

IRISH HIP FRACTURE DATABASE

NATIONAL REPORT 2024



REPORT PREPARED BY:

Pamela Hickey: Audit Programme Manager, Trauma and Surgery, National Office of Clinical Audit

Dr Mary Walsh: Audit Programme Manager, Trauma and Surgery, National Office of Clinical Audit

Louise Brent: Head of Audit Management, National Office of Clinical Audit

Mr Terence Murphy: Irish Hip Fracture Database Clinical Orthopaedic Lead, Consultant Orthopaedic Surgeon, University Hospital Waterford

Professor Tara Coughlan: Irish Hip Fracture Database Clinical Geriatric Lead, Consultant Orthogeriatrician, Tallaght University Hospital

Carlo Lodola: Senior Data Analyst, National Office of Clinical Audit

Domenico Ieracitano: Data Analyst, National Office of Clinical Audit

Aisling Connolly: Head of Communications, Operations and Quality Assurance, National Office of Clinical Audit

Anne O'Shea Clarke: Patient and Public Interest Representative, Sage Advocacy

Dr Niamh Merriman: Health Research Board Research Fellow, HipCog Study, School of Public Health, Physiotherapy and Sports Science, University College Dublin

Dr Sinead Hurley, Epidemiologist, Antimicrobial Resistance and Infection Control, Health Service Executive (Chapter 5)

Dr Emily Glynn, Clinical Microbiology SpR, AMRIC Fellow 2024/5 (Chapter 5)

NATIONAL OFFICE OF CLINICAL AUDIT (NOCA)

The National Office of Clinical Audit (NOCA) was established in 2012 to create sustainable clinical audit programmes at national level. NOCA is funded by the Health Service Executive's Office of the Chief Clinical Officer and operationally supported by the Royal College of Surgeons in Ireland. The National Clinical Effectiveness Committee (NCEC) defines national clinical audit as "a cyclical process that aims to improve patient care and outcomes by systematic, structured review and evaluation of clinical care against explicit clinical standards on a national basis" (NCEC, 2015, p. 2). NOCA supports hospitals to learn from their audit cycles.

Citation for this report:

National Office of Clinical Audit, (2025) *Irish Hip Fracture Database National Report 2024*. Dublin: National Office of Clinical Audit.

National Office of Clinical Audit, (2025) *Irish Hip Fracture Database National Report 2024 - Appendices*. Dublin: National Office of Clinical Audit.

ISSN 2009-9681 (Electronic)

Electronic copies of this report can be found at:

<https://www.noca.ie/publications>

Brief extracts from this publication may be reproduced provided the source is fully acknowledged.

This report was published on 25 November 2025

ACKNOWLEDGEMENTS

This work uses anonymised data provided by patients and collected by healthcare providers during the care process. The National Office of Clinical Audit (NOCA) would like to thank all participating hospitals, especially their audit coordinators and clinical leads, for their extremely valuable contribution. Without the hospitals' continued support and input, this audit could not continue to produce meaningful analysis of hip fracture care in Ireland. We would like to thank Philip Dunne from the Healthcare Pricing Office (HPO), who provides ongoing support for the Hospital In-Patient Enquiry (HIPE) portal. The patients and representatives who took part in developing our patient video have made a most important contribution to this report, which we gratefully acknowledge. We also wish to thank our Irish Hip Fracture Database Governance Committee members for their input and constructive feedback for this report. We especially want to thank Shanice Vallely, Sarah McShane, Dr Niamh O'Regan and Naomi Bates for their contributions on specific topics.

NOCA greatly appreciates the ongoing commitment and support received from the Health Service Executive. We would especially like to thank Dr Colm Henry, Chief Clinical Officer; Dr Orla Healy, National Clinical Director, HSE Quality and Patient Safety; and Majella Daly, Assistant National Director, HSE National Centre for Clinical Audit.



The Irish Institute for Trauma and Orthopaedic Surgery (IITOS) was established in 1999 as a charitable organisation. IITOS delivers higher surgical training in Ireland, under the governance of the Royal College of Surgeons in Ireland.



