Health Information and Quality Authority

An tÚdarás Um Fhaisnéis agus Cáilíocht Sláinte

An analysis of data on urgent and emergency healthcare services in the Health Service Executive Mid West health region

Work stream 2 of the Review of urgent and emergency healthcare services in the Health Service Executive Mid West health region

Publication date: 30 September 2025

About the Health Information and Quality Authority

The Health Information and Quality Authority (HIQA) is an independent statutory body established to promote safety and quality in the provision of health and social care services for the benefit of the health and welfare of the public.

Reporting to the Minister for Health and engaging with the Minister for Children, Equality, Disability, Integration and Youth, HIQA has responsibility for the following:

- **Setting standards for health and social care services** — Developing person-centred standards and guidance, based on evidence and international best practice, for health and social care services in Ireland.
- **Regulating social care services** — The Chief Inspector of Social Services within HIQA is responsible for registering and inspecting residential services for older people and people with a disability, and children's special care units.
- **Regulating health services** — Regulating medical exposure to ionising radiation.
- **Monitoring services** — Monitoring the safety and quality of permanent international protection accommodation service centres, public and private healthcare services and children's social services against the national standards. Where necessary, HIQA investigates serious concerns about the health and welfare of people who use health services and children's social services.
- **Health technology assessment** — Evaluating the clinical and cost effectiveness of health programmes, policies, medicines, medical equipment, diagnostic and surgical techniques, health promotion and protection activities, and providing advice to enable the best use of resources and the best outcomes for people who use our health service.
- **Health information** — Advising on the efficient and secure collection and sharing of health information, setting standards, evaluating information resources and publishing information on the delivery and performance of Ireland's health and social care services.
- **National Care Experience Programme** — Carrying out national service-user experience surveys across a range of health and social care services, with the Department of Health and the HSE.

Visit www.hiqa.ie for more information.

Acknowledgements

HIQA would like to thank all of the individuals and organisations who provided their time, advice and information in support of this report.

Particular thanks are due to the Expert Advisory Group (EAG) and the individuals within the organisations listed below who provided advice and information. We would also like to thank the Department of Health and the Integrated Information Service and Acute Business Information Unit in the HSE for the provision of, and assistance in interpreting, relevant data and metrics.

Membership of the EAG was as follows:

Maria Bridgeman*	Integrated Healthcare Area Manager, Limerick City and North Tipperary, HSE
Sandra Broderick	Regional Executive Officer, Mid West health region, HSE
Prof John Browne	Professor of Epidemiology & Public Health, University College Cork
Prof Sara Burke	Associate Professor and the Director of the Centre for Health Policy and Management, Trinity College Dublin
Ian Carter	Mid West Integrated Healthcare Area Manager, Acute and Older Person Services, HSE
Dr Sheelah Connolly	Senior Research Officer and joint Research Area Coordinator for Health and Quality of Life research, Economic and Social Research Institute (ESRI)
Margaret Costello*	Head of Service, Primary Care, HSE Mid West Community Healthcare
Prof Garry Courtney	Clinical Lead, Acute Medicine National Clinical Programme, HSE
Dr Gino De Angelis	Manager Clinical Research, Canada's Drug Agency
Dr Michael Dockery	Clinical Lead, National Clinical Programme for Anaesthesia HSE
Sean Egan	Director of Healthcare Regulation, HIQA

Dr Des Fitzgerald	Consultant in Emergency Medicine, University Hospital Waterford
Patrick Glackin	Area Director, Nursing and Midwifery Planning and Development (Mid West, West and North), HSE
Prof Liam Glynn	Professor of General Practice, University of Limerick
Janet Grene▪	Honorary Secretary, University of Limerick Hospitals Group Patient Council
Dr David Hanlon	National Clinical Advisor and Group Lead Primary Care, HSE
John Hannifin♦	Chairperson, University of Limerick Hospitals Group Patient Council
Dr Patricia Harrington	Deputy Director, Health Technology Assessment, HIQA
Dr Martina Healy	Clinical Lead, National Clinical Programme for Critical Care, HSE
Dr Orla Healy	National Clinical Director of Quality and Patient Safety, HSE
Dr Terence Hennessy	Regional Clinical Lead for Strategy and Development for Mid West, HSE
Joe Hoare	Assistant National Director, Capital & Estates Mid West, HSE
Dr Graham Hughes	Clinical Lead, National Clinical Programme for Older People , HSE
Dr Paul Kavanagh	Consultant in Public Health Medicine, National Health Intelligence Unit, HSE
Ruth Kilcawley	Assistant National Lead of Health & Social Care Professions, HSE
Sinead Lardner	National Lead for Safe Nurse Staffing & Skill Mix, HSE
Dr Margie Lynch*	Medical Director, ShannonDoc
Dr Mai Mannix	Regional Director of Public Health, Public Health Mid West, HSE

Dr Ciara Martin	National Clinical Advisor and Group Lead for Children and Young People, HSE
Prof Peter McCarthy	Former Dean of the Faculty of Radiologists and Radiation Oncologists
Claire McMahon*	Clinical Quality and Nurse Manager, ShannonDoc
Dr David Menzies	Deputy Clinical Director (Emergency Care), National Ambulance Services and Consultant in Emergency Medicine
Niall Murray	General Manager, National Ambulance Services Operations, Mid West Region
Kate O' Flaherty	Director of the National Patient Safety Office, Department of Health
Michelle O' Neill	Deputy Director, Health Technology Assessment, HIQA
Anne O' Shea Clarke	Patient representative, SAGE Advocacy
Dr Catherine Peters	Mid West Clinical Regional Director, HSE
Dr Máirín Ryan (Chair)	Director of Health Technology Assessment and Deputy Chief Executive Officer, HIQA
Prof Eamonn Rogers	Co-Lead of the National Clinical Programme for Surgery , HSE
Grace Rothwell	National Director for Access and Integration, HSE
Dr Nigel Salter	Consultant in Emergency Medicine, St. Vincent's Hospital
Mr Keith Synnott	National Clinical Lead for Trauma Services, HSE and Consultant Orthopaedic Surgeon at the Mater Misericordiae Hospital
Dr Conor Teljeur	Chief Scientist, Health Technology Assessment, HIQA
Dr Kieran Walsh	Deputy Director, Health Technology Assessment, HIQA

Patricia Whelehan	Assistant National Director, Older Person Services, National Office Access and Integration, HSE
Jo Williams	Patient Representative, Patients for Patient Safety Ireland

* Alternate nominee for programme; ■EAG member from 23 January 2025; ♦EAG member until 23 January 2025

Members of the Health Technology Assessment Directorate Evaluation Team:

This report was led by staff in HIQA's HTA Directorate. The following individuals contributed to the management, technical writing or dissemination of this report: Cillian McDowell (work stream lead), Martin Boudou, Marie Carrigan, Joan Devin, Andrew Dullea, Elaine Foley, Patricia Harrington, Orla Jenkins, Louise Larkin, Arielle Maher, Dane Moriarty, Ruairí Murray, Michelle Norris, Kirsty O'Brien, Michelle O'Neill, Michelle O'Shea, Lydia O'Sullivan, Valerie Power, Máirín Ryan, Debra Spillane, Susan Spillane, Conor Teljeur, Barrie Tyner, Laoise Wallace and Kieran Walsh.

Conflicts of Interest

None reported.

Table of contents

List of tables

List of figures

Plain language summary

Background

The HSE Mid West region covers Limerick, Clare and North Tipperary and is called the Mid West in this report. In 2024, the Minister for Health asked HIQA to look at how urgent and emergency healthcare is working in this region. Like other parts of Ireland and many countries, overcrowding in emergency departments (EDs) is a serious issue. It can lead to delays in treatment and put pressure on hospitals.

This report looked at national healthcare data to better understand what is happening in urgent and emergency healthcare in the Mid West region. However, not all hospitals collect or report information in the same way, which makes it hard to get a full and fair picture.

Key findings

Urgent and emergency care in the Mid West is mainly provided by University Hospital Limerick (UHL), the region's only large Model 4 hospital. Three smaller Model 2 hospitals, St John's, Ennis and Nenagh, support the delivery of urgent and emergency care by treating people with less serious conditions.

These smaller hospitals take some of the pressure off UHL and its ED by managing less complex cases that would otherwise go to or need to be admitted there. Still, UHL has one of the busiest EDs in the country. Also, more of the patients who attend the UHL ED need to be admitted to hospital after arriving. This is partly because many patients with minor issues are treated at the injury units in the smaller hospitals in the Mid West.

The Mid West, and UHL in particular, does not have as many inpatient beds as it needs. By not having enough beds, UHL faces challenges in accommodating patients who need to be admitted from the ED. Estimates suggest the region needs between 155 and 221 more beds to meet the current needs. There are 128 beds currently being added, but these alone are unlikely to be enough to solve the current problems.

Conclusion

Urgent and emergency care in the Mid West faces challenges, particularly due to a need for more inpatient hospital beds. To improve services, higher-quality information is needed about how and where patients are treated, so that changes can be better planned and assessed.

Key Points

Background

- The term 'Mid West', as used throughout this report, refers specifically to the HSE Mid West health region. Acute hospital care in the Mid West is currently delivered by the University of Limerick Hospitals Group, which comprises six hospitals: University Hospital Limerick (UHL), University Maternity Hospital Limerick, Nenagh Hospital, Ennis Hospital, Croom Orthopaedic Hospital, and St John's Hospital.
- In 2024, the Minister for Health requested that HIQA conduct a review of urgent and emergency care in Ireland's HSE Mid West health region, with the primary objective of ensuring safe quality acute care in the region.
- This report explores relevant data to characterise urgent and emergency care activity in the Mid West.
- A combination of individual patient and provider-level datasets were analysed. The primary data sources were the Patient Experience Time (PET) and Hospital In-Patient Enquiry (HIPE) datasets. The PET database provided information on emergency department (ED) and injury unit activity and the HIPE database provided information on inpatient and day-case activity in acute public hospitals. These datasets were developed for operational management purposes and not as a measure of quality or safety of care, which requires an understanding of clinical context. The COVID-19 pandemic also impacted the data, creating challenges for interpreting longer-term trends in activity. As a result, findings should be interpreted with caution, considering potential limitations in data coverage, completeness, and consistency.
- To contextualise findings for the Mid West, data from UHL, St John's, Ennis, and Nenagh hospitals, and the Mid West were considered alongside data from other hospitals, health regions and national data.

The Mid West population and urgent and emergency care

- Overall, the population demographics of the Mid West are comparable to the rest of the country. Population growth between 2016 and 2022 in the Mid West was slightly lower than the national average (7.3% vs 8.1%); however, population growth in those aged 75 years and older was higher than the national average (29.6% vs 27.0%). The proportion of the Mid West population living in the country's top 10% most deprived areas, as assessed by the HP Deprivation Index, was 11.3% in 2022. This is the third highest of the six health regions and is higher than the national average. As with all health regions, there are pockets of very high deprivation in Mid West.

- In the Mid West, urgent and emergency care is primarily delivered through the ED at UHL (a Model 4 hospital) and through medical assessment units and injury units in the three Model 2 hospitals.
- The Mid West has lower total per capita bed capacity compared with the rest of Ireland (2.2 versus 2.5 beds per 1,000 population), and relatively low private bed capacity. Additionally, the Mid West has a greater proportion of its acute inpatient bed capacity in Model 2 hospitals (which do not manage undifferentiated emergency presentations through an ED), and a smaller proportion in the Model 3/4 category than other regions. This reflects the region's configuration of three Model 2 hospitals and a single Model 4 hospital, with no Model 3 facility.

Emergency department presentations

- From 2019 to 2023, UHL reported the highest number of ED presentations across all Model 4 hospitals. In 2024, the number of presentations was the same as that of Cork University Hospital. The percentage increase in presentations at UHL from 2016 to 2024 is consistent with the average increase across all other Model 4 hospitals. From January to July 2025, ED presentations at UHL were 10% higher than the same period in 2024, the largest rise among Model 4 hospitals (for which the average increase was 4%).
- Between 2016 and 2024, the volume of ED presentations relative to inpatient bed capacity was consistently higher in UHL compared to the other Model 4 hospitals.
- On a per capita basis, there are fewer ED presentations and more injury unit presentations in the Mid West compared to the rest of Ireland. Combined, per capita use of hospital-based urgent and emergency care in the Mid West is broadly in line with the rest of Ireland. This suggests greater uptake of injury unit care by patients with conditions appropriate for that setting, reflecting the greater reliance on these services in the region.
- This high volume of urgent and emergency care delivered through injury units in the Mid West contributes to a lower proportion of low triage score presentations at the UHL ED compared to other Model 4 hospitals. As a consequence, UHL experiences a higher conversion rate from ED presentation to inpatient admission, although it is in line with what would be expected given the age-sex triage score distribution of ED presentations.
- The time between ED registration and discharge at the UHL ED was in line with that seen in other Model 4 hospitals nationally. Of note, this time is likely influenced by the relatively higher proportion of ED presentations in UHL that are referred to the acute medical and surgical assessment units, which is considered a discharge in the data source.

Acute hospital inpatients and day cases

- A higher proportion of admissions in the Mid West, and UHL specifically, come through emergency pathways compared with other health regions and Model 4 hospitals. As a consequence, in 2024, UHL reported the second-lowest percentage of inpatient bed days used for elective care (9.3%), following Tallaght University Hospital (7%).
- Between 2012 and 2024, relative to other Model 4 hospitals, emergency admissions to UHL consistently had the lowest average length of stay (UHL 2012-2024 range: 4.8 to 5.9 days). The proportion of emergency admissions with a length of stay of one day or less was also highest at UHL from 2017-2024 (range: 33% to 43%).
- Estimated annual inpatient occupancy rates are high across all Model 4 hospitals, with inpatient occupancy rates frequently exceeding 100% between 2019 and 2024. In this period, occupancy rates exceeded 100% in four of the six years at UHL. In 2024, all hospitals exceeded 85% occupancy and three exceeded 100%: Tallaght University Hospital, St Vincent's University Hospital, and UHL.
- A higher proportion of admitted patients in UHL are accommodated on trolleys relative to the other Model 4 hospitals.
- There appears to be higher inter-hospital transfer activity between UHL and the three Model 2 hospitals in the Mid West compared with that observed in the rest of Ireland, partly as a means to manage supply and demand in the region.
- For those patients discharged to nursing homes, there was no evidence of a longer length of stay at UHL relative to other Model 4 hospitals. The availability of residential care in nursing homes in the Mid West is comparable to other regions.
- The number of additional inpatient beds needed to align current capacity with demand in the Mid West was estimated using two approaches: reducing the occupancy rate at UHL to 85%, and aligning the ratio of ED presentations to inpatient beds with that observed in other Model 4 hospitals. The analysis focuses on current (not projected) capacity requirements, with additional requirements calculated relative to the number of open beds as of December 2024. Based on these estimates, between 155 to 221 additional inpatient beds are required in the Mid West to align with current national norms and alleviate pressure on existing services. The 128 beds that are currently being added are unlikely to be sufficient to address current shortfalls in inpatient bed capacity in the Mid West.

- The ESRI estimated that by 2040, between 299 and 593 additional inpatient beds will be required in the Mid West relative to 2023 capacity. This range reflects different population growth, healthy ageing, occupancy rates and healthcare delivery scenarios.
- The ESRI has projected that the number of urgent and emergency care presentations at hospitals in the Mid West will increase by between 16% and 23% between 2023 and 2040.

Staffing

- By 2024, UHL had staffing levels in medical and dental, nursing and midwifery, and health and social care professions comparable to other Model 4 hospitals, relative to hospital activity. However, these high-level categories do not reflect the complexity of the staffing profile and differences may exist in terms of skill mix and the relative proportions of senior decision-makers.
- Staff absence rates in the UL Hospital Group are higher than in the rest of Ireland, in particular among general support, management and administrative, nursing and midwifery staffing groups.
- Overall, GP attendance rates among the Mid West population are in line with those in the rest of the country, but there is evidence that some people seek GP care outside their area of residence.

Conclusions

- In the Mid West, urgent and emergency care is primarily delivered through the UHL ED, along with medical assessment units and injury units at the three Model 2 hospitals. However, the region has a relatively high proportion of inpatient beds in Model 2 hospitals (which do not have the capacity to manage undifferentiated emergency presentations), and a lower proportion in the single Model 4 hospital that does. This impacts the management of undifferentiated cases in the region. An undifferentiated healthcare condition is one where diagnosis is not known prior to a patient going to hospital, and where they require the ready availability of a comprehensive range of services onsite to safely manage their possible care needs.
- Inpatient bed capacity is relatively low at UHL, and the 128 beds that are currently being added are unlikely to be sufficient to address current shortfalls in inpatient bed capacity.
- A relatively higher proportion of ED presentations in UHL are referred to the acute medical and surgical assessment units than in other Model 4 hospitals. As has been noted to be the case in previous HIQA inspections, this may indicate that the units are being used as overflow areas for admitted patients, rather than for rapid assessment and discharge as intended.

- These analyses are based on recorded activity only and do not capture unmet need, which may result in delayed care-seeking and more complex or advanced presentations.
- Staff absence rates are relatively high in the UL Hospital Group compared to the rest of Ireland.
- The need for improved health information systems has been recognised in many reports over the past two decades. HIQA has previously provided recommendations on reforming Ireland's national health information system, and the need to implement these changes is further underscored by this review of the Mid West. To better support service planning, management, and evaluation, there is an urgent need for unique patient identifiers and consistent, reliable measures to assess primary care, ED, and hospital services in terms of both performance and outcomes.

List of abbreviations used in this report

CSO	Central Statistics Office
ED	Emergency Department
GP	General Practitioner
HIPE	Hospital In-Patient Enquiry
HIQA	Health Information and Quality Authority
HSE	Health Service Executive
HTA	Health Technology Assessment
PET	Patient Experience Time
UHL	University Hospital Limerick
WTE	Whole-Time Equivalent

1 Background

Overcrowding at the emergency department (ED) at University Hospital Limerick (UHL) has been a cause of concern for a number of years.[1, 2] Significant investment in capacity is underway,[3] and the hospital has been subject to a number of interventions aimed at supporting its internal capability to manage this issue.

In May 2024, the Minister for Health requested that the Health Information and Quality Authority (HIQA) conduct a review of urgent and emergency care in the Health Service Executive (HSE) Mid West health region with the primary objective of ensuring safe, quality, acute care in the region. The Terms of Reference for this review are published on the HIQA website.

The review is being conducted in a programmatic manner, through the delivery of seven distinct work streams that address the Terms of Reference. This report arises from Work Stream 2 of *Protocol for the evidence synthesis to inform the review of urgent and emergency healthcare services in the Health Service Executive Mid West region of Ireland*. The purpose of this report is to explore relevant data to characterise urgent and emergency care activity in the HSE Mid West health region.

For clarity, as outlined within the protocol; the term 'Mid West', as used throughout this report, refers specifically to the HSE Mid West health region. The HSE Mid West health region comprises Limerick, Clare and North Tipperary, as distinct from the Midwest Region of Ireland, which refers to the geographical area of counties Limerick, Clare and Tipperary.

2 Methods

2.1 Data sources

The data sources, detailed below, are a combination of individual patient and provider-level information that were primarily collected for operational management purposes, rather than the type of epidemiological analyses conducted in the current report. Additionally, a patient's hospital journey can be complex, involving multiple departments, specialties, and follow-up care. No centralised dataset currently exists to track a patient's entire journey through the system across different care settings and the available datasets cannot be linked for this purpose, in part due to the lack of a unique health identifier for individuals, and the requirement for investment in technology to develop the digital patient record. Therefore, the data sources used are the most comprehensive available.

2.1.1 Patient Experience Time (PET)

The Patient Experience Time (PET) dataset reports daily, patient-level data on presentations at all EDs (n=29) and 13 of the 15 Injury Units (as of 31 December 2024).[4] It is held and maintained by the HSE's Planning and Business Information Unit. Data from 2016-2024 were available to inform this report. The robustness of the data, considering missing data and consistency of recording and coding, varies across data fields and providers. As a result, variables used in the current report were limited to:

- patient age and gender
- time of registration, triage and departure
- discharge destination
- Manchester Triage Score (a clinical score ranging from 1 [immediate] to 5 [non-urgent] assigned to patients based on how urgently they need medical attention).

2.1.2 Hospital In-Patient Enquiry (HIPE)

The Hospital In-Patient Enquiry (HIPE) scheme collects information on inpatient and day-case patients discharged from Irish acute public hospitals.[5] An episode of care is defined as beginning with admission to hospital as a day case or inpatient and ending at discharge, transfer to another setting or death in that hospital. A HIPE record is created upon completion of the episode and contains administrative, demographic, and clinical information for that discrete episode of care. HIPE is held and maintained by the Healthcare Pricing Office, HSE. Data from 2004 to 2024 were accessed. Variables used in the current report were:

- admission source

- admission type (that is, elective, emergency, maternity, and new-born)
- patient length of stay
- discharge destination.

Number of discharges and bed days per hospital were derived from the dataset.

2.1.3 HSE Performance Profile

The HSE's Performance Profile provides an overall analysis of key performance data across care groups, such as Acute Services, Mental Health, Social Care, Primary Care, Older Persons, and Health and Wellbeing, as well as Finance and Human Resources.[6] The activity data reported are based on performance activity and key performance indicators outlined in the current National Service Plan and are collated into reports by the HSE Operational Performance and Integration Unit. Data used in the current report were:

- delayed transfer of care
- health service employment by staff category and hospital
- health service absence rate by staff category and hospital.

2.1.4 National Public Hospital Waiting List Reports

The National Treatment Purchase Fund (NTPF) collects and collates information in respect of the inpatient, day case, planned procedure, and outpatient waiting lists in Irish public hospitals.[7] Data used in the current report were:

- number of people waiting for an appointment for inpatient or day-case treatment (2014-2023)
- number of people waiting for a first hospital outpatient consultation (2018-2023).

2.1.5 Trolley usage

The HSE's urgent and emergency care report (previously called the TrolleyGAR report) reports how many people admitted to hospital are:

- on trolleys in an ED
- on trolleys in a ward.[8]

Data counted at 8am each day from 2023-2024 were used in the current report.

