



IRISH MEDICAL
ORGANISATION
Ceardchumann Dochtúirí na hÉireann

IMO Position Paper on Achieving the 6-Hour Target for Patients Attending Emergency Departments in Ireland

December 2018

Irish Medical Organisation
10 Fitzwilliam Place
Dublin 2

Tel: (01) 6767 273

Fax: (01) 6612 758

Email: imo@imo.ie

Website: www.imo.ie

Follow us on Twitter: [@IMO_IRL](https://twitter.com/IMO_IRL)



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Mission Statement

The role of the IMO is to **represent** doctors in Ireland and to **provide** them with all relevant services.

It is committed to the **development** of a caring, **efficient** and effective Health Service.

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Introduction

The Emergency Medicine Programme for Ireland set out a target that 95% of patients should be either admitted or discharged within 6-hours of arriving at an Emergency Department (ED). However the target is currently achieved for only about 60% of all patients and for less than 30% of those requiring admission to a ward bed.

Long-waiting times in Emergency Departments impacts on the quality of care, on patients' outcomes and on mortality.

The Irish Medical Organisation (IMO) with the assistance of the Irish Association for Emergency Medicine (IAEM) performed a study in 2018 into what Emergency Medicine specialists felt would be required to achieve 95% compliance with the 6-hour Target in Emergency Medicine. The study questions reflected the findings of the international literature in relation to causes and solutions to ED crowding. The solutions proposed reflect the answers given by the participants in the study.

Rationale for the 6 hour target

Prolonged length of stay in the Emergency Department leads to overcrowding which in turn impacts negatively on the safe delivery of care. Numerous international studies show that Emergency Department overcrowding is associated with increased mortality and poorer outcomes for patients, whether admitted or discharged following assessment in an overcrowded ED.^{i,ii,iii} A seven year study of ED admissions in Ireland found that delays to admission was an independent predictor of increased mortality within 30 days.^{iv}

Studies have shown that ED overcrowding is associated with delays to receiving pain relief,^v medication errors^{vi} and greater hospital lengths of stay^{vii}. Delays in the ED also lead to poor patient experiences^{viii} and patients leaving the ED without being seen^{ix}.

ED overcrowding is also associated with high levels of stress and burnout among healthcare professionals particularly medical professionals which exacerbates existing difficulties in recruitment and retention^x.

In order to improve patient outcomes, many countries have introduced ED performance targets of between 4 and 6 hours for patients to be admitted or discharged from the time of arrival at the ED. The Emergency Medicine Programme (EMP)^{xi} set a target that 95% of patients should be either admitted or discharged within 6 hours of arrival, a target that is supported by the IMO. The target recognises that a small minority (5%) of patients with complex issues may require longer than 6 hours and sets a target that 100% of patients should be admitted or discharged within 9 hours. The EMP also sets a target that no more than 5% of patients should leave the Emergency Department before being seen.

However it is rare that these targets are achieved. HSE Performance reports to May 2018 show that nationally, just 63.4% of patients waited less than 6 hours to be admitted or discharged, 78.1% waited less than 9 hours while 95.8% of patients waited less than 24 hours which means that in Ireland in 2018 4.2% of patients wait in excess of 24 hours for emergency admission to hospital^{xii}. Of patients aged 75 years and over only 40% were admitted or discharged within 6 hours, 57.6% within 9 hours and 89.4% within 24 hours. The number of patients waiting on trolleys in Emergency Departments and on wards has reached record levels - reaching a daily record of 714 in March this year and hitting a yearly record of over 100,000 patients in November this year.^{xiii} The IMO have warned that unless urgent action is taken, trolley figures could reach 1,000 this winter.

