

Emergency Department Crowding and Loss of Medical Licensure: A New Risk of Patient Care in Hallways

Robert W. Derlet, MD*
Robert M. McNamara, MD†
Amin Antoine Kazzi, MD‡
John R. Richards, MD*

* University of California Davis Medical Center, Department of Emergency Medicine, Sacramento, California

† Temple University School of Medicine, Department of Emergency Medicine, Philadelphia, Pennsylvania

‡ American University of Beirut, Department of Emergency Medicine, Beirut, Lebanon

Supervising Section Editor: Rick McPheeters, DO

Submission history: Submitted June 24, 2013; Revision received September 20, 2013; Accepted November 22, 2013

Electronically published February 25, 2014

Full text available through open access at http://escholarship.org/uc/uciem_westjem

DOI: 10.5811/westjem.2013.11.18645

We report the case of a 32-year-old male recently diagnosed with type 2 diabetes treated at an urban university emergency department (ED) crowded to 250% over capacity. His initial symptoms of shortness of breath and feeling ill for several days were evaluated with chest radiograph, electrocardiogram (EKG), and laboratory studies, which suggested mild diabetic ketoacidosis. His medical care in the ED was conducted in a crowded hallway. After correction of his metabolic abnormalities he felt improved and was discharged with arrangements made for outpatient follow-up. Two days later he returned in cardiac arrest, and resuscitation efforts failed. The autopsy was significant for multiple acute and chronic pulmonary emboli but no coronary artery disease. The hospital settled the case for \$1 million and allocated major responsibility to the treating emergency physician (EP). As a result the state medical board named the EP in a disciplinary action, claiming negligence because the EKG had not been personally interpreted by that physician. A formal hearing was conducted with the EP's medical license placed in jeopardy. This case illustrates the risk to EPs who treat patients in crowded hallways, where it is difficult to provide the highest level of care. This case also demonstrates the failure of hospital administration to accept responsibility and provide resources to the ED to ensure patient safety. [West J Emerg Med. 2014;15(2):137–141.]

INTRODUCTION

Crowding in emergency departments (EDs) nationally and worldwide has impacted the quality of care.¹ Increases in patient mortality, medication errors, pain, length of hospital stay, and other deleterious effects have been documented.² When an ED is crowded, all licensed beds may be occupied, and overflow patients frequently are placed in hallways to receive care. In such circumstances, emergency physicians (EP) are placed in the difficult position of providing care to patients with suboptimal nursing support and lack of privacy, which precludes a full history and physical examination. Placing new patients back in the waiting room until a licensed ED bed becomes available poses a further risk, as there is no way to directly observe or monitor patients. Some hospital administrators insist that care in hallways be provided but fail to provide logistical support needed to accomplish this task.³ Some ED staffing groups indirectly force physicians to

see patients in unlicensed areas by emphasizing metrics such as patients seen per hour.⁴ Regardless of the cause, patient care in ED hallways is fraught with delays and difficulties in initiating laboratory testing, providing medication, supervising intravenous (IV) lines, recording vital signs, monitoring cardiac activity, or responding to new patient symptoms.⁵ The problem is further compounded when a physician has to simultaneously provide care to an excess number of patients in the hallway and in official ED beds, and often extra physicians are not available to share the burden. In addition to risk of poor patient outcome, physicians themselves are at risk. We describe a case of ED hallway care that resulted in the EP facing discipline by the state medical board.

CASE REPORT

A 32-year-old overweight male with recently diagnosed type 2 diabetes presented to an urban, university hospital ED