The Irish Gerontological Society (IGS) is an interdisciplinary professional organisation whose membership reflects the complexity and diversity of those interested in promoting the interests of older people and in how knowledge about ageing and later life can be enhanced and improved.

Its core purposes are education and research in the study of ageing and promoting a better understanding by the general public of ageing and related issues.



RCSI

The Royal College of Surgeons in Ireland (RCSI) provides education and training in the fields of medicine and health sciences at undergraduate and postgraduate level. The RCSI has a strong international presence with schools in Malaysia and Dubai, and a university in Bahrain. The RCSI also provides surgery and emergency medicine training in all recognised specialties and subspecialties.



The National Office for Trauma Services manages the implementation and oversight of the Trauma System.

For more information about this report, contact:

National Office of Clinical Audit, 4th Floor,
118 St Stephen's Green, Dublin 2, D02 X0N1

Tel: +353 (1) 402 8577
Email: ihfd@nocai.ie

DESIGNED BY
SWERVE

CONTENTS

NOCA endorsement letter	04	Chapter 8: Recommendation and NOCA commitments	66
Foreword	05	Chapter 9: Conclusion	71
Executive summary	06	References	73
Key findings	08	Accessing report appendices	77
Key highlights 2024	09	Appendix 1: Glossary of terms and acronyms and initialisms	77
Key recommendations	10	Appendix 2: Hospitals and people that we work with	77
Understanding hip fracture from the patient's perspective	11	Appendix 3: Data collection calendar 2024	77
Chapter 1: Introduction	13	Appendix 4: IHFD dataset - Hip fracture admission	77
Chapter 2: Irish hip fracture standards and best practice tariff	18	Appendix 5: IHFD dataset - Hip fracture follow-up	77
Chapter 3: Case mix 2024	34	Appendix 6: IHFD frequently asked questions	77
Chapter 4: Patient pathway	37	Appendix 7: Frequency tables	77
Chapter 5: Outcomes	48	Appendix 8: Specifications for composite variables	77
Chapter 6: Quality improvement	58	Appendix 9: Additional information	77
Chapter 7: Audit update	60	Appendix 10: IHFD governance committee meeting attendees, 2024	77

Mr Terence Murphy and Professor Tara Coughlan
National Clinical Leads
Irish Hip Fracture Database
National Office of Clinical Audit
2nd Floor, Ardilaun House
Block B, 111 St Stephen's Green
Dublin 2, D02 VN51

6th November 2025

Dear Mr Murphy and Professor Coughlan,

On behalf of the NOCA Governance Board, I wish to acknowledge receipt of the *Irish Hip Fracture Database National Report 2024*.

We extend our sincere congratulations to you and the entire IHFD team, including Audit Programme Managers Pamela Hickey and Mary Walsh, the Governance Committee, and the Patient and Public Interest Representatives, for producing this comprehensive and insightful report.

This twelfth national report highlights significant progress in hip fracture care, including improved compliance with five of the seven Irish Hip Fracture Standards. It reflects the sustained commitment of hospital staff, audit coordinators, and clinical leads nationwide to delivering timely, person-centred care for older adults.

This letter serves as the formal endorsement of the NOCA Governance Board for the *Irish Hip Fracture Database National Report 2024*. The report provides valuable insights that will continue to inform quality improvement initiatives and strengthen hip fracture care across Ireland.

Yours sincerely,



Dr Brian Creedon
Clinical Director
National Office of Clinical Audit

National Office of Clinical Audit
2nd Floor
Ardilaun House, Block B
111 St Stephen's Green
Dublin 2, D02 VN51
Tel: + (353) 1 402 8577
Email: auditinfo@noca.ie

FOREWORD

Age & Opportunity is delighted to introduce this 12th report from the Irish Hip Fracture Database (IHFD). Since its establishment in 2012, the IHFD has recorded the experiences of more than 40,000 individuals, becoming an invaluable national resource for improving standards of care. It provides critical evidence to help shape a health service that is more person centred and responsive to the needs of older people, who are most affected by hip fractures.