IMO Survey on causes and solutions to ED overcrowding and delays to admission

The IMO surveyed consultants in Emergency Medicine (EM) through the Irish Association for Emergency Medicine. The survey was sent out to 78 consultants in EM with 31 or 40% responding. Of those who responded most worked in either a mixed Adult and Paediatric ED or an Adult only ED with the majority of the hospital groups (except the Children's Hospital Group) represented. The survey asked EM consultants to consider the major factors contributing to ED overcrowding and the solutions based on the input-throughput-output model proposed by Asplin^{xiv}.

The causes of ED overcrowding and delayed admissions are multi-factorial. Capacity issues and difficulties accessing care right across the health system manifest in the Emergency Department, which is often perceived as the only point of access for patients to hospital care. ED overcrowding is not unique to Ireland, but Ireland has amongst the worst level of crowding in the world and amongst the longest waits for emergency admission to hospital.^{xv} However the causes and solutions that emerge from the survey reflect international studies and best practice with regard to resolving ED overcrowding.^{xvi, xvii, xviii}

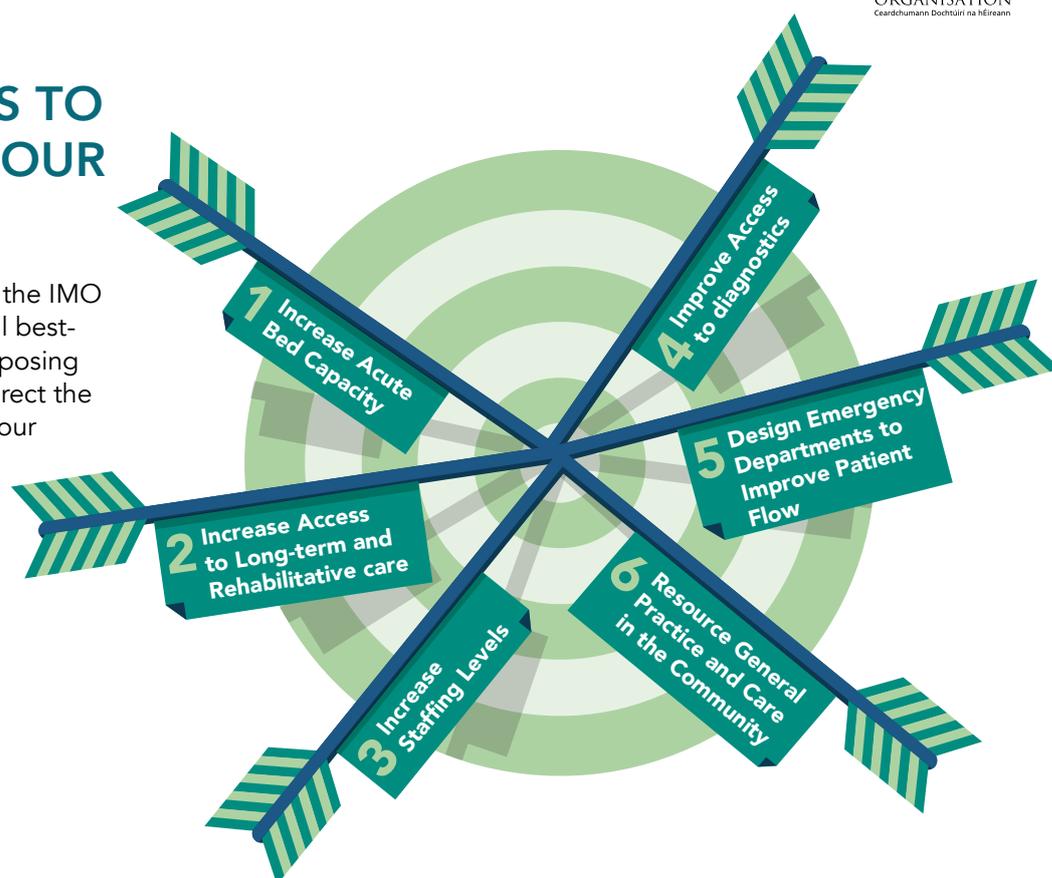
Input factors relate to the demand for ED services and often inappropriate attendances are thought to create excessive demand on EDs leading to overcrowding and delays. However the survey revealed that inappropriate self-referrals and referrals to the ED are not considered to be major factors contributing to excessive demand on ED services, however difficulties accessing diagnostics and outpatient appointments in the public system, lack of alternative pathways into the hospital system and the lack of alternative services in the community are all considered to be major factors impacting on ED demand. The input solutions considered to be of priority to EM consultants included increasing access to diagnostics and outpatient appointments, creating alternative pathways to hospital care through acute medical units /acute surgical units, and better resourcing of GP care including chronic disease management.

