



McGill Emergency Residents' Position Statement on Hospital Overcrowding

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Introduction:

Overcrowding in the Emergency department (ED) is a manifestation of a system wide problem and is not confined to the ED. Therefore, the term hospital overcrowding is more accurate than the more frequently cited term ED overcrowding.

Overcrowding is a major problem in most developed countries and has been frequently reported in North America, Europe, and Australia. <1>. A recent survey of hospital directors reported hospital overcrowding in almost every state in the USA. Ten to thirty percent of US hospitals reported daily overcrowding. Over 90 percent of ED directors in the USA reported overcrowding as a problem resulting in patients in hallways. <1> A position statement by the Canadian Association of Emergency Physicians (CAEP) states that ED overcrowding is a chronic national problem, and that lack of acute care beds has led most Canadian hospitals to frequently operate at an unsustainable occupancy level of greater than 90%. <2> Despite its significant expenditure on healthcare, Canada has only 3 beds per 1000 Canadians, ranking the 26th of the 30 OECD countries (Organization for Economic Co-operation and Development). <3>

Over the past decade, numerous studies have linked overcrowding to a number of potentially deleterious effects on the quality of care provided to patients in the ED. These negative effects include:

- 1) Increased in Hospital Mortality <4> <5>
- 2) Increased ICU mortality and length of stay <6> <7>
- 3) Delay in transfer to ICU and administering critical care interventions <6> <7> <8> <9> <10> <11>
- 4) Prolonged in-Hospital length of stay <12> <13>
- 5) Ambulance diversion <14> <15> <16>
- 6) Prolonged ED length of stay <17>
- 7) Increased number of patients leaving without being seen <18> <19> <20>
- 8) Delay in administering antibiotics <11>
- 9) Decreased patient satisfaction <21> <22>

The need for a resident statement:

Over the past few years, a number of academic and professional organizations have published position statements on hospital overcrowding<2> <23>. To date, there has never been a position statement on overcrowding created solely by residents. Residents are currently the backbone of the physician labor force in academic hospitals. Residents make important decisions regarding admission, discharge, observation, and follow-up, thus directly influencing patient flow and crowding, whether in the ED, ward or out patient clinic.

The current residents are the future of the profession. We feel that it is incumbent upon us to

voice our concerns and opinions, and suggest potential solutions to help create an improved working environment for our future.

Resident education is based on the principles of CanMEDs <24> which include aspects that touch on overcrowding: patient advocacy, manager and professionalism. For these reasons the McGill Emergency Medicine residents undertook the task of drafting the first residents' position statement on hospital overcrowding.

Our group identified three main areas of discussion relevant to hospital overcrowding. These areas are the main focus of our statement:

- 1) Causes of overcrowding
- 2) Potential solutions
- 3) Establishing a set of standardized measures of quality of care in order to facilitate overcrowding research

Methods:

This statement represents the views of 28 emergency residents in the 3 & 5 year emergency medicine programs at McGill University. Residents were provided with background papers pertaining to the concepts to be discussed prior to our meeting.

On the day of the meeting, residents were divided into three groups of 8 to 10 residents. A designated senior FRCP resident moderated each group. The discussions were held with 90 minutes allocated to each of the three main topics. Administrative support and audio recording were provided to document and summarize the discussion.

The residents then met as a whole and the group leaders presented their results. The entire group voted on each item. Each resident was allowed a single vote per item and a consensus was

reached. The lead author reviewed the results of this meeting and the recorded discussions, and prepared a manuscript. The final manuscript was circulated to and approved by the emergency residents.

Results:

Causes

Overcrowding is a system and hospital wide problem that is not confined to the ED. The current health care system is setup such that the ED functions as the health system's safety net.

Therefore, it comes as no surprise that the problem of overcrowding is most apparent in the ED.

This has lead to the commonly held erroneous belief among healthcare professionals that overcrowding is an emergency department phenomenon and must be dealt with by the ED. Any discussion of the causes of overcrowding that focuses solely on the emergency department will fail to uncover the root causes of the problem, and thus any suggestions derived from such a discussion are set up to fail. Our group identified the following factors as key causes of overcrowding that must be addressed:

1) Insufficient Hospital Resources and/or Inadequate Management of Resources:

Lack of funds is a common byproduct of publicly funded universal access healthcare systems.