with a chief complaint of palpitations, shortness of breath, light-headedness, and “feeling ill.” He had seen his primary care physician twice in the previous weeks for similar symptoms, and he had started an exercise program to address his new-onset diabetes. After an unsuccessful attempt to see his primary care physician again that day, the patient came to the ED for care. The triage nurse charted the patient’s chief complaint as “chest pain with shortness of breath for one week increased with exertion” and recorded a heart rate at 140. The remaining vital signs at triage were a blood pressure of 128/71 mm/Hg, respirations of 28, and a temperature of 35 degrees C. Room air pulse oximetry was recorded at 95%. At the time of his arrival, the ED was over 250% of capacity (patients/beds), and the institution was on ambulance diversion. Since all 40 licensed ED beds were occupied, the patient was placed on a gurney in one of several narrow hallways within the ED. Twenty patients were already receiving hallway care when the patient presented to the ED, and another 40 were in the waiting room. The triage nurse immediately performed an electrocardiogram (EKG) per ED policy, which was immediately reviewed by an attending physician on duty at that time. This physician noted there was no ST-elevation myocardial infarction (STEMI) on the EKG and, at the request of a nurse, wrote orders for a basic lab panel. As it was the end of shift, this physician had no further involvement with the patient and did not mention his/her involvement to the next attending. On average, attending physicians in this ED screen as many as 25 patient EKGs for STEMI while providing direct supervision to an additional 30 patients during a 10-hour shift.

Four hours after triage, the patient was formally evaluated by an off-service PGY1 (post-graduate year one) resident. The resident was aware that an attending physician had already viewed the EKG and ordered labs. The resident charted the results, including the comments from the EKG, and performed a history and physical. The prior attending was off-shift, thus the resident presented the case to a new attending physician. At that time the ED remained crowded, with all its resources overwhelmed. The oncoming attending physician had immediately become overwhelmed with critically ill and injured patients and was repeatedly confined to the resuscitation room with medical or trauma codes. During the first 2 hours of the shift, this new attending physician performed over 10 initial EKG screenings. At 5 hours post-arrival, the resident was able to present the case to the new ED attending physician, who then examined the patient in the hallway. The history obtained by the resident noted the patient never actually had chest pain, and this was confirmed by the attending physician. The point-of-care glucose was 463 mg/dL, and the initial diagnostic impression was probable hyperglycemia with dehydration. Because the patient was in the hallway, there was no formal location to maintain his paper records, and the EKG was no longer available for review. This attending physician did know that, per ED policy, a patient with dyspnea and chest pain would have automatically

received a triage EKG and assumed it had been reviewed by the prior attending physician. If the initial screening review of the EKG had been concerning, the patient would have been moved out of the hallway to a monitored licensed bed, or “doubled up” in the central treatment area of the ED. Six hours after presentation the patient’s laboratory studies returned with results consistent with the initial impression of possible mild diabetic ketoacidosis (DKA) and dehydration. The blood glucose was 417 mg/dL, bicarbonate 19 mmol/L, and an anion gap of 15. Venous blood gas pH was 7.34. PCO₂ was mildly decreased. Other labs were within normal limits. The patient was treated with 3 liters of IV normal saline, as well as 5 units IV and 5 units subcutaneous regular insulin. A chest radiograph was performed and was normal. Oxygen saturation was checked multiple times and ranged from 95 to 98% saturation on room air.

After therapy, the patient’s glucose decreased to the 200 mg/dL range, and a repeat chemistry panel showed normal bicarbonate with no anion gap. The patient’s heart rate ranged from 66 to 114 for much of the stay in the ED, and by time of discharge was normal. The dyspnea had improved. The patient passed an oral trial of fluids, felt improved, and wanted to return home. Because this was a new onset DKA, albeit mild, an informal discussion was held with the hospitalist about admission. The hospitalist, based on the quick resolution of symptoms and patient’s access to his primary care physician, recommended outpatient management. The patient was then discharged home with the final diagnosis of hyperglycemia, mild DKA, dyspnea secondary to metabolic acidosis, and dehydration. A more aggressive regimen for his diabetes was prescribed, and home equipment for self-monitoring ordered. Close follow-up with his primary care doctor was specified. The patient was discharged 8 hours after arrival in the ED. Discharge vital signs were 154/86 mm/Hg, heart rate 94, respiratory rate 20, temperature 37 degrees C, and 98% room air saturation. He never occupied a licensed ED bed and was never on a cardiac monitor, as these were all in use.