Throughput factors relate to the flow of patients through the ED which can be hindered when demand exceeds capacity. The IMO survey revealed that capacity issues within the ED - in terms of staffing levels, access to rapidly reported diagnostics, physical space - are seen as the major impediment to the flow of patients through the ED leading to overcrowding and delayed discharge/admission. Delays from ED referral to specialty team assessment are also seen as a factor contributing to ED crowding and long delays in admissions. Throughput solutions to ED delays therefore included, increasing staffing levels, access to diagnostics and physical capacity, implementing the full capacity protocols, legislation and penalties for non-compliance, specialty specific admissions and direct admissions to wards where appropriate.

Output factors are factors that block patients from exiting the Emergency Department. The IMO survey revealed that insufficient inpatient capacity and delayed discharges from hospitals are the principle factors contributing to long waiting time in the ED and the boarding of patients in the ED. Output solutions considered of priority by EM consultants in order to achieve the 6-hour ED target are increasing inpatient capacity, increasing long-term and rehabilitative care and improving patient discharge management.

SIX ARROWS TO HIT THE 6-HOUR TARGET

Based on the results of the IMO survey and international best-practice the IMO is proposing 6 solutions/arrows to direct the achievement of the 6 hour target as follows:



1. INCREASE ACUTE BED CAPACITY

The primary reason for delays in admission to a hospital bed is lack of capacity in the acute hospital system. The lack of availability of inpatient beds leads to the boarding of patients in the ED, who in turn as boarders, block access to clinical care spaces for emergency care for newly arriving patients experiencing an emergency. Over the last decade, Ireland's population has grown by 6.9% while the population aged over 65 years has grown by 34.3%, at the same time, approximately 1,530 inpatient beds (12.6% of inpatient beds) have been taken out of the hospital system. While the majority of elderly patients are healthy, an ageing population combined with increased rates of chronic disease and increased complexity of illness all place additional demands on the system. Bed occupancy rates in Irish Hospitals have now risen to an average of 97%, and sit even higher, at an average of 104% in Model 4 hospitals^{xix}. Internationally, it is widely accepted that hospitals should operate at an average of 85% capacity to allow for natural fluctuations and peaks or surges in demand. According to the Health Service Capacity Review,^{xx} Ireland urgently needs to open 1,260 inpatient beds to even approach international safe occupancy norms.

Delays in accessing acute inpatient psychiatric beds also contribute to delayed discharges, and some patients presenting to EDs with acute psychiatric illness may require an alternative care pathway. Mental health services were excluded from the scope of the Health Service Capacity Review and immediate analysis is necessary to ensure that the needs of patients requiring acute psychiatric care are met.

The HSE's full capacity protocol, which is designed to act as a safety valve when the ED functioning is compromised, has now become the norm, in many hospitals. A third of Emergency Medicine Specialists stated that the full capacity protocol was implemented most of the time or continuously in the Hospital where they work. The full capacity protocol requires a whole of hospital approach with additional patients being placed on wards when the numbers of boarded patients in the ED could potentially compromise the delivery of safe emergency care. As part of a Hospital's escalation procedure in the event of crowding there will also be cancellation of planned admissions.

The conflicting demands on hospitals with regards to providing timely emergency care and timely scheduled / elective care can only be addressed by having adequate capacity in the acute hospital system such that the delivery of planned care is not at the expense of providing safe emergency care and indeed that patients awaiting life changing surgeries or procedures are not delayed because there is no available bed in which to provide their care.