The 2024 report highlights remarkable progress in care, even in the face of immense pressures on our health system. Seventy-five percent of patients received surgery within 48 hours of admission, and 85% of patients stood up out of bed with a physiotherapist on the day of their surgery or the day after surgery – achievements that reflect the dedication and collaboration of first responders, orthopaedic surgeons, anaesthesiologists, nurses, physiotherapists and wider hospital teams. These improvements in timeliness and quality of care demonstrate how a clear, consistent care pathway can transform outcomes for patients.

Equally important is the culture of collaboration fostered by the IHFD. By creating a community of practice across the 16 hospitals delivering hip fracture care, the IHFD has nurtured a spirit of shared learning and continuous improvement. This aligns closely with Age & Opportunity's belief in the value of connection, participation and dignity in later life.

This year, our Patient and Public Interest (PPI) group was proud to contribute to the development of a new

“Equally important is the culture of collaboration fostered by the IHFD. By creating a community of practice across the 16 hospitals delivering hip fracture care, the IHFD has nurtured a spirit of shared learning and continuous improvement.”

animated video about hip fracture recovery, designed for lay audiences. This resource explains the recovery journey in clear, accessible language, supporting older people and their families to better understand what to expect and how to actively engage in rehabilitation. It is a tangible example of how listening to older voices can lead to resources that empower and support people in real and practical ways.

We commend the National Office of Clinical Audit (NOCA) for its leadership and the hospital-based teams across the country for their ongoing commitment to high-quality data collection and continuous improvement. We would also like to acknowledge the creative, inclusive approach to patient-centred research and resources. As we look ahead, we believe that NOCA's example of continued partnership between clinicians, researchers and older people themselves offers the strongest foundation for a health service that not only delivers excellent care but also supports recovery, independence and well-being in later life.

Mary Harkin,
*Policy Research and Evaluation Manager,
Age & Opportunity*



EXECUTIVE SUMMARY

This 2024 report from the Irish Hip Fracture Database (IHFD) represents the largest dataset to date, with 4,294 cases included. It is the 12th published report of the IHFD. With 95% national coverage across all 16 trauma-receiving hospitals, the IHFD continues to provide a robust platform for benchmarking care against the Irish Hip Fracture Standards (IHFS), supporting hospitals in monitoring performance, identifying areas for improvement and sharing learning both nationally and internationally.

Over the past 12 years, the IHFD has captured data on more than 40,000 patients, offering a unique longitudinal view of hip fracture care in Ireland. In 2024, five of the IHFS showed measurable improvement, including the following:

- Seventy-seven percent of surgeries were conducted within 48 hours and during working hours, a 2-percentage-point increase from 2023.
- Eighty-six percent of patients nationally were reviewed by a geriatrician or by an advanced nurse practitioner during their acute stay, a 3-percentage-point increase from 2023.
- Eighty-seven percent of patients had a specialist falls assessment during admission, a 4-percentage-point increase from 2023.

The most notable gain was in IHFS 1, which had a 7-percentage-point increase in the proportion of patients admitted through the emergency department within 4 hours, which now stands at 36%. There were also notable improvements in data quality, particularly in capturing reasons for delays to ward admission and surgery. While

“The most notable gain was in IHFS 1, which had a 7-percentage-point increase in the proportion of patients admitted through the emergency department within 4 hours, which now stands at 36%.”

IHFS 7 (measuring early mobilisation by a physiotherapist) decreased slightly in 2024, it still remains very high, at 85%.

The rate of pressure ulcer development (IHFS 3) remained static, at 4%, although there has been an increase in the number of hospitals above the national average: 2 hospitals were above 4% in 2023, but in 2024 this has risen to five hospitals. For this reason, a more detailed analysis of patients with pressure ulcers is presented. A recommendation has also been made in this report regarding the need for a renewed focus on pressure ulcer education for staff nationally and locally in line with updated Health Service Executive (HSE) resources.

