lab and radiology as the cause of ED delays. This seems to be the cliché for many ED's when it is time to reduce throughput time. However, studies have shown that many of the lab tests and radiology procedures done in the ED are simply not needed or may be overly-ordered to meet the patient's need. One example is the CBC, which is a default test in most ED's and ordered on approximately 50-60 percent of the patients. The CBC is often ordered to confirm a diagnosis but rarely to establish one. In fact, our studies have further shown that most physicians order the CBC but really want the H & H. This lack of precision in ordering adds 45 minutes to an hour for the test results. Utilization of ancillary testing should be carefully studied and procedures should be developed that encourage ordering only when the test is needed to make the diagnosis or to drive treatment.

*Supplement C – 1 of 3*
(4) Synchronize the delivery system.

It is important to establish a focal point for which all other activities fall and then delete, retime and adjust all other activities around that focal point. Most ED practitioners would agree that this focal point is "the time from patient arrival to being seen by the MD". Therefore all other activities should enhance this time. In many ED's, a significant number of traditional ED processes must be reconfigured to better address that focal point. Activities that do not enhance that focus should be retimed or deleted. This includes triage, registration, nurse assessments, etc. We are not recommending eliminating these functions but rather, rethinking and retiming them. For example, a triage process or registration process that ignores that a bed and ED physician are available to see the patient is a problem and yet it is not unusual to put a patient through a 15-minute triage process followed by registration before evaluation by the waiting MD. By the same token, if the staff knows the practice pattern in the ED (this can often be set by protocol) there is no reason why the x-ray, laboratory test, or prep for laceration repair cannot be initiated in anticipation of the ED physician's request if there will be a delay before the MD sees the patient.

One important method to achieve this synchronization is an electronic patient tracking system. Patient tracking systems significantly reduce throughput time by providing visual reinforcement of the patient's status and needs and provide a clearer picture of where the patient stands in the assessment and treatment process. Managing marginal "opportunity time", i.e., the time from when laboratory test results are available to recognition of their availability by the caregiver, has a substantial time reduction impact over a 30,000-50,000 patient volume. One needs to be careful here. Overuse of technology can also be a sin. The new computerized dictation/documentation systems have proven to be cumbersome and time consuming and have absorbed some of the time savings gained in some ED efforts. Template charting and check-box systems are well regarded by many ED's, and have shown to be efficient and cost effective.

(5) Reconnect the ED to the hospital system.

Reconnecting the patient and the ED to the hospital system sometimes means moving hospital processes closer to the patient. An early trend in many ED's was to have the laboratory located in or near the ED. These were called "stat labs". Their use has largely fallen out of favor due to costs and other considerations, but there is a continuing need to have necessary tests closer to the patient. Laboratory and radiology testing in the ED is an important consideration for any ED process, including dedicated capability for the fast track. Without it, ED throughput time will dramatically suffer.

Bedside testing is advocated by many as a solution to slow laboratory turnaround times. Many bedside tests should only take 1-5 minutes but often are 1-2 hours if a traditional hospital lab runs them. Some radiology exams may be safely replaced with substitute methods (e.g. ultrasound) that can be placed within the ED. True, there are often political barriers to overcome but successful ED's have learned to emphasize the performance opportunity for bedside testing (one minute versus one hour) and quality control standards, and let the parent entity (e.g. Laboratory) retain the revenue. If the tests are to be ordered from the traditional departments, it is important to evaluate the processes of timing and reporting of results (e.g. radiologist reading of CT scans) to determine if they are optimized.

(6) Establish a realistic relationship between the ED physician and private physician

Frankly, many of our ED's have become holding areas for our private medical staff who themselves are trying to manage complex schedules and limited resources. The notion of direct admissions being processed through ED's is outdated and inappropriate given that ED's are becoming saturated and diverting ambulances because of such practices. Accepting a private physician's patient so that the physician can "finish his or her office" and then see the patient in the ED is another courtesy that needs to come into question. By the same token, as ED's, we are often not set up to be as responsive to private physician concerns and patient needs as we should be and thus a consultant's request for equipment or medication for a procedure can be a major disruptive event. The ED, collaboratively with private physicians, needs to evaluate the role and mission of the ED and plan and manage based on that role. If the ED must add resources to meet these needs, then so be it. Ultimately the ED may need to say "no" as it cannot reliably provide that service.

(7) Expedite the ED as a transition point.

Probably no problem afflicts ED's more significantly than attempting to move patients to their floor or unit beds. This problem of in-house bed capacity is pervasive and needs the same level of engineering and process review as the ED processes that we have been discussing. However, simple steps such as the "bed ahead" concept where an inpatient bed is ordered at the earliest possible moment (perhaps at triage) to expedite the process has been successful at reducing delays in moving patients to inpatient beds at many hospitals. Faxing the ED report to the floor using a collaboratively-developed patient-report form can also alleviate a number of bottlenecks to moving patients to an inpatient bed.
A clinical decision unit (CDU), often called an observation medicine unit, can have a significant effect on reducing inpatient admission needs and reducing costs. Recent changes in the way hospitals are paid for outpatient services should not be seen as a large deterrent to providing this service. In fact, it is incorrect to suggest that hospitals are no longer getting paid for "observation medicine" and use this as a reason for not implementing a CDU. True, although Medicare under Ambulatory Patient Classifications (APCs) will no longer pay hospitals separately for this service, payment will still be made for the total services rendered in the ED. That is, the APC payment will be based on all services provided, with the ED and CDU no longer separately compensated as before. However, proper coding, including the maximum use of the full spectrum of codes available for APCs should keep any payment reductions – if any - to a minimum. Separate payment for the ED and CDU will not be paid. Payment to the ED physician for CDU services remains unchanged under APCs.

It is also important to note that CDUs have been shown to significantly reduce costs, enhance clinical services (e.g. rule-out MI protocols) and still remain as a significant decompression strategy for moving patients to an acceptable care level short of admission. It should also be noted that APCs will be phased in over three years and during that time a portion of the hospital's ED payment will still be based on actual costs as it is now, including any additional cost of a CDU. The cost-based payment will gradually be phased out during this three-year period.

(8) Establish customer service initiatives at the patient, staff and medical staff levels.

This step cannot be overemphasized as it is a key driver to all other steps. Poorly organized processes in ED's are a major patient, staff and medical staff dissatisfier. Every step taken to alleviate throughput problems will correspond to logarithmic changes in the customer's perception of the ED. Reducing ED tensions also improves the working environment for RNs with poor working conditions a significant contributor to current nursing shortages.

(9) Establish short and long-term physical plant changes in the ED.

Some ED's will need relatively minor and some will need major physical plant changes. It is not all about "adding beds", since the number of beds needed to achieve appropriate flow will fall dramatically as the efficiency of the department improves. However, simple things like consistency in treatment room equipment and the addition of monitors in rooms will go a long way to assuring that rooms that previously could not be used due to their specialty designation (e.g. psych, OB/GYN, ENT) will be more universal in design and use. Adding monitors to all acute care beds can dramatically improve efficiency. The movement of collateral equipment to appropriate staff member's reach (e.g. printers, fax machines, etc) can be a major time saver and improve flow. However, a more comprehensive redesign cannot be avoided in some ED's. It is important to note that moving poor processes to a new physical plant will not solve the underlying problem.

(10) Develop and reinforce performance standards for the ED.

Documenting your baseline (e.g. throughput times, utilization rates, customer scores) and highlighting improvements is an important force in creating changes in ED behavior. It is important to realize that relatively minor steps will have substantial impact on throughput time and, therefore, capacity. However, many staff members will not appreciate the change unless it is measured and reinforced. The use of progress reports, story boards, and report cards on staff communication walls are important tools for this purpose.

Each hospital should evaluate their own needs, drivers of delays and causes of ED saturation. It is important to know that there are solutions available that do not necessarily require "bricks and mortar" to solve. It is also important to note that many of the contributing factors are not readily appreciated as problems. Therefore the solutions may not appear as being significant. With the right tool kit, ED's can remain as accessible and functioning treatment environments to all that are in need.

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The Abaris Group is a consulting firm that specializes in emergency departments and EMS systems and has worked with over 225 ED's across the country assisting them with design, process and product-line issues.