In an acute system that has been starved of infrastructural capital spending for a decade it is imperative that we avoid closing available beds and operating theatres for budgetary reasons. Having beds closed whilst patients wait on chairs and trolleys for emergency admission to hospital is ethically unacceptable and should not be allowed to happen.

Reflecting the minimum requirements of the Health Service Capacity Review, the National Development Plan 2018-2027 provides for a minimum additional 2,600 acute hospital beds to include new dedicated elective only hospitals in Dublin, Cork and Galway. However, given the scale of investment required and the significant lack of progress in implementing the required healthcare reforms, it is therefore necessary to recognise that future inpatient bed requirements are likely to be significantly higher. A recent report from the ESRI estimates that future hospital bed requirements are likely to be considerably higher and that between 3,200 and 5,600 additional beds are projected to be required in public hospitals by 2030.^{xxi}

Recommendations

Increase the number of acute hospital beds as a matter of urgency by at least 1,260, accompanied by appropriate staffing and resources, to bring bed occupancy to safer levels.

Urgently assess the number of acute inpatient psychiatric beds required to ensure timely admission of patients presenting with acute psychiatric illness.

Develop, finance and implement a detailed Capital investment plan over the next ten years to include:

- ▶ **A substantial increase in the number of acute hospital beds substantially above and beyond the minimum recommendation of 2,600. The IMO would suggest a target of 5,000 beds is a more realistic assessment of our population's needs.**
- ▶ **The construction of stand-alone public hospitals for elective care to provide for scheduled patient care.**
- ▶ **Increase critical care capacity with an increase of 300 intensive care beds in the acute hospital system to support the delivery of critical care to patients requiring intensive management of their life threatening conditions.**

2. INCREASE ACCESS TO LONG-TERM AND REHABILITATIVE CARE

A second major factor contributing to overcrowding is the lack of appropriate long-term and rehabilitative care and step down facilities. HSE figures show that at any one time approximately 600 patients experiencing discharges, unnecessarily occupy acute hospital inpatient beds while awaiting transfer to alternative care. In some hospitals the number of delayed discharges can be in excess of 15% of the inpatient bed stock. We cannot continue to tolerate a situation where those who do not need to be in hospital cannot be discharged because the appropriate supports are not in place for them whilst at the same time we have over 500 people on trolleys daily awaiting emergency admission to hospital in the Emergency Departments of our country.

Elderly patients over 65 years old account for 90% of recorded delayed discharges. Their delayed transfer of care not only reduces access to hospital beds but also poses significant risks to elderly patients including a higher risk of contracting a healthcare associated infection and of deconditioning resulting in reduced mobility and higher dependence.^{xxii}

By 2031 the population over 65 years of age is predicted to grow by 65% while the population over 85 years is expected to grow by 95%. This will create additional demand for services for older people.

The Health Service Capacity Review 2018^{xxiii} estimates that to meet the social care needs of older patients, by 2031 over 10,000 long-term beds are required, between 1,800 and 2,500 additional short-term beds are required and between 11,000 and 19,000 additional home care packages plus up to 460 intensive home care packages are required. Additional rehabilitative beds, long-term nursing home beds and the financing of home care packages will free up acute hospital beds for admissions from the ED.

In addition to increasing the number of long-term and rehabilitative beds, better discharge planning will also allow for the earlier availability of beds. The Department of Health recently published the Independent Expert Review of Delayed Discharges 2018^{xxiv} which identified a number of key challenges. Different interpretations of delayed discharges across hospitals suggest that the real number of delayed discharges could be significantly higher than the published figures. The Review also found that financial issues, access to rehabilitative care and delays in the application process for home care packages and Nursing Home Support Scheme (NHSS) processes are all factors contributing to delayed discharges. The review made a number of short-term recommendations to immediately improve discharge planning including improving the accuracy and use of data on delayed discharges and a joint planning forum to ensure hospitals and community health organisations work together to discharge patients in a timely manner. Each level 3 and 4 hospital should have a discharge coordinator and a resource allocation to support the NHSS process with a shared resource for level 1 and 2 hospitals.