A key focus in 2024 was understanding hip fracture from the patient's perspective. This included the co-design and launch of a new animated video to support patients and families throughout the recovery journey. Developed in collaboration with researchers and patient advocates, the video reflects the lived experience of patients, and it aims to improve communication and empowerment. Anne O'Shea Clarke, Patient and Public Interest (PPI) Representative with the IHFD, said: “This video is a valuable resource that offers

patients practical information and emotional reassurance. It supports people to feel more in control during what can be a confusing and overwhelming time, and helps them understand that recovery is possible, and personal to each individual.”

This report also features the following:

- Stories from the Golden Hip Award winner (St James's Hospital) and Most Improved Hospital (Tallaght University Hospital) showcase successful quality improvement initiatives that may be transferable to other settings.
- National data on surgical site infections (SSIs) have been developed in collaboration with Antimicrobial Resistance and Infection Control (AMRIC), with early findings indicating that SSIs occur in less than 1% of cases following hip fracture surgeries. As we continue to improve surveillance methods, including refined variables and follow-up after hospital discharge, reported SSI rates may rise.
- Long-term outcome data, now collected in 10 of 16 participating hospitals, include insights into 30-day mobility, quality of life and 1-year mortality. Detailed results are presented from four hospitals with greater than 60% coverage. Due to the value of these data, as well as positive engagement thus far, this report recommends strengthening the focus on their collection at all hospitals.
- There have been noted improvements in the percentage of patients receiving nerve blocks for pain management, and in delirium screening.

Chapter 6 provides an overview of the IHFD in-person collaboration event that was held in the Royal College of Surgeons in Ireland (RCSI) on 25 March 2025 for members of the IHFD physiotherapy, orthogeriatric and dietetic networks. More than 60 attendees participated in breakout sessions focused on reducing variation in nutritional screening, early mobility, delirium management and outcome recording. Members shared challenges as well as practical, scalable actions for local and national implementation. Findings from these sessions have been described in Chapter 2 (IHFS 7), Chapter 4 (nutritional risk assessment and delirium) and Chapter 5 (longer-term outcome data). This event also marked the launch of a new eLearning module for staff to enhance patient recovery after hip fracture, which was funded by the Health Research Board (HRB) and is now available through HSeLand.

Chapter 7 provides updates from ongoing research collaborations, including with the HipCog Study, led by Dr Niamh Merriman and funded by the HRB. The study aims to identify optimal cognitive and delirium screening tools and timing for older adults following physical trauma. It is also exploring effective rehabilitation interventions for older adults with hip fracture who have cognitive impairment.

The IHFD Governance Committee and the National Office of Clinical Audit would like to acknowledge the continued dedication of clinical leads, audit coordinators and hospital teams. Their leadership and commitment are crucial to the success of this audit and to improving outcomes for patients with hip fractures across Ireland.

“National data on surgical site infections (SSIs) have been developed in collaboration with Antimicrobial Resistance and Infection Control (AMRIC), with early findings indicating that SSIs occur in less than 1% of cases following hip fracture surgeries.”

KEY FINDINGS

During 2024, five of the Irish Hip Fracture Standards (IHFS) improved compared with 2023, including the time to surgery (IHFS 2), percentage of patients seen by a geriatrician/advanced nurse practitioner (ANP) (IHFS 4), percentage of patients receiving a bone health assessment (IHFS 5), and percentage of patients receiving a specialist falls assessment (IHFS 6). The most notable improvement was in IHFS 1, the percentage of patients being admitted through the emergency department (ED) within 4 hours of presentation, which improved by 7 percentage points.