Source: http://www.emedhome.com/archives-data.cfm?ID=news102300&Type=news

Supplement C – 3 of 3
December 11, 2000

RE: Hospital ED Overcrowding

Dear Hospital Administrator:

The intent of this letter is to reaffirm for hospitals the obligations and responsibilities associated with responding to periods of emergency department overcrowding and ambulance diversion. Emergency Department overcrowding is emerging as a national and statewide health issue that requires your full attention.

Overcrowding and diversion can significantly impact ongoing service delivery and negatively impact the quality of patient care services. Diversion-alone is not an effective solution to overcrowding. Hospitals must take steps to develop meaningful solutions to address these issues. Collaboration between hospitals and the pre-hospital providers is necessary. Our mutual goals must be to appropriately respond to community needs and ensure patient safety by promoting quality patient care services and protecting the rights of all patients. - This can only be fully accomplished by working together. Each hospital should take immediate steps to devise and implement a current and appropriate plan for responding to emergency department overcrowding and ambulance diversion.

Hospital Obligations & Responsibilities

♦ Hospitals must assume the responsibility to move patients, who require admission, out of the emergency department. Hospitals must utilize all available inpatient beds in managing admissions from the emergency department. Maintaining admitted patients within the emergency department is not acceptable.

♦ Ambulance diversion is a temporary accommodation for use on a time-limited basis to respond to periods of severe overcrowding. Hospital administration should monitor all diversion practices and decisions. Diversion may be requested only when the acceptance of another patient might endanger the life of that patient or another patient. Hospitals are expected to utilize all available inpatient resources prior to requesting diversion. Repeated or frequent diversion decisions must be carefully reviewed. Trauma centers in conjunction with hospitals, counties, and Regional Emergency Medical Advisory Committees, together assume the responsibility to meet to establish and/or assess the effectiveness of countywide policies and practices in regard to diversion. Strategies to accommodate regional or countywide diversion practices should be discussed, agreed upon and followed.
Emergency department overcrowding is a hospital-wide problem. Hospital administration must be proactive and accountable in addressing overcrowding situations. The hospital’s Chief Executive Officer should frequently visit the emergency department particularly during peak periods to assess staffing levels, monitor patient care services and determine the facility's ability to appropriately respond to all patient care needs.

Plans to utilize facility-wide staffing resources, as in the case of disaster preparedness, should be in place to address periods of peak utilization. Emergency department utilization/volume and the number of admissions from the ED must be tracked to determine trends and identify necessary resources.

Hospitals must put in place monitoring protocols to track and identify length of stay patterns and deviations. Discharge planning activities and particularly patient placement efforts must be handled on a priority basis.

Hospitals should designate an individual(s) to act as a bed monitor to ensure that all available beds are promptly identified and made available for admissions from the emergency department. Such monitors would assume hospital-wide responsibility and facilitate moving patients from the ED to the floors. In periods of peak demand and ED overcrowding, the monitor(s) will coordinate the distribution of patients to the floors to reduce the ED census and provide for the even distribution of admitted patients throughout the hospital. All hospital beds, including all beds with monitors, should be identified and considered in determining bed assignments. As a temporary emergency measure, the use of beds in solariums and hallways near nursing stations should be considered consistent with a facility-wide plan to alleviate ED overcrowding.

Hospitals must evaluate staffing levels on a hospital-wide basis. Regardless of where an admitted patient is located within a facility, staffing, services, privacy, infection control and confidentiality protections must be consistently in place.

To ensure optimal operations and respond to patient needs, emergency departments rely on the availability of staff and immediate access to ancillary support and transport services. Hospitals must assure that ancillary services are available to ED staff on a priority basis to allow for the prompt disposition of patient care needs. Transport services must be available 24 hours per day to meet patient needs and to allow for the timely transfer of admitted patients. Emergency department staffing needs must be assessed on a regular basis to address periods of peak demand and census.

Hospital ED staff should assess average length of time for EMS personnel to effect the transfer of patients arriving by ambulance to emergency department staff. EMS personnel should not be detained in a hospital ED, patient care responsibilities must be transferred promptly to ED staff, and patient care needs met by hospital staff.
**Next Steps**

In considering short-term and long-term solutions to this issue, Department staff will continue to work with hospitals and EMS providers to address emergency department volume and diversion practices. Greater attention will be given to identifying and analyzing ED volume, admissions from the ED, inpatient lengths of stay, discharge planning initiatives and quality indicators. In addition:

- The Department will initiate efforts to monitor diversion practices including the number and frequency of diversion decisions to identify those hospitals and areas of the State which specifically require attention. EMS regional organizations and dispatch centers will be asked to develop a reporting system for the Department on the number and frequency of diversion requests. This information will serve to identify and target problem areas throughout the State for further review.

- An industry workgroup will be convened to develop Best Practice Guidelines for hospitals to use to prevent and manage overcrowding and ambulance diversion.

- Workgroup members will also seek to identify long-term solutions and recommendations to address some of the fundamental challenges faced by hospitals today, including staffing shortages, utilization trends and payment considerations.

**Summary**

The Department looks forward to working together on this important issue. I would encourage you to contact your regional or area office representatives to further discuss this issue and strategies for improvement. Should you have questions or need further information, please contact the Bureau of Hospital & Primary Care Services at (518) 402@003, or the Bureau of Emergency Medical Services at (518) 402-0096, Extension 4.

Sincerely,

Antonia C. Novello, M.D., M.P.H., Dr.P.H.
Commissioner of Health
December 11, 2000

Dear Colleague:

Last December we wrote to you about emergency department diversion of ambulances and provided to you some Best Practice Guidelines for consideration in dealing with the problem. We know that hospitals used the Guidelines to address the diversion issue both in their own institution, as well as in coordinating with other pre-hospital and hospital providers. We appreciate those efforts.

However, the problem continues and our concerns have been heightened. It is apparent that diversion is no longer a seasonal event. In some areas of the state, diversions this past summer were as frequent as the winter of 1999. We feel that further measures may need to be instituted immediately in anticipation of this winter’s influenza season.

In response to our heightened concern about ambulance divisions, the Department of Public Health and the Massachusetts Hospital Association are providing in the attached document further recommendations on measures that hospitals can and should take to both prevent going on diversion and to manage the process more effectively when diversion becomes necessary. These recommended measures build on the Best Practice Guidelines developed earlier.

Please contact either Brad Frenney at the Department of Public Health (617) 284-8401 or Leslie Kirie at the Massachusetts Hospital Association (781) 272-8000 should you have any questions, concerns, or recommendations.

Sincerely,

Howard K. Koh, M.D., MPH
Commissioner
Massachusetts Department of Health

Ronald Hollander
President
Massachusetts Hospital Association
(A) Intra-Institutional Measures: What a hospital should do internally (prevention and planning measures)

- Hospitals should ensure that plans are in place to address community disasters/emergencies, and, that existing plans address the emergency preparedness associated with peak periods of demand. These plans should address measures to take to prevent going on diversion and to minimize and manage diversion when it becomes necessary (see Best Practice Guidelines).

- Where appropriate, institute procedures to get non-emergent patients out of the emergency department and into their treatment areas such as outpatient departments and satellite treatment facilities.

- Establish the staffing of all licensed beds as a priority goal during periods of peak demand.

- For periods of overcrowding, hospitals should have a plan governing admission practices. The plan should:
  - based upon consideration of patient safety and need, give priority for admission to emergency cases from the community and from the hospital's emergency department.
  - include policies around the scheduling of elective surgeries that maximize the capacity to meet the variable demand for inpatient beds generated by patients entering through the emergency department.
  - distinguish between elective surgical care that can be safely postponed and those surgical cases that are urgent in nature.

- Consider rescheduling truly elective surgeries when inpatient beds are needed by higher acuity patients from the emergency department or community.

- Institute procedures that allow for timely and efficient discharge of inpatients to home or appropriate post-acute care facilities.

- Contact the Department when questions arise as to the possibility of increasing staffed bed resources through the temporary use of traditional care units or of previously de-licensed beds.

- Minimize the time that patients remain in the emergency department after the decision has been made to admit or transfer. Ensure, for those patients that are admitted but are awaiting a bed, that care is coordinated with the service to which the patient has been admitted.
• Assure appropriate transfer of patients who have been assessed, stabilized and who need inpatient services when an inpatient bed will not soon be available.

• Consider hiring and/or cross training appropriate staff to expand staffed bed capacity and utilization to meet increased demand.

• Provide flu clinics for staff and prehospital providers and prioritize vaccination to care providers at greatest risk of exposure.