Recommendations

- ▶ **Increase the number of rehabilitative care beds, long-term nursing home beds and the financing of home care packages to free up acute hospital beds for admissions from the ED.**
- ▶ **Improve discharge planning with better data on delayed discharges, closer liaison between acute hospitals and community health organisations, appointment of discharge coordinators and the allocation of resources to support NHSS planning.**

3. INCREASE STAFFING LEVELS

Insufficient staffing levels in the acute hospital system and in Emergency Departments, in particular an under-supply of specialists/senior decision makers, coupled with an over-reliance on non-training non consultant hospital doctors (NCHDs), results in delays in both admissions and discharges to and from the Hospital and the Emergency Department. The survey of consultants in Emergency Medicine revealed that staffing levels were insufficient across the country and that in order to meet 95% compliance with the 6-hour ED target the number of Emergency Medicine consultants and senior registrars would need to double nationally.

There are currently 26 Emergency Departments and approximately 102 consultant posts, of which 75% are filled on a permanent basis^{xxv}, while the HSE - National Doctors Training and Planning (NDTP) review of the Emergency Medicine Medical Workforce in Ireland estimate that based on current ED configurations, 140 consultants in Emergency Medicine (WTE's) are required to provide a safe level of emergency care.^{xxvi} However, it is recognised that the current configuration of Emergency Medicine services is not as recommended by the Emergency Medicine Programme.

Increasing staffing levels in EDs will speed up the flow of patients through the ED. In particular increasing the number of consultants in Emergency Medicine within the ED will speed up diagnosis and decision making in the ED, improve outcomes for patients and reduce unnecessary diagnostic procedures and admissions. Significant difficulties in recruiting and retaining consultants exist across hospital services. The recent report of the Public Service Pay Commission concluded a general difficulty in recruiting consultants with more significant problems in certain specialties and in certain locations, noting the high percentage of locums and of non-specialist appointed in Emergency Medicine.

The IMO have consistently highlighted that the 30% pay reduction imposed on new consultants since October 2012 acts as a major impediment to the recruitment and retention of consultants in our public hospital system. While some efforts were made by the IMO to have the Department of Public Expenditure and Reform reverse these cuts with new pay scales the fact remains that hundreds of consultants in Irish hospitals are working alongside colleagues doing the same job but earning between €30,000 to €55,000 less. The Public Service Pay Commission recognised the pay differentials as they currently apply acts as a significant barrier to recruitment and retention and recommends that the parties to the Public Sector Stability Agreement consider measures to address this.

Recommendations

- ▶ **Increase the number of consultant posts in all specialties.**
- ▶ **Increase the number of Consultants in Emergency Medicine to 140 to provide a safe level of senior decision makers in Emergency Care**
- ▶ **Address the difficulties in recruiting and retaining hospital consultants by**
 - **Immediately reversing the discrimination being suffered by all Consultants appointed since 2012,**
 - **Negotiating with the IMO new contracts for hospital doctors with competitive terms and conditions to attract highly qualified doctors to a career in the public health system.**

4. IMPROVE ACCESS TO DIAGNOSTICS

Frequently delays in accessing diagnostics, radiological imaging and laboratory services, can lead to bottlenecks in the Hospital and the Emergency Department. Diagnostic and laboratory testing is a key element of Emergency Department Assessment and the EMP recommends a maximum 2-hour turn around for all Emergency investigations. The IMO Survey identified access to diagnostics as a significant factor contributing to delays in throughput within the ED. In particular, Emergency Medicine Consultant's identified timely access to radiology services as a major issue across a number of Emergency Departments.