Two days later, the patient developed severe shortness of breath; therefore, 911 was called and EMS activated. The patient had a cardiac arrest en route to the same hospital from which he was discharged two days earlier. Resuscitative efforts were unsuccessful, and the patient expired. An autopsy was performed and showed multiple acute and chronic pulmonary emboli as the primary cause of death. The initial EKG was retrospectively interpreted by a cardiology attending physician as showing “right axis deviation, multiple ST and T-wave changes suspicious for anterior ischemia.” The autopsy did not show coronary artery disease or evidence of myocardial infarction.

INSTITUTION REVIEWS AND ACTIONS

This case was reviewed internally by the ED quality of care committee. They concluded there was “opportunity for

improvement,” citing hospital and ED system problems, but not specific to an individual physician. Additional review occurred at the level of the hospital system-wide claims analysis committee. Similar conclusions were reached: severe crowding conditions, coupled with the inherent dangers of delivering care in an ED hallway, combined to cause the errors that occurred. Further, it was concluded that if this patient had received care in a bona fide ED bed, his evaluation and outcome would likely have been different. All patients with DKA, even mild, are expected to be monitored closely and have consistent nursing and physician care. The diagnosis of pulmonary embolism would be considered extremely unlikely in an active 32-year-old male with only tachycardia based on a pulmonary embolism severity index score of 62, which estimates a 30-day mortality from pulmonary embolus at 0-1.6%.⁶ Included in the discussion was that the ED quality of care committee and ED chair had repeatedly complained to hospital administration for years about dangerous conditions for patients from crowding, and they had presented many cases of poor outcomes from hallway care. The hospital had failed to provide the resources requested, such as additional nursing staff, additional staffed and monitored space (anywhere in the hospital), and logistical support required for patient safety. During that period the hospital had unoccupied inpatient beds which were not staffed for financial reasons. Prior to and around the time of this case, hospital administration would routinely close one of the evaluation areas in the ED, citing nursing shortage.

The family eventually sued the institution for wrongful death. The institution settled for \$1 million, without consulting any of the involved physicians. External consultants felt that sending home a patient with an alleged abnormal EKG, compounded by delays in cardiology interpretation, exposed the hospital to liability. A small administrative hospital committee without ED representation then apportioned blame. The ED attending physician was apportioned a substantial amount of the blame, which required a report to the state medical board. The hospital did not provide legal or other administrative representation for the initial medical board investigation interview, which resulted in referral to the State Attorney General’s office. They then initiated action against the EP for negligence based on failure to personally review the EKG of a patient with a cardiac risk factors and chest pain and do a further cardiac workup. There was no mention of the fact that the autopsy showed normal coronary arteries without infarct, and that the patient had pulmonary emboli. The board’s position was supported by an external physician reviewer with no data on ED crowding, and no interaction with the physician being investigated. This resulted in a hearing to revoke the physician’s medical license. To avoid this outcome, the physician reluctantly agreed to a settlement that stipulated a published public reprimand of his ED care by the State Medical Board.

DISCUSSION

This case illustrates the risk of a poor outcome, medical malpractice, and potential loss of medical licensure when caring for patients in crowded ED hallways. Even though ED chairs had repeatedly warned senior hospital leadership about the unsafe conditions, the requested additional logistical support was not provided. No hospital administrator was named in the lawsuit, and no individual other than the treating physician had his or her career placed in jeopardy. Although hospital system problems were taken into account in the malpractice case, the state medical board’s action targeted the treating physician as if he or she were working alone. Administrative indifference to ED problems with negative impact on EPs is not limited to this case. Recently a physician in Colorado attempted to activate a hospital-wide disaster response when the ED he was staffing became dangerously crowded. The administrator on duty did not agree, so the physician then contacted the hospital Chief Executive Officer (CEO). Nothing was done to improve immediate patient care and safety, but the communication with the CEO began a cascade that led to the physician’s firing without cause.⁷