(B) Inter-Institutional Measures: What a hospital should do through cooperative arrangements with other hospitals and prehospital providers

• Develop coordinated diversion policies with ambulance services, regional EMS Councils and other hospitals in your service areas. These policies should focus on reaching agreement around:
  - common definitions and terms (e.g. boarding, saturation, diversion, etc.).
  - measures to be taken prior to requesting diversion of ambulances.
  - measures to minimize the time on diversion.
  - circumstances when a hospital must go off diversion.

• Ensure expeditious transfers of patients from EMS to hospital staff so as to facilitate getting ambulances back in service.

• Cooperate with other service area providers to develop and institute notification system that allow for real-time notification of hospital(s) diversion status.

• Reduce demand for emergency department resources by working cooperatively with health care providers to direct patients with lower acuity to other facilities (e.g. urgent care clinics) that can provide timely and appropriate care.

• Establish agreements and arrangements with other hospitals that facilitate appropriate transfer of patients when the hospital nears saturation.
BEST PRACTICE GUIDELINES FOR HOSPITAL REGARDING AMBULANCE DIVERSIONS

BACKGROUND AND STATEMENT OF PURPOSE

In 1998, the Massachusetts Hospital Association (MHA) published a report and recommendations of a task force convened in response to a dramatic increase in the frequency with which hospitals diverted incoming ambulance traffic from their emergency departments. The report, “Patient Overload and Ambulance Diversion,” focused on three key areas: (1) internal hospital operating procedures and policies; (2) inter-hospital communications and (3) communications between hospitals, pre-hospital providers and the public.

The guidance provided in the 1998 report produced a number of improvements; most hospitals now have diversion policies in place, including policies to triage and to manage bed capacity; and communications between hospitals and pre-hospital providers have improved largely through the coordinated efforts between hospitals and Regional EMS Councils.

Despite the efforts over this past decade, many of the factors that contributed to the problem a decade ago continue to affect hospitals and pre-hospital proved today. In addition, many hospitals have closed and others have reduced staffing and beds, further reducing capacity within the system. The seasonal spike in utilization typically experienced by hospitals in winter months was more extreme the last two years, resulting in ambulance diversions increasing significantly in both frequency and duration. Variation in patterns of seasonal use also have become more volatile. While the utilization pattern was similar statewide not all hospitals shared the same experience. Occupancy rates were also higher during the winter of 1998 and 1999; averaging 75 percent of staffed beds and 79 percent of staffed beds when observation is included. Nearly all the increase was attributed to respiratory illnesses, including the flu, among the very old and very young.

Well over half of our hospitals, statewide, have had to go on diversion at one time or another this year. In one region of the state, virtually every hospital has been on diversion in 1999. That region has experienced a 46% increase in the frequency of diversion so far this year as compared to last year and has seen the total time the region’s hospitals are on diversion increase 63%.

Early in 1999, Howard K. Koh, MD, MPH, Commissioner of the Massachusetts Department of Public Health, in conjunction with the Massachusetts Hospital Association, convened a task force to study the current causes of ambulance diversions and to investigate immediate and long-term solutions to the problem. The task force included representatives from the Massachusetts Medical Society, the Massachusetts Colleges of Emergency Physicians, the Massachusetts Organization of Nurse Executives and the Regional EMS Councils among others.
The Commissioner’s charge to the task force was to develop best practice guidelines for hospitals to use both to minimize the need to go on diversion and to ensure that the system responded in a coordinated and efficient manner when diversion became necessary. Like its predecessor a decade ago, the current ambulance diversion task force recognizes that ambulance diversions are less often a result of a sudden increase in ED census than a response to too few staffed beds elsewhere in the hospital, most commonly in critical care and/or intensive care units.

The accompanying document offers a comprehensive range of best practice principals that hospitals can consider adopting internally and which are meant to promote greater coordination among hospital and pre-hospital providers. These Best Practice Guidelines have drawn heavily from the experience and wisdom of the 1988 MHA Report and the recommendations of the previous task force.
(A) Intra-Institutional Best Practices: What a hospital needs to do internally (prevention and planning activities)

- Develop policies that address the cause for diversion and implement practices that minimize the need for diversion. These policies might include such elements as maximizing bed capacity and other steps internal to each hospital to maximize internal communication. Effective diversion policies may include consideration of triage or rescheduling of elective admissions and/or treat and transfer protocols.

- Maintain a daily bed management and tracking system to facilitate the flow of patients admitted and discharged. This system should allow the identification of the following:
  - Projected discharged
  - Scheduled admissions
  - Transfers out of ICUs to routine beds
  - Projected emergency admissions
  - Available beds by service, including critical care

- Develop diversion criteria and any relevant exceptions within the institution based on institution-specific needs and an analysis of the availability of external resources (e.g., other hospital emergency departments and in-patient services within the service area of the hospital).

- Determine who specifically makes the decisions to initiate a full or partial diversion and the process used for making the decision to divert, including internal and external communication channels. In developing communication channels consider:
  - Other hospitals in service
  - Regional EMS/Pre-hospital providers.
  - Municipal agencies (fire, police, health)
  - Press/Media

- In order to maximize bed utilization, notify the appropriate hospital staff as soon as it has been determined that a potential overload of patients might occur. In addition to notifying key personnel it is essential to alert physicians of the high census and potential shortage of beds.
(B) Inter-Institutional/Service Best Practices: Meet and communicate with other hospitals and pre-hospital transport services BEFORE there is a need for diversion

• Once the plan has been developed internally, meet with other service area providers and pre-hospital transport services to discuss and refine your own plan, and come to a common understanding of what will happen in the event of a diversion.

• Develop coordinated policies (agreements) with other hospitals in the same service area to include:
  - Communications
  - How to manage emergency transports when all are on diversion.

• Develop coordinated policies (agreements) with Regional EMS and EMS providers
  - Defining by agreement how EMS providers shall proceed when there is a diversion
  - Defining by agreement exceptions to diversion
  - Defining by Agreement who makes the decision to override the diversion decision.
  - Defining by agreement the coordination of inter-facility transfers, including bed capability with surrounding network affiliated hospitals.

(C) Communication and Coordination Best Practices: What actually happens once a diversion decision has been made

• Communication diversion decision to other stakeholders
  - Notification of EMS system
  - Notification of other hospitals

• Manage diversion while diversion status is on-going

• Maintain ongoing communication with C-MED system

• Continue to monitor bed and ED capacity and notify C-MED system of any changes in diversion status

• Maintain and monitor data on frequency, duration, and reasons for diversion

• Coordinate media interactions with MHA and DPH

Supplement E – 7 of 7
Same-day appointments catching on with doctors

Physicians say patient satisfaction goes up and no-shows go down, but the transition to an "open access" scheduling system isn't always easy.

By Julie A. Jacob

Imagine this: A patient calls his or her doctor's office for an appointment. The receptionist tells the patient there's an appointment available for 1 p.m. -- today.

That scenario isn't just wishful thinking. In a dramatic shift from booking patient appointments weeks in advance, some physician practices are switching to an "open access" scheduling system in which patients can be seen on the same day that they call for an appointment.

Patients love it because they can get in when they actually are sick.

Physicians say they like it, too, because patients are happier, their productivity has increased, their daily patient load has dropped and revenue has remained stable or has even increased.

Kaiser Permanente pioneered the open access system, also called advance access, a few years ago in northern California. It was developed by Mark Murray, MD, who formerly headed the Kaiser Permanente Sacramento Medical Center's family practice department.

When Kaiser began analyzing its operating procedures in the mid-1990s, it became clear that Kaiser patients hated having to schedule appointments months in advance, said Dr. Murray. Yet nothing that his staff had tried in an effort to whittle down that waiting time -- adding doctors, blocking out time for walk-in appointments, centralizing appointment scheduling -- seemed to help much.

Dr. Murray finally determined that because the waiting time for appointments stayed consistently at two months, "we were roughly matching supply and demand," said Dr. Murray. "But we were two months late."

The solution, he concluded, was to drop advance scheduling, erase the distinction between urgent and nonurgent visits and simply "do today's work today."

"It's a system built around who the patient's doctor is, not on how sick the patient is," said Dr. Murray, who took a leave of absence from Kaiser two years ago to do consulting work on open access scheduling with his business partner, Catherine Tantau, RN. He has consulted with the Institute for Healthcare Improvement in Boston and the Institute for Clinical Systems Improvement in Bloomington, Minn.