Busy laboratory and radiology diagnostic departments will often be serving hospital inpatients and patients referred from General Practice and are often insufficiently resourced to meet demand. In addition, restricted availability of radiology departments services can often lead to the admission of patients awaiting MRI or CT scan.

Expanding access to diagnostics for ED patients, inpatients and GP referrals will speed up the flow of patients through the ED, however, no detailed assessment has been carried out of diagnostics, radiology and laboratory service requirements to meet current and future demands.

Recommendations

- ▶ Appropriately resource diagnostic, radiology and laboratory departments to allow timely access to investigations and the results of same.
- ▶ Health care planning must include a detailed assessment of diagnostics, radiology and laboratory service requirements across acute and community care to meet current and future demands.

5. DESIGN EMERGENCY DEPARTMENTS TO IMPROVE PATIENT FLOW

While the removal of boarded admitted patients from the ED, increased staffing and improved access to diagnostics will significantly contribute to improved patient flow in many hospitals a majority of consultants were of the view that there was insufficient physical space within Irish Emergency departments to meet the demands of normal daily throughput. A majority of respondents were of the view that increased numbers of assessment cubicles, observation cubicles, resuscitation cubicles and larger triage areas would help to optimise patient flow and so contribute to shorter waiting times.

Investment in a national system of electronic health records will speed up the flow of patients in the ED reducing time wasted seeking previous notes from other hospital sites or tracking down accurate information regarding prescription medicines.

In addition to optimizing the physical space, EM consultants are also of the view that the creation of alternative routes into the acute hospital system will relieve pressure on the Emergency Department. GP referrals requiring admission, should be streamed through acute medical units and acute surgical units in line with the clinical pathways outlined in the National Acute Medicine^{xxvii} and Acute Surgery Programmes.^{xxviii} Included in patient flow should be the fact that patients returning to Hospital within days of being discharged by a service should be seen directly by that service to expedite decision making around further management. Patients under the care of the specialist with the expertise most relevant to their condition tend to experience shorter hospital stays than those admitted by Consultants without that specialty specific experience. In this regard, where possible, direct referral to the relevant specialty is ideal otherwise early transfer under their care should be facilitated as soon as possible during the patient's admission.

Even when capacity in the ED meets normal flow there will still be times when demand on the ED exceeds capacity. Every Hospital should regard the breach of the 6 hour target as a significant event and escalation procedures should be enacted to facilitate the safe delivery of emergency care. The escalation policy should ensure the utilisation of all available clinical care spaces by way of a communication cascade and should seek to expedite appropriate Hospital discharges, as well as curtailing planned work and where necessary the Full Capacity Protocol should be enacted which involves the placement of additional beds and patients on wards as opposed to all patients awaiting emergency admission being housed in the Emergency Department. The criteria for admission to an extra bed should take into account that 87% of patients prefer to be an extra patient on the ward rather than to be boarded in the ED.^{xxix}

Recommendations

- ▶ **Optimise the physical space and improve patient flow within the Emergency Department to meet normal daily throughput including an increase in the number of assessment cubicles, observation cubicles, resuscitation cubicles and larger triage areas.**
- ▶ **Invest in the roll-out of a national system of electronic health records.**
- ▶ **Relieve pressure on the ED through the creation of alternative routes into the acute hospital system including acute medical and acute surgical units and direct admissions of patients returning to the hospital following discharge.**
- ▶ **Enact escalation procedures up to and including the Full Capacity Protocol to avoid Emergency Department overcrowding compromising patient safety.**

6. RESOURCE GENERAL PRACTICE AND CARE IN THE COMMUNITY

Contrary to popular belief, inappropriate attendances to the ED are not a major contributor to crowding of Emergency Departments. However, with long waiting lists even for urgent diagnostics and outpatient appointments, the ED is frequently the only way for patients to access the public hospital system, and often when the patient's condition has deteriorated.