What went wrong with this case? Many factors contributed, most which could have been corrected by the hospital well in advance of this patient’s arrival to the ED: First of all, this patient should not have had such a long wait to receive treatment for his putative DKA. Conditions that result in prolonged “door to doctor” times should be corrected by providing appropriate resources for ED throughput. This includes the expedient transfer of admitted patients to inpatient beds. Delays in moving admitted patients out of the ED are referred to as “exit block.” This has long been recognized as the major cause of crowding and long waits and is beyond the control of the ED.⁸ Methods exist to offload patients out of the ED. Inpatient boarding in the ED has been long recognized as one of the prime causes of ED crowding.⁹ Transferring admitted patients boarding in the ED to inpatient hallways has been shown to be safe and effective.¹⁰ Patients actually prefer inpatient hallway boarding compared to remaining in ED hallways.^{11, 12} Many institutions throughout the country have adapted this strategy.

The ED should never be allowed to reach 250% capacity. Delaying the transfer of admitted patients from the ED results in long waits for patients arriving at external and internal triage in need of emergency care. Long wait times for patients are also against United States Federal law: Emergency Medical Treatment and Active Labor Act (EMTALA) citations have been issued to hospitals by the U.S. Department of Health and Human Services (DHHS) because of long waiting times in the ED.¹³ Interventions to reduce crowding have been published by the American College of Emergency Physicians (ACEP), American Academy of Emergency Medicine (AAEM), and others.^{14, 15} Most of these measures require substantial cooperation and resources from hospital administration. Examples include additional flexible

treatment areas with adequate nurse staffing, enhanced resources for triage, additional hospitalists to admit patients, faster laboratory and radiology turnaround times, technicians to transport patients, and staffing to provide bedside registration.¹⁶ Calling a hospital “internal disaster” is another option. As a full internal disaster is likely unpalatable to most administrators, a policy and procedure can be developed for use in limited or focused disasters applicable to the ED. This would involve calling in additional hospital nursing and physician staff, ancillary support, and opening up additional space to care for emergency patients.

Patients should not be routinely evaluated and treated in ED hallways where care is inferior.¹⁷ Accurate monitoring is difficult to achieve in the hallway. Nursing care may be fragmented and inconsistent. Close coordination of care is increasingly difficult in an ED hallway. Intravenous lines run dry. Delays occur in delivery of medications.¹⁸ Worsening patient conditions may not be recognized, and patients will suffer.¹⁹ In some states, the law requires a 4:1 patient to nurse ratio in the ED to protect patients. The authors are aware these rules may be subverted during periods of ED crowding. Hospitals must develop strategies to avoid ED hallway care.

ED crowding leads to physician fatigue and errors.²⁰ Physicians have their attention split amongst so many patients that they cannot always focus effectively on the details of each patient’s case. Missing details and subtle clues in complex patients can mean the difference between the correct and incorrect diagnosis. In the quest to meet external standards for early intervention in acute myocardial infarction many EDs task the already busy EP with screening large numbers of EKGs for STEMI. As in this case, the screening physician may not be the eventual treating physician. Studies have shown that simultaneously caring for multiple complex and critically ill patients results in increased medical errors.²¹

Finally, it should be recognized that the EP in this case had no control of the core issues resulting in hallway care, which potentially contributed to the misdiagnosis. With the advantage of a retrospective review, it was concluded that available clues in this case were missed and hallway care likely was a factor. The hospital administration did not step forward and take responsibility with the investigating authorities regarding its failure to provide appropriate safeguards during times of high patient demand for ED services. Instead, they allowed the EP to stand alone as a scapegoat for an issue that involved their neglect of serious systems problems in the ED. This case demonstrates that, in certain hospitals, EPs may be at risk for losing their medical licenses even though they are not at fault for the crowded conditions contributing to a poor outcome. Even if cleared of wrongdoing, this process can potentially damage a physician’s career and reputation.

CONCLUSION

In conclusion, EPs should be aware of limitations and risks of providing care for patients in ED hallways. Hospital

administrators should be informed that long waiting times, relentless crowding, delays in transferring admitted patients to inpatient areas, as well as ED hallway care, is unacceptable. ED leadership should demand that communication by EPs to hospital administration of unsafe conditions occur without fear of retaliation. Hospital resources must be urgently provided for real solutions to ensure patient safety.