Other medical groups that have adopted open access scheduling include Fairview Red Wing Health Services in Red Wing, Minn.; one practice site at the Kelsey-Seybold Clinic in Houston; Dean Medical Center in Madison; and River Falls Medical Clinic in River Falls, Wis.

The system works like this: Patients who call for an appointment are offered one that day. If they cannot make an appointment that day, they are scheduled for the next day. All appointments are scheduled in universal 15- or 20-minute blocks on the assumption that the longer and shorter appointments will balance out.
If the patient's doctor is on vacation that day, the patient is told to call back when the physician returns. If the patient needs to see a doctor urgently, he or she is scheduled with another doctor on that day. Patients who need routine follow-up are told to call the day that they are due for the follow-up appointment.

The transition period can be rough, doctors say, because they have to work extra hours to clear backlogged appointments off the books while simultaneously adjusting to practicing without an appointment book filled weeks in advance.

"Initially there was a lot of skepticism," said Kevin Rossi, MD, chief of family practice at Kaiser Permanente's Bellflower Medical Center in Bellflower, Calif. "It does take a leap of faith to move in this direction. It is a change in what they were doing."

At the Kelsey-Seybold Clinic, the biggest hurdle for doctors was adjusting to the fact that they no longer knew what types of patient appointments they would have each day, said Gerald Isaac, MD, managing physician at a Kelsey-Seybold clinic in suburban Pasadena, Texas.

"Booking everyone on the same day they called was not as scary as not defining [in advance] what patients are coming in for that day," said Dr. Isaac.

Bumpy ride smooths out
But once the bumpy transition period is over, most doctors like the system, say physicians and administrators. At Fairview Red Wing, which switched to open access last May, doctors like the fact that they are more likely to see their own patients because their patients aren't getting frustrated with long waits for appointments, said Alison Page, the group's vice president.

In addition, productivity has gone up, added Page. "We are generating a greater relative value unit per appointment. Doctors are packing more into each appointment."

At the 16-physician River Falls Clinic, revenue has remained stable since the clinic switched to open access last fall, said the clinic's administrator, Jim Miller. The noticeable change, he said, is that physicians are seeing a higher proportion of their own patients and are spending more time with those patients.

At Kelsey-Seybold, canceled and no-show appointments have dropped significantly, said Dr. Miller. "It really has improved our efficiency."

That's also true at Kaiser Permanente, said Rossi.

However, open access scheduling isn't a panacea for every situation, doctors note. At Kaiser Permanente, for instance, doctors who see a lot of elderly patients are having trouble making the switch to a same-day appointment system.

"Elderly patients don't want to wait until that day to make an appointment ... you can't plug this into every practice and make it work," said Dr. Rossi.

Open access scheduling also requires careful monitoring of the number of patients who call each day to make sure that the number of physicians consistently matches patient demand, said Dr. Rossi.

Health care consultant Kevin Sullivan of Sullivan/Luallin in San Diego agreed that it's not a universal solution for every problem that a medical practice faces. "It addresses one issue, patient access. There are many other issues that need to be addressed in coming years."

Supplement F – 2 of 2
Boarding of Admitted and Intensive Care Patients in the Emergency Department

Policy number 400294
Approved by the ACEP Board of Directors October, 2000

Optimal utilization of the emergency department (ED) includes the timely evaluation, management, and stabilization of all patients presenting to it. The Emergency Department should not be utilized as an extension of the intensive care and other inpatient units for admitted patients, as this practice adversely affects quality of care and access to care. Emergency physicians, hospital administrators, EMS directors and community leaders should work together to resolve this problem. In order for the ED to continue to provide quality patient care and access to that care, ACEP believes that:

- Hospitals have the responsibility to provide quality patient care and optimize patient safety by ensuring the prompt transfer of patients admitted to inpatient units as soon as the treating emergency physician makes such a decision. The hospital regulatory and accrediting bodies should mandate this prompt transfer as one of their standards.

- Emergency physicians should work with their administrators, nursing director, and EMS medical director to develop a workable plan to achieve the prompt transfer of admitted patients to inpatient units.

- Hospitals should have staffing plans in place that can mobilize sufficient health care and support personnel to meet any increased patient needs at any time of the year. The hospital regulatory and accrediting bodies should mandate this standby plan as one of their standards.

- Hospitals should develop appropriate mechanisms to facilitate availability of inpatient beds that could include accessing other monitored beds, use of discharge waiting areas, and prompt discharge to skilled nursing facilities as appropriate. The hospital regulatory and accrediting bodies should mandate bed availability planning as one of their standards.

- Emergency physicians should work with their hospital to monitor and improve the use of limited inpatient resources.

- Staffing ratios applicable to other specialized areas/units of the hospital should apply equally to the ED to assure that patients receive a consistent standard of care within the organization.

- Hospitals and emergency physicians should work together to ensure the prompt availability of inpatient services so as to not jeopardize the community's emergency departments, EMS Services, and their community's health care safety net.

- Mutual aid and transfer agreements should be in place to assist any hospital that is unable to meet the emergency and intensive care needs of their community.

- Hospital diversion should be instituted only when internal resources have been exhausted and other community facilities have resources available to meet the needs of patients presenting to their facilities. EMS systems should develop mechanisms to address patient diversion by health care facilities utilizing the ACEP policy on Ambulance Diversion.

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Supplement G – 1 of 2
Ambulance Diversion

As an adjunct to this policy statement, Emergency Medical Services Committee has prepared a Policy Resource Education Paper (PREP) titled "Guidelines for Ambulance Diversion."

Policy number 400205
Approved by the ACEP Board of Directors January, 1999

This policy statement was prepared by the EMS Committee and replaces the statement, "Ambulance Diversion/Destination Policies," approved by the ACEP Board of Directors November 1991.

The American College of Emergency Physicians (ACEP) believes that each EMS system must develop mechanisms to address patient diversions by health care facilities. These mechanisms must include the establishment of diversion policies for the EMS system that include agreements between facilities regarding when to divert patients and when to accept diverted patients. These cooperative agreements between hospitals and out-of-hospital agencies must be designed to:

- Identify situations in which necessary hospital resources are not available and temporary ambulance diversion is required.

- Notify EMS system personnel and providers (out-of-hospital and hospital) of such occurrences.

- Provide for the safe, appropriate, and timely care of patients who continue to enter the EMS system during periods of diversion.

- Notify EMS system personnel and providers (out-of-hospital and hospital) immediately when the situation that caused the diversion has been resolved.

- Explore solutions that address the causes for diversion and implement policies that minimize the need for diversions.

- Provide for the periodic review of policies and guidelines governing diversion.

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ABSTRACT

Objective: To describe the definition, extent, and factors associated with overcrowding in emergency departments (EDs) in the United States as perceived by ED directors. Methods: Surveys were mailed to a random sample of EDs in all 50 states. Questions included ED census, frequency, impact, and determination of overcrowding. Respondents were asked to rank perceived causes using a five-point Likert scale. Results: Of 836 directors surveyed, 575 (69%) responded, and 525 (91%) reported overcrowding as a problem. Common definitions of overcrowding (>70%) included: patients in hallways, all ED beds occupied, full waiting rooms >6 hours/day, and acutely ill patients who wait >60 minutes to see a physician. Overcrowding situations were similar in academic EDs (94%) and private hospital EDs (91%). Emergency departments serving populations ≤250,000 had less severe overcrowding (87%) than EDs serving larger areas (96%). Overcrowding occurred most often several times per week (53%), but 39% of EDs reported daily overcrowding. On a 1-5 scale (±SD), causes of overcrowding included high patient acuity (4.3 ± 0.9), hospital bed shortage (4.2 ± 1.1), high ED patient volume (3.8 ± 1.2), radiology and lab delays (3.3 ± 1.2), and insufficient ED space (3.3 ± 1.3). Thirty-three percent reported that a few patients had actual poor outcomes as a result of overcrowding. Conclusions: Episodic, but frequent, overcrowding is a significant problem in academic, county, and private hospital EDs in urban and rural settings. Its causes are complex and multifactorial.