General Practice with appropriate resources including investment in chronic disease management and prevention as well as timely access to investigations and specialist opinions, could improve outcomes, reduce avoidable hospitalisations and optimise the more appropriate use of Emergency Departments in Ireland.

GPs are highly trained specialists who are impeded in their ability to deliver quality care to their patients due to lack of direct access to diagnostics and delays in accessing diagnostics in the public health system.^{xxx} International evidence shows that greater access to diagnostics would reduce referrals to emergency departments and outpatient departments.

86% of people aged 65 years and over, have at least one chronic condition and approximately 65% of people 65 years and over have two or more chronic conditions. Chronic diseases, including cancer, cardiovascular disease, COPD and diabetes are estimated to account for 40% of hospital admissions and 75% of hospital bed days.^{xxxi} Appropriate resourcing of evidence-based chronic disease programmes in General Practice will allow for better management of chronic conditions in the community and the prevention of unnecessary hospital admissions.^{xxxii}

Recommendations

- ▶ **Provide General Practice with direct and timely access to diagnostics**
- ▶ **Agree a multi-annual plan with the IMO for the development of General Practice to include:**
 - **Resource and support measures to increase, medical and nursing capacity in General Practice.**
 - **Investment in chronic disease management programmes for which GPs are already trained.**

CONCLUSION

The metric of trolley numbers which represents the numbers of patients waiting for a hospital bed in Ireland every day at 08:00 is a metric of shame for our society but it has highlighted what the IMO regard as a major infringement of Human Rights in Ireland.

Trolley numbers represent the unacceptable wait that patients in Ireland experience when they require emergency admission to hospital. The system needs to respond to the plight of every individual patient and to put in place the resources to ensure that 95% of patients attending an Emergency Department in Ireland will be admitted or discharged within 6 hours of their arrival.

The IMO is confident that the resourcing and achievement of these 6 arrows to hitting the 6 Hour target will benefit patient care in Ireland.

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REFERENCES:

- i. Sprivilis P.C., Da Silva J.A., Jacobs I.G., Frazer A.R., Jelinek G. A. The association between hospital over-crowding and mortality among patients admitted via Western Australian emergency departments. *Med J Aust.* 2006 Mar 6;184(5):208-12.
- ii. Richardson D.B. Increase in patient mortality at 10 days associated with emergency department overcrowding. *MJA* 2006; 184 (5): 213-21.
- iii. Guttman A, Schull MJ, Vermeulen MJ, Stukel TA. Association between waiting times and short-term mortality and hospital admission after departure from emergency department: population based cohort study from Ontario, Canada. *BMJ.* 2011 Jun 1;342:d2983. doi: 10.1136/bmj.d2983
- iv. Plunkett PK, Byrne, DG, Breslin T et al. Increasing wait times predict increasing mortality for emergency medical admissions. *Eur J Emerg Med* 2011 Aug;18(4):192-
- v. Hwang U, Richardson L, Livote E, Harris B, Spencer N, Sean Morrison R. Emergency Department crowding and decreased quality of pain care. *Acad Emerg Med* 15(12) Dec 2008
- vi. Kulstad EB, Sikka R, Sweiss RT, Kelley KM, Rzechula KH. - ED overcrowding is associated with an increased frequency of medication errors. *Am J Emerg Med* 2010;28(3)304-9.
- vii. Richardson, D.B., Mountain D. Myths versus Facts in emergency department overcrowding and hospital access block *Medical Journal Australasia* 90:7:369-374. April 2009.
- viii. Pines JM, Iyer S, Disbot M, Hollander JE. The effect of emergency department crowding on patient satisfaction for admitted patients. *Acad Emerg Med* 2008 Sep;15(9):825-31.
- ix. Carter EJ, Pouch SM, Larson EL, The Relationship Between Emergency Department Crowding and Patient Outcomes: A Systematic Review *J Nurs Scholarsh.* 2014 Mar; 46(2): 106–115.
- x. Howlett M, Doody K, Murray J, LeBlanc-Duchin J, Fraser J, Atkinson PR, Burnout in emergency department healthcare professionals is associated with coping style: a cross-sectional survey *Emerg Med J* 2015;0:1–6. doi:10.1136/emmermed-2014-203750
- xi. HSE 2012 The National Emergency Medicine Programme A strategy to improve safety, quality, access and value in Emergency Medicine in Ireland, available at <https://www.hse.ie/eng/services/publications/clinical-strategy-and-programmes/the-national-emergency-medicine-programme.pdf>
- xii. HSE Management Data Report May 2018
- xiii. INMO trolley watch 2018
- xiv. Asplin BR1, Magid DJ, Rhodes KV, Solberg LI, Lurie N, Camargo CA Jr. A conceptual model of emergency department crowding. *Ann Emerg Med.* 2003 Aug;42(2):173-80.
- xv. Boyle, A. Atkinson, P. Basaure Verdejo, C.Chan, E. Clouston, R. Gilligan, P. Grewal, K. Higginson, I. Liston, P. Newcombe, V. Norton, V.; Richter, S. Stoica, G. Wakai, A. Validation of the short form of the International Crowding Measure in Emergency Departments an international study, *European Journal of Emergency Medicine: November 13, 2018 - Volume Publish Ahead of Print* doi: 10.1097/MEJ.0000000000000579
- xvi. Hoot N. R., Aronsky D, Systematic Review of Emergency Department Crowding, causes, effects and Solutions, *Ann Emerg Med* 2008: 52 (2) : 126-136
- xvii. Affleck A, Parks P, Drummond A, Rowe B, Ovens H, Emergency Department overcrowding and access block, *CJEM* 2013: 15 (6) 359-369
- xviii. Emergency Medicine Practice Committee, ACEM, Emergency Department Overcrowding: High Impact Solutions May 2016, American College of Emergency Physicians