Address for Correspondence: Robert W Derlet, MD, Department of Emergency Medicine, UC Davis Medical Center, 4150 V Street, PSSB 2100, Sacramento, CA 95817. Email: rwderlet@ucdavis.edu.

Conflicts of Interest: By the WestJEM article submission agreement, all authors are required to disclose all affiliations, funding sources and financial or management relationships that could be perceived as potential sources of bias. The authors disclosed none.

REFERENCES

- Bernstein SL, Aronsky D, Duseji R, et al. The effect of emergency department crowding on clinically oriented outcomes. *Acad Emerg Med.* 2009;16:1-10.
- Sprivilis PC, DaSilva JA, Jacobs IG, et al. The association between hospital overcrowding and mortality among patients admitted via Western Australian emergency departments. *Med J Aust.* 2006;184:208-112.
- Derlet RW, Richards JR. Ten solutions for emergency department crowding. *West J Emerg Med.* 2008;9:24-27.
- Silverman M. Am I really too slow? *Emergency Physicians Monthly.* November 30, 2009.
- Derlet RW. Overcrowding in emergency departments: Effects on patients. *Cal J Emerg Med.* 2000;1:2-3.
- Donze J, LeGal G, Fine MJ, et al. Prospective validation of the pulmonary embolism severity index: a clinical prognostic model for pulmonary embolism. *Thromb Haemost.* 2008;100:943-948.
- Ream K. Physician’s claim of breach of staffing contract and of EMTALA violation dismissed. *Common Sense.* 2012;19:7-8.
- Martin M, Champion R, Kinsman L, et al. Mapping patient flow in a regional Australian emergency department: a model driven approach. *Int Emerg Nurs.* 2011;19(2):75-85.
- White BA, Biddinger PD, Chang Y, et al. Boarding inpatients in the emergency department increases discharged patient length of stay. *J Emerg Med.* 2013;44:230-235.
- Viccellio A, Santora C, Singer AJ, et al. The association between transfer of emergency department boarders to inpatient hallways and mortality: a 4-year experience. *Ann Emerg Med.* 2009;54:487-491.
- Richards JR, Ozery G, Notash M, et al. Patients prefer boarding in inpatient hallways: correlation with the national emergency department overcrowding score. *Emerg Med Int.* 2011;2011:840459.
- Walsh P, Cortez V, Bhakta H. Patients would prefer ward to emergency department boarding while awaiting an inpatient bed. *J*

- Emerg Med.* 2008;34(2):221-226
13. Ballard DW, Derlet RW, Rich BA, et al. EMTALA, two decades later: a descriptive review of fiscal year 2000 violations. *Am J Emerg Med.* 2006;24:197-205.
 14. American College of Emergency Physicians. Emergency Department Crowding: High Impact solutions. *ACEP.* 2008.
 15. Bernstein ST, Boggs R, Derlet RW, et al. Emergency Department crowding: past present and future directions. AAEM Policy Statement. *American Academy of Emergency Physicians.* July 10, 2006.
 16. Pines JM, Pilgrim RL, Schneider SM, et al. Practical implications of implementing emergency department crowding interventions: summary of moderated panel. *Acad Emerg Med.* 2011;18:1278-1282.
 17. Maa J. The Waits that matter. *New Engl J Med.* 2011;364:2279-2281.
 18. Johnson KD, Winkelman C. The effect of emergency department crowding on patient outcomes: a literature review. *Adv Emerg Nurs J.* 2011;33(1):39-54
 19. Derlet RW, Richards JR. Overcrowding in emergency departments: problems of the past return with a fury. *Emergency Medicine News.* 1998;20:2-3.
 20. Yee P. Brain Cramp: The emergency physicians worst nightmare. *Ann Emerg Med.* 2002;39:329-330.
 21. Calder LA, Forster A, Nelson M, et al. Adverse events among patients registered in high-acuity areas of the emergency department: a prospective cohort study. *CJEM.* 2010;12(5):421-430