Key words: emergency departments; overcrowding

INTRODUCTION

EMERGENCY departments (EDs) provide an extraordinarily important public service mission by providing emergency care 24 hours a day, 365 days per year without discrimination by social or economic status. Of the nation's 5,000 EDs, all have a physician physically present on the premises at all hours who can attend to patients with acute and chronic injuries and illnesses. One of the key foundations of EDs is the ability and expectation to provide immediate access and stabilization for those patients with medical emergencies. Recently there has been increasing discussion regarding the ability of EDs to provide timely care to patients with emergency medical conditions. This compromise in care is often attributed to the overcrowded conditions that have developed in EDs across this country. Anecdotal evidence suggests that many private, academic, and county EDs in both urban and rural communities are frequently experiencing significant delays in patient care compared with many years ago, when overcrowding occurred primarily in inner-city EDs on weekend nights. One state health department has investigated conditions responsible for prolonged waits and poor outcomes for patients in EDs.
Although overcrowding has frequently been the topic of discussion among emergency physicians (EPs) throughout the years, few documented studies have investigated this phenomenon on a national level. Documentation of overcrowding has generally been limited to photographs of congested EDs combined with anecdotes rather than empirical data. Eight to ten years ago overcrowding in EDs was described in some metropolitan academic centers.\textsuperscript{5,6,7} A number of articles in the lay press addressed the problem, but legislative remedies were not forthcoming. In 1990 a major, national news magazine focused on ED overcrowding as a detailed cover story.\textsuperscript{9} In the ensuing years there appeared to be less publicity on the issue of overcrowding, and this may have been related to internal improvements in many hospitals. From 1990 through 1998 there was a significant increase in emergency medicine residency training programs, which may have helped the overcrowding situation in some academic hospitals.\textsuperscript{10} Some hospitals attempted to enlarge and modernize their EDs in an effort to provide better service.

Despite scattered efforts in the early 1990s to alleviate this problem, we believe that overcrowding has once again become a national issue. In order to test this hypothesis, we conducted a nationwide survey to assess ED directors' perceptions of overcrowding in academic, county, and private EDs in urban and rural regions. This survey addressed four fundamental questions: 1) What is the extent of ED overcrowding in the United States? 2) What kinds of EDs are most affected by overcrowding? 3) What do ED directors perceive as the causes of overcrowding? 4) What are the adverse consequences for patients?

**METHODS**

**Study Design and Participants.** This was a prospective survey study of ED directors in all 50 states. The study was approved by the human subjects review committee as meeting federal exemption from informed consent.

**Study Protocol.** Between November 1998 and May 1999, surveys were mailed to a random sample of ED directors in all 50 states identified from a list published by the American Hospital Association. Included surveys were returned by May 1999. Randomization was accomplished by computed algorithm. An academic hospital was defined as having an associated Accreditation Council for Graduate Medical Education-approved residency program. A county hospital was defined as one designated and funded by its respective county government to provide care to its indigent population. It was recognized that many academic hospitals also serve as county facilities, and that smaller community hospitals may have only a single associated residency program. Specialty hospitals, such as children's, were not included. The definition of private hospital included all other types of facilities, such as for-profit community and health maintenance organization (HMO) hospitals.

**Survey Content and Administration.** The survey included questions regarding regional population demographics, annual ED census, and ED bed capacity. Additional questions inquired whether ED overcrowding was ever a problem at the particular ED, and if so, how often it occurred. Emergency department directors were asked to estimate the impact of overcrowding on patients presenting to the ED in terms of long waits, delayed diagnosis and treatment, risk for poor outcomes, and actual poor outcomes. They were also asked to rank putative causes of ED overcrowding on a five-point Likert scale: 1 = not a cause; 2 = minor; 3 = some-what; 4 = major; 5 = severe. Possible perceived causes included: 1) increasing ED volume, 2) increasing patient acuity, 3) managed care issues, 4) insufficient ED space, 5) nursing shortage, 6) physician shortage, 7) radiology delays, 8) lab delays, 9) delays in consultation, and 10) hospital bed shortage. Emergency department directors were asked to characterize overcrowding from a list of circumstances they believed best defined overcrowding. Choices provided were: 1) patients wait >30 minutes to see a physician; 2) patients wait >60 minutes to see a physician; 3) all ED beds are filled >6 hours/day; 4) patients are placed in hallways >6 hours/day; 5) EPs feel rushed >6 hours/day; and 6) waiting room is filled >6 hours/day. Respondents were also provided the opportunity to write in other definitions of overcrowding.

**Data Analysis.** This was a descriptive study. Data are reported as mean ± standard deviation (SD) unless otherwise specified.
RESULTS

Of 836 ED directors surveyed, 575 (69%) responded to all questions. There were 28 questionnaires that were returned incomplete, and were not included in the analysis. Responders were not significantly different from nonresponders with regard to type of facility, surrounding population served, and hospital size. A total of 525 EDs (91%) reported overcrowding as a problem. Emergency departments serving populations less than 250,000 reported less overcrowding (87%) than those serving larger populations (96%). Prevalences of overcrowding were similar in academic, county, and private EDs (Table 1). Overcrowding was also reported to be more of a problem in EDs with larger annual census (Table 2). Of the 50 EDs not reporting overcrowding as a problem, the mean annual volume of patients was significantly smaller than that of overcrowded EDs (22,800 vs 36,100).

<table>
<thead>
<tr>
<th>Table 1. Emergency Departments Reporting Overcrowding as a Problem: Size of Population Served and Type of Facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>525 (91%)</td>
</tr>
<tr>
<td>Population served</td>
</tr>
<tr>
<td>≤250,000</td>
</tr>
<tr>
<td>&gt;250,000</td>
</tr>
<tr>
<td>Facility type</td>
</tr>
<tr>
<td>Academic/county</td>
</tr>
<tr>
<td>Private</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 2. Emergency Department Overcrowding and Annual Census (in Thousands, Mean ± SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overcrowded</td>
</tr>
<tr>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>36.1 ± 20.5</td>
</tr>
<tr>
<td>Population served</td>
</tr>
<tr>
<td>≤250,000</td>
</tr>
<tr>
<td>&gt;250,000</td>
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<tr>
<td>Facility type</td>
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<tr>
<td>Academic/county</td>
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<tr>
<td>Private</td>
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</table>

Perceived causes of overcrowding are shown in Table 3. On a 1-5 Likert scale, highest ranking causes of overcrowding included increasing patient acuity (4.3 ± 0.9), hospital bed shortage (4.1 ± 1.1), increasing ED patient volume (3.8 ± 1.2), radiology and laboratory delays (3.4 ± 1.2), and insufficient ED space (3.4 ± 1.4). Consultant delays ranked higher for academic and county than private EDs, as did nursing shortages. Managed care issues and insufficient ED space ranked higher in private than in academic and county EDs. No significant difference in ranking was noted between EDs serving populations greater or less than 250,000.
### TABLE 3. Reported Causes for Emergency Department (ED) Overcrowding

<table>
<thead>
<tr>
<th>Reason</th>
<th>Total* *(n = 525)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increasing patient acuity</td>
<td>4.3 ± 0.9</td>
</tr>
<tr>
<td>Hospital bed shortage</td>
<td>4.1 ± 1.1</td>
</tr>
<tr>
<td>Increasing ED volume</td>
<td>3.8 ± 1.2</td>
</tr>
<tr>
<td>Radiology delays</td>
<td>3.4 ± 1.1</td>
</tr>
<tr>
<td>Insufficient ED space</td>
<td>3.4 ± 1.4</td>
</tr>
<tr>
<td>Laboratory delays</td>
<td>3.4 ± 1.2</td>
</tr>
<tr>
<td>Consultation delays</td>
<td>3.2 ± 1.2</td>
</tr>
<tr>
<td>Nursing shortage</td>
<td>2.9 ± 1.3</td>
</tr>
<tr>
<td>Physician shortage</td>
<td>2.3 ± 1.2</td>
</tr>
<tr>
<td>Managed care issues</td>
<td>2.0 ± 1.3</td>
</tr>
</tbody>
</table>

*Mean ± SD. Scale: 1 = not a cause; 2 = minor; 3 = moderate; 4 = major; 5 = severe.