- xix. Department of Health, *Interim Report and Recommendations by the Taskforce on Staffing and Skill Mix for Nursing*, Dublin, February 2016, p. 27.
- xx. PA Consulting, Health Service Capacity Review 2018, DOH
- xxi. Keegan, C., Brick, A., Walsh, B., Bergin, A., Eighan, J., and Wren, M-A., "How many beds? Capacity implications of hospital care demand projections in the Irish hospital system, 2015-2030", *Int J Health Plann Mgmt*, Available online: <https://doi.org/10.1002/hpm.2673>
- xxii. PA Consulting, Health Service Capacity Review 2018, DOH
- xxiii. PA Consulting, Health Service Capacity Review 2018, DOH
- xxiv. DoH Independent Expert Review of Delayed Discharges November 2018,
- xxv. Report of the Public Service Pay Commission Recruitment and Retention Module 1 Aug 2018
- xxvi. HSE - NDTP review of the Emergency Medicine Medical Workforce in Ireland 2017
- xxvii. HSE, RCPI National Acute Medicine Programme 2010
- xxviii. HSE, RCSI- Model of Care for Acute Surgery - National Clinical Programme in Surgery 2013
- xxix. McGowan H, GopeesinghK , O'Kelly P, Gilligan P. Emergency Department Overcrowding And The Full Capacity Protocol Cross Over Study: What Patients Who Have Experienced Both Think About Being An Extra Patient In The Emergency Department Or On A Ward. *Irish Medical Journal* 2018;111(7):788
- xxx. O'Riordan M, Collins C. & Doran G. 2013 Access to Diagnostics – A key enabler for a primary care led health service, ICGP
- xxxi. Department of Health 2016, Better Health – Improving Health Care. <http://health.gov.ie/wpcontent/uploads/2016/05/Better-Health-Improving-Health-Care.pdf>
- xxxii. IMO, 2016, Solving the Chronic Disease Problem through General Practice, <https://www.imo.ie/news-media/events/2016/solving-the-chronic-disea/Solving-the-Chronic-Disease-Problem-Booklet.pdf>

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