2.1.6 Open beds

Open beds are hospital beds that are available for use. A given bed may not be considered available for various reasons including staffing shortages, maintenance issues, or infection control measures. Historical data on the average numbers of open inpatient beds and day beds and or places in the acute hospital system

between 2009 and 2024 were sourced from the HSE Acute Business Information Unit.

2.1.7 Emergency department physical capacity

ED physical capacity was estimated as the number of ambulatory assessment bays; clinical decision unit and or equivalent beds; ED cubicles; resuscitation bays; and specialised areas in an ED. Both adult and paediatric resources were counted. Data from December 2024 were provided by the HSE's Business Intelligence Unit.

2.1.8 Older person's register

HIQA's Older Person's Register is a comprehensive database that lists all designated centres for older people, commonly referred to as nursing homes, in Ireland.[9] Relevant information included in the register includes:

- the geographic location of each centre
- the maximum occupancy of each centre.

The register was downloaded on 28 February 2025, with nursing homes being geocoded to determine in which health region they were located.

2.1.9 General practice

Data on the general practice sector are fragmented and not readily available from a single source. Potential data sources include the Primary Care Reimbursement Service (that is, contracts between the HSE and practices, which may have one or more General Practitioners working within them), Irish College of General Practitioners, Revenue, and the Irish Medical Council. However, no single data source is suitable for ongoing monitoring purposes. A review of general practice services in Ireland has been undertaken by the Irish Government Economic and Evaluation Services in the Department of Health.[10] This review outlines the available data on the workforce and supply in the general practice market, and usage of general practice services. Data points from this review that were relevant to the number of General Practitioners (GPs) in the Mid West are summarised in the current report.

Data on GP attendance in the prior 12 months, and frequency of attendance in the prior four weeks by county of residence from the ninth wave of The Healthy Ireland Survey (collected between October 2022 and April 2023) were used in the current report. The Healthy Ireland Survey is an interviewer-administered survey of health and health behaviours of people living in Ireland, commissioned by the Department of Health and carried out by Ipsos B&A. The sample is nationally representative and comprises 7,411 participants aged 15 years and older.

The daily number of contacts received from nine of 15 GP out-of-hours services between 2019 and 2024 was provided by the HSE. These nine providers account for more than 90% of GP out-of-hours centres.

2.1.10 Central Statistics Office

Population age, sex and self-perceived health from the 2016 and 2022 Censuses were obtained from the Central Statistics Office (CSO). The proportion of people in each health region receiving selected social welfare payments and with a medical card or a GP visit card in 2022 were also obtained from the CSO. These were calculated by matching 2022 Census data with 2022 Primary Care Reimbursement Service data.

2.1.11 Pobal HP Deprivation Index

The Pobal HP Deprivation Index, a composite measure of socio-economic deprivation in Ireland, was sourced through Pobal.[11] It is a continuous measure derived from census data and incorporates multiple indicators related to demographic profile, social class composition and labour market status to quantify levels of relative affluence and disadvantage at electoral division levels. The index provides a standardised measure of deprivation, allowing for comparisons across electoral divisions that were geocoded to determine in which health region they were located. The top 10% of most deprived areas nationally were identified to highlight regions experiencing the highest levels of socio-economic deprivation. Data from 2022 were used in the current report.

2.2 Data analysis

Analyses were conducted using R Statistical Software (version 4.4.1) and RStudio.[12, 13] Analyses used daily, monthly and or annual data, depending on availability and required resolution. The resolution of the data analysed is stated throughout the results, as are the methods used to derive analysed variables, where appropriate. Descriptive statistics were generated to summarise key variables. Box plots, used to illustrate the distribution and variability of key measures, and time-series plots, used to illustrate trends over time, were generated using *ggplot2.*[14]

Population travel times to the nearest ED were estimated using the Open Source Routing Machine (OSRM) and OpenStreetMap data extracts for Ireland and Northern Ireland.[15, 16] Travel times were calculated from small-area centroids to EDs based on private car travel and categorised into three intervals: 0–30 minutes, 30–60 minutes, and over 60 minutes.

Expected numbers of presentations by Manchester Triage Score were estimated using linear regression modelling. The model adjusted for age and gender across Model 4 hospitals to predict the expected number of presentations for each triage category in UHL. A similar modelling approach, adjusting for age, gender, and triage score was applied to estimate the expected number of bed days in UHL. The proportion of the population that attended a GP in the previous 12 months was examined. The difference between the Mid West and the rest of Ireland was assessed by chi-square test using *svychisq*. Data were available by county, but as the HSE Mid West health region only comprises Limerick, Clare and North Tipperary, a sensitivity analysis were conducted in which all of county Tipperary was included as part of the rest of Ireland rather than the Mid West. Differences in frequency of GP attendances in the prior four weeks were assessed by t-test using *svyttest*.

To contextualise findings for the Mid West, data from UHL, St John's Hospital, Ennis Hospital, Nenagh Hospital and the Mid West as a whole were considered alongside data from other hospitals, health regions and national data. This includes the presentation of per capita figures for the Mid West compared to other health regions for three outcomes: physical ED capacity, inpatient beds, and ED and injury unit presentations. These provide broad reference points for interpreting the relevant Mid West figures. However, although per capita figures and comparisons of hospital activity between individual health regions may appear valuable, they are often not appropriate. While healthcare activity in the Mid West is relatively self-contained, the boundaries of other health regions often do not accurately reflect the healthcare utilisation patterns of their populations, particularly in health regions that include parts of Dublin. Moreover, none of the health datasets used in the current report accurately link patients to the health region they live in. As a result, estimates

requiring patient residence information, such as the number of ED attendances among Mid West residents or the rate at which they seek care in other health regions, could not be reliably estimated.

3 Results

3.1 Background

3.1.1 The Mid West population

Population size and age

The HSE Mid West health region consists of Co. Limerick, Co. Clare and North Tipperary. It is the smallest HSE health region, with a population of 413,000 as of 2022 (Table 3.1). Population growth between 2016 and 2022 in the Mid West was slightly lower than the national average (7.3% vs 8.1%); however, growth among the population aged 75 years and older was higher than the national average (29.6% vs 27.0%). The ESRI projects that the Mid West population will increase at the second-lowest rate among health regions by 2040, increasing by 13.1% (9.5% to 16.7%) compared with the national average of 15.4% (11.6% to 19.3%).[17] Across all regions, the population profile will become older, with the number of people aged 75 years and over projected to rise by 78% to 95%. In the Mid West, this age group is expected to grow by 84% by 2040.

Table 3.1 Population of each health region in 2016 and 2022

Health region	2016		2022		Change	
	All ages	≥75y (%)	All ages	≥75y (%)	All ages	≥75y
Dublin Midlands	989,945	44,280 (4.5)	1,077,639	57,406 (5.3)	8.9%	29.6%
Dublin and North East	1,081,869	53,447 (4.9)	1,187,218	67,794 (5.7)	9.7%	26.8%
Dublin and South East	903,572	56,714 (6.3)	971,093	71,970 (7.4)	7.5%	26.9%
Mid West	384,998	22,553 (5.9)	413,059	29,223 (7.1)	7.3%	29.6%
South West	690,575	40,937 (5.9)	740,614	51,575 (7.0)	7.2%	26.0%
West and North West	710,906	46,128 (6.5)	759,516	57,319 (6.8)	6.8%	24.3%
National	4,761,865	264,059 (5.5)	5,149,139	335,287 (6.5)	8.1%	27.0%

Population deprivation

Individuals living in more deprived areas generally experience poorer health and exhibit different healthcare utilisation patterns, such as a higher frequency of ED visits. The proportion of the Mid West population living in the country's top 10% most deprived areas, as assessed by the HP Deprivation Index, was 11.3% in 2022 (Table 3.2). This is the third highest of the six health regions and is higher than the

national average. Additionally, 12 of the 20 most deprived areas nationally were in the Mid West. In 2022, 31% of the Mid West population had a medical card (range across health regions: 27%–34%) and 11% had a GP visit card (range: 10%–12%).

Table 3.2 Proportion of each health region's population that live in the lowest 10% of areas in Ireland by HP Deprivation Index

Health region	2022
Dublin Midlands	12.7%
Dublin and North East	9.7%
Dublin and South East	9.5%
Mid West	11.3%
South West	6.0%
West and North West	12.9%
National	10.3%

Population health

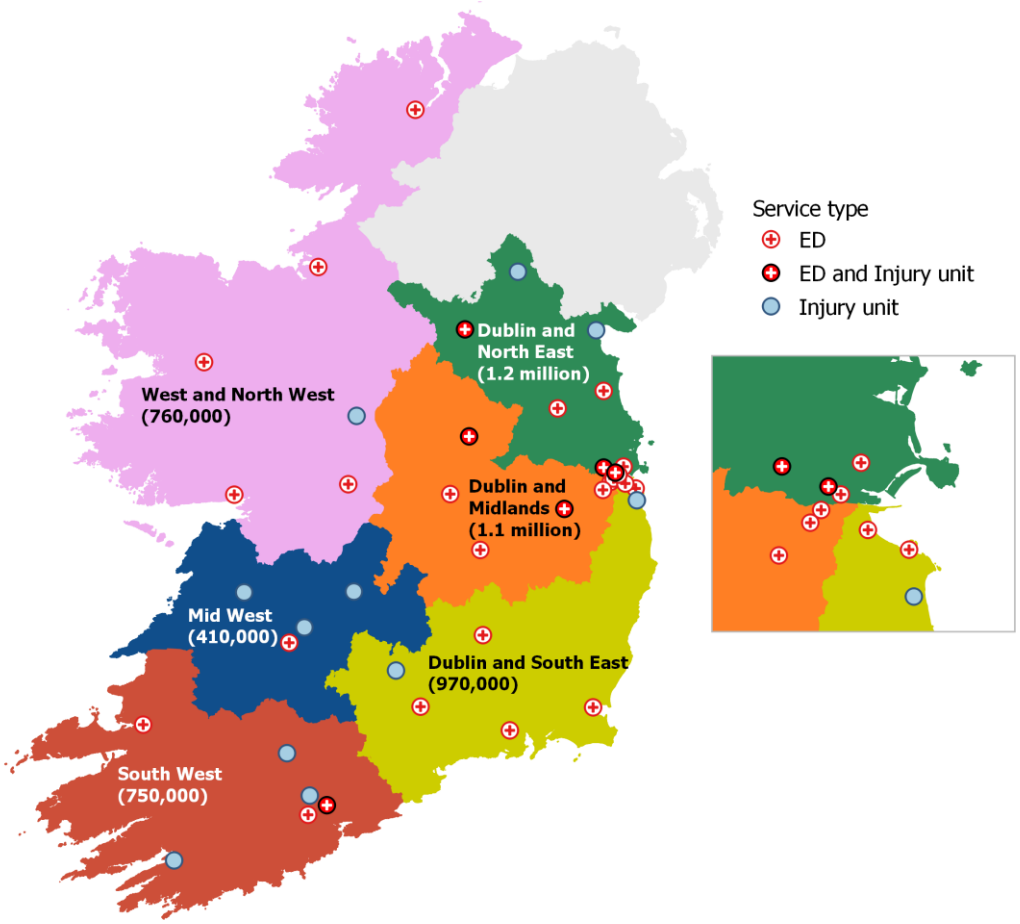
In the 2022 Census, self-perceived health was consistent across the health regions.[18] Nationally, 82.9% of the population stated that their health was either 'good' or 'very good', ranging from 81.3% in the Mid West to 84.6% in Dublin and the South East. Similarly, 1.7% of the national population stated their health was either 'bad' or 'very bad', ranging from 1.6% in the South West to 1.9% in the Mid West. Finally, in 2022 the proportion of the total population availing of disability allowance (range: 2%–3%), carer's allowance (range: 1%–2%), invalidity pension (all: 1%), and illness benefit (all: 2%) was consistent across the health regions.

3.1.2 Hospital care in the Mid West

Acute hospital care in the Mid West is currently delivered by the University of Limerick Hospitals Group which comprises six hospital sites: University Hospital Limerick (UHL), St John's Hospital (Model 2), Nenagh Hospital (Model 2), Ennis Hospital (Model 2), Croom Orthopaedic Hospital, and University Maternity Hospital Limerick. Private hospital care is more limited in the Mid West than in other health regions, although detailed data on private hospital capacity are not available. As a result, privately insured patients in the region have fewer alternatives outside the public system, and a higher proportion of discharges from public hospitals are recorded as private patients compared to other regions. Urgent and emergency care capacity is provided by an ED located in UHL and injury units and medical

assessment units at the three Model 2 hospitals; Nenagh Hospital, Ennis Hospital, and St John's Hospital. Figure 3.1 presents a map illustrating the locations of EDs and injury units in Ireland.

Figure 3.1 Locations of emergency departments and injury units in Ireland by HSE health region



Note: Numbers in parentheses are 2022 population estimates.

Figure 3.2 presents the yearly average number of open beds (that is, both inpatient and day beds in Model 2, 3 and 4 hospitals) between 2009 and 2024 by health region. The change in the number of open beds in the Mid West between 2009 and 2024 was in line with that in other health regions. Table 3.3 presents the number of inpatient beds for Model 2, 3, and 4 hospitals, as well as the total beds per 1,000 population in 2024, for the Mid West and the rest of the country. However, it is important to consider that the health region populations do not always align with hospital catchment populations. In 2024, the Mid West had more beds per 1,000 people in both Model 2 and Model 4 hospitals compared to the rest of the country. When considering hospitals with an ED (that is, Model 3 and Model 4 hospitals), the

Mid West had fewer total beds than the average for other regions. This reflects the region's configuration of three Model 2 hospitals (which do not manage undifferentiated emergency presentations through an ED), no Model 3 facility and a single Model 4 hospital. However, it is important to note that the health region populations do not necessarily align with hospital catchment populations.

Figure 3.2 Average number of open beds in Model 2, 3 and 4 hospitals by HSE health region

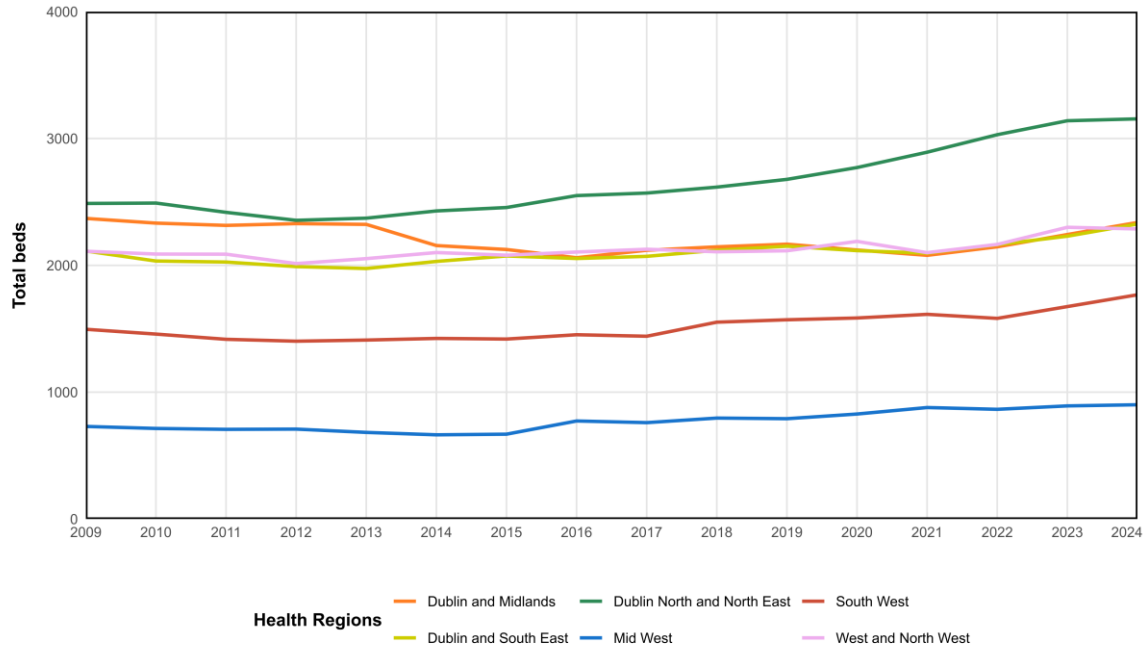


Table 3.3 Number of inpatient and total† beds per 1,000 population in the Mid West and the Rest of Ireland (2024)

Hospital Type	Bed capacity			
	Inpatient		Total	
	Mid West	**Rest of Ireland**	**Mid West**	**Rest of Ireland**
Models 2	0.46	0.27	0.59	0.35
Models 3	0	0.91	0	1.08
Models 4	1.26	1.04	1.59	1.28
Models 3 & 4	1.26	1.95	1.59	2.36
All Models	1.73	2.06	2.18	2.51

†Total refers to the sum of inpatient and day patient beds

However, it is important to note that the health region populations do not necessarily align with hospital catchment populations.

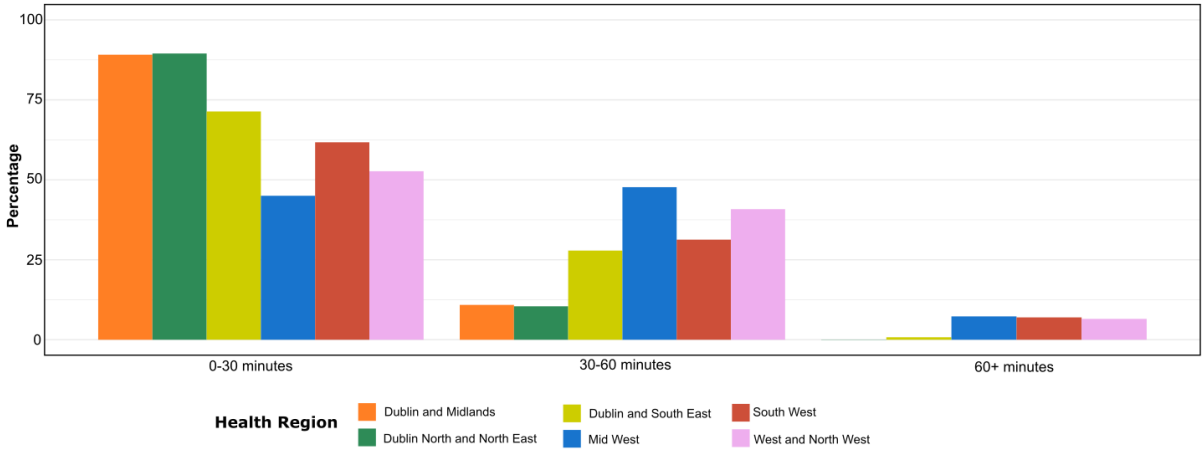
Table 3.4 presents the physical ED capacity of Model 3 and 4 hospitals in December 2024 by health region. Physical ED capacity was estimated as the number of ambulatory assessment bays; clinical decision unit and or equivalent beds; ED cubicles; resuscitation bays; and specialised areas in an ED. Both adult and paediatric resources were counted. Note that prior HIQA inspection reports have reported lower physical ED capacity at Cork University Hospital than reported by the hospital itself. As a consequence, Table 3.4 may overstate capacity per capita in the South West. Per capita, the Mid West has the lowest physical ED capacity of the health regions; however, this does not consider the medical assessment units and injury units in the three Mid West Model 2 hospitals, which receive a relatively high volume of activity. For example, ED presentations per capita in the Mid West are lower than the rest of Ireland, while the rate of presentations to the injury units per capita in the three Model 2 hospitals is higher (see Section 3.2.1). However, it is important to note that the health region populations do not necessarily align with hospital catchment populations.

Table 3.4 Physical emergency department capacity by HSE health region

Health region	Model 3	Model 4	Total	Total (per 1,000 population)
Dublin and Midlands	97	74	171	0.16
Dublin and North East	142	95	237	0.20
Dublin and South East	77	75	152	0.17
Mid West	0	57	57	0.14
South West	48	113	161	0.22
West and North West	92	53	145	0.19
National	456	467	923	0.18

Figure 3.3 presents the proportion of the population within each health region by time to drive to the nearest ED. If populations travel to their nearest ED, then 85% of the Mid West will use UHL, along with 16,000 people from other health regions; almost all of the UHL ED catchment population (96%) is therefore located in the Mid West. Compared with other health regions, the Mid West has the lowest proportion of its population living within 30 minutes of the nearest ED (45%) and the highest proportion living between 30 and 60 minutes (48%). In total, 7% (approximately 30,000 people) of the Mid West population live more than a 60-minute drive from the nearest ED. This proportion is also 7% in the South West (approximately 52,000 people) and in the West and North West (approximately 50,000 people), and less than 1% for the other three health regions, comprising parts of Dublin. While most of the national population lives within 60 minutes of an ED, there are isolated areas for whom travel times are particularly prolonged relative to national standards.