A total of 156 (30%) of the ED directors reported that overcrowding has always been a problem (Table 4). The majority *(n = 273, 52%)*, however, reported overcrowding developed within the preceding three years and the remainder *(n = 96, 18%)* reported that overcrowding developed within the preceding year. Fifty-three percent of the directors reported that overcrowding occurred most often several times per week, but 39% reported daily overcrowding. The time period from 3 PM to 11 PM was associated with the worst overcrowding *(4.5 ± 1.7 days per week)*, followed by 7 AM to 3 PM *(2.8 ± 1.8 days per week).*

### TABLE 4. Selected Circumstances Defining Emergency Department (ED) Overcrowding *(n = 327)*

<table>
<thead>
<tr>
<th>Specific Circumstance</th>
<th>Total (% Yes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients wait &gt;60 minutes to see physician</td>
<td>71</td>
</tr>
<tr>
<td>All ED beds filled &gt;6 hours/day</td>
<td>70</td>
</tr>
<tr>
<td>Patients placed in hallways &gt;6 hours/day</td>
<td>74</td>
</tr>
<tr>
<td>Emergency physicians feel rushed &gt;6 hours/day</td>
<td>64</td>
</tr>
<tr>
<td>Waiting room filled &gt;6 hours/day</td>
<td>70</td>
</tr>
</tbody>
</table>

With regard to the impact of overcrowding on patient care, 77% of ED directors indicated that many patients had long waiting times. Delays in diagnosis and treatment were reported to have been experienced by many patients in 37% of EDs. Higher risk of poor outcome as a result of overcrowding was reported by 67% of the directors, and 33% reported that a few patients had actual poor outcomes. Estimated impact on patients using emergency services during overcrowded conditions was queried, and long patient waits were reported by 37%, delays in diagnosis and treatment by 26%, and extended pain and suffering by 18%. The definition of overcrowding based on selected circumstances chosen by ED directors is shown in Table 4.
DISCUSSION

In this study, frequent overcrowding appears to be a significant nationwide problem according to ED directors. Overcrowding may not be limited to academic and county hospital EDs in major cities, but may also affect many private hospital EDs in both urban and rural settings. It is significant that private ED directors now report overcrowding. Discussion in the early 1990s provided evidence that overcrowding was primarily limited to teaching hospitals. In our survey, private ED directors indicated that the problem of overcrowding was relatively new, with 76% indicating the problem had developed in the past three years.

Our study also revealed that the perceived causes of overcrowding are complex and multifactorial. The most important factor in the genesis of overcrowding was increasing patient acuity and complexity. As the population of the United States ages and life expectancy increases, higher numbers of patients with several concomitant medical problems, such as congestive heart failure and chronic obstructive pulmonary disease, present to the ED. These patients require a higher level of care than younger patients, and take more physician and nursing time to diagnose and treat. Furthermore, when telemetry or intensive care units (ICUs) are filled, the ED becomes the de-facto ICU and may have very limited ability to provide service to new patients presenting to the ED. The situation has the potential for danger, as the ED staff becomes overwhelmed with caring for critical or high-risk patients who have no hospital bed while ambulances continue to arrive with seriously ill or injured patients. At this point many EDs must close to all ambulance traffic in order to cope, resulting in a public health dilemma. Another factor exacerbating this issue is increasing ED volume. As the population continues to increase, demand on emergency services will grow accordingly. However, more EDs are closing than are being built, and there appears to be no incentive for expanding existing EDs to cope with this increase in patient volume.

No simple definition to succinctly describe overcrowding exists. Based on agreement between ED directors on this issue (Table 4), perhaps the definition of overcrowding in the ED should include any of the following: All available beds in the ED are full >6 hours/day, admitted patients are placed in ED hallways because there are no inpatient beds available >6 hours/day, or the number of hours the ED is closed because of saturation or on diversion to ambulance traffic. Many causes of overcrowding in the ED were related to support services normally not controlled by the ED. One of the most significant was hospital bed shortage. When all hospital beds are full, patients who need admission must wait in the ED. These patients occupy space and are often placed in the ED hallways, which frequently results in unsatisfactory care from the viewpoint of the patient, the patient's family, and ED staff. Admitted patients forced to wait in the ED also require nursing and physician attention, which may limit evaluation and treatment of new patients.

Consultation delay was also ranked highly as a cause of overcrowding. In some cases, consultants are needed to treat patients in the ED prior to discharge, or are needed to actually admit patients to the hospital. We expected that delays in laboratory and radiology services would be limited to academic and county hospital EDs. However, private ED directors also reported difficulty in perceived delivery of laboratory and radiology services. In the past, ED nursing shortages were believed to contribute to the overcrowding problem. In our survey we found that a nursing shortage was reported to be more of a contributing cause in academic and county EDs than in private institutions. Our study was also notable in that ED directors identified insufficient ED space as a significant cause of the overcrowding issue.

The potential impact of overcrowding on patients is most worrisome. The largest impact was the long waiting times that patients experience. This not only results in frustration to patients and their families and friends, but can prolong pain and suffering. It was concerning that 33% of ED directors reported that a few patients experienced actual poor outcomes as a result of overcrowding. As the population increases, utilization of emergency services will surely increase as well. It seems likely that more patients will sustain poor outcomes because of overcrowding in EDs.

The problem of ED overcrowding is not unique to the United States and is actually more of a problem in other countries, many of which have government-operated and -financed social health systems. Boyle and colleagues reported that EDs in Quebec, Canada, frequently experienced overcrowding, resulting in long
As in our study, one of the key factors for Canadian overcrowding is lack of inpatient hospital beds. The Quebec government successfully improved this situation with a $178 million, 28-component plan to increase the number of inpatient beds and decrease hospital length of stay for inpatients. A recent case report attributed a patient death to overcrowding. Rund and associates compared ED utilization rates between the United States and the United Kingdom and determined that citizens of both countries consider the ED to be a convenient source of immediate medical care for nonurgent medical problems. This type of ED utilization increases ED volume and strains resources, thereby compromising the ability to provide high-quality emergency care to critically ill patients. In Australia, as in the United States, diversion of ambulances away from EDs has become a problem in metropolitan areas. Shih and colleagues described overcrowding at the Taiwan University Hospital to be so severe that 4% of admitted patients actually remained in the ED four days or longer.

Overcrowding in American academic and county hospitals was previously investigated in the late 1980s and early 1990s. Andrulis and coworkers reported in a 1988 survey prolonged delays for patients in the ED waiting to be admitted to teaching hospitals. Grumbach and colleagues identified a serious overcrowding problem at San Francisco General Hospital and believed triage of patients with nonurgent conditions could help alleviate much of the congestion. However, many of these patients were low-income and/or homeless and had no transportation, making triage to satellite clinics difficult to achieve. Specific proposals to address overcrowding have been published in the past. On the basis of our survey, it appears these proposals were not entirely successful.

LIMITATIONS AND FUTURE QUESTIONS

This study has a number of limitations. First of all it is a survey, and responses are voluntary and subjective. The survey was sent to ED directors and reflects the knowledge, experience, and opinions of those ED directors who responded. However, ED directors usually have a good sense of the operational reality of their EDs. Causes of overcrowding were measured using an integer scale with adjective descriptions such as minor, moderate, and major. This represents a perceived degree of the overcrowding problem as ED directors. Although several circumstances and factors associated with overcrowding were included in the survey, no standard method has been established for actually defining overcrowding. Some community hospitals may have had one or two associated residency programs and were included in the academic hospital category, which may have affected comparisons, but this number was likely small. The study was conducted in winter-spring and may reflect seasonal usage of EDs. Future studies addressing the problem of overcrowding are needed, with empirical data rather than anecdotes.

CONCLUSIONS

Frequent overcrowding is a serious problem according to directors of academic, county, and private hospital EDs in urban and rural settings. Overcrowding results in long waiting times for patients, and possibly increases the risk of adverse outcomes. Its causes are multifactorial and are beyond the control of most EDs. Public policy should address the problem of ED overcrowding on a national basis.

ACKNOWLEDGMENTS

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FOOTNOTES

Related commentaries appear on pages 185 and 188.
REFERENCES


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Emergency Department Overcrowding
An Action Plan

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Key words: overcrowding; emergency departments; health care policy

INTRODUCTION

From the time I began working in emergency departments (EDs) in New York City as a full-time profession in 1980 until I left the city in 1988, I do not recall a single shift at any time of day or night, in any of five different EDs, on any day or in any week, month, or year, where there were not admissions stacked up knee-deep in the ED. The entire borough of Queens ran at over 100% occupancy every day for more than a year. When holding 30 admitted patients in a ten-bed ED, I once called a nearby ED to attempt transfer of some of our admitted patients. The receiving ED politely declined the transfers, as they were holding more than 50 admitted patients in their ED. We had been averaging 20 admissions held in the ED on each shift for an entire year. In 1987, I had the opportunity to treat a 45-year-old male (a malpractice lawyer, as is usual for such stories) with an acute anterior wall myocardial infarction. He represented the first time in my career I had ever provided the first moments of care to a patient on a blanket on the floor of our ED, having utilized all our stretchers, the hospital's stretchers, and additional stretchers brought in by an outside company.