While the benefits of such a system in our society unequivocally outweigh the drawbacks, there is a consensus among emergency residents at McGill, that the system needs more money in order to operate at an optimum level of productivity. While some interventions such as computerized patient tracking systems, electronic medical charts, enhanced communication systems, ED

expansions, etc would help maximize the efficiency of ED throughput , they unfortunately require large amounts of funds that are currently unavailable. However, it is felt that with more efficient management of available resources, much can be done to help decrease ED overcrowding. More basic interventions such as hiring additional support staff including patient attendants, transport workers, housekeeping, radiology technicians, administrative coordinators, etc would undoubtedly have an impact on productivity in the ED. The cost of such interventions can be substantial, yet it fades in comparison to the cost of acquiring and maintaining the state of the art technological systems mentioned earlier.

2) Lack of Incentives and Accountability:

Given the current system and the commonly held misconception that overcrowding is an ED problem, emergency departments have had to endure a disproportionate bulk of the burden of the overcrowding pandemic. There are currently no effective incentives for consultant services to ensure that patient care both in the ED and on the wards is carried out in a timely fashion. While some institutions, including McGill, have set up policies mandating certain standards and setting deadlines for disposition decisions in the ED, the current system has failed to effectively enforce these standards. Moreover, while these regulations have been put in place for disposition decisions in the ED, there is currently no effective policy or legislation that dictates the timeliness of in patient care on the wards. In the absence of an overseeing authority dedicated to timely care of patients, it is difficult to envision that overcrowding will ever be solved.

3) Delays and Inefficiencies in ED throughput:

The care of patients in the ED is a complex and dynamic multi-step process. Delays in ED throughput are commonplace and occur along every step of patient care from triage to initial assessment by nurses and ED physicians, to the acquisition of diagnostic tests and consultant services. Some prominent examples of delays that must be addressed include: delays in transport of patients to, from, and within the emergency department; dispensing and administering medications; the acquisition and reporting of radiological studies; completing specialist consultations and reaching disposition decisions; and most importantly, delays in transfer of admitted patients to inpatient wards. While many of these inefficiencies are unavoidable due to the sheer volume of patients cared for in the ED and the finite number of healthcare providers on any given shift, many processes in the ED are highly inefficient and there is much room for improvement in order to streamline patient care in the ED.

4) Lack of Inpatient Beds and Boarding of Admitted Patients in the ED (Access Block):

This is regarded by many experts as the lead cause of overcrowding in the ED, and refers to the practice of keeping admitted patients in the ED while arrangements are being made to provide an inpatient bed.^{12, 25, 26} On the surface, this seems like a reasonable practice. However, when examined closely, this approach has a number of problems. First, it may compromise patient safety. Most of these patients are assigned to hallways and other poorly monitored or visible areas in the ED in order to make room for the assessment and work-up of new patients. While most of these admitted patients are stable, they are at early stages of their disease states, and therefore, their course is unpredictable. In addition, the responsibility of their care is

transferred from the emergency physicians to the admitting service, which is commonly not present in the ED to care for the patient. There is also the inherent risk of exposure to infectious materials. Second, the fact that the patients are boarded in the ED provides no incentive for the admitting service to make a bed available in a timely fashion. This is especially apparent after hours when it is much easier for services to keep patients in the ED till the next working day. As mentioned previously, this puts a disproportionate burden on the ED and interferes with the mandate of the emergency department, which is the initial stabilization and diagnostic work-up of patients. Finally, one grave consequence of boarding patients in the ED that is seldom mentioned is the violation of patient dignity and confidentiality. Sick patients are left on uncomfortable gurneys in the hallways of crowded emergency departments, exposed to passers by and other patients. Medical interviews and serial exams are conducted in these suboptimal conditions, concealed by partitions or inadequate drapes. These hallways are designed as channels for transport, not patient care areas, and their continued use for boarding patients is a clear violation of patient dignity and confidentiality.