Figure 3.3 Proportion of the population within each HSE health region by drive time to the nearest emergency department

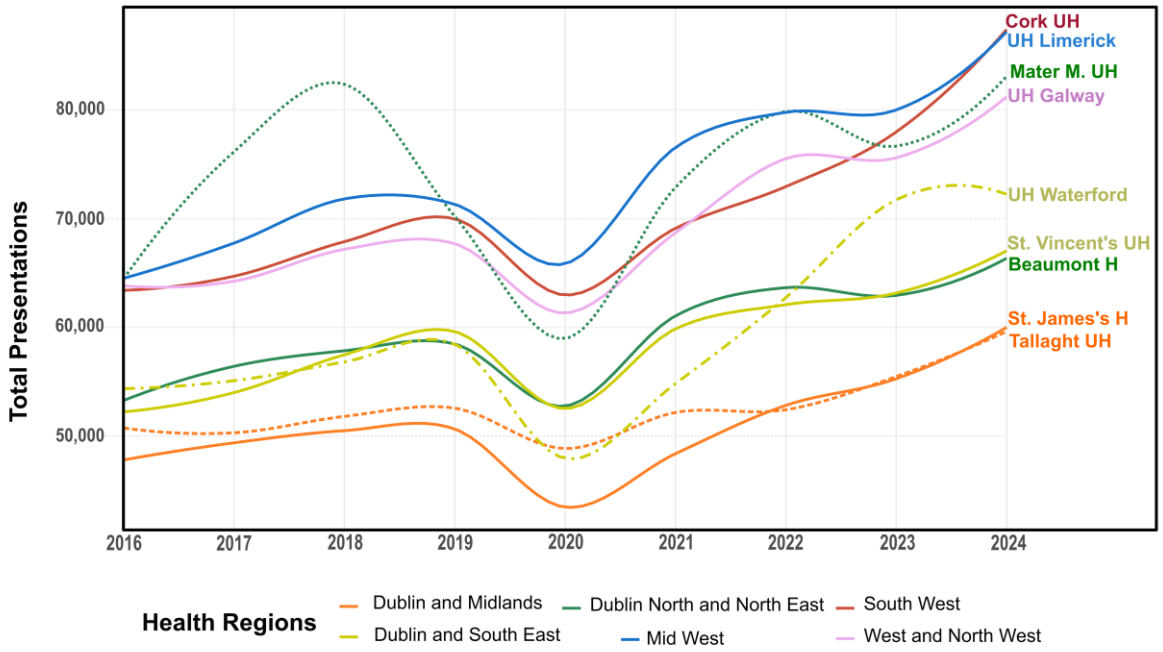


3.2 Analysis of data from the emergency departments

3.2.1 Emergency department and injury unit presentations

Figure 3.4 presents the annual number of ED presentations at each of the Model 4 hospitals (n=9) between 2016 and 2024. UHL consistently reported the second-highest number of presentations from 2016 to 2019, behind the Mater Misericordiae Hospital and above Cork University Hospital and University Hospital Galway. However, until 2019, injury unit presentations at the Mater Misericordiae University Hospital were recorded as ED presentations in the PET database. From 2019 to 2023, UHL reported the highest number of presentations across all Model 4 hospitals. In 2024, the number of presentations in Cork University Hospital was essentially the same as in UHL. Between 2016 and 2024, ED presentations at UHL increased by approximately 35% from 64,512 to 87,194. In the same timeframe, overall ED presentations across the other eight Model 4 hospitals also increased by 35%. The distribution of ED presentations by five-year age group across the Model 4 hospitals is presented in Appendix 1. Although not included in Figure 3.4, ED presentations at UHL from January to July 2025 were 10% higher than the same period in 2024, the largest rise among Model 4 hospitals. The average increase across the other eight was 4%.

Figure 3.4 Annual number of emergency department presentations in Model 4 hospitals



Note: Prior to 2019, it was not possible to distinguish between LIU and ED presentations at the Mater Misericordiae Hospital, so presentation numbers for this period are likely not directly comparable with the other hospitals.

Figure 3.5 presents the monthly number of ED presentations across Model 4 hospitals, relative to the respective number of inpatient beds. UHL is indicated in blue, with each grey dot representing an observation from one of the other Model 4 hospitals, where the mean for the Model 4 hospitals excluding UHL is indicated in red. ED presentation rates relative to inpatient bed capacity were consistently highest at UHL.

Figure 3.5 Emergency department presentation rates relative to inpatient bed capacity in Model 4 hospitals

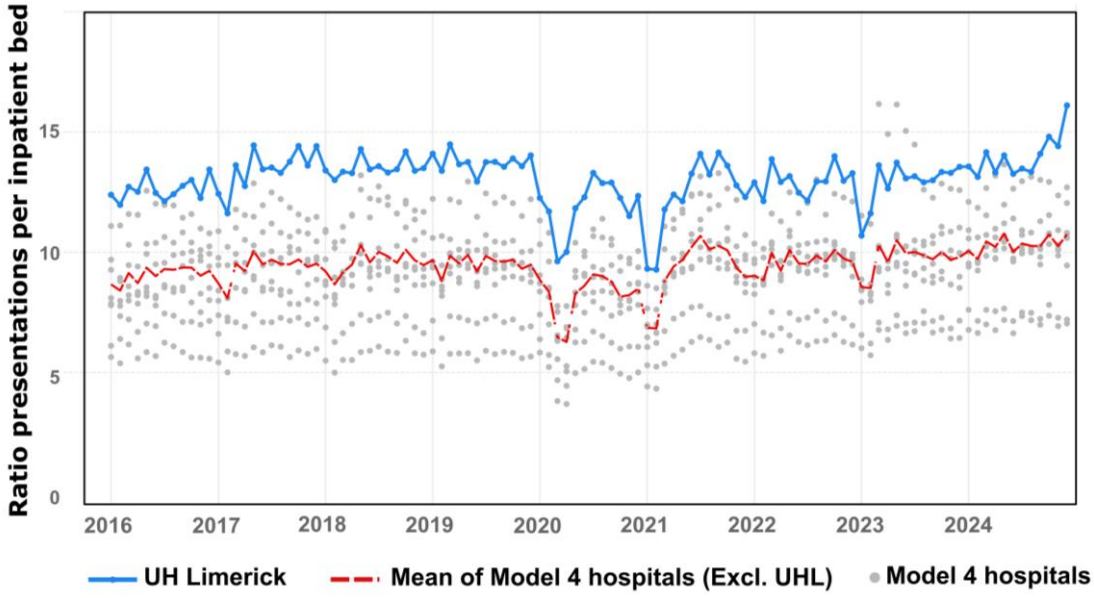
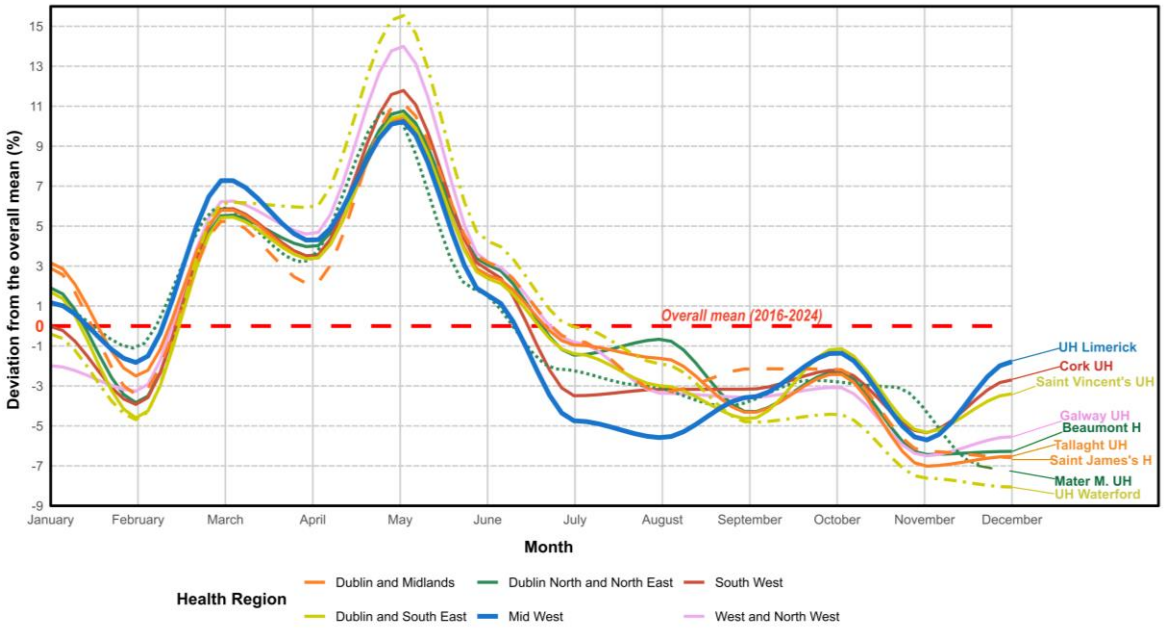


Figure 3.6 presents the monthly percentage deviation from each hospital's mean ED presentation level between 2016 and 2024. ED presentations follow a cyclical pattern, with numbers typically above the mean in the first half of the year (excluding February, as it has fewer days), and falling below the mean in the second half of the year. The lowest levels of ED activity are generally recorded in November or December. This seasonal trend is broadly consistent across Model 4 hospitals, although some variation is observed in both the timing and magnitude of these fluctuations.

Figure 3.6 Monthly deviation from the mean in emergency department presentation numbers across Model 4 hospitals, from 2016 to 2024



Note: The zero line represents the overall mean of ED presentations

Table 3.5 presents the number of ED and injury unit presentations in the Mid West and the rest of Ireland in 2024. There is one ED and three injury units in the Mid West, while there are 28 EDs and 12 injury units in the rest of Ireland. Data for one injury unit in the rest of Ireland was not available, and so the rest of Ireland figures are an undercount of the true total. Of the available data, 5% of ED presentations and 28% of injury unit presentations in Ireland occurred in the Mid West. Per capita, the Mid West had fewer ED presentations (0.21 versus 0.31), but more injury unit presentations (0.12 versus 0.03) than the rest of the country. Considered together, there were slightly fewer ED and injury unit presentations per capita in the Mid West than the rest of the country (0.33 versus 0.35). However, it is important to note that the health region populations do not necessarily align with hospital catchment populations.

Table 3.5 Number of emergency department and injury unit presentations in 2024

	ED presentations		Injury unit presentations		Total urgent and emergency care presentations	
Area	**n**	**Per 1,000 population**	**n**	**Per 1,000 population**	**n**	**Per 1,000 population**
Mid West	87,194	0.21	49,993	0.12	137,187	0.33
Rest of Ireland	1,488,601	0.31	162,530	0.03	165,1131	0.35

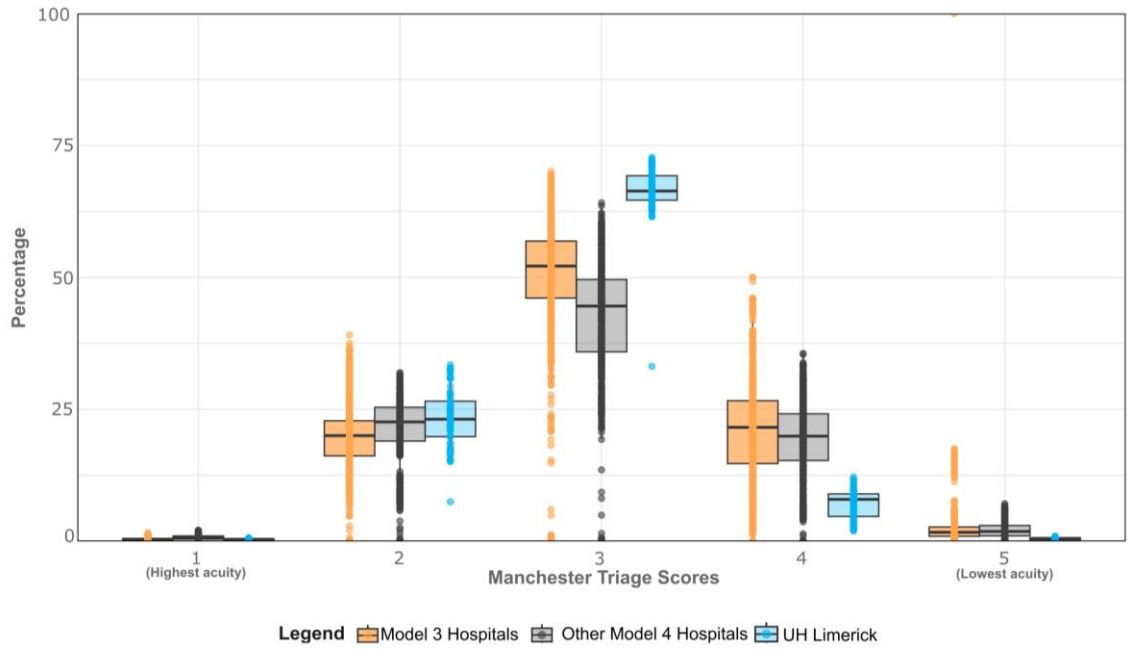
Note: Data for one injury unit outside of the Mid West was not available

Within the Mid West, people presenting to the injury units were typically younger than those presenting to the UHL ED. This is particularly the case for people aged between 10 and 25 years, who comprise more than 30% of injury unit presentations in the Mid West and 15% of ED presentations in UHL in 2024. This age pattern is similar to injury units in areas without a dedicated paediatric hospital. Presentations at the Mid West injury units were recorded between 7.00am and 8.00pm, during which time 77% of ED presentations in UHL occurred, indicating that injury units were open when the majority of demand for the UHL ED occurred. Regarding the geographic distribution of patients attending urgent and emergency care in the Mid West, a majority of patients originated from within the region in 2024. A notable proportion (>8%) resided in other Health Regions (see Appendix 2 - Distribution of county of residence by type of attendance in Mid West hospitals (2024)).

Figure 3.7 presents the distribution of ED presentations by Manchester Triage Score within UHL, as well as within the other Model 4 and Model 3 hospitals, from 2018 to 2024. Compared to the other hospitals, a lower proportion of presentations at UHL were classified as "standard" and "non-urgent" (score 4 or 5) and a higher proportion classified as "urgent" (score 3). Additionally, using 2024 data, the actual number of UHL ED presentations in each triage category was compared to the expected presentation rates based on national patterns (see Section Data analysis), assuming that the UHL catchment population includes those for whom UHL is the closest ED. Given that UHL has fewer ED presentations per capita, this analysis identifies which triage categories had lower presentation rates than would be expected based on the patterns in the rest of Ireland. UHL had approximately the expected number of presentations for triage categories 2 and 3. However, it received 56% of the expected triage category 1 (that is, highest triage score)

presentations, and 11% and 14% of expected category 4 and 5 (that is, lowest triage score) presentations, respectively.

Figure 3.7 Proportion of emergency department presentations by Manchester Triage Score from 2018 to 2024



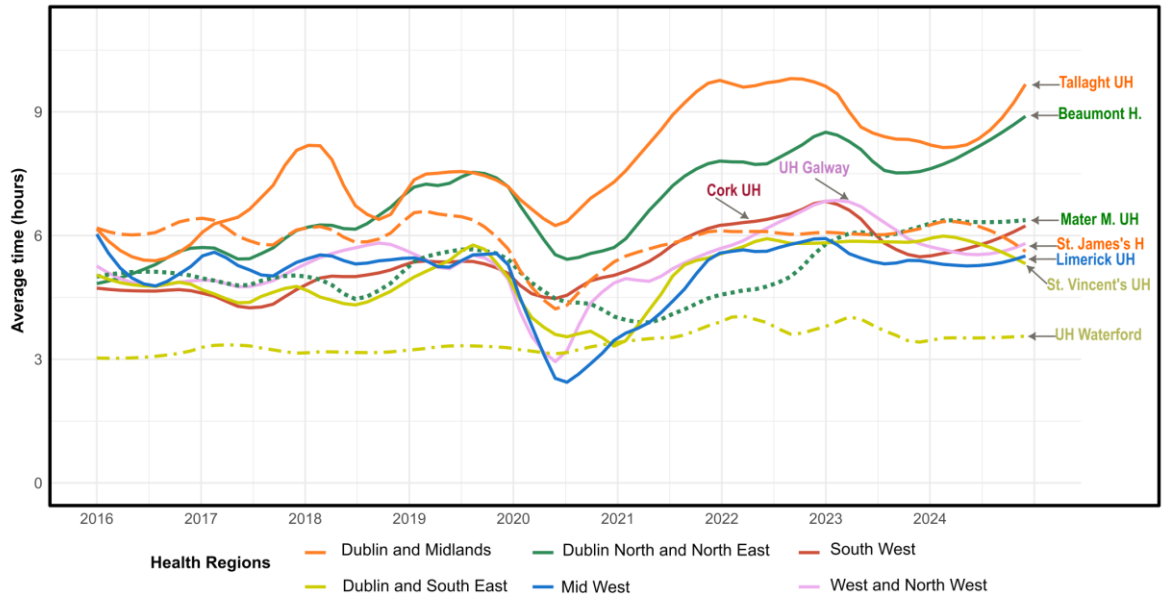
3.2.2 Emergency department occupancy

Patient experience time

Figure 3.8 presents the monthly median patient experience time (that is, time from ED registration to discharge or inpatient admission) for each of the Model 4 hospitals from January 2016 to December 2024. The median patient experience time at UHL is comparable to the other Model 4 hospitals, while noting that the patient experience time in University Hospital Waterford has been consistently low. This remained the case when examining only ED presentations that resulted in admission with UHL (Appendix 3 – Distribution of monthly median patient experience time by patient admission status in Model 4 hospitals (2016-2024)). Similarly, the proportion of patients admitted or discharged within six and nine hours of registration in UHL is in line with the other hospitals (not shown in Figure 3.8). Between 2016 and 2020, UHL had the highest proportion of patients waiting more than 24 hours from ED presentation; however, between 2021 and 2024, this proportion increased among the other hospitals to align more with UHL (Appendix 4 - Proportion of emergency presentations in Model 4 hospitals experiencing over 24 hours patient experience time). Of note, patient experience times observed at UHL are likely influenced by the relatively high rate of referral from the ED to acute assessment units, which is considered a discharge in the data source (see Section 3.2.3). That is, recording of

patient experience time ends once a patient is referred to an acute assessment unit, effectively reducing the average waiting time reported in the ED but excluding any time spent waiting to be seen in the acute assessment unit, for which no data is available.

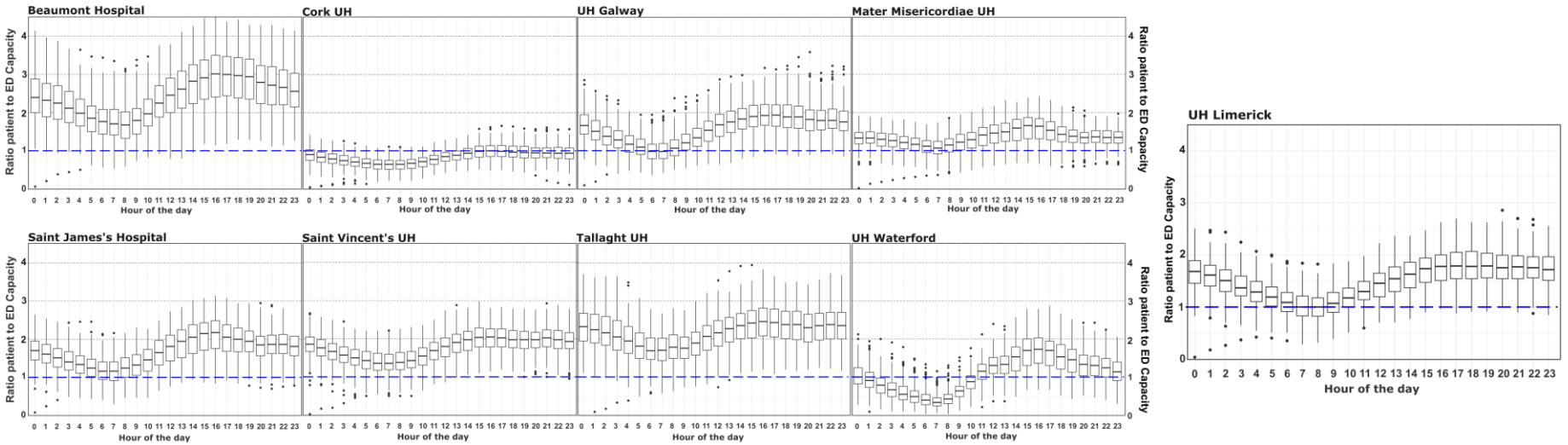
Figure 3.8 Median patient experience time across Model 4 hospitals



Emergency department patient-to-capacity ratio

Figure 3.9 illustrates the daily maximum number of triaged patients that were present in the ED, relative to the physical ED capacity, by hour of day in 2024. Physical ED capacity here does not take staffing into account. The dotted blue line indicates the point at which the number of triaged patients present in the ED was equal to the physical ED capacity. This measure serves as an indicator of the pressure experienced by EDs throughout the day. At UHL, the number of triaged patients commonly exceeded the physical ED capacity from 10.00am onwards. The ratio of triaged patients to physical ED capacity increased consecutively until 7.00pm where a decrease was observed until 7.00am. While UHL frequently had more patients present than available physical ED capacity, this situation was common across all Model 4 hospitals.

Figure 3.9 Number of patients in the emergency department, relative to emergency department capacity, by hour of day in Model 4 hospitals, in 2024



Note: the blue dashed line indicates where the number of patients is equal to the ED capacity. The x-axis represents hour of day, and the y-axis is number of ED patients relative to ED capacity. Black dots indicate outliers.

3.2.3 Emergency department discharge

Conversion rate from emergency department

Figure 3.10 presents the 2016 to 2024 trend obtained from seasonal decomposition of the conversion rate, or proportion of ED presentations that are subsequently admitted to wards, across Model 4 hospitals. Due to the inability to link ED and inpatient data, patients who are referred from the ED to an acute assessment unit and then subsequently admitted to a ward are not included here. Across the time period, the mean conversion rate in the eight non-UHL hospitals was relatively stable at around 25%, although variability across the hospitals increased between 2020 and 2022. Rates at UHL were notably higher, with conversion rates exceeding 30% from 2017 to 2019. A decline was observed from 2020 to 2022, coinciding with the introduction of COVID-streaming at UHL, followed by a gradual increase.