Interestingly, it simply never occurred to me at that time to demand that some of these admitted patients be moved up to hallways on the inpatient units; after all, there was a lot more hallway space upstairs than in our tiny ED. I, like most involved in emergency medicine (EM), had simply become acclimatized (brainwashed?) to the notion that this, of course, was both unsafe and undoable. It just seemed natural to keep the patients in the ED, and to become narcotized by our daily Sisyphean drama.

New York and California were particularly active during this period, the mid-'80s, at bringing this issue to the public. Articles in the New York Times and major magazines appeared. National news shows featured stories on the "crisis" of ED overcrowding. It made for great story. Similar stories recycled in the mid-to late '90s. Overcrowding didn't reach Suffolk County, where I work now, until four or five years ago. When it did, it was "worthy" of a CNN special report.

What was lacking, however, was any useful solution to the problem. Ambulance diversion was tried with little success, given that entire regions were saturated with patients. Directives to cancel elective admissions were issued, but elective admissions were, by that time, a thing of the past. Hospitals in New York were cited for not providing adequate privacy, for not documenting repeatedly on the patient's chart that an inpatient bed was not available, for not calling in additional staff (which didn't exist) to provide needed care, and for not providing the appropriate nursing ratios to intensive care unit (ICU) patients boarding in the ED. The ED nurses began completing the ten page admission forms for the admitted patients. We were required to go through the motions of attempting transfer, requesting ambulance diversion, and other steps that we knew held little hope of relief. We collected daily stats in New York City on overcrowding. As it got worse, the response was to collect stats every shift. When we would meet to discuss why physicians weren't discharging patients, why nurses weren't reporting available beds, there
would be another round of studying and documenting. Meanwhile, a fair number of patients spent their entire hospitalizations in the hallway of an ED.

From the mid-'80s and through the '90s, another theme came crashing down on our attempts to deal with ED overcrowding—the "unnecessary" or "nonurgent" ED visit. In one fell swoop, this became the cause of ED overcrowding, as well as the cause of the ever-increasing national health care costs. There was now no longer any reason to fix ED overcrowding. Why throw resources at this reprehensible group of people who were just abusing the system? The obvious (though impossible) solution was simply to send all those "unnecessary" visits away. Suddenly we had been transformed into an overstaffed and overpriced walk-in clinic. Studies that showed we were paid half of charges were interpreted to mean we charge twice as much. All of this opened the floodgates to denial of payment for care rendered. Worse, we became the first (and probably last) profession to actively conceptualize, via the American College of Emergency Physicians (ACEP)-Kaiser agreement and prudent layperson laws, that there are some patients we have to take care of but should not be paid for. The idea that we occasionally take care of real emergencies seemed permanently lost in these discussions. Even recent articles that attempt to legitimize ED overcrowding as a real issue, such as last year's flu epidemic, suggest that, once the flu goes away, then so will overcrowding.²

Thankfully, the television show "ER" has served to remind the public that we are in the business of saving their lives.

The article, by Drs. Derlet, Richards, and Kravitz in this issue of Academic Emergency Medicine² brings us full circle back to the real problem of ED overcrowding—too many sick patients, and too many sick patients, and too many admitted patients. In this survey of a random sample of EDs in the United States, 91% of the 575 responding ED directors reported overcrowding as a problem. Even granting the obvious limitations of a survey, the results resonate with the experience of many emergency physicians. The respondents' definition of overcrowding was all too familiar—patients in hallways, all ED beds occupied, full waiting rooms, and acutely ill patients waiting for prolonged times to be seen. The top causes of overcrowding, as reported by the respondents, were high patient acuity, hospital bed shortage, high ED patient volume, delays in lab and radiology, and insufficient ED space. The type and location of the hospital mattered little. It came as somewhat of a surprise to me that only 30% reported that overcrowding has "always" been a problem. Half reported that the problem had occurred in the past several years. Importantly, but not surprisingly, the ED directors also reported significant delays in treating sick patients, with a high risk or actual occurrence of bad outcome due to overcrowding.

I would have liked to see several other questions included in this survey. Specifically, if the ED were not to hold admitted patients at all, would they still experience a significant, sustained problem with overcrowding? How often were patients held in the ED in spite of available inpatient beds because of lack of adequate inpatient staff? How often were numbers of ICU patients held in the ED with no dedicated staff to care for them because staff ratios in the ICU needed to be preserved? How often were admitted patients held in the ED in the face of continuing transfers to the inpatient units for specialty care (in particular, cardiac catheterization and surgery)? How many sites actually have extra staff available as backup when admitted patients fill the ED? How soon, and how often, did the admitting physician see the patient while boarding in the ED? Was emergency care ever compromised solely because of a high volume of low-acuity patients? And, finally, how many nurses have burst into tears during their shift because they were simply overwhelmed by the needs of their patients?

The overall picture painted by these findings is one of acutely ill patients arriving at the ED, their treatment delayed, and then once treated, never leaving, leading to an ever-growing population of sick patients spending their most critical hours and days in an area not designed to provide such a service. It is important not to confuse the issue of overcrowding with the issue of the ED as a safety net. Rich and poor alike routinely lack access to an appropriate inpatient bed. Their hospitalization occurs without space, specialist, or service.

Why do admitted patients remain in the ED? It is indeed a strange acquiescence on our part to embrace the notion that, when hospitals have no inpatient beds, the patient will naturally have to remain in the hallway of an ED. (Even stranger is how they remain in the ED when there are inpatient beds.) This logic, one should note, is differentially applied. Obstetrical patients don't remain in EDs; they are moved to the obstetrical suite, regardless of occupancy. It is illogical that this does not occur in other areas of the
hospital, which has far greater square footage than the ED. The suggestion of hoarding patients in the operating room would be met with ridicule, for obvious reasons. Why is it not obvious that the critical ability of the ED to function as an ED cannot similarly be subverted? Should the door-to-needle time be dependent upon the inpatient physician who won't discharge his or her patient, the nurse who doesn't report the empty bed to admitting, or the housekeeper who won't clean the room?

Hospitals are peculiarly misshapen institutions. Most were built and organized in an era of elective admissions, and prior to many advanced procedures such as cardiac bypass. The bulk of business, being elective, could proceed without difficulty within the context of a 9-to-5 Monday-through-Friday schedule. It was perfectly appropriate in this context to reduce staff on evenings and weekends. Hospitals generally enjoyed an excess of ICU beds. How things have changed! Most admissions are now unscheduled, and the acuity level and need for ICU beds have soared. Unfortunately, this has occurred without a significant change in the weekday organizational philosophy and structure of the hospital.

At the same time, ED volumes and acuity have soared. This is only part of the story, however. As the volume has increased, so has the sophistication of the workup. The patient previously admitted for abdominal pain now undergoes extensive testing and imaging in the ED. I frequently tell my patients, frustrated by the hours spent in the ED, that we are accomplishing in eight hours what used to be accomplished in three days of hospitalization. In any event, the bottom line is more patients, sicker patients, and a far greater portion of their inpatient workup occurring in the ED. No surprise, then, with more patients staying longer, that we're overcrowded.

Dr. Derlet's group has documented once again the desperate circumstances existing in today's EDs across the country. They do not attempt to define what can be done about it, but it cannot escape our attention that clear action is needed. The findings in this article differ little from the personal experience of many of us—that the very function of the ED is being usurped. There are many financial and organizational reasons for this. Given the modern-day political climate, few areas of medicine have been left untouched by changes in health care policy and financing. As such, vociferous demands for financial redress, although important, are unlikely to achieve more than modest success at best. However, organizational mandates can have direct and immediate impact on our practice environment. Recall the impact of the unfounded mandate of COBRA—no one should now be denied an evaluation of his or her problem when presenting to an ED.

Overcrowding is an issue that should be given the highest priority within our EM organizations. We need a plan of action. I would respectfully argue for several interrelated activities that we, as a profession, should pursue.

First, we need an aggressive, meticulous program of research that details the problems with and results of overcrowding. Overcrowding needs to be the next "buffered lidocaine" of EM—researched, studied, and documented to the point of exhaustion. (As a corollary, I would respectfully submit that further studies on the "unnecessary" ED visit are actively counterproductive.) Why are we having the problem? How much has to do with volume? With acuity? With admitted "holds" in the ED? With staffing? With space? What harm is really done, to whom, and how much?