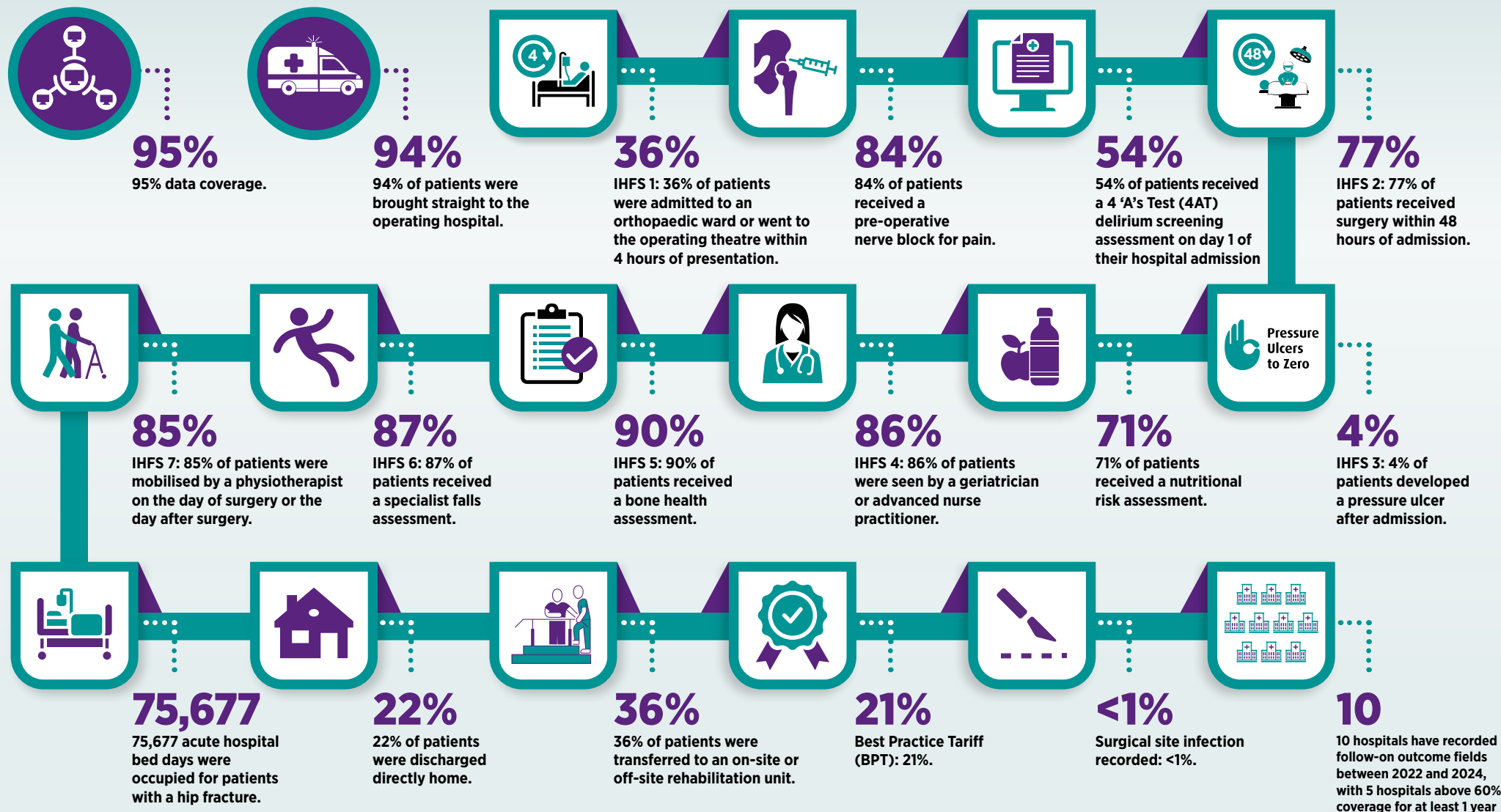
While IHFS 7 (the percentage of patients mobilised on the day after surgery) decreased by 2 percentage points, it remains high, at 85%. IHFS 3 (for pressure ulcer development) remained static at 4%, although there has been an increase in the number of hospitals above the national average from 2 hospitals in 2023, to five hospitals in 2024.

Improvements have also been noted in the percentage of patients receiving nerve blocks for pain management, and in delirium screening.

“The most notable improvement was in IHFS 1, the percentage of patients being admitted through the emergency department (ED) within 4 hours of presentation, which improved by 7 percentage points.”