Figure 3.10 Proportion of emergency department presentations who were subsequently admitted to wards in Model 4 hospitals

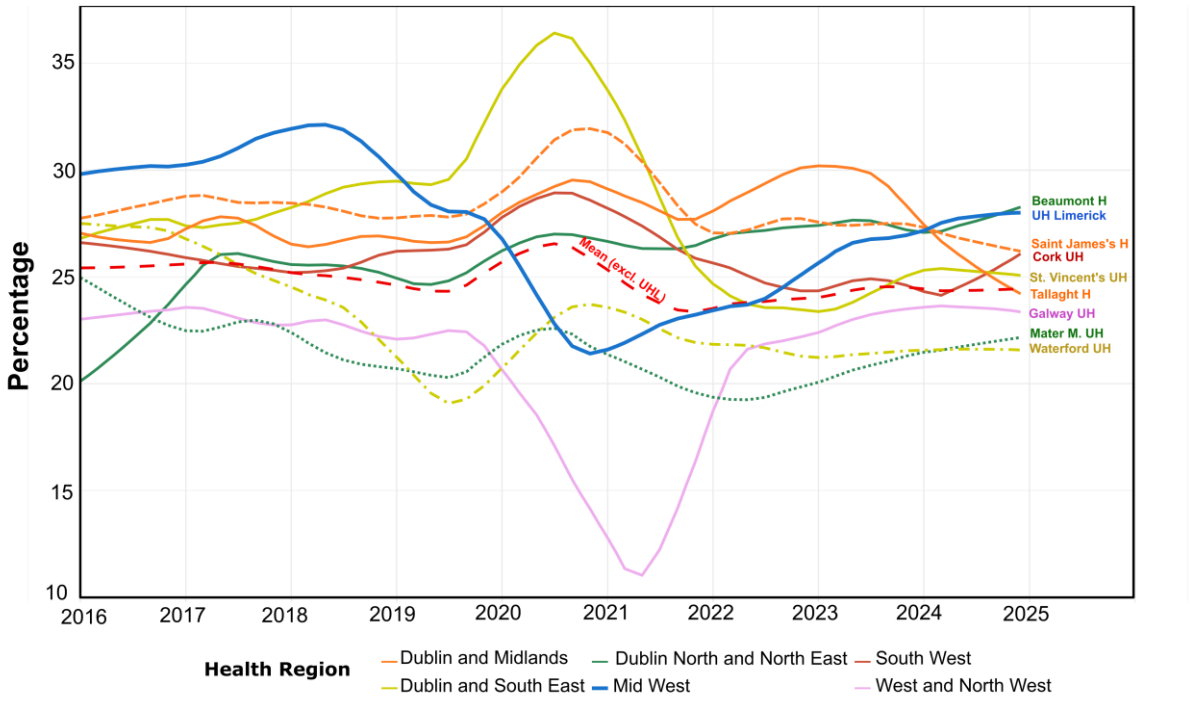
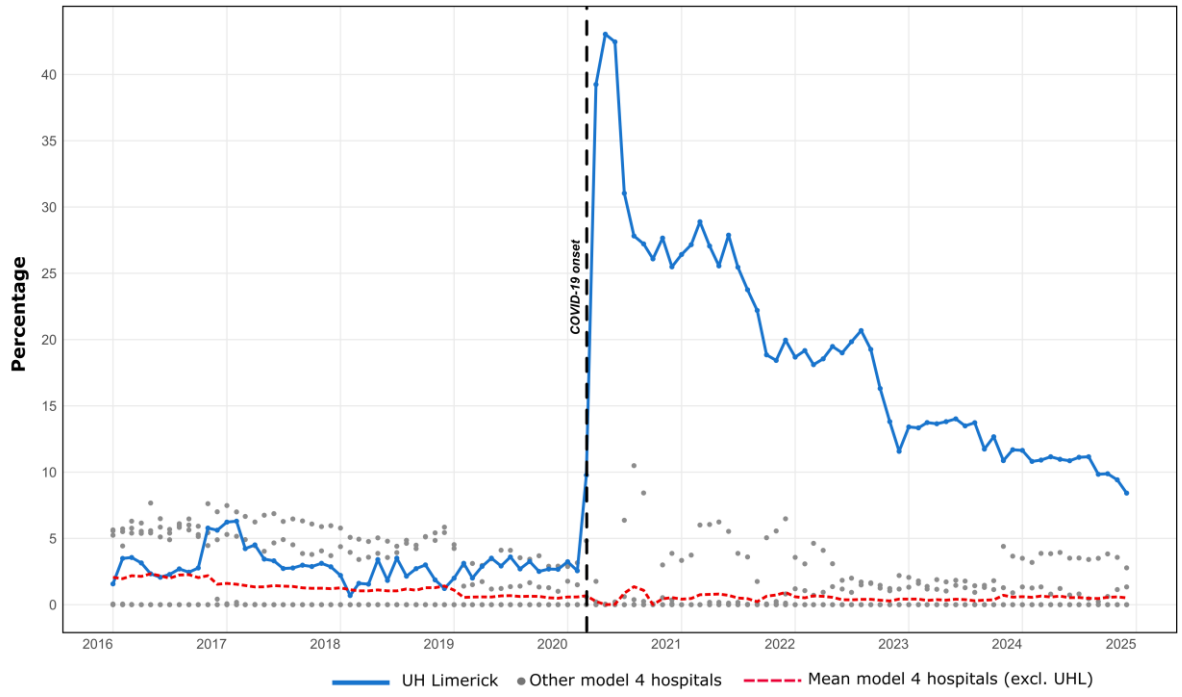


Figure 3.11 presents the proportion of ED presentations subsequently referred to an acute medical or surgical assessment unit across Model 4 hospitals from 2016 to 2024. Between 2016 and early 2020, the referral rate at UHL fluctuated between approximately 2% and 8%, before increasing to over 40% in 2020 in line with COVID-19-related policy changes. While this rate has since declined, by the end of 2024 referral rates were still higher than the pre-2020 period and exceeded those observed at other Model 4 hospitals. Between 2016 and 2024, the referral rate for other Model 4 hospitals remained relatively stable.

Figure 3.11 Proportion of emergency department presentations who were referred to an acute medical or surgical assessment unit in Model 4 hospitals



3.3 Analysis of data on elective and inpatient hospital care

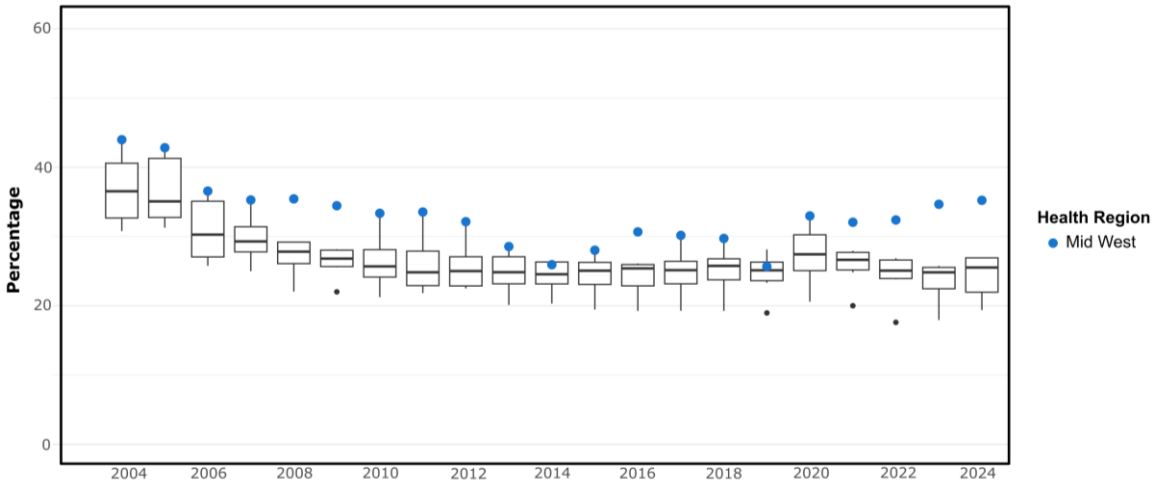
In HIPE, inpatient and day-case hospital admissions can be categorised as elective, emergency, new-born, and maternity. Patients referred to an acute assessment unit are considered an emergency admission in HIPE. These patients can be either discharged from the acute assessment unit having not entered a ward, or they can be moved to a ward and subsequently discharged from there. In the analyses reported throughout this section, patients who were discharged from an acute assessment unit without having entered a ward were not considered as inpatient admissions.

3.3.1 Hospital admissions

Figure 3.12 presents the annual proportion of all discharges that were classed as an emergency admission between 2004 and 2024. With the exception of 2014 and 2019, the Mid West consistently had the highest proportion of discharges that were classed as an emergency admission. When only Model 4 hospitals are included, UHL consistently reports the highest proportion of emergency admissions for the entire period (see Appendix 5 - Proportion of all discharges in Model 4 hospitals that were classed as emergency admissions). In 2024, UHL reported the second lowest percentage of inpatient bed days used for elective care (9.3%; See Appendix 6 - Percentage of inpatient and day case bed days used by admission type across model

4 hospitals in 2024), following Tallaght University Hospital (7%). For day case activity, UHL had the lowest proportion of bed days allocated to elective care across model 4 hospitals (83.4%).

Figure 3.12 Proportion of all discharges in Model 2, 3 and 4 hospitals, grouped by HSE health region, that were classed as emergency admissions



Note: Paediatric-only hospitals were excluded from this analysis to maintain consistency.

3.3.2 Hospital occupancy

Average length of stay

Figure 3.13 presents the average length of stay for emergency admissions in Model 4 hospitals. Figure 3.14 presents the proportion of emergency admissions in Model 4 hospitals that had a length of stay of one day or less (≤ 24 hours). The average length of stay of emergency admissions at UHL (2012-2024 range: 4.8 to 5.9 days) was consistently the lowest among Model 4 hospitals between 2012 and 2024. The proportion of emergency admissions with a length of stay of one day or less was also highest at UHL from 2017-2024 (range: 33% to 43%).

Figure 3.13 Average length of stay for emergency admissions in Model 4 hospitals

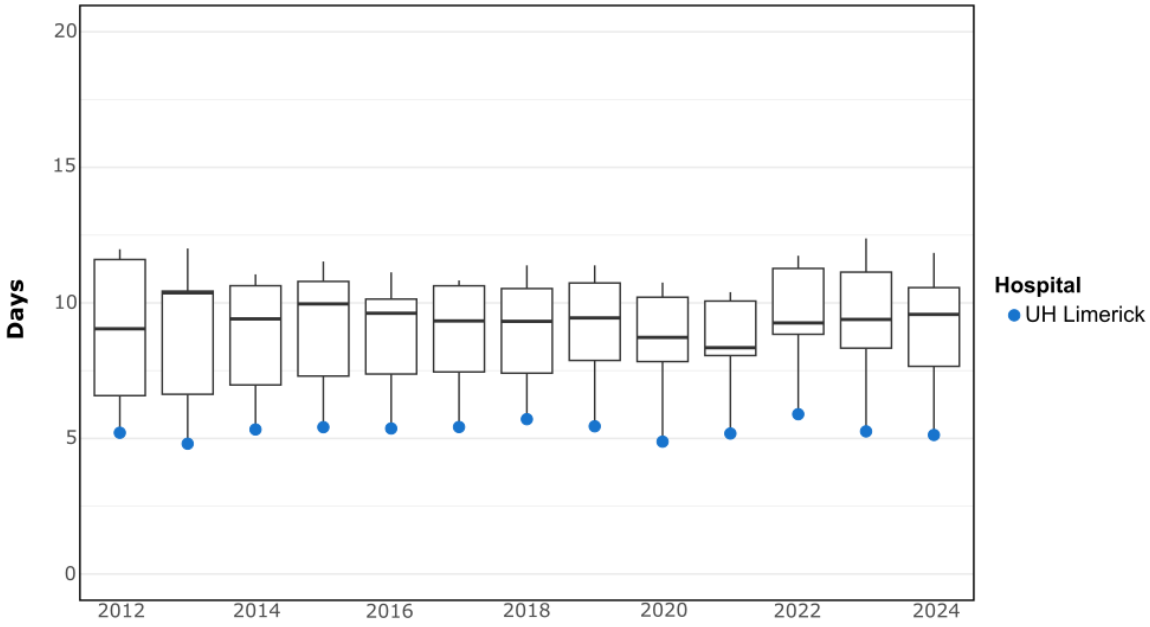
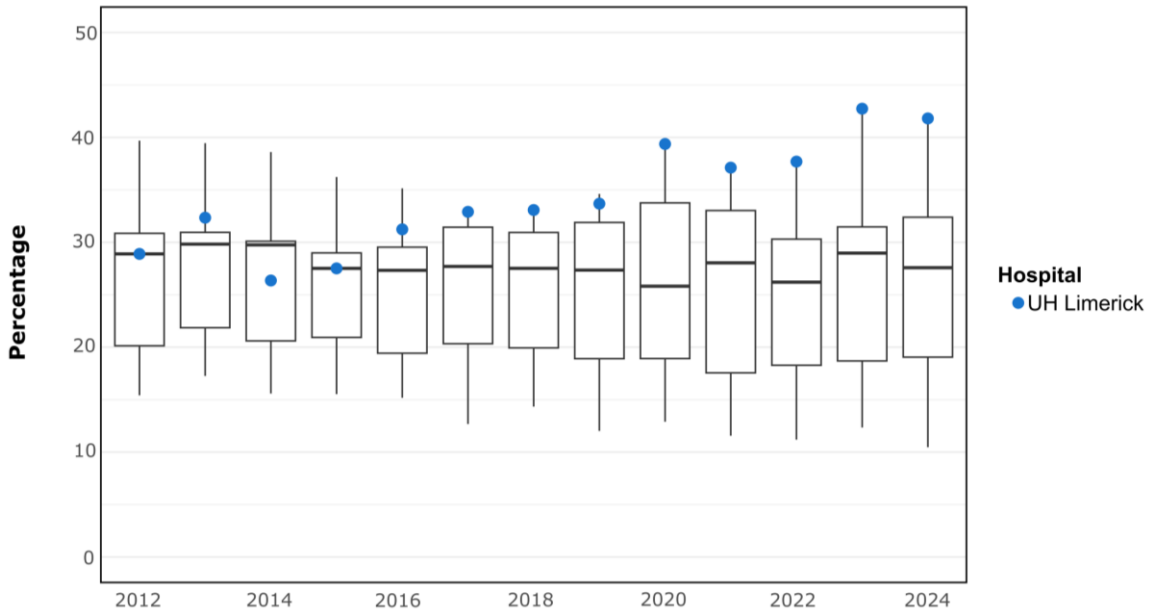


Figure 3.14 Proportion of emergency admissions in Model 4 hospitals with a length of stay of 1 day or less

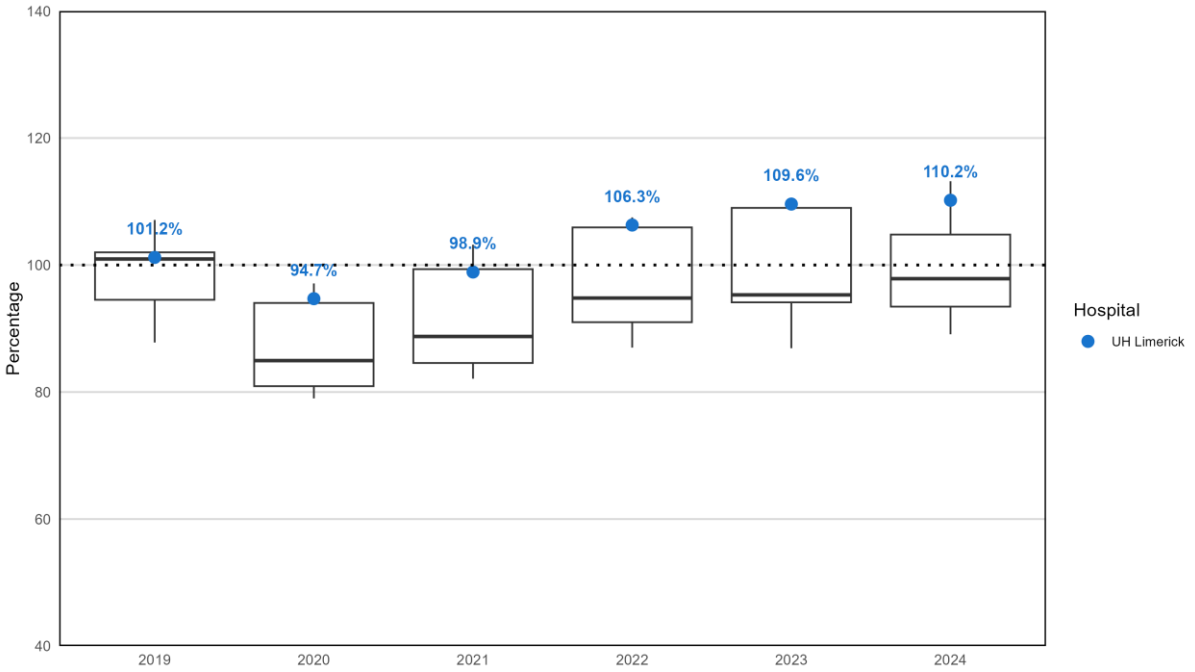


Occupancy rates

Figure 3.15 presents estimated annual inpatient occupancy rates for the Model 4 hospitals between 2019 and 2024, as calculated by the HSE Business Intelligence Unit. Occupancy rates were estimated as the total number of days inpatients spent in a hospital, divided by the number of bed days available in that hospital. Same day discharges from acute medical or surgical assessment units are not considered in the

calculation. While there is no agreed-upon threshold for an "optimal" occupancy rate, levels above 85% are often considered to increase the risk of bed shortages.[19] The average inpatient occupancy rates across all model 4 hospitals for 2019 to 2024 was equal to 95.5%. UHL reported the second-highest occupancy rate with 103% of mean inpatient occupancy rate, behind Saint Vincent's Hospital (106%). In 2024, all hospitals exceeded 85% occupancy and three exceeded 100%: Tallaght University Hospital, St Vincent's University Hospital, and UHL. This can occur when extra patients are accommodated beyond official capacity (for example, temporary beds), if available bed days are underestimated, or where the discharge of a patient enables a second patient to be accommodated on the same day.

Figure 3.15 Annual inpatient occupancy rates in Model 4 hospitals



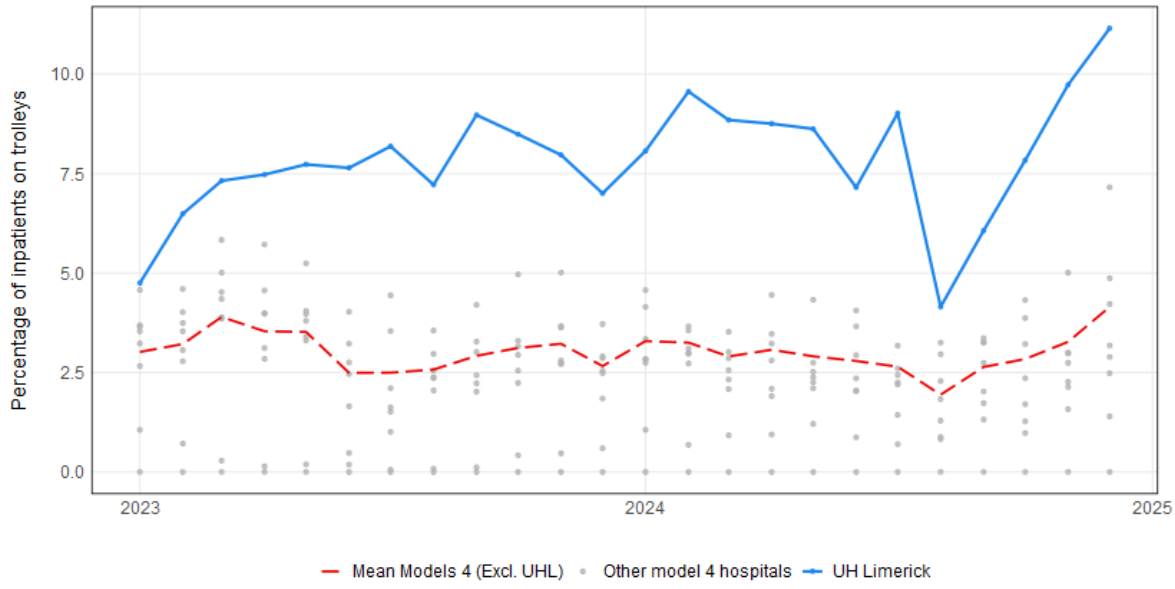
Using 2024 HIPE data, the actual number of inpatient bed days in the Mid West hospitals was compared to what would be expected based on national patterns and the age-sex distribution of the population. In the Mid West, the volume of activity was 12% lower than might be expected; this could in part be due to insufficient capacity to match demand or residents travelling outside of the health region for care.

Trolley numbers

Figure 3.16 presents the number of inpatients who were on trolleys at 8.00am relative to the number of inpatients who stayed overnight each night. This was estimated as the monthly number of inpatients on trolleys at 8.00am (from the HSE's urgent and emergency care report[8]), divided by the monthly number of

inpatients who stayed in the hospital overnight each night (from HIPE[5]). This metric standardises trolley numbers by hospital activity to facilitate comparisons across hospitals. Between 2023 and 2024, a high proportion of inpatients at UHL were accommodated on trolleys. Additionally, a greater proportion of trolleys were located in wards (as opposed to the ED) in UHL compared to the other Model 4 hospitals (64.9% vs 7.4%; Appendix 7 - Percentage of total trolleys located in wards for Model 4 hospitals).

Figure 3.16 Percentage of inpatients on trolleys (measured daily at 8.00am)

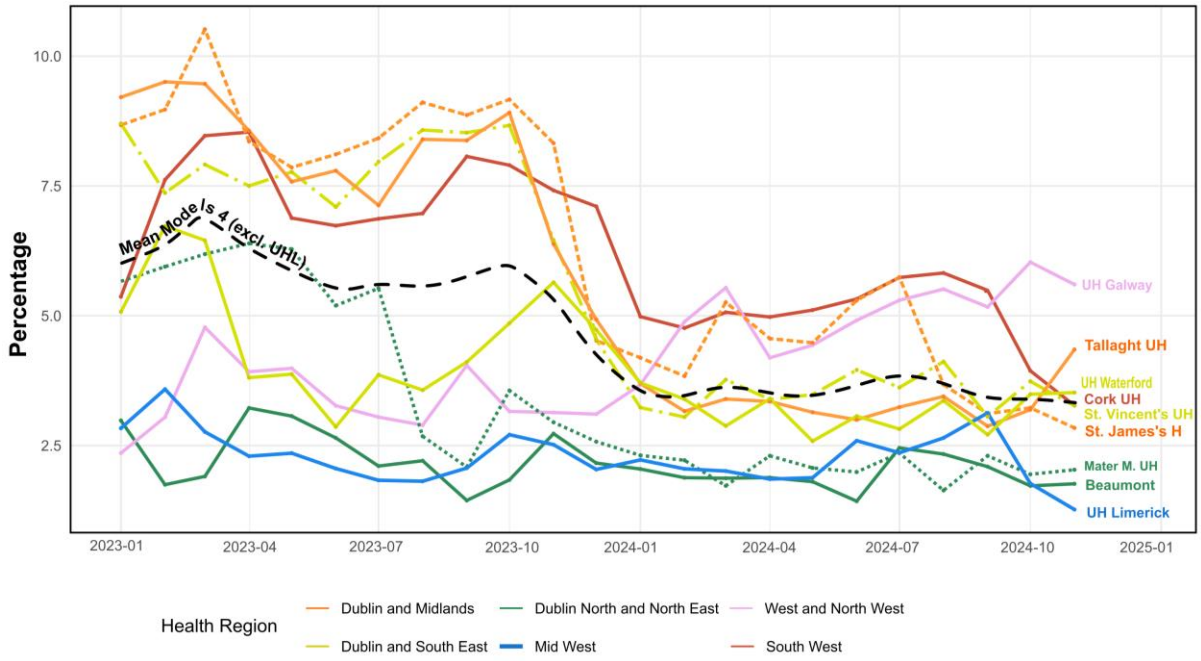


3.3.3 Hospital discharges

Delayed transfer of care

Figure 3.17 presents delayed transfer of care across Model 4 hospitals from January 2023 to December 2024. Delayed transfer of care refers to the proportion of beds used by patients who are medically fit for discharge but are not discharged due to non-clinical factors. Delayed transfer of care levels in UHL (represented in blue) were consistently lower than the mean of other Model 4 hospitals (represented by a black dashed line).