Second, having identified through repeated research the reasons for and consequences of overcrowding, we need to implement policies and programs that address the issues identified through research, and study their effectiveness. For instance, would a larger ED "fix" the problem? (Currently, if we expanded our ED by 30 beds, we would simply hold 50 admissions instead of 20.) Does ambulance diversion work? How is care delivered in the ED hallway compared with an inpatient hallway? How is overall length of stay affected by ED holds vs moving the patient to an inpatient unit?

Third, we need to voice not only the problems (we've done that), but the solutions as well. We cannot, within our own ranks, continue to accept admitted patients remaining in the ED as the "solution" to overcrowding. The "story" of ED overcrowding is a dramatic and newsworthy one, and I suspect we have become a bit too enamored with being the tragic, heroic figure for our own good. Given the complexity of the issue, our expertise is needed to define some of the solutions. The news media and legislative branches cannot do it for us, without our direction.
Finally, our representatives, through the Society for Academic Emergency Medicine, ACEP, and other EM organizations, need to work with the Health Care Financing Administration, with our state health departments, and, in particular, with the Joint Commission on the Accreditation of Healthcare Organizations, to mandate the immediate transfer of patients, once admitted, to an inpatient area, regardless of bed availability. We must make it clear that, first, this is the hospital's problem to solve, not the ED's; and second, that our EDs cannot otherwise function. We are many things to many people. But we must first and foremost be an emergency department, and the only "crowd" we should have there are our patients.

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Overcrowding in America's Emergency Departments
Inpatient Wards Replace Emergency Care

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Key words: overcrowding; emergency departments; health care policy; ambulance diversion

INTRODUCTION

Overcrowding of emergency departments (EDs) has reemerged as a crisis after first hitting national attention more than a decade ago. In many places of the country it never went away. Now it is even more widespread and in some places accepted as the standard of care.

Overcrowding in EDs results from boarding inpatients already admitted to the hospital in the ED for hours to several days. These patients are kept in ED beds, on stretchers placed in hallways, or in "observation" areas, with little if any regard for privacy, dignity, or personal hygiene. One result is that there is often no room left to receive new patients who need emergent evaluation or treatment. Hospitals ask ambulances to divert incoming patients to another facility. The ability of the hospital to provide emergency care to its community and serve its role in the emergency medical services (EMS) system is lost. Recent public hearings in at least two states have elicited testimony of serious breaches in the quality of care delivered, both to patients kept as inpatients and to those who wait to be seen.1,2

What could be the cause of such behavior? In the past the "overcrowding problem" has found several whipping boys. In the late '80s it was the AIDS epidemic, in the '90s the flu,3 and always, of course, the poor who didn't need to go to the ED anyway but had nowhere else to go.4 When patient care, public health, and emergency readiness are all in jeopardy, it would be wise to follow the dollar for an explanation.

In the mid '80s, Eric Muñoz and colleagues analyzed "The financial effects of emergency department-generated admissions under prospective payment systems" (PPS)5 and noted that hospitals with large ED admission populations, particularly Medicare, could be at a significant financial disadvantage. Emergency patients who generated the greatest loss included those in diagnosis-related group (DRG) 127 (heart failure and shock), DRG 88 [chronic obstructive pulmonary disease (COPD)], DRG 148 (major small- and large-bowel procedures, >70 years of age), and DRG 14 (specific cerebrovascular disorders except transient ischemic attack). In a series of papers,6,7,8 Muñoz et al. confirmed that the "ER identifier" (an admission from the ED) was an independent and negative financial indicator since, for most DRGs, a patient admitted from the ED has higher charges than a patient with the same diagnosis admitted as an elective, and the payment is the same.

The authors theorized that one way for hospitals to reduce such expenditures would be to "prohibit, and hence redirect, admission of all or some of these financially risky patients to the hospital (in other words, to "dump")."8 Direct dumping is prohibited under EMTALA statutes. But EDs full of inpatient boarders asking ambulances and emergency medical technicians to find another hospital to receive the next patient, is commonplace across America. In most cities, when one hospital is requesting ambulance diversion, all others in the area are as well. If not, ambulances would descend on the one open hospital with all the emergency patients, the resulting emergency admissions, and the financial consequence.
The advent of managed competition has exacerbated this situation. To cut costs, beds and staff were downsized so hospitals could operate at near 100% occupancy. Without any margin for fluctuations in volume of admissions, there are too few empty (or empty but staffed) beds to accommodate all patients when the day begins. A common scenario is that the scheduled (more profitable) admissions are accommodated first, with the emergencies left in the ED to backfill any empty inpatient beds when the electives are done.

Both DRGs and managed competition were introduced to control costs and place business-like efficiency methods in our nation's hospitals. It is not surprising that the losers are the patients with the least profitable illness. Nor is it surprising that the least profitable are the most sick and injured, admitted from the ED. Strokes, congestive heart failure with shock, and exacerbations of COPD usually present through the emergency door.

What can be done?

There is little hope for any quick fix by waiting for a change in financial policies and their associated behavior to turn this ship around. But some basic steps can be taken. Our job, as emergency physicians, is not to fix the health care system; it is to deliver high-quality emergency care.

First is acknowledgment by emergency medicine through study and in writing that this practice is widespread and detrimental to patients. Derlet et al., in this issue of Academic Emergency Medicine, demonstrate that overcrowding in EDs is a national problem, occurring on a regular basis across America, and that serious quality issues are present. Second is acceptance of responsibility on our part. We must stop pretending that "the ED is the only infinitely expansible part of the hospital" (Adams JA, personal communication, 2000), which allows this to happen. An ED designed with monitors by each bed because of the unpredictable needs of incoming patients does not mean it is automatically an intensive care unit or telemetry inpatient unit. The willingness of emergency physicians to cope with just about anything is not a virtue if this situation is the result. Many of our colleagues who have experienced inpatient boarding in EDs for many years are giving up, and are turning their heads to this everyday practice in their hospitals. Meanwhile, medical students and residents believe that what they witness as current practice in our teaching hospitals is the way it should be. Karma dictates that we ourselves will be boarded in the ED when our time of emergent illness or injury occurs if we don't do something now.

Third is recognition that we are driven by profit/loss in health planning and delivery today, and EDs are seen as a necessary evil or perhaps more charitably as a "loss leader" in the marketplace. In a publication by the Association of American Medical Colleges, changes in teaching and nonteaching hospitals were analyzed over the past few years. There is seemingly no problem finding capital to expand revenue-enhancing product lines such as PET and MRI imaging or cardiac services in hospitals across America. This is in sharp contrast to the decline in hospitals offering emergency care such as Level 1 trauma. We must acknowledge the faceless economic forces that perpetuate inpatient boarders to get at the root cause of our situation today. The overcrowding of our EDs with inpatients is evidence of the fundamental failure of our current economic incentives in health care.

Last but foremost, we must return to basic principles and demand that the practice of boarding inpatients in the ED cease. Emergency departments are designed and intended to serve incoming patients with emergent medical needs who have a right to expect our immediate and undivided attention. We fail in our primary responsibility when we have no capacity to treat the next patient or when we drop out of the EMS system and ask for ambulance diversion. What is the ED for? When I served as a resident in New York City teaching hospitals in the '70s, patients were never kept in the ED after admission. They went to solariums or treatment rooms in the inpatient areas at times of peak occupancy, which was often. If they needed an intensive care unit (which were usually always full), the inpatient attendings made the triage decision and found a bed. The ED served its primary function and did not pretend to be the Band-Aid for the inpatient services. Sadly, this is no longer the case either where I trained, or at the university hospitals in New York State where I practice today. It has been a big step backward for emergency care. But let's give our inpatient colleagues and hospital administrators more credit and assume they can do their jobs. Because we must insist that we do ours. No one else will.
Emergency medicine needs to respond to the practice of boarding inpatients in the ED with a clear voice: it must stop. Emergency medicine, state health departments, and the Joint Commission on Accreditation of Healthcare Organizations must demand that inpatients be cared for on inpatient floors so EDs can be EDs again. Studies, publications, and public action are all needed. There is no advocacy group for ED patients other than us. Patients deserve timely and high-quality emergency care. We must not fail our patients or our communities. That is our mission. This is our watch.

**REFERENCES**