KEY HIGHLIGHTS 2024



KEY RECOMMENDATIONS

RECOMMENDATIONS		
1	We recommend that hospital managers support their staff to improve education around risk-assessment, prevention, identification and review of pressure ulcers in patients with hip fracture.	 Pressure Ulcers to Zero
2	We recommend that hospital managers support their staff to continue or to begin to record follow-up data after hip fracture as part of routine care processes.	
3	The National Office of Clinical Audit (NOCA) should explore whether combining Irish Hip Fracture Standards (IHFS) 4–6 would appropriately measure best practice orthogeriatric care.	

KEY COMMITMENTS FROM NOCA	
- Continue to support hospitals to improve data completeness and quality, with a focus on reasons for delay to ward transfer or surgery. - Reviewing coverage of fields added in 2025 and supporting the addition of new variables to record pre-operative anticoagulant/anti-platelet, surgical antibiotic prophylaxis and implant type. - Focus on delirium and cognitive impairment through the HipCog Study. - Continue to promote newly developed education materials for patients and healthcare professionals. - Continue engagement with patient and public partner groups, including Sage Advocacy and Age & Opportunity. - Engage with the feasibility study for a national rehabilitation audit which is ongoing in NOCA in 2025–2026. - Continue to facilitate quality improvement across hospitals, sharing information on good practice. - Continue to acknowledge that 100% compliance with IHFS 7 is not expected. - Work with the IHFD network of dietitians to improve nutritional assessment.	

UNDERSTANDING HIP FRACTURE FROM THE PATIENT'S PERSPECTIVE

WHAT IS A HIP FRACTURE

'Hip fracture' is a term used to describe a break or fracture in the upper portion of the thigh bone (femur) where the bone meets the pelvis. It is also commonly referred to as a 'broken hip', a 'fractured neck of femur' or a 'proximal femur fracture'. The hip joint is a ball and socket joint. The ball (head of the femur) is located on top of the thigh bone, and the socket sits within the pelvis. Figure 1 shows the hip joint and areas where a fracture might happen. Throughout this report, there are links to definitions in the Glossary of terms and acronyms and initialisms ([Appendix 1](#)).

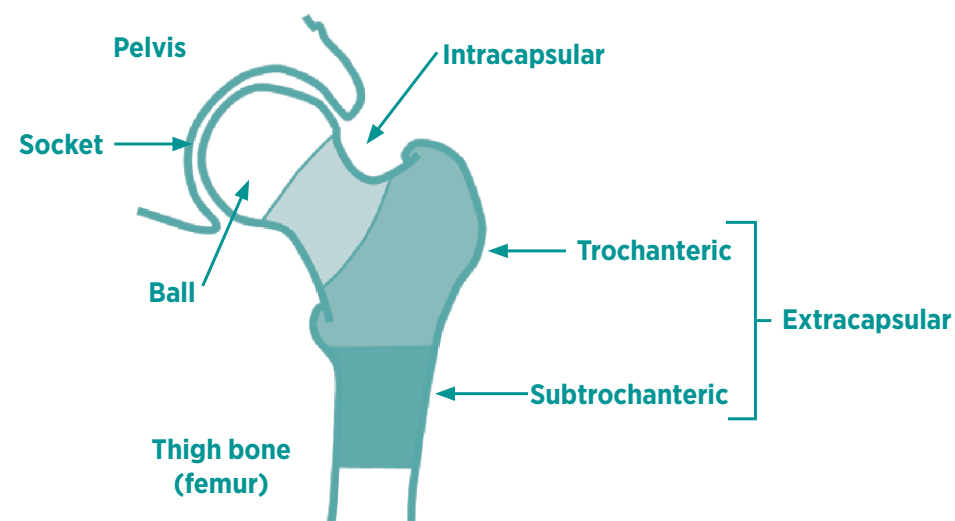


FIGURE 1: ANATOMY OF THE HIP

Every year in Ireland, around 4,000 people experience a hip fracture, usually caused by a simple trip or fall. These injuries can happen to anyone but are often a sign of osteoporosis, a condition that weakens bones.