Figure 3.17 Delayed transfer of care across Model 4 hospitals



Patient transfers

Each HIPE record represents a discharge record for a patient who had been admitted to and discharged from, or died in, an acute public hospital. As a result, multiple records may exist for the same patient if they had multiple hospital stays, and one episode of care across different hospitals cannot be reliably tracked. Therefore, specific rates of transfers between hospitals are challenging to estimate and not provided here. Nonetheless, a crude examination of patient transfers within the Mid West hospitals in 2023 compared to the rest of Ireland was conducted. This analysis illustrated higher inter-hospital transfer activity within the Mid West hospitals compared to that observed in the rest of Ireland. In the Mid West, it was more common for patients to be transferred from UHL to one of the three Model 2 hospitals than vice versa.

Patient mortality

The National Audit of Hospital Mortality, conducted by the National Office of Clinical Audit, collates and analyses inpatient mortality patterns from publicly-funded acute hospitals across the country, using HIPE data. Reports from 2016-2018 and 2020-2021 were identified. Inpatient mortality in UHL from the six medical conditions reported on (acute myocardial infarction or heart attack, heart failure, ischaemic stroke, haemorrhagic stroke, chronic obstructive pulmonary disease and pneumonia) was noted to be consistently within expected ranges.

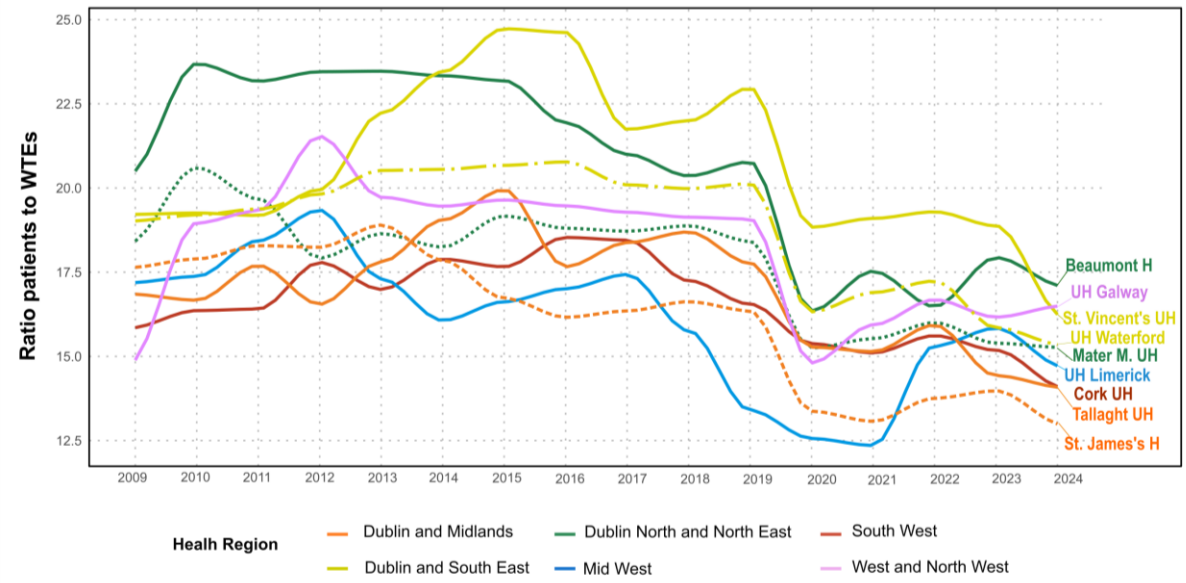
3.3.4 Other

Staffing

Figure 3.18, Figure 3.19 and Figure 3.20 illustrate the ratio of the number of patients per whole-time equivalent (WTE) staff member for three high-level groupings across Model 4 hospitals standardised by hospital activity (that is, the average number of inpatients and day cases present each day, per month). These groupings were: nursing and midwifery staff, medical and dental staff, and health and social care professionals, respectively. A higher number means more patients per WTE staff member. Staffing data were sourced from the HSE Management Data Reports,[6] while the number of patients was calculated from HIPE.[6] For presentation of the ratios of patients to other WTE staff categories, refer to Appendix 8 - Number of patients per number of whole-time equivalent general support staff across Model 4 hospitals (for general support staff), Appendix 9 - Number of patients per number of whole-time equivalent management and administrative staff across Model 4 hospitals (for management and administrative staff), and Appendix 10 - Number of patients per number of whole-time equivalent patient and client care staff across Model 4 hospitals (for patient and client care staff).

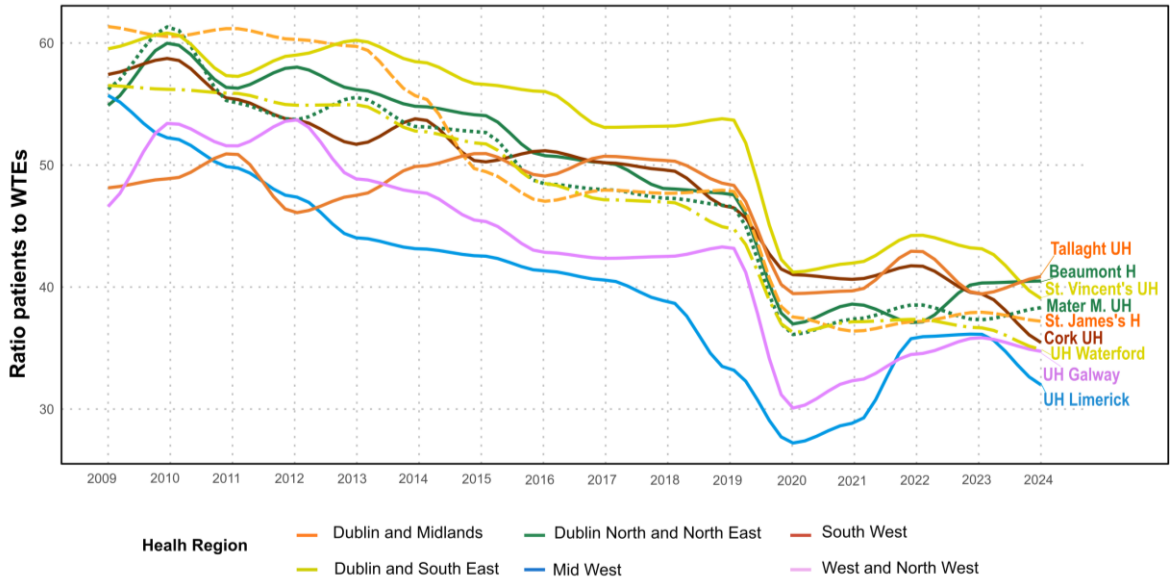
From 2009 to 2020 there was a general decrease in the ratios at UHL, across the three staffing categories, before increasing from 2021 onwards. A similar, though less pronounced, upward trend is evident in most other Model 4 hospitals. As of 2024, the ratios of patients per member of nursing and midwifery (Figure 3.18) and medical and dental staff (Figure 3.19) at UHL appear to align with those reported for other Model 4 hospitals. Notably, the ratio of patients per member of medical and dental staff at UHL was the lowest of the Model 4 hospitals in 2024 with 32 patients per WTE (35 to 41 across other Model 4 hospitals). In contrast, the ratio relative to health and social care professionals (Figure 3.20) at UHL was the fourth highest among Model 4 hospitals at the end of 2024.

Figure 3.18 Number of patients per whole time equivalent nursing and midwifery staff members across Model 4 hospitals



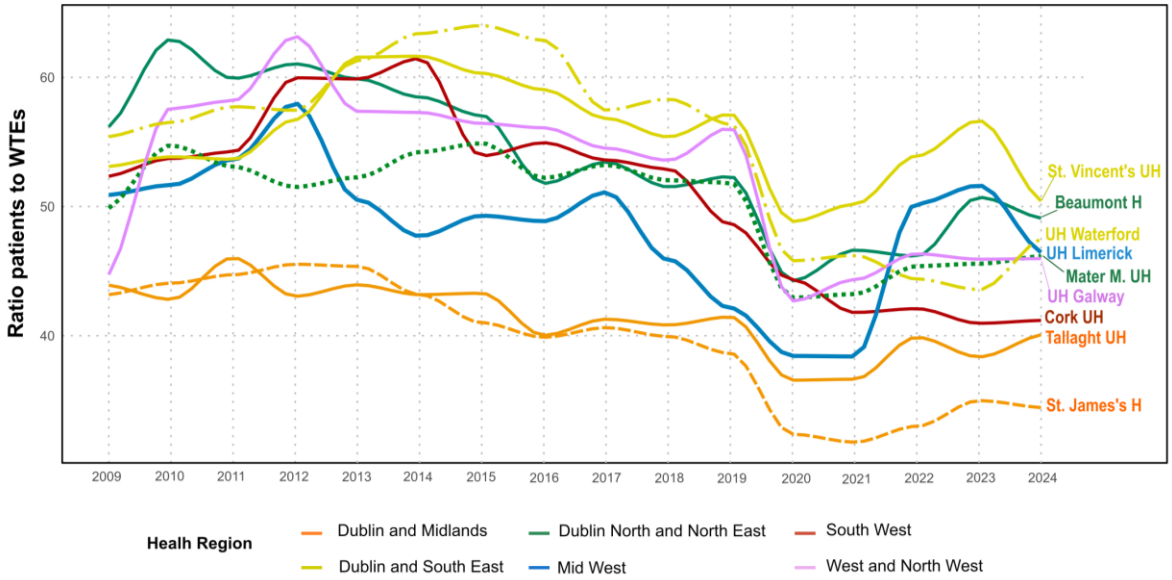
Note: Note: The WTE values in this plot represent nursing and midwifery staff members, as defined in the HSE performance reports, regardless of grade.

Figure 3.19 Number of patients per whole time equivalent medical and dental staff members across Model 4 hospitals



Note: Note: The WTE values in this plot represent medical and dental staff members, as defined in the HSE performance reports, regardless of grade.

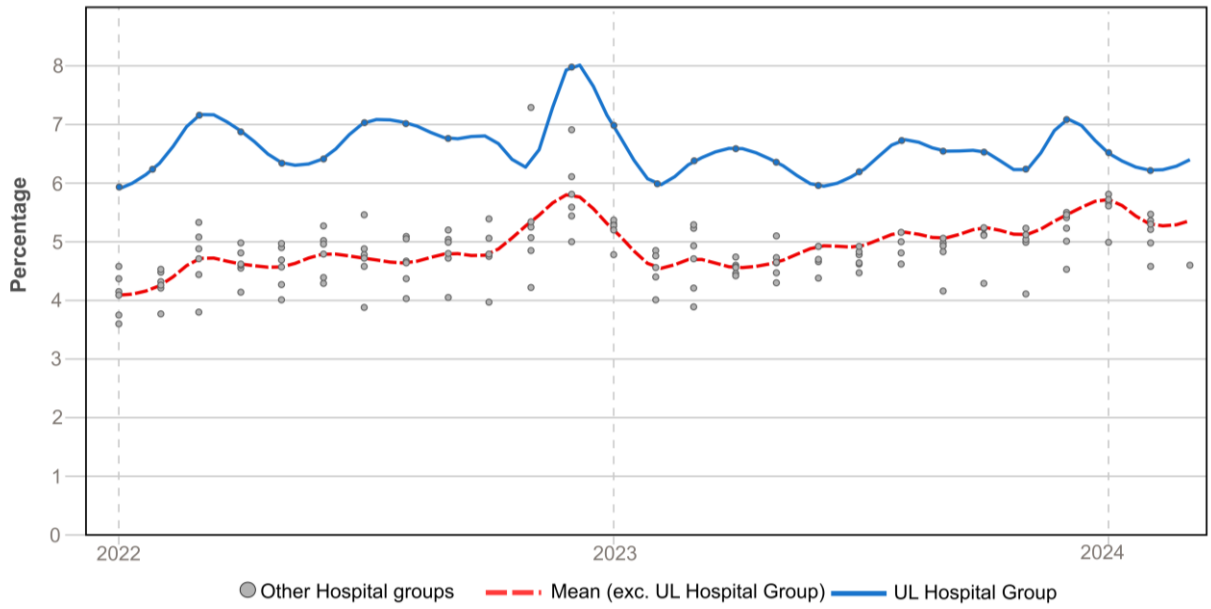
Figure 3.20 Number of patients per whole-time equivalent health & social care professionals staff members across Model 4 hospitals



Note: Note: The WTE values in this plot represent health and social-care professional staff members, as defined in the HSE performance reports, regardless of grade.

Figure 3.21 provides the non-COVID absence rates of staff across hospital groups from January 2022 to March 2024. Data on absence rates were sourced from the HSE Management Data Reports. Absence rates for the University of Limerick Hospitals Group, were significantly higher than absence rates at other hospital groups. The mean absence rate of University of Limerick Hospitals Group through the entire period is 6.6%, while the overall mean of other hospital groups is 4.8%. This is further broken down by staffing groups in Appendix 11 - Mean staffing absence rates by main categories – January 2022 to June 2024.

Figure 3.21 Staff absence rates (non-COVID) across hospital groups

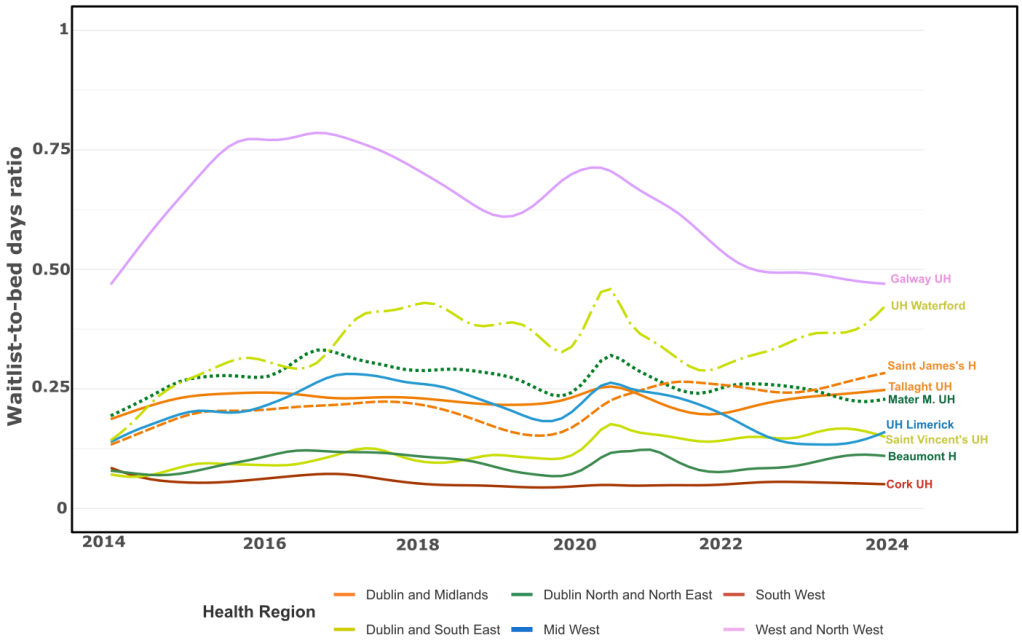


Note: National Ambulance Service and Children's Health Hospital Groups are not included in this plot.

Waiting lists

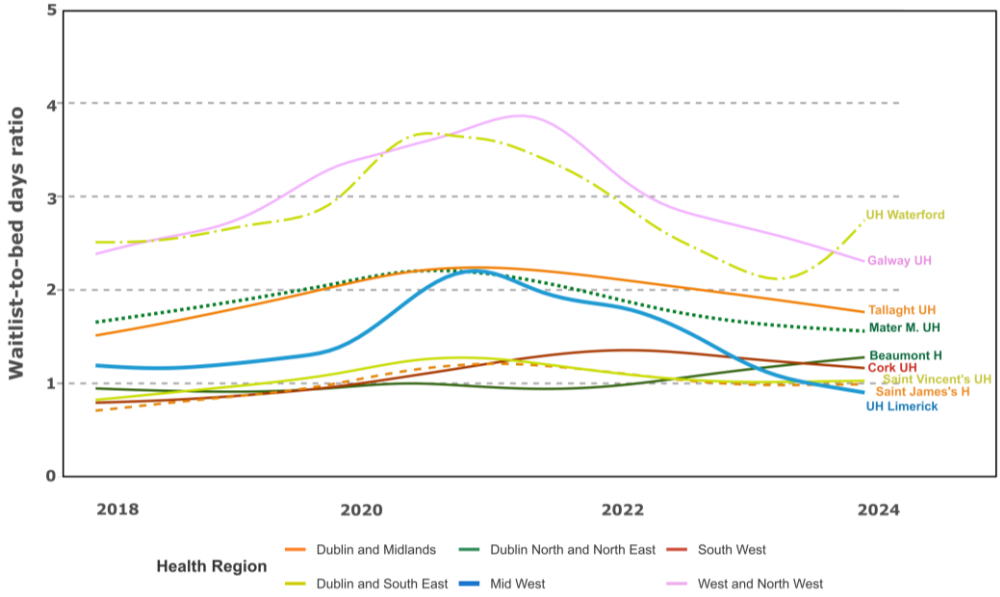
Figure 3.22 presents the monthly number of people on inpatient or day-case waiting lists in Model 4 hospitals, standardised by hospital activity (that is, total bed days for inpatients and day-cases), between 2014 and 2023. Figure 3.23 presents the same for the outpatient waiting list between 2018 and 2023 (the years for which data were available). Waiting list numbers were standardised by hospital activity to facilitate comparisons between hospitals and within hospitals over time. By 2024, both the inpatient and or day-case, and the outpatient waiting lists relative to hospital activity at UHL were low compared to the other Model 4 hospitals.

Figure 3.22 Inpatient and day-case waitlist numbers standardised by hospital activity in Model 4 hospitals



Note: the y-axis represents waitlist numbers divided by hospital activity (that is, total bed days for inpatients and day-cases).

Figure 3.23 Outpatient waitlist numbers standardised by hospital activity in Model 4 hospitals



Note: the y-axis represents waitlist numbers divided by hospital activity (that is, total bed days for inpatients and day-cases).

3.4 Estimates of inpatient capacity requirements

As of December 2024, there were 713 open inpatient beds in the Mid West, 522 of which were at UHL. The relatively low number of beds per capita in the Mid West, high inpatient occupancy rate, and high number of ED presentations relative to inpatient bed capacity (particularly considering the high conversion rate at UHL) all point to an under-provision of hospital capacity in the Mid West, especially at UHL. Considering this, we estimated the number of additional inpatient beds needed to align current capacity with that of other health regions and with need in the region. The analysis focuses on current (not projected) capacity requirements, with additional requirements calculated relative to the number of open beds as of December 2024.

Two approaches were used to generate a range of estimates: reducing the 2024 occupancy rate at UHL to 85%; and aligning the 2024 ratio of ED presentations to inpatient beds with that observed in other Model 4 hospitals. These approaches provide an indication of the number of additional beds that may be needed to address current shortfalls and reduce capacity-related pressures:

- An increase of 155 inpatient beds in UHL would reduce the occupancy rate in UHL to 85% (assuming the volume of inpatients remains constant).
- An increase of 221 inpatient beds in UHL would reduce the ratio of ED presentations to inpatient beds in UHL to align with the average of the other Model 4s (assuming the number of ED presentations remains constant).

Based on the current analysis, an estimated 155 to 221 additional inpatient beds are required in the Mid West to align with national norms and alleviate pressure on existing services. This estimate reflects current need and does not account for any expected increase in demand over time. Therefore, the additional 128 beds that are currently being added are unlikely to be sufficient to address current shortfalls in inpatient bed capacity.

3.5 Analysis of data from the wider health system

3.5.1 General practice

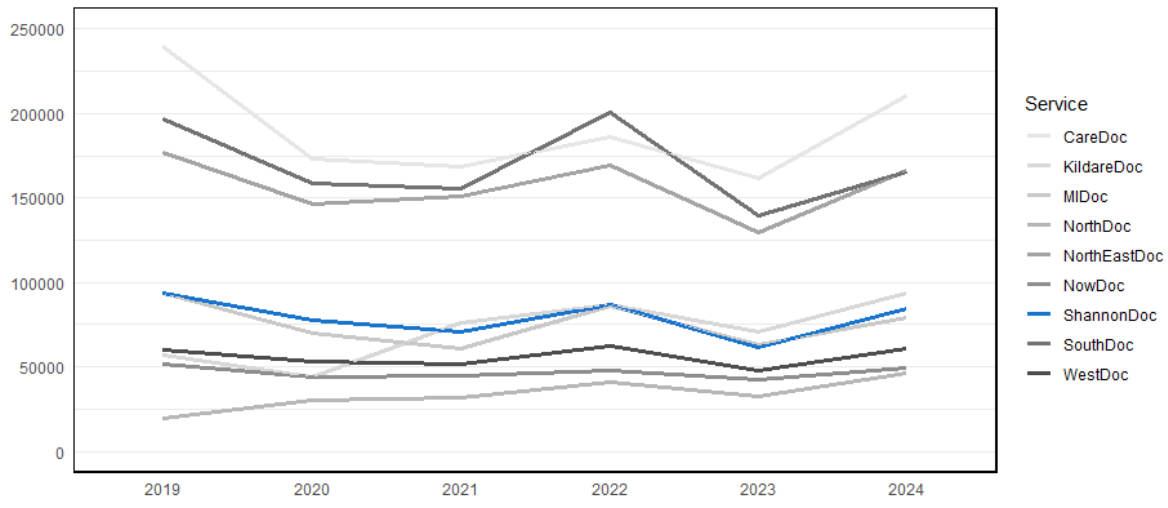
Based on a review of general practice services in Ireland undertaken by the Irish Government Economic and Evaluation Services in the Department of Health, there is some variation in GP numbers per population across the country.[10] The East Clare, East Limerick and Ballina Community Health Networks in the Mid West have low numbers of GPs, while South Limerick City has a high number of GPs. However, local supply of services should be interpreted with caution, as there is evidence of high mobility, especially in major urban areas. For example, panel numbers (that is, the

number of medical and GP visit card holders registered with a GP) in West Clare and South Limerick exceed population numbers for certain cohorts, suggesting that people from community health networks with known capacity constraints are travelling for GP care. In terms of GP workload, it was estimated that the East Clare and East Limerick Community Health Networks have a higher number of consultations per WTE GP than the national average. The East Clare Community Health Network had the highest workload in the country.