5) Lack of Outpatient Resources:

The increasing demand for out of hospital and community based services such as primary care, diagnostic imaging, specialist follow-up, etc has led to delays that are unacceptable to patients and their healthcare providers. When caring for patients in the ED, emergency physicians are commonly faced with the dilemma of obtaining these services on an emergent basis versus delays of several months. This has lead to an increasing demand for inpatient and ED based

work-up and specialist consultation, which further stretches the system to the limits of its capacity.

Another major factor is the lack of long term care (LTC) facilities. The continuously aging population coupled with the closure of many LTC facilities across the province has put a huge burden on hospitals to care for elderly patients awaiting transfer to LTC facilities. These patients occupy hospital beds for weeks, yet their needs are better met in low acuity LTC facilities. Moreover, their presence in the hospital exposes them to hospital-acquired infections, which initiates a cycle of illness, further deterioration of functionality, and degraded quality of life.

Measures of Quality of Care

Overcrowding research suffers greatly from lack of standardization. When attempting to quantify overcrowding, many researchers have confused overcrowding with the consequences of overcrowding. For example, ambulance diversions, waiting times, percentage of patients leaving without being seen, etc have been used as measures of overcrowding when in fact, they are consequences of overcrowding. To date, there is no universally accepted definition or measure for overcrowding. More importantly, there is no standardized method for assessing quality of care provided to patients in the ED. This lack of standardization hinders the interpretation of research, and makes generalization of results extremely difficult. In order for the medical community to understand the effects of overcrowding on quality of care and patients safety, researchers must agree on a number of easily measurable and generalizable indicators of quality of care. We have identified five such indicators.

1) Mortality:

Undoubtedly the most extreme and dreaded negative outcome that has been attributed to overcrowding in a number of recent studies. <4> <5>

2) Fractile Response Times for Canadian Triage and Acuity Scale (CTAS) as defined by the Canadian Association of Emergency Physicians:

The fractile response time is a way of describing how often a system operates within its stated objectives. A "fractile response" is the proportion of patient visits for a given triage level where the patients were seen within the CTAS time frame defined for that level. For example if 85% of Level III patients were seen by the physician within 30 minutes in the previous month, then the fractile response for that institution over that time period would be 85%.

3) Time to Interventions:

Overcrowding may lead to delays in the administration of life saving treatments and interventions. The benefit from treatment for many disease states is highly time dependent. Examples include: door to balloon/drug times for ACS; Door to drug times for CVA; door to antibiotics time for sepsis; time to achieving resuscitation goals for Early Goal Directed Therapy; etc. Specific goals for these times have been published by professional organizations such as the American Heart Association, the American College of Cardiology, the Surviving Sepsis Campaign etc.

4) Patient Satisfaction

Patient satisfaction is one of the main goals of all physicians. While patient satisfaction is complex and multi-factorial, it has been linked to the amount of time spent with the physician, effective communication by nurses and physicians, time spent waiting to see a physician, and overall waiting time spent in the ED. <21> <22> All of these factors can be negatively affected by overcrowding and hence, patient satisfaction can be used as a marker for quality of care.

5) Adequacy of Pain Management

Pain is the most common reason for emergency department use. A recent study has demonstrated high pain intensities and suboptimal pain management in the ED. <27> In this study, sixty percent of ED patients received analgesia after a significant delay (mean of 90 min) and seventy four percent of patients were discharged with moderate to severe pain. Whether or not overcrowding plays a role in this problem is yet to be determined. We recommend that adequacy of pain control be addressed in future overcrowding research.

Solutions

As mentioned earlier, overcrowding is a complex, system wide problem that is most apparent in the ED because of its role as the healthcare system's safety net. Remedial efforts must therefore be done at a system wide level. Moreover, given the complexity of the problem, the solutions are irreducibly complex i.e. they are all interdependent on each other to work. One cannot implement partial solutions and hope that there will be a positive effect. In order to be effective, changes must be implemented on several levels at the same time.