EMPOWERING RECOVERY THROUGH INFORMATION AND INCLUSION

While a hip fracture can be life-changing, good recovery is possible with the right care. In Ireland, hospitals are held to national standards for hip fracture care, and these are recorded in the Irish Hip Fracture Database (IHFD) as presented in this report. These standards include early surgery to repair the hip, as well as treatment to aid recovery and prevent such a fracture from happening again.

In 2025, a key focus of our work has been on enhancing the patient experience following hip fracture, with a particular emphasis on communication, empowerment and inclusion. Central to this effort was the development of a new animated video designed to support patients and their families throughout the recovery journey. This was developed in collaboration with researchers and patient advocates. The final video can be watched at <https://vimeo.com/noca/hipfracturepatientvideo>, or by scanning the QR code below.



Developed as part of the Health Research Board-funded HipForesst (Hip Fracture Outcome Recording – Empowering, Supporting and Sustaining Teams) Project, the video offers clear, compassionate guidance from hospital admission to long-term recovery. It introduces viewers to hip fracture and osteoporosis, outlines what to expect around the time of surgery, and provides practical advice on early mobilisation, fall prevention and the emotional aspects of recovery. Importantly, it reassures patients that recovery is a personal journey, and that progress may vary from person to person.

The video was co-designed with input from patients, family members, older adults, and representatives from Sage Advocacy, Age & Opportunity, and the National Office of Clinical Audit (NOCA), and was coordinated by physiotherapists in University College Dublin. Several workshops and one-on-one meetings were held with people with a hip fracture and older adults, where iterations of the script and storyboard were reviewed, discussed and amended.

Mary Harkin, Policy, Research and Evaluation Manager with Age & Opportunity, reflected:

“The Age & Opportunity Patient and Public Interest (PPI) group were delighted to be involved in this work, as it places the focus on the person and their participation in society rather than having an overly medical focus. Our input was truly valued throughout the process, and it’s encouraging to see how the patient voice shaped the final product.”



Among the many voices that shaped this project, one particularly memorable contribution came from Sadie, a 100-year-old woman who experienced a hip fracture and generously shared her story. Her feedback on the video was deeply encouraging, highlighting how accessible and reassuring the content is for older adults navigating recovery. Sadie’s story was shared in last year’s report and is available [here](#).



Anne O’Shea Clarke, Regional Manager for Sage Advocacy and PPI Representative with the IHFD, and a participant in the co-design workshops, said: “This video is a valuable resource that offers patients practical information and emotional reassurance. It supports people to feel more in control during what can be a confusing and overwhelming time, and helps them understand that recovery is possible, and personal to each individual.”

Mary Walsh, HipForesst Lead and now one of the Audit Programme Manager team members for Trauma & Surgery at NOCA, noted:

“A hip fracture can have a significant impact on a person’s life and understanding what to expect can make a real difference. This video was created to support patients and their loved ones with reliable, easy-to-follow information, from injury through to long-term recovery and self-care.”

This initiative highlights the importance of co-design and patient involvement in healthcare communication. By making recovery information accessible and relatable, we aim to reduce anxiety, improve engagement, and foster a sense of control and confidence among patients and their families.

In addition to this video, previous Major Trauma Audit reports (NOCA, 2022a; 2020) also featured a [home safety infographic](#) and [home safety checklist](#). These resources can be used as a guide for checking the home environment to help identify risks for falls and injuries.



CHAPTER 1

INTRODUCTION



CHAPTER 1: INTRODUCTION

HIP FRACTURES

Hip fractures remain among the most severe injuries affecting older adults in Ireland. Managing these injuries involves navigating a complex clinical pathway that engages multiple clinical specialties and professions. The quality of hip fracture care can be considered a proxy for how well older adults are treated in acute hospital settings and reflects the overall effectiveness of the trauma service.