To assess GP attendance rates, Healthy Ireland data (collected between October 2022 and April 2023) were analysed. As detail on whether Tipperary residents resided in North or South Tipperary was not available, the entire county alongside Limerick and Clare was analysed; however, results did not differ meaningfully when Tipperary was included as part of the rest of Ireland rather than the Mid West. The proportion of people in Limerick, Clare, and Tipperary who reported attending a GP in the prior 12 months did not differ significantly from the rest of the country (76.0% vs 76.4%; F=0.04, p=0.84). Similarly, among those reporting GP attendance in the prior 12 months, the mean number of attendances in the previous four weeks did not differ significantly between Limerick, Clare, and Tipperary and the rest of the country (0.44 vs 0.40; t=1.07, p=0.28).

Figure 3.24 presents the annual number of contacts for nine GP out-of-hours service providers nationally between 2019 and 2024. Shannondoc is highlighted in the figure as it operates throughout the Mid West; however, there are no set catchment areas for the services and so it is not possible to quantify population-level usage by health regions. Across most providers, usage rates appear stable and the number of contacts in 2024 was similar to that in 2020.

Figure 3.24 Yearly number of GP out-of-hour contacts by provider



Note: This is a subset of providers, reflecting data availability.

3.5.2 Nursing homes

Based on the HIQA Older Person's Register (downloaded 28 February 2025), there were 32,162 beds across 543 nursing homes in Ireland. Nursing homes were geocoded to determine the health region in which they were located, and the population aged 75 years and older from the 2022 census was used as a crude proxy for demand in each health region.

Dublin and North East (n=110) and Dublin and South East (n=100) were the two health regions with the greatest supply of nursing home beds per 1,000 persons aged 75 years and older, followed by the Mid West (n=93). With regard to the ability to discharge inpatients from hospitals to nursing homes, in 2024, the proportions of inpatients discharged to a nursing home in the Mid West and nationally were comparable. For patients discharged to nursing homes, there was no evidence of increased length of stay at UHL relative to other Model 4 hospitals, or in the Mid West relative to the other health regions.

4 Discussion

The purpose of this report is to explore relevant data to characterise urgent and emergency care activity in the Mid West. UHL and the Mid West are distinct from the other Model 4 hospitals and the rest of Ireland in several respects, and comparable in others. These are detailed in Sections 4.1 and 4.2. However, these findings must be considered in the context of the primary data sources analysed in this report. The PET database provided information on ED and injury unit activity, with the HIPE database providing information on inpatient and day-case activity in acute public hospitals. While these were the most relevant and comprehensive data sources available, neither was designed for the type of epidemiological analysis conducted in the current report. Data on healthcare utilisation are also distorted by the impact of the COVID-19 pandemic, creating challenges for interpreting longer-term trends in activity. As a result, findings should be interpreted with caution, considering the potential limitations in data coverage, completeness, and consistency (detailed in Section 4.3).

4.1 Overview of findings

Overall, the population demographics of the Mid West are comparable to the rest of the country. However, the population aged 75 years and older is increasing at a slightly greater rate than the national average. There are also pockets of very high deprivation, indicating that demand for care is likely to be broadly in line with, but slightly higher than, national levels. In 2024, the Mid West had more beds per 1,000 people in both Model 2 and Model 4 hospitals compared to the rest of the country. However, when considering hospitals with an ED (that is, Model 3 and Model 4 hospitals), the Mid West had fewer total beds than the average for other regions. Of the Model 4 hospitals, UHL consistently had the highest ED presentation rates relative to inpatient bed capacity.

Per capita, physical ED capacity (considering the number of ambulatory assessment bays, clinical decision unit and or equivalent beds, ED cubicles, resuscitation bays and specialised areas) is lower in the Mid West. While peak numbers receiving care in the UHL ED at a given point in time relative to its physical capacity appear to be consistent with other Model 4 hospitals, the number of ED presentations relative to inpatient capacity is notably higher at UHL.

Patient experience time at UHL, defined as the time from registration in the ED to discharge, is consistent with the other Model 4 hospitals. However, it is important to note that in the PET database, patients referred to an acute assessment unit are considered to have been discharged, and this aspect of patient care is not recorded within the PET database. As a result, the relatively high referral rates of patients

from the UHL ED to the acute medical or surgical assessment units may result in true patient experience times being underestimated based on PET (as, upon referral, these patients are no longer tracked in the PET database). The policy decision in UHL at the start of the COVID-19 period to refer more people from the ED to the acute assessment units is clearly reflected in the data. Although referral rates from the ED to these units have declined since 2020, they remain notably higher than those observed in other hospitals, and higher than would be expected given the intended purpose of these units, as has been reported previously.[20] In addition to the relatively high referral rates of patients from the UHL ED to the acute medical or surgical assessment units, a relatively high proportion of ED presentations are also admitted to ward. However, this rate is in line with what would be expected given the age and triage score distribution of people presenting to the ED. There is a high volume of urgent and emergency care delivered through injury units in the Mid West, which contributes to a lower proportion of low triage score presentations at UHL ED, leading to a higher conversion rate in UHL.

Excluding patients both admitted to and discharged from an acute assessment unit, the Mid West, and UHL specifically, has consistently exhibited a higher proportion of emergency admissions compared to other health regions. Moreover, emergency admissions at UHL typically have a relatively short length of stay, with approximately 41% of emergency admissions in 2024 discharged within one day, in contrast with an average of 24% across other Model 4 hospitals. The data do not provide a clear explanation for the short length of stay of emergency admissions; however, UHL is distinct in this respect compared to the other Model 4 hospitals. Conversely, UHL reported a comparatively low number of bed days allocated to elective care. Notably, UHL recorded the lowest number of daily bed days allocated to elective care in 2024. This pattern suggests that sustained pressure from emergency presentations may be adversely impacting the hospital's capacity to deliver elective care services.

In terms of hospital capacity, the estimated occupancy rate at UHL is particularly high, reporting 110% inpatient occupancy for 2024, with a relatively high proportion of admitted patients being accommodated on trolleys. Of note, the number of admitted patients on trolleys is, by definition, lower than the number of admitted patients without a bed (as reported by the INMO Trolley Watch, for example), as this includes patients waiting in corridors or chairs in addition to those on trolleys.[21] Moreover, it has previously been noted that boarding in the ED does occur, indicating that demand is high relative to the capacity of the hospital.[22] The relatively high rates of inter-hospital patient transfers in the Mid West, and low number of bed days lost due to delayed transfer of care, provide evidence of effective use of capacity that is available to management. Additionally, despite the apparent capacity challenges, and a high proportion of emergency admissions at UHL; inpatient, day-case, and outpatient waiting list numbers were relatively lower

at UHL than at other Model 4 hospitals by 2024, when adjusted for hospital activity levels. However, interpretation of waiting list data requires consideration of factors such as capacity for insourcing and outsourcing in a health region. In the absence of detailed information, an analysis of National Treatment Purchase Fund data is at risk of drawing erroneous conclusions about the management of waiting lists by a hospital.

In terms of staffing, high-level estimates of the total number of staff by category relative to the level of hospital activity were considered. UHL has a similar number of staff relative to hospital activity for nursing and midwifery, and medical and dental staff categories compared to the other Model 4 hospitals. In this context, it is noted that recent capital developments and the safe staffing framework have seen staffing levels rise from a low overall base.[23] In recent years, overall numbers of health and social care professionals have been low at UHL relative to hospital activity. However, relevant data, such as staffing numbers for specific clinical or departmental services at a given time, were unavailable, which may obscure the true staffing situation. It should also be noted that staffing levels reflect both the volume and nature of activity. Variations in the services and specialties offered across Model 4 hospitals help to explain some of the observed differences in staffing levels.

Finally, as a region, the Mid West appears comparable to other health regions in terms of GP access, although some areas within the region may be less well served. Similarly, access to nursing home care in the region does not appear to differ substantially from elsewhere. Per capita, the number of nursing home beds in the Mid West is also consistent with the other health regions. The proportion of people in the Mid West with a medical card or GP visit card is consistent with the other health regions, as are rates of GP attendance. As of March 2023, the Mid West had lower than average numbers of post-acute rehabilitation beds, at 20.6 per 100,000 population, compared to a national average of 22.9.[24] Work is ongoing to increase capacity in this sector and thereby relieve pressure on urgent and emergency care in the Mid West and nationally. One area of note is the historically limited private hospital care capacity in the Mid West, although a new Bon Secours Hospital Limerick in Ballysimon opened in September 2025. While this may positively impact healthcare service delivery, its impact on overall service demand and utilisation of urgent and emergency care in the Mid West will need to be monitored and evaluated by the HSE and Department of Health.

4.2 General discussion

4.2.1 Key findings

The combination of ED, medical assessment unit and injury unit capacity was considered an appropriate measure of hospital-based urgent and emergency care

capacity in the Mid West. Based on these data, there are several respects in which UHL and the Mid West are distinct, which are discussed below.

There are fewer ED presentations per capita in the Mid West compared to the rest of the country. This may in part be explained by the high rate of injury unit presentations. That is, when both ED and injury unit activity are considered together, the combined presentation rate in the Mid West aligns with other health regions. This is also supported by the lower proportion of low-triage score presentations (that is, Manchester Triage Score category 4 and 5) seen in the UHL ED, considering that people who present to the injury units are more likely to be lower acuity. However, the reason why there are fewer-than-expected high-triage score presentations (that is, Manchester Triage Score 1) at the UHL ED remains unclear. Whether this is a genuine difference in patient acuity levels or a difference in coding practice merits further investigation by the HSE.

Inpatient bed capacity at UHL is low relative to demand, contributing significantly to overcrowding and the high proportion of admitted patients accommodated on trolleys. In the absence of a standardised benchmark, quantifying the shortfall in current bed capacity in the Mid West is challenging. We reported two measures to estimate the number of beds that may help to address existing shortages and alleviate current capacity-related pressures: reducing the 2024 occupancy rate at UHL to 85%, and aligning the 2024 ratio of ED presentations to inpatient beds with that observed in other Model 4 hospitals. These measures produced estimates of 155 and 221 inpatient beds, based on current demand. While this analysis focused specifically on inpatient bed numbers, it is acknowledged that increasing bed capacity would require a corresponding investment in other hospital services, such as diagnostics, laboratory services, staffing and infrastructure. It is noted that efforts to increase capacity at UHL are already underway, with an additional 128 beds currently being added.[20] Considering that the current volume of activity per capita in the Mid West is lower than the rest of Ireland, an increase in bed capacity may lead to an increase in the volume of activity. Regardless, these 128 beds are unlikely to be sufficient to align inpatient bed capacity in the Mid West with that currently available in other health regions.

Regarding future bed capacity requirements for public acute hospitals in Ireland, a recent report published by the ESRI projected additional requirements for the six health regions between 2023 and 2040 (see Appendix 12 for more detailed description).[17] The Mid West is projected to require additional inpatient beds and day beds by 2040, though the extent varies across scenarios (scenario assumptions detailed in Table 4.1).

- The comparator or status quo scenario projected a need for an additional 412 (+50%) inpatient beds and 66 (+30%) day-beds.
- The low-pressure scenario resulted in a lower projected need for an additional 299 (+36%) inpatient beds and 38 (+17%) day-beds.
- The high-pressure scenario projected a need for an additional 593 (+71%) inpatient beds and 73 (+33%) day-beds.
- The progress scenario projected a need for an additional 444 (+53%) inpatient beds and 41 (+19%) day-beds.

Table 4.1 Summary of the ESRI's projection scenarios

	Services impacted	Scenarios			
		Comparator	**Low pressure**	**High pressure**	**Progress**
Demand assumptions					
Population growth and age structure	All	Central	Central	High	Central
Healthy ageing	All[a]	-	Dynamic equilibrium[b]	-	Moderate healthy aging
Potentially avoidable emergency hospitalisations	ED and emergency inpatient	-	-	-	25% rate reduction to 2040
Elective inpatient to day case	Elective day and inpatient	-	-	-	Increase by 0.2% per annum to max 95%
Private out of public hospitals	Elective day and inpatient private	-	-	-	Central
Waiting list management	Outpatient department, public elective day and inpatient	-	-	Low-clearance	High-clearance
LOS reduction	Inpatient[c]	-	-	-	Yes
Bed capacity assumption					
2040 Occupancy rate	Day patient Inpatient[d]	2023 rate 2023 rate	2023 rate 2023 rate	2023 rate 90%	2023 rate 85%

Note: [a] Healthy ageing shifts were not applied to maternity; [b] Dynamic equilibrium assumes that increasing life expectancy is accompanied by a reduction in disability and the severity of the consequences of chronic diseases, due to advances in medical technology; [c] Excludes same-day AMAU; [d] Excluding maternity and same-day AMAU.

The proportional increase in total bed capacity projected requirements in the Mid West is lower than the national average under the status quo and low-pressure scenarios, but higher under the high-pressure and progress scenarios. Across all regions and scenarios, projected need for additional inpatient beds ranges from 32% to 71%, and 15% to 45% for day-beds, highlighting that other health regions also face substantial capacity requirements.

The ESRI has projected that the number of ED and injury unit presentations in the Mid West will increase by between 16 and 23% between 2023 and 2040. Related

work is underway to project regional requirements for long and short-term residential care beds, home support, GPs, and GP nurses. As of September 2025, the regional projections have not been published, although national projections are available.[25, 26] These estimate that national requirements will rise by 61-80% for long-term residential care beds, 72-94% for short-term residential care beds, 57-91% for home support hours, 24-31% for GPs, and 33-38% for GP nurses. While regional figures are not yet available, there is no reason to expect the Mid West will differ substantially, indicating significant additional requirements in the region.

The relatively low number of beds at UHL, coupled with a high number of ED presentations, means that the number of ED presentations relative to bed capacity is consistently higher at UHL than other Model 4 hospitals. Within the UHL ED, the acute medical and surgical assessment units do not appear to be functioning as intended, as has been documented elsewhere.[1, 20] Compared to the other Model 4 hospitals, a high proportion of ED presentations at UHL are referred to these units. While the datasets available for this analysis did not facilitate accurate estimates of proportion of these patients that are subsequently admitted, it has been reported elsewhere that this figure is high.[27] It follows that a high proportion of admissions to UHL come from emergency pathways (which includes through the acute assessment units). The conversion rate is high relative to other model 4 hospitals, but is in line once adjusted for the triage score of presenting patients. Nonetheless, a high proportion of emergency admissions have a short length of stay. The short length of stay could reflect two factors: differences in access to hospital resources, for example diagnostic availability in the ED compared with the ward; and the presence of senior decision-makers or health and social care professionals in the ED to facilitate earlier diagnosis, treatment and discharge. It is unclear from the data whether any of these admissions are avoidable, and such an analysis performed locally within the hospital would help to clarify this.

By 2024, relative to hospital activity, UHL had staffing levels comparable to other Model 4 hospitals in medical and dental, nursing and midwifery, and health and social care professions. However, these high-level categories alone do not fully reflect the complexity of the staffing profile. Previous reports have identified that the Mid West has a low number of emergency medicine consultants per capita, broadly comparable to the two regions with the lowest figures.[28] They have also highlighted the need to strengthen ED staffing at UHL by increasing the availability of consultant and non-consultant hospital doctors, as well as additional health and social care professionals.[20, 27] Additionally, two prior HIQA inspection reports of UHL in 2023 and 2024 have noted ongoing challenges in filling posts across nursing, medical, allied health and support staff.[1, 22] Beyond staffing numbers, previous HIQA inspections have noted a culture of kindness, commitment, and care among existing

staff in the UHL ED.[1] Despite this, staff absenteeism rates are high across the University of Limerick Hospitals Group and, in engagement with stakeholders, HIQA was informed that morale of healthcare staff in the region is low.[29]

4.2.2 Patient mortality

In-hospital mortality patterns have been used internationally as an indicator of quality of care. In the context of urgent and emergency care, both in-hospital and ED mortality should be considered. In-hospital deaths are captured in HIPE and can be analysed at a national level. ED mortality is collected at the local level but the PET dataset, the principal source of national patient-level data in EDs and injury units, does not reliably capture ED mortality and as such, patient mortality data were not analysed in the current report.

The National Audit of Hospital Mortality, conducted by the National Office of Clinical Audit (NOCA), collates and analyses inpatient mortality patterns from publicly-funded acute hospitals across the country, using HIPE data.[30] Its main objective is to analyse and display inpatient mortality patterns in order to guide improvement measures. Between 2016 and 2021, inpatient mortality in UHL from the six medical conditions included in the National Audit of Hospital Mortality suggest that, in spite of existing challenges, the quality of overall patient care in UHL aligns with other Model 4 hospitals.

4.2.3 Health regions in the context of the current analyses

While regional health authority boundaries provide a useful framework for resource allocation, they are not aligned with routinely collected population data or projections, and are largely invisible to the public. This misalignment leads to challenges in balancing supply and demand, complicating service planning and delivery.

The frequent changes to health region structures and associated reorganisations may have further impacted on service planning and care delivery.[20] Without sufficient time for new structures to stabilise, or to formally evaluate their effects, it is difficult to assess how such changes impact service efficiency and patient outcomes. Notably, this report was unable to isolate or analyse the impact of various policy and organisational changes introduced over time, highlighting the need for more systematic evaluation of structural reforms in healthcare in Ireland. This is not to suggest that access to healthcare services be limited to the health region of residence, nor would it be practical to redraw health regions to reflect patient catchments. Rather, as patients often move freely between regions to access care, data capture of care episodes should include sufficient detail on patient addresses to enable coding to the relevant health boundaries.

4.3 Suitability and limitations of available data

4.3.1 Limitations of the source data

The datasets analysed in this report were not developed for the type of epidemiological analyses conducted in the current report. The HSE's Performance Profile was designed for monitoring hospital performance, while HIPE and the PET dataset were developed for operational management purposes and not as a measure of quality or safety of care, which requires an understanding of clinical context. Nonetheless these were the most comprehensive sources available for use in preparing this report. A patient's hospital journey can be complex, involving multiple departments, specialties, and follow-up care; a greater degree of integration between the datasets would provide a better view of this journey and supported analyses in the current report. Moreover, improved integration would support ongoing audit and evaluation to better inform effective healthcare planning. However, it is also important to recognise that data collection carries costs. These not only include patient time, data entry, and storage, but also the required staff expertise, the need for ongoing training, and the technical infrastructures necessary to support accurate data management throughout the entire data lifecycle, from collection and processing to analysis and long-term archiving. Data should only be collected if it is used meaningfully to support care delivery and management. The full implementation of an individual health identifier (IHI) may help address this issue by enabling more accurate tracking of patient pathways and resource use. Encouragingly, the IHI is now being seeded into many of the datasets used in this analysis, including HIPE, which should support more integrated planning and performance monitoring over time.

4.3.2 Data completeness and missingness

Missing data and completeness were notable challenges in the current report, affecting the reliability of certain metrics, particularly in relation to the ED data. For example, a significant proportion of Manchester Triage Scores were categorised as "unspecified" and key time-based indicators, such as triage and consultation times, were not consistently reported. Moreover, there were no available data on patients in acute assessment units who have not been admitted. For example, once a patient is referred to an acute assessment unit, they leave the PET dataset (if referred from an ED) and are not captured in the HIPE dataset until they are admitted. Although data quality has been improving over time, notably in addressing completeness of existing datasets, these inconsistencies make it more difficult to draw conclusions from longitudinal analyses on changes in ED activity.

4.3.3 Variability in recording practices

Consistency in data recording varies across hospitals and health regions, particularly in relation to data on the EDs and injury units. Although reporting in the Mid West is relatively consistent, the use of different data systems across all regions leads to potential inconsistencies in definitions and reporting standards, complicating regional and national comparisons. As a result, several variables of potential interest (for example, ED referral type or mode of arrival) were not examined, as any observed differences may reflect local coding practices rather than genuine differences. Standardised data collection and reporting would improve the accuracy and reliability of comparative analyses. To enable meaningful comparisons and improve care quality, health information must be collected and recorded consistently across all services. The implementation of national health information standards is essential to reduce variation, improve data reliability, and support safer, better care.

4.3.4 Gaps in coverage and resolution

Differences in data coverage pose challenges for both longitudinal and real-time analysis of urgent and emergency care. For example, data on ED activity are only available from 2016, meaning that opportunities to evaluate the effects of major system changes, such as the 2009 reconfiguration of healthcare services in the Mid West, are limited. Limited temporal resolution in existing datasets also restricts real-time monitoring, as there is no centralised system providing daily summaries of staffing levels or physical capacity. Additionally, gaps in spatial data further complicate comparative analyses. For example, HIPE includes a patient's county of residence but, as noted previously, this does not align with regional health area boundaries. Similarly, while information on county of residence of urgent and emergency care patients of the Mid West was provided by UL Hospital group, PET currently contains no information on patient origins. In the absence of routine small-area coding, including health region of residence as a standard variable in datasets would support service planning, while recognising that boundaries may change over time. Moreover, not all injury units are included in the PET database and the data are limited to the public acute hospital system. As a result, coverage of urgent and emergency care services in the available data is incomplete.