The following points have been identified by our group as key solutions to the problem of overcrowding and echo similar recommendations that have been previously made by a number of experts and professional organizations:

1) Establish Standards, Monitor Performance, and Enforce Adherence to Standards:

Federal and Provincial Governments must work with professional organizations such as the Canadian Association of Emergency Physicians in order to set acceptable standards for a number of factors that contribute to total ED and hospital length of stay. These factors should include acceptable waiting times, time to completion of consults, time to disposition decisions, time to acquisition and reporting of diagnostic imaging studies, time from admission orders to actual transport of patients to in-hospital wards, and total ED length of stay. Hospitals should be obligated to collect data relevant to all the above factors, and submit it to authorities at the provincial and federal levels. Financial incentives and penalties should be set in order to ensure adherence to these standards.

2) Rapid Transfer of Admitted Patients to In-hospital Beds or Ward Hallways and The Discontinuation of Boarding of Admitted Patients in the ED:

The emergency residents at McGill strongly believe that the practice of keeping admitted patients in the ED, pending the availability of inpatient beds, must be abandoned. This practice is dangerous, unethical, provides no incentive on admitting services to improve their performance, and puts a disproportionate burden on emergency departments to function beyond the acceptable limits of patient safety.

There are many opponents to boarding of patients within the wards instead of the ED. These opponents are mainly administrators, consultant staff, and floor nurses who repeatedly argue that it is safer to board patients in the ED, and that ED nurses and physicians are better adept at dealing with such patients. These arguments are false on several levels. First, no one can rightly claim that boarding patients in the ED is safe. The high acuity, high volume, fast paced, chaotic nature of the ED is the ideal set up for adverse events. Moreover, the presence of these patients in the ED stretches the ED to the limits of its functionality, and affects the care of non-admitted patients. It also presents a challenge to effective infection control and sanitation. Second, it seems illogical to claim that ED nurses and physicians are better at caring for patients than the admitting teams that are trained and experienced in providing specialized longitudinal care to patients. Finally, boarded patients in the ED may suffer from delays in management, lack of comfortable accommodation, lack of privacy & confidentiality, and violation of dignity.

We call for the adoption of the “Full Capacity Protocol” that was developed by Dr. Peter Viccellio of Stoney Brook University Medical Center in New York. This protocol entails the rapid transfer of admitted patients to the wards as soon as an admission decision is made, regardless of the availability of beds. Patients are moved from the ED's understaffed and highly crowded hallways to areas where there are much better nurse- patient ratios and specialists available to care for them.

3) Informatics Systems in the ED:

The sole reliance on human ability and conventional paper based methods of patient tracking, medical documentation, medication dispensing, physician orders, transfer of care, and data

collection can no longer meet the demands of our overcrowded system. Many computerized systems for physician order entry, patient tracking, and electronic medical charting have been developed and are in use in hospitals worldwide. However, these systems have not been fully adopted in Canada.

Virtually all the service industries from police stations, fire departments, airports, postal service, to fast-food restaurants, have completely computerized systems. A service such as ours, that has huge demands for quality control, deals with human life and well being, and is run by highly trained professionals, is the ideal candidate for advanced informatics systems.

4) Analyze and Optimize the System Through Expert Consultations:

Hospitals and emergency departments are run by administrators and physicians. These professionals provide invaluable service to patients; however, they may not be adequately qualified to optimize service delivery and efficiency. Hospitals should seek the help of specialized operations management consultants. These consultants analyze and optimize the system, with the goal of identifying rate limiting factors at various steps, and providing solutions to maximize the efficiency of service.

5) Increasing or Re-engineering Human, Physical, and Technical Resources.

The ailing health care system needs to be examined and revitalized. Resources are scarce and with the current system in place, cannot meet the medical needs of society. More hospital beds, physicians, nurses, technicians, and medical equipment are urgently needed. Canada's healthcare expenditure is substantial and the government faces the difficult task of meeting the ever-

growing demands. That being said, the right to universal healthcare is one of society's firmly held beliefs. Financial experts must be employed in order to provide innovative solutions and alternative sources of funding as well as optimize the current system to ensure the provision of high quality healthcare to all Canadians.

Conclusion:

Overcrowding is a system wide problem that continues to affect the quality of care provided to patients and jeopardize patient safety. We as future attending physicians, have the responsibility of shaping the future of the healthcare system. The onus is on us to make every effort to ensure that the best quality care is available for our patients.

In this position statement, we identified the main causes of overcrowding, gave recommendations to guide future research, and presented key solutions to help solve the problem of overcrowding.

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