4.3.5 Service availability and integration across health regions

The context for this report is the configuration of urgent and emergency care services in the Mid West. There are a variety of services that people can consider accessing when trying to address urgent and emergency care needs, for example an ED, injury unit, or GP. The availability of these services varies across regional health areas. A focus on the supply and demand relating to a single service can misrepresent capacity and utilisation – an analysis should consider the entirety of the services. The available data do not record the same information across those services. For example, PET includes acuity levels for ED attendances but not reliably

for injury units. In contrast, there is no centralised dataset with detailed information on out-of-hours attendances. Although at a population level there are different options for urgent and emergency care, what is available to an individual differs across and within health regions.

4.3.6 Impact of COVID-19

Finally, the impact of COVID-19 on healthcare utilisation during the study period must be considered as a potential source of bias. The pandemic significantly disrupted long-term trends, making it more difficult to identify consistent patterns in service use. While seasonal decomposition methods were applied to mitigate some of these disruptions, the impacts of COVID-19 remain evident in the available data and may distort underlying trends or certain metrics. Changes in patient behaviour, resource availability, and hospital management (such as the higher use of acute assessment units for UHL) during this period further complicate the interpretation of long-term data and regional comparisons. As a result, findings from this period may reflect temporary system pressures rather than broader structural patterns.

4.4 Data recommendations

Safe and reliable health and social care rely on consistent access to information that is accurate, valid, reliable, timely, relevant, legible, and complete. High-quality, consistently-recorded data is essential not only for effective care delivery, but also for service planning, policy-making, and research. The need for improved health information systems in Ireland has been recognised in many reports over the past two decades, yet the Irish health information system remains immature. HIQA has previously noted significant gaps and key policy considerations to drive transformational change in relation to the collection, use and sharing of health information in Ireland, and the need to act is further underscored by the current review.[31, 32] While good-quality data are essential for planning and managing services at local and national levels, guiding policy-making and public health practice, and conducting high-quality research, the Irish healthcare system appears to have limited resources dedicated to monitoring capacity and activity. The lack of consistent, reliable measures to evaluate services, including hospital performance and patient outcome, limited the analysis that could support this review and gave rise to several recommendations below.

As previously noted, the primary datasets analysed in this report were developed for operational management purposes and not as a tool for conducting epidemiological analyses. The lack of a unified dataset leads to challenges for monitoring the relationships between different types of activity. In the absence of such a dataset, the ability to uniquely identify individuals would facilitate data linkage for this purpose.

The current analysis also raised the need for increasing the standardisation of data collection, which is currently limited by reliance on periodic self-reporting in varied formats, and the use of multiple local systems that produce inconsistent outputs and definitions. Under the Health Act 2007, HIQA is legally mandated to evaluate information and provide advice and recommendations about deficiencies in health and social care information.[33] The *National Standards for Information Management in Health and Social Care* (2024) highlight the urgent need for the implementation of a data quality framework at both national and local service level.[34]

Primary care is essential in pre-hospital care to reduce the need for, and ensure the appropriate use of, secondary care facilities. There is currently a significant deficit in accessing data from this sector, as no single data source is suitable for ongoing monitoring purposes. As a result, considerable work is required to combine the available data sources, and this may only give point-in-time information that is potentially out of date by the time it is published. Better measurement of general practice in Ireland, such as the number of GP sites, their staffing composition and demand, is required.

Regarding data on EDs, the PET dataset provides reliable data on ED presentation numbers and patient experience time across the EDs, and most injury units in Ireland. For the other variables included in the dataset; the use of different data systems and reporting standards at the local level, and the requirement of local data to be mapped into the PET dataset, leads to inconsistencies between hospitals and within hospitals over time. Among the data that are collected, there is a high level of missing data for many variables, affecting the reliability of these metrics, although this has improved in recent years. There is potential for the PET dataset to be further developed to better facilitate analyses of patient outcomes and comparisons across hospitals. The inclusion of all injury units would improve coverage and provide a better understanding of what is happening on the ground. Additional data on patient characteristics, such as patient address that could be linked to health region, and presenting condition, would also provide a clearer picture of who is presenting to EDs and why. Similarly, having access to the residence information of admitted patients, which could be linked to their health region, would facilitate comparative analyses similar to those in the current report. It could also provide valuable insights into how best to provide services to meet the healthcare needs of the population.

Finally, key performance indicators play an important role in hospital management; however, undue focus on these may lead to potential adverse effects on other aspects of quality and safety by moving, rather than solving, a problem.[32] For example, it is plausible that excessive focus on trolley counts as a key performance indicator could incentivise practices such as patient boarding or inefficient bed

allocation. To ensure key performance indicators drive meaningful improvements, they should be developed with a system-wide perspective, considering the entire patient pathway from admission to discharge. Metrics that promote timely and appropriate care, rather than focusing on isolated pressure points, can help optimise resource utilisation and improve patient outcomes. On the other hand, the use of a single or limited set of metrics may not provide sufficient information for measuring performance, and incentivise a focus on the activity being measured to the detriment of the service as a whole; leading to a "what gets measured gets done" scenario.[32]

5 Conclusion

Urgent and emergency care services are inherently interconnected, and so issues apparent in one area should not be considered in isolation from the wider hospital system. In the Mid West, urgent and emergency care is primarily delivered through the UHL ED and medical assessment units and injury units in the three Model 2 hospitals.

UHL has insufficient inpatient capacity relative to its high volume of ED presentations and high proportion of acute hospital activity coming through emergency pathways. The 128 beds that are currently being added are unlikely to be sufficient to address these shortfalls in inpatient bed capacity.

A relatively higher proportion of ED presentations in UHL are referred to the acute medical and surgical assessment units than in other Model 4 hospitals. As has been noted in previous HIQA inspections, this may indicate that the units are being used as overflow areas for admitted patients, rather than for rapid assessment and discharge as intended.

However, many aspects appear to be functioning well. The Model 2 medical assessment units and injury units manage a significant volume of activity that might otherwise be directed to UHL. Patient transfer between hospitals in the Mid West is relatively high, particularly from UHL to the Model 2 hospitals, partly as a means to manage supply and demand. Patient experience time within the UHL ED appears to be in line with other hospitals.

The datasets available for analysis in this report were mostly developed for operational management purposes and not as a measure of quality or safety of care, which requires an understanding of clinical context. There is a need to develop and implement a data collection strategy that better enables an understanding of healthcare system activity, and supports the development of key performance indicators that focus on patient safety and quality of care.

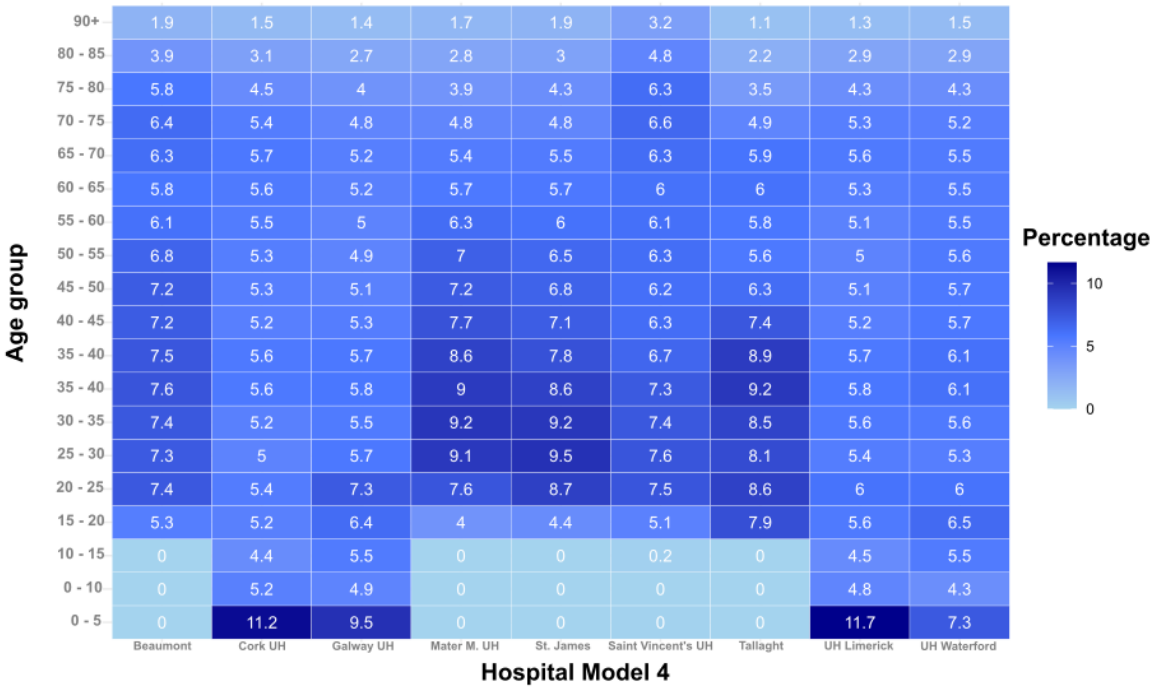
References

1. Health Information and Quality Authority (HIQA). Report of an inspection against the National Standards for Safer Better Healthcare (University Hospital Limerick) [Internet]. Ireland: Health Information and Quality Authority (HIQA); 2024 [cited 2024 November 01]. Available from: https://www.hiqa.ie/system/files?file=inspectionreports/University%20Hospital%20Limerick%2C%2021%20November%202023.pdf.
2. Health Information and Quality Authority (HIQA). Report of the unannounced inspection of the Emergency Department at University Hospital Limerick against the National Standards for Safer Better Healthcare [Internet]. Ireland: Health Information and Quality Authority (HIQA); 2022 [cited 2024 Novemeber 01]. Available from: https://www.hiqa.ie/system/files?file=inspectionreports/University%20Hospital%20Limerick%2C%2015%20March%202022.pdf.
3. Health Service Executive (HSE). Minister Donnelly Breaks Ground on New 96-Bed Block for University Hospital Limerick [Internet]. Ireland: Health Service Executive (HSE); 2022 [cited 2024 November 04]. Available from.
4. Health Service Executive (HSE). Patient Experience Time [Internet]. Ireland: Planning and Business Information unit, Office of Deputy Director General, BIU Community Healthcare, BIU Acute; 2025 [cited 2025 April 22]. Available from: https://datacatalogue.gov.ie/dataset/patient-experience-time.
5. Health Service Executive (HSE). Hospital In-Patient Enquiry (HIPE) [Internet]. Ireland: Healthcare Pricing Office, National Finance Division, HSE; 2024 [cited 2025 April 22]. Available from: https://hpowp.com/embed_stats_reporter_frame/.
6. Health Service Executive (HSE). Performance Reports [Internet]. Ireland: HSE; 2025 [cited 2025 April 22]. Available from: https://www.hse.ie/eng/services/publications/performancereports/.
7. National Treatment Purchase Fund (NTPF). National Waiting List Data [Internet]. Ireland: NTPF; 2025 [cited 2025 April 22]. Available from: https://www.ntpf.ie/enhanced-waiting-list-data/.
8. Health Service Executive (HSE). Urgent and emergency care report (daily) [Internet]. Ireland: HSE; 2025 [cited 2025 April]. Available from: https://www2.hse.ie/services/urgent-emergency-care-report/.
9. Health Information and Quality Authority (HIQA). Older person's register [Internet]. Ireland: HIQA; 2025 [cited 2025 April 22]. Available from: https://www.hiqa.ie/areas-we-work/older-peoples-services.
10. Department of Health (DoH). Supply and Demand of General Practice in Ireland: Technical Note- June 2025. 2025 30 June 2025. Report No.
11. Pobal. Pobal HP Deprivation Index [Internet]. Ireland: Pobal; 2025 [cited 2025 April 22]. Available from: https://data.pobal.ie/portal/apps/sites/#/pobal-maps.
12. R Core Team. R: A language and environment for statistical computing. 4.4.1 ed. Vienna, Austria: R Foundation for Statistical Computing; 2021.

13. RStudio Team. RStudio: Integrated Development for R. Boston, MA: RStudio Inc.; 2019.
14. Wickham H. ggplot2: Elegant Graphics for Data Analysis: Springer-Verlag New York; 2016.
15. Open Source Routing Machine: [Available from: https://project-osrm.org/.
16. OpenStreetMap [Available from: https://download.geofabrik.de/.
17. Economic & Social Research Institute (ESRI). Projections of regional demand and bed capacity requirements for public acute hospitals in Ireland, 2023–2040: Based on the Hippocrates model ESRI: 2025 [Available from: https://www.esri.ie/system/files/publications/SUSTAT132.pdf#page=31.53.
18. Health Service Executive (HSE). Regional Population Profiles: National Comparative Report Ireland: 2024 [cited 2025 April 22]. 3. Available from: https://www.hse.ie/eng/about/who/healthwellbeing/knowledge-management/health-intelligence-files/national-comparative-report-regional-population-profiles.pdf.
19. NICE. Bed Occupancy. 2018.
20. Health Information and Quality Authority (HIQA). A summary of the key recommendations and decisions that have impacted urgent and emergency healthcare services in the Health Service Executive Mid West health region (2000 to 2024). 2025.
21. Irish Nurses and Midwives Organisation (INMO). Trolley Watch [Internet]. Ireland: INMO; 2025 [cited 2025 April 22]. Available from: https://www.inmo.ie/News-Campaigns/Trolley-Watch/.
22. Health Information and Quality Authority (HIQA). Report of an inspection against the National Standards for Safer Better Healthcare (University Hospital Limerick, February inspection) [Internet]. Ireland: Health Information and Quality Authority (HIQA); 2023 [cited 2024 November 28]. Available from: https://www.hiqa.ie/system/files?file=inspectionreports/university-hospital-limerick-21-22-february-2023_0.pdf.
23. Health Service Executive (HSE). University Hospital Limerick: Support Team Report 2024 [Internet]. Ireland: Health Service Executive (HSE); 2024 [cited 2024 November 28]. Available from: https://about.hse.ie/api/v2/download-file/file_based_publications/UHL_Support_Team_Report_2024.pdf/.
24. Begley CA, E.; Carroll, P.; Coleman, S.; Devaney, C.; Kavanagh, K.; Lynch, C.; Murphy, D. Post-Acute Inpatient Rehabilitation Service Provision: A National Overview of HSE Funded Services. Full Report [Internet]. Dublin: Health Service Executive; 2024 [cited 2025 May 13]. Available from: https://www.hse.ie/eng/about/who/cspd/ncps/stroke/resources/post-acute-inpatient-rehab-service-provision-a-national-overview-of-hse-funded-services-full-report.pdf.
25. Economic & Social Research Institute (ESRI). Projections of national demand and workforce requirements for general practice in Ireland, 2023–2040: Based on the Hippocrates model [Internet]. Ireland: ESRI; 2025. Available from: https://www.esri.ie/publications/projections-of-national-demand-and-workforce-requirements-for-general-practice-in.
26. Economic & Social Research Institute (ESRI). Projections of national demand and bed capacity requirements for older people's care in Ireland, 2022–2040:

Based on the Hippocrates model ESRI: 2025 [Available from: https://www.esri.ie/publications/projections-of-national-demand-and-bed-capacity-requirements-for-older-peoples-care-in.
27. Deloitte. UL Hospital Group Patient Flow Report [Internet]. Ireland: Deloitte; 2022 [cited 2024 November 18]. Available from.
28. National Doctors Training and Planning (NDPT). Emergency Medicine Workforce in Ireland 2024-2038: An expert stakeholder informed review. [Internet]. Ireland: Health Service Executive (HSE); 2024 [cited 2024 December 03]. Available from: https://www.hse.ie/eng/staff/leadership-education-development/met/plan/specialty-specific-reviews/emergency-medicine-workforce-in-ireland-2024-2038.pdf.
29. Health Information and Quality Authority (HIQA). Mid West Review: Stakeholder Involvement Report 2025.
30. National Office of Clinical Audit (NOCA). National Audit of Hospital Mortality [Internet]. Dublin, Ireland: National Office of Clinical Audit; 2023 [cited 2025 April 28]. Available from: https://www.noca.ie/audits/national-audit-of-hospital-mortality/.
31. Health Information and Quality Authority (HIQA). The need to reform Ireland's national Health Information System to support the delivery of health and social care services [Internet]. Ireland: Health Information and Quality Authority (HIQA); 2021 [cited 2025 April 29]. Available from: https://www.hiqa.ie/sites/default/files/2021-10/The-need-for-reform-of-the-health-information-system.pdf.
32. Health Information and Quality Authority (HIQA). Key considerations to inform policy for the collection, use and sharing of health and social care information in Ireland [Internet]. Ireland: Health Information and Quality Authority (HIQA); 2022 [cited 2025 April 29]. Available from: https://www.hiqa.ie/sites/default/files/2022-08/Key-policy-considerations-for-health-information.pdf.
33. Health Act 2007.
34. Health Information and Quality Authority (HIQA). National Standards for Information Management in Health and Social Care 2024. 2024.

Appendix 1 - Percentage of total emergency department presentations by 5-year age groups across Model 4 hospitals



The above table illustrates the percentage of ED presentations delineated by 5-year age groups across all Model 4 hospitals from 2016 to 2024. Clear differences are noticeable between hospitals in the Dublin area and those in other parts of the country, with a greater proportion of pediatric presentations (that is, under 15 years) recorded outside Dublin. Notably, UHL reports the highest proportion of presentations for infants aged 0 to 5 years. This distinct age distribution of ED presentations is likely influenced by the presence of the four Children's Health Ireland hospitals in Dublin.

Appendix 2 - Distribution of county of residence by type of attendance in Mid West hospitals (2024)

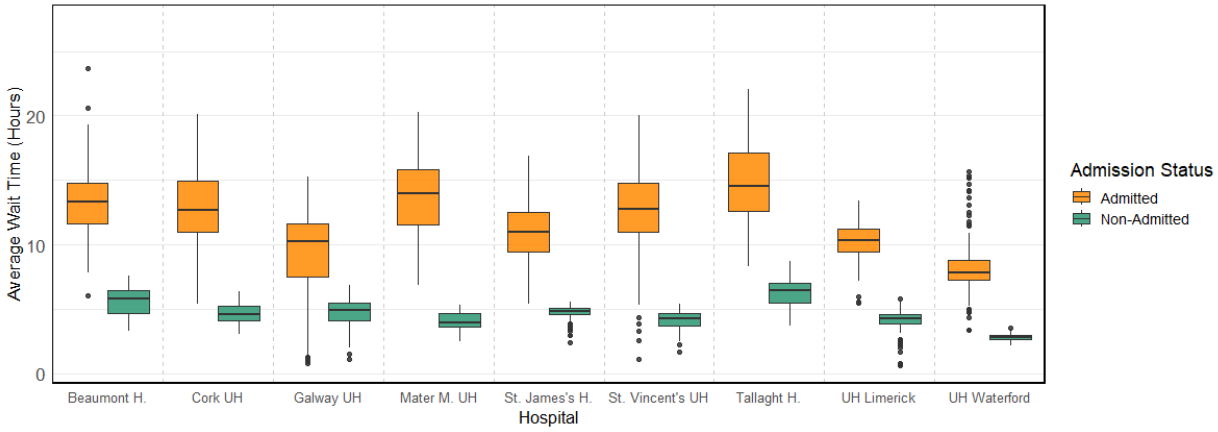
	Model 4			**Models 2**					
	UHL			**Ennis**		**Nenagh**		**St. John's**	
County	ED	AMAU	ASAU	LIU	MAU	LIU	MAU	LIU	MAU
Limerick	56.1	59.5	56.6	1.5	9.6	4.1	34.2	82.3	81.4
Clare	24.9	25.2	26.3	85.7	86.8	3.6	8.3	6.7	8.3
Tipperary	10.7	9.3	10.6	0.3	0.6	72.6	53.2	3.2	4.1
Cork	1.5	1.4	1.3	0.2	0.0	0.1	0.2	0.7	1.4
Kerry	0.5	0.4	0.7	0.1	0.0	0.1	0.0	0.7	0.5
Galway	0.3	0.2	0.2	6.5	0.3	1.8	0.0	0.2	0.1
Other	5.8	4.0	4.3	5.8	2.5	17.7	4.1	6.1	4.2
Total	100	100	100	100	100	100	100	100	100

Note: This data was provided by the University Limerick Hospitals Group

The above table shows the geographic distribution of county of residence by type of attendances in the Mid West hospitals for 2024. For these analyses, Tipperary is reported as a single county and could not be disaggregated into North and South. Data on the county of residence of people who presented to EDs, injury units, or MAUs outside the Mid West were not available for analysis.

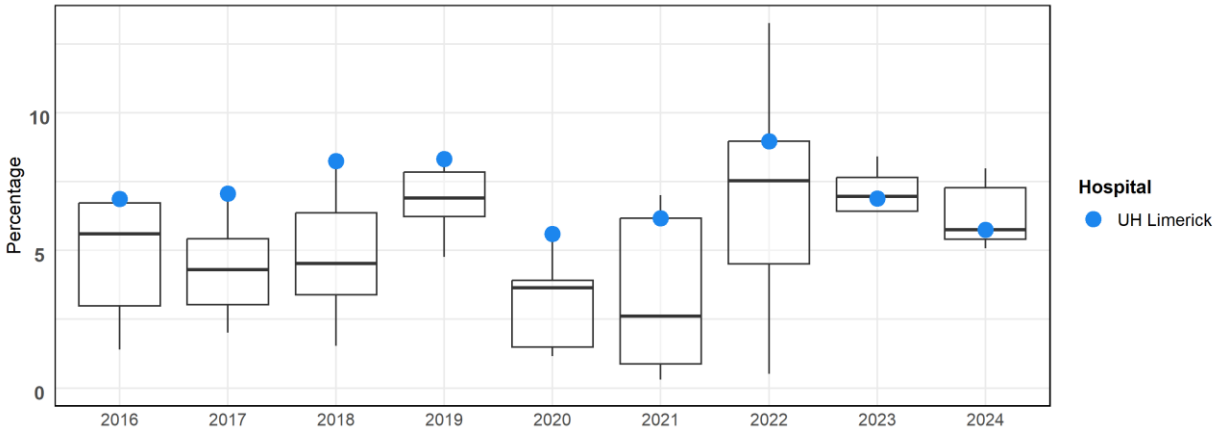
In UHL, 91.7% of patients resided in Limerick, Clare or Tipperary. A similar pattern is observed across the Model 2 hospitals. Overall, residents of Clare, Limerick, or Tipperary accounted for 91% of urgent and emergency care presentations across the four Mid West hospitals. This figure includes ED and acute assessment unit presentations at UHL, and injury unit and MAU presentations at the Model 2 hospitals.

Appendix 3 – Distribution of monthly median patient experience time by patient admission status in Model 4 hospitals (2016-2024)



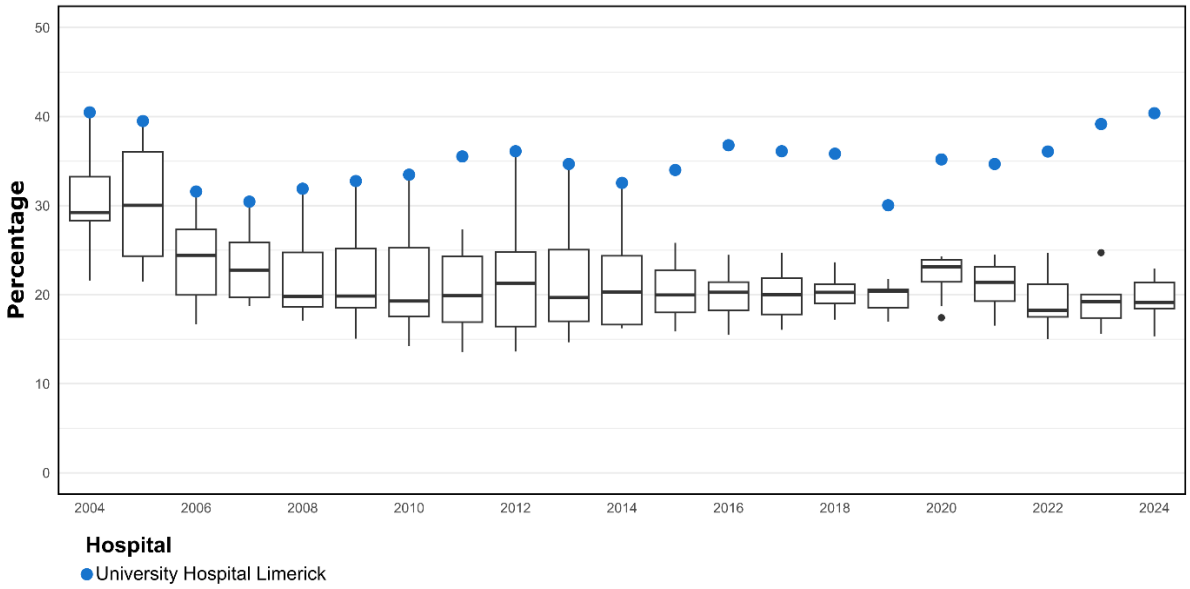
The above figure represents the monthly median waiting time of ED presentations across Model 4 hospitals, broken down by whether patients were admitted to a ward or not. UHL reported the second-lowest median waiting times for non-admitted patients, behind University Hospital Waterford. For admitted patients, UHL had the third-lowest median waiting times, following UH Waterford and Galway UH. Of note, patient experience times observed at UHL are likely influenced by the relatively high rate of referral from the ED to acute assessment units, which is considered a discharge in the data source (see Section 3.2.3). That is, recording of patient experience time ends once a patient is referred to an acute assessment unit, effectively reducing the average waiting time reported in the ED but excluding any time spent waiting to be seen in the acute assessment unit, for which no data is available.

Appendix 4 - Proportion of emergency presentations in Model 4 hospitals experiencing over 24 hours patient experience time



The above figure presents the proportion of emergency presentations with a patient experience time over 24 hours across all Model 4 hospitals. From 2016 to 2020, UHL reported the highest proportion of presentations with a waiting time over 24 hours. From 2021 and onwards, that proportion seems to be more aligned with other Model 4 hospitals.

Appendix 5 - Proportion of all discharges in Model 4 hospitals that were classed as emergency admissions



The above figure presents the proportion of discharges that were classified as emergency admissions across all Model 4 hospitals. From 2004 to 2024, UHL reported the highest proportion of emergency admission discharges compared with other Model 4 hospitals.

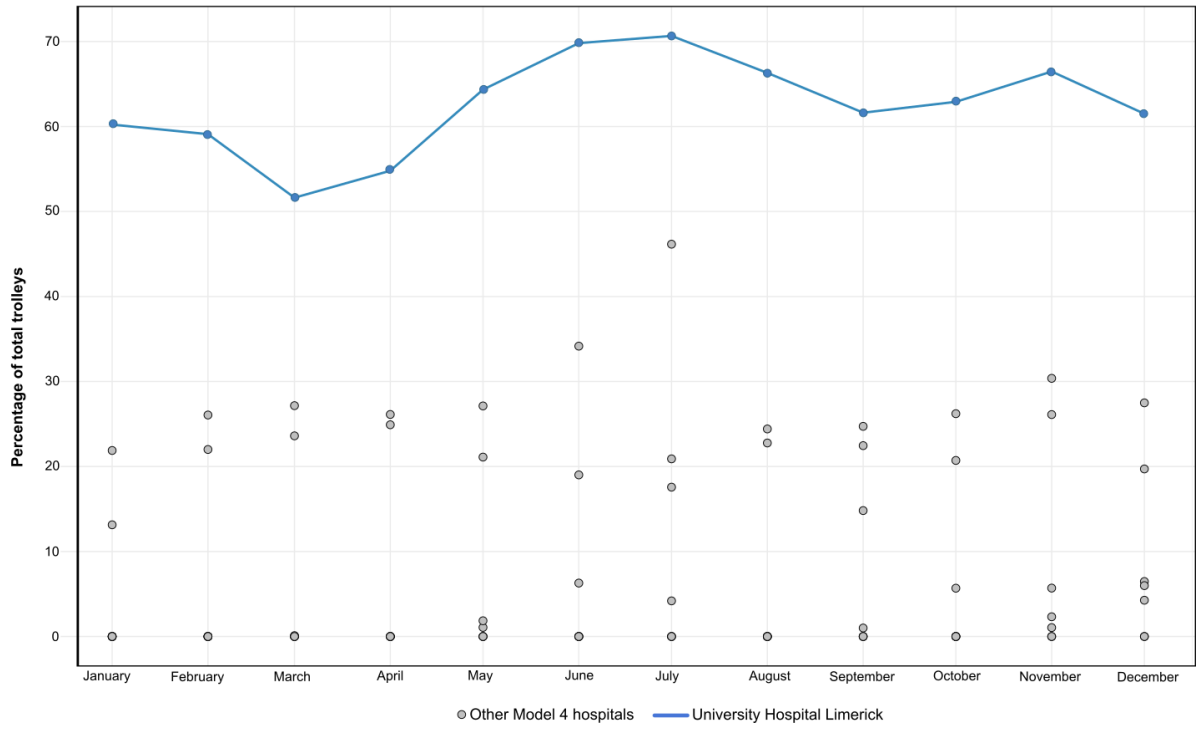
Appendix 6 - Percentage of inpatient and day case bed days used by admission type across model 4 hospitals in 2024

	Percentage of bed days (Inpatient)			Percentage of bed days (day cases)		
Hospital	Elective	Emergency	Maternity	Elective	Emergency	Maternity
Beaumont	12.58	87.38	0.04	99.38	0.62	0.00
Cork UH	13.50	70.80	15.70	90.97	7.95	1.08
UH Limerick	9.30	90.38	0.32	83.39	16.47	0.14
Mater M. UH	14.84	85.00	0.16	93.30	6.68	0.02
St James's	17.33	82.60	0.07	97.87	2.13	0.00
St Vincent's UH	10.28	89.62	0.10	95.69	4.25	0.06
Tallaght UH	7.04	92.84	0.12	97.14	2.84	0.01
Galway UH	18.98	73.35	7.67	91.63	6.48	1.89
UH Waterford	11.26	82.10	6.64	96.95	2.67	0.38

Note: Bed days were calculated through the Health Atlas. Maternity includes both admission types of maternity and new born.

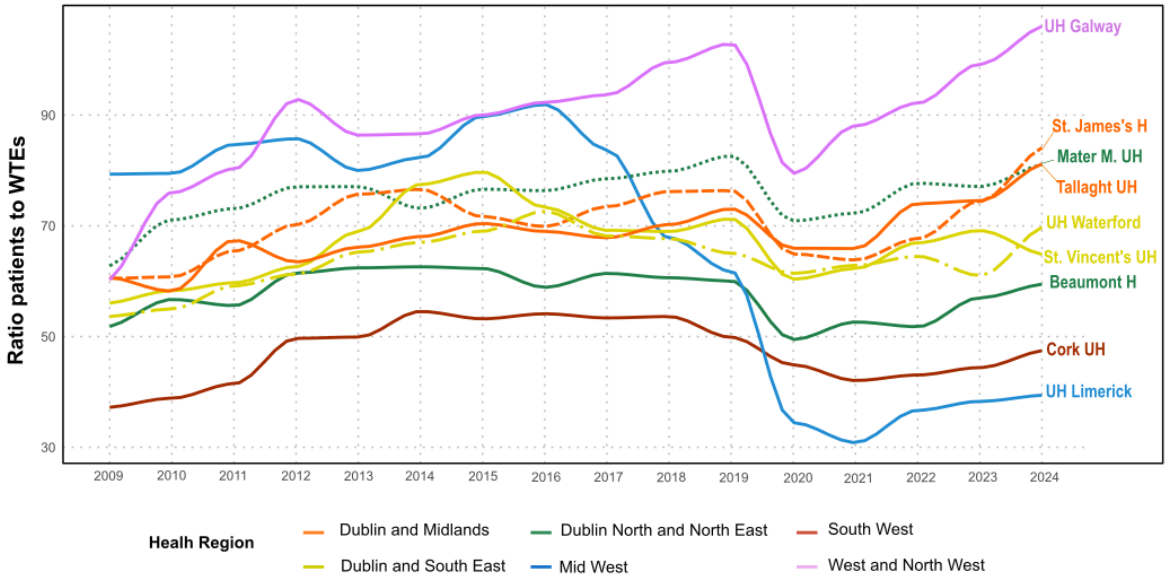
The figure above presents the distribution percentage of bed days by admission type across Model 4 hospitals in 2024. UHL reports the second lowest rate of bed days allocated to elective care behind Tallaght Hospital, and the lowest percentage for day cases.

Appendix 7 - Percentage of total trolleys located in wards for Model 4 hospitals



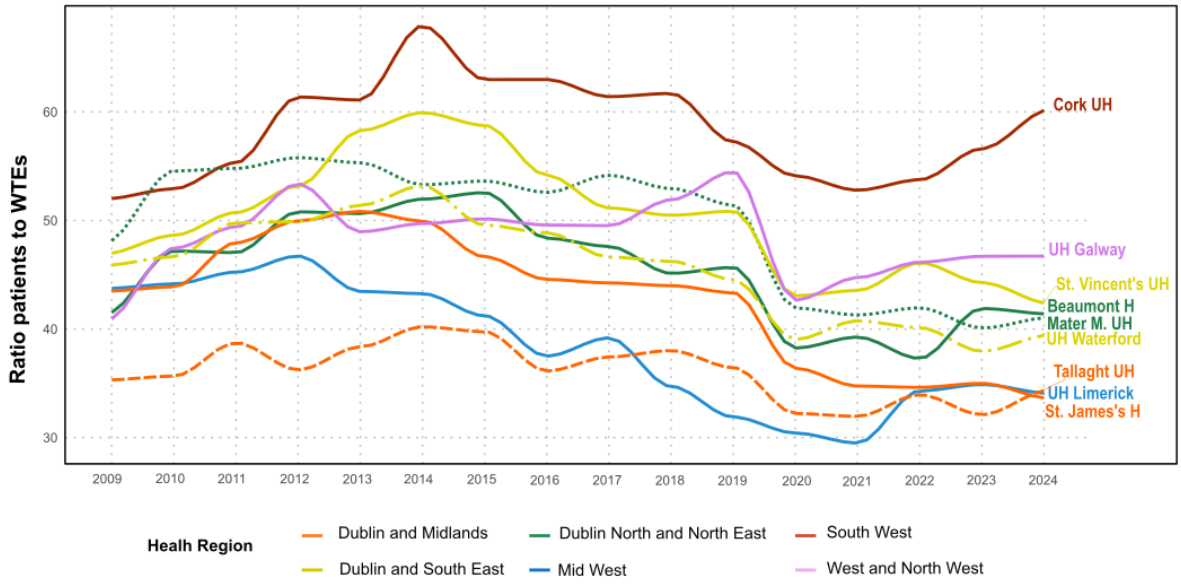
The above figure depicts the percentage of total trolleys located in wards during 2023 across Model 4 hospitals. The analysis highlights a significantly higher percentage of trolleys in wards at UHL compared to other Model 4 hospitals, where trolleys are predominantly situated within the ED department.

Appendix 8 - Number of patients per number of whole-time equivalent general support staff across Model 4 hospitals



The above figure presents the ratio of WTEs of general support staff to annual number of patients admitted across Model 4 hospitals. Results show a significant decrease of the ratio from 2016 to 2021 in UHL, followed by a small increase from 2021 onwards. In 2024, UHL reported the lowest number of patients per general support staff WTEs across all Model 4 hospitals.

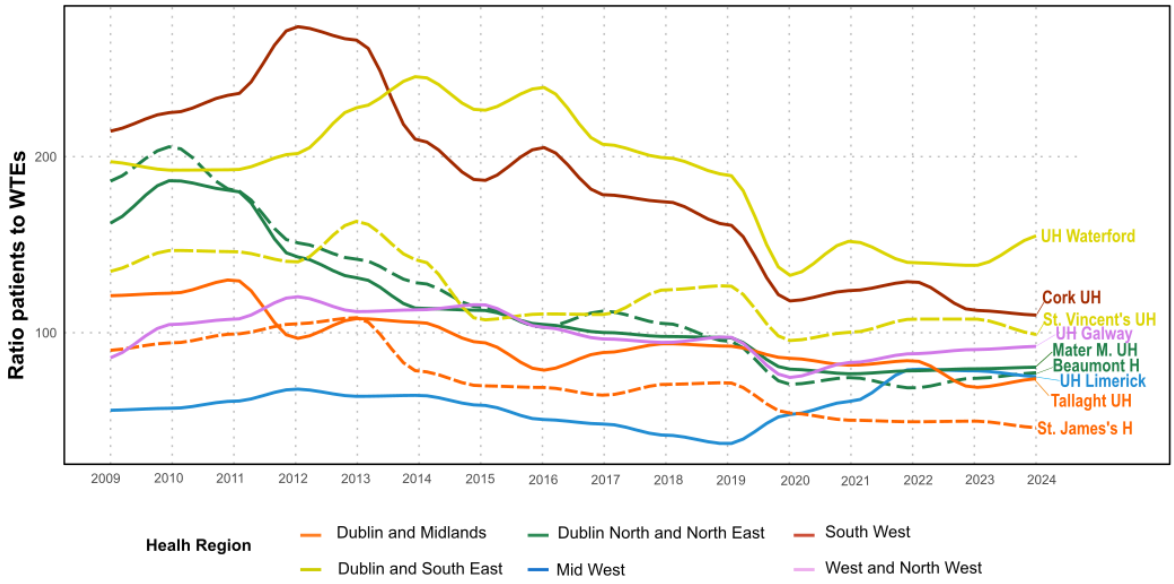
Appendix 9 - Number of patients per number of whole-time equivalent management and administrative staff across Model 4 hospitals



Note: Note: The WTE values in this plot represent management and administrative staff members, as defined in the HSE performance reports, regardless of grade.

The above figure shows the ratio of patient numbers per WTEs management and administrative staff across Model 4 hospitals. In UHL, the ratio declined from 2009 to 2021, followed by an increase from 2021 onwards, yet it remains below pre-2018 levels. In 2024, UHL reported the third-lowest ratio, followed by Tallaght University Hospital and St James's Hospital.

Appendix 10 - Number of patients per number of whole-time equivalent patient and client care staff across Model 4 hospitals



Note: Note: The WTE values in this plot represent patient and client care staff members, as defined in the HSE performance reports, regardless of grade.

The above figure illustrates the ratio of patient numbers to WTEs patient and client care staff members across Model 4 hospitals. From 2009 to 2020, UHL had the lowest ratio. Since 2020, the ratio has increased, with UHL aligning with the average of other Model 4 hospitals by 2024.

Appendix 11 - Mean staffing absence rates by main categories – January 2022 to June 2024

Hospital Group	Medical and Dental	Nursing - Midwifery	Health and Social Care Professionals	Management and Administrative Staff	General Support	Patient and Client Care
Other Hospital Groups	1.54	7.00	4.96	5.68	7.91	8.57
UHL Hospital Group	1.86	8.89	6.17	6.35	10.80	11.28

Note: Data for October and November 2023 were not available – This table excludes Children's Health Ireland HG and the National Ambulance Services

The above table illustrates the mean absence rates by main staffing categories from January 2022 to June 2024. The UL Hospital Group reported higher mean absence rates compared to the other Model 4 hospitals across all staffing categories. The most significant differences were observed in general support and patient and client care, where mean absence rates in the UHL Hospital Group were more than 2% higher.

Appendix 12 – Overview of ESRI estimates of 2040 capacity and workforce requirements in the Mid West

Overview of the analyses

The ESRI is an independent institute that carries out research to support policy-making in Ireland. The Hippocrates Model was developed at the ESRI in a programme of research funded by the Department of Health. The Model provides base year estimates and projections of healthcare demand, bed capacity, expenditure and workforce requirements for selected Irish health and social care services. The ESRI used the Hippocrates model to project future needs for public acute hospital services in four steps. First, it developed the 2023 age and sex-specific regional activity rate profiles for each service. Second, these profiles were refined into a discrete set of scenarios based on assumptions related to practice, policy and epidemiology (explained in greater detail in the Adjustment of activity rate profiles subsection). Third, it applied the adjusted rates to population projections to estimate future service demand. Finally, regional bed capacity requirements for day and inpatient beds were calculated by dividing the estimated regional aggregate bed days by 365 times the assumed regional occupancy rate. Four scenario analyses were created by varying the underlying assumptions in the model (these are the status quo, low-pressure, high-pressure and progress scenarios). The assumptions underlying each scenario are detailed in the published report.[17]

Adjustment of activity rate profiles

Once activity rates have been established for 2023, a series of assumptions were applied which adjust activity rates across the projection horizon. These assumptions relate to:

- Population growth and ageing
- Healthy ageing
- Potentially avoidable emergency hospitalisations
- Private activity out of public hospitals
- Increase in proportion of elective care delivered as day case
- Waiting list management
- Length of stay reduction
- Occupancy rates.

Each of these assumptions, the evidence supporting them, and how they are operationalised, is outlined in the report. The following table provides a summary of the assumptions included in the four projection scenarios.

	Services impacted	Scenarios			
		Comparator	Low pressure	High pressure	Progress
Demand assumptions					
Population growth and age structure	All	Central	Central	High	Central
Healthy ageing	All[a]	-	Dynamic equilibrium[b]	-	Moderate health aging
Potentially avoidable emergency hospitalisations	ED and emergency inpatient	-	-	-	25% rate reduction to 2040
Elective inpatient to day case	Elective day and inpatient	-	-	-	Increase by 0.2% per annum to max 95%
Private out of public hospitals	Elective day and inpatient private	-	-	-	Central
Waiting list management	Outpatient department, public elective day and inpatient	-	-	Low-clearance	High-clearance
LOS reduction	Inpatient[c]	-	-	-	Yes
Bed capacity assumption					
2040 Occupancy rate	Day patient Inpatient[d]	2023 rate 2023 rate	2023 rate 2023 rate	2023 rate 90%	2023 rate 85%

Note: [a] Healthy ageing shifts were not applied to maternity; [b] Dynamic equilibrium assumes that increasing life expectancy is accompanied by a reduction in disability and the severity of the consequences of chronic diseases, due to advances in medical technology; [c] Excludes same-day AMAU; [d] Excluding maternity and same-day AMAU.

Findings

- Under the status quo scenario, the Mid West is expected to require an additional 412 inpatient beds (representing a 50% increase on 2023 numbers), and 66 day-beds (representing a 30% increase on 2023 numbers) by 2040.
- Under the low-pressure scenario, the Mid West is expected to require an additional 299 inpatient beds (representing a 36% increase on 2023 numbers), and 38 day-beds (representing a 17% increase on 2023 numbers) by 2040.
- Under the high-pressure scenario, the Mid West is expected to require an additional 593 inpatient beds (representing a 71% increase on 2023 numbers), and 73 day-beds (representing a 33% increase on 2023 numbers), by 2040.
- Under the progress scenario, the Mid West is expected to require an additional 444 inpatient beds (representing a 53% increase on 2023 numbers), and 41 day-beds (representing a 19% increase on 2023 numbers), by 2040.

Limitations

The following provides an overview of some of the limitations of the modelling approaches, as outlined by the ESRI:

- Use of 2023 baseline: projections are based on 2023 service-use patterns. Future demand may shift due to changes in disease burden or service delivery.
- Unscheduled care data: at the time the analysis was undertaken, injury unit data were merged with ED data in some hospitals, limiting the ability to project these separately or analyse trends accurately.
- No unique patient identifier: the absence of a unique identifier prevents tracking patients across services and estimating end-to-end waiting times or chronic disease trends.
- Occupancy rates: current occupancy rate inputs may be misaligned due to inconsistent data sources. Bed-type-specific occupancy rates (for example, maternity, paediatric) would enable more accurate projections.
- Healthy ageing assumptions: limited Irish-specific data on healthy ageing required the use of multiple assumptions, affecting projections' precision.
- Demand variability: recent year-on-year fluctuations in service demand are acknowledged. While past Hippocrates projections have proved to be a a reliable guide for over medium term, it is highlighted that projections should be regularly reviewed given ongoing changes in the data environment and service delivery models, including capacity expansion and the introduction of the HSE Health Regions.

Published by the Health Information and Quality Authority (HIQA).

For further information please contact:

Health Information and Quality Authority

George's Court

George's Lane

Smithfield

Dublin 7

D07 E98Y

+353 (0)1 8147400

info@hiqa.ie

www.hiqa.ie