The Irish Hip Fracture Database (IHFD) is a clinically led, web-based audit that was established under the governance of the National Office of Clinical Audit (NOCA) in 2013. Over the past 12 years, the IHFD has captured data on more than 40,000 patients. The overarching [aim of the audit](#) is to use data to improve the care provided to older adults who have a hip fracture. Hip fracture care can be complex and costly (Ferris *et al.*, 2022a). Based on the 2023 activity-based funding price list (Healthcare Pricing Office, 2023), the cost of acute care for all hip fractures in 2024 is estimated at approximately €53 million nationally. The total economic, societal and healthcare burden of falls and fractures in Ireland is substantial, projected to reach €2 billion by 2030 (Health Service Executive, 2008). This is primarily driven by population growth, the largest proportion of which can

be seen in the cohort aged over 70 years (Central Statistics Office, n.d.). As the annual number of hip fractures increases, so will the need for hospital, rehabilitation and community services. The development of an age-friendly health service for Ireland is key, where care is joined up and opportunities to deliver evidence-based interventions at the right time are realised.

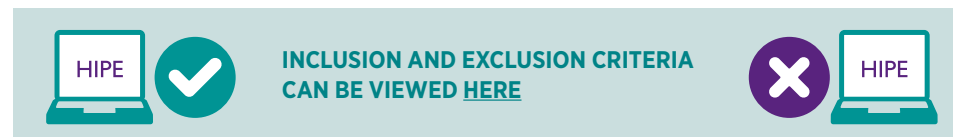
The IHFD is a good example of how a successful care pathway can make a difference in practice. Seven clinical standards of care, known as the Irish Hip Fracture Standards (IHFS), are audited in the IHFD. International evidence has shown that the synergy of these care standards, audit and feedback drives measurable improvements in hip fracture outcomes for patients (Neuburger *et al.*, 2015).

Based on IHFD data, this national report describes how care was delivered to patients with a hip fracture in 16 hospitals during 2024. It is the 12th published report of the IHFD. As the IHFD audit matures, the national reports will evolve into more condensed reports, with additional information hyperlinked throughout the text.

“The quality of hip fracture care can be considered a proxy for how well older adults are treated in acute hospital settings and reflects the overall effectiveness of the trauma service.”

METHODOLOGY

Data are collected through the Hospital In-Patient Enquiry (HIPE) IHFD Portal, which is supported by the Healthcare Pricing Office (HPO). The IHFD data are merged with the HIPE data, and each episode of care is only completed upon discharge. The IHFD collects data on patients with a hip fracture (aged 18 years and over). The reference population for the national report is limited to patients aged 60 years and over.



DATA QUALITY

The data are collected in the local hospitals by audit coordinators, who retrospectively enter the data from patient medical records. Each hospital will have at least one identified audit coordinator and at least one clinical lead, and should also have a hip fracture governance committee (HFGC) ([see Appendix 2](#)). A list of cases eligible for inclusion is identified by running a HIPE discharge report in the IHFD Portal. The audit coordinator and clinical lead can generate local reports as required.



In most hospitals, the burden of data collection lies with healthcare professionals who voluntarily collect data for the IHFD as an additional part of their role. When staff leave this position, there is often a gap in service, which impacts on data collection. As with the 2023 IHFD Report, two hospitals could not be included in hospital-level reporting for 2024 due to insufficient data coverage (below 80%): Sligo University Hospital and Mayo University Hospital. The NOCA IHFD managers run monthly calls with audit coordinators, during which updates are provided on data quality. Overall, this report has shown improvement in data quality across variables.

As with previous reports, IHFD data reflect care in the acute hospital and do not follow the patient along their complete pathway to recovery. Some hospitals do, however, record follow-up outcomes. This is described in detail in the Outcomes chapter (Chapter 5).

DATA ANALYSIS AND VALIDATION

NOCA received the data extract on 8 May 2025. Analysis for the national report was completed by the NOCA data analytics team following data checks with the HPO. The analysis was conducted using the Microsoft Business Intelligence (BI) Stack.

In 2024, a newly designed data validation report (DVR) was produced with the NOCA analytical team. Its main objective was to identify areas of poor data quality, allowing hospitals the opportunity for improvement. Training and education sessions were provided to the audit coordinators prior to DVR implementation. In 2025, DVRs were distributed to the hospitals on a quarterly basis, with a final deadline for DVR correction set at 7 May 2025.

The data quality statement for 2024 can be viewed [here](#).



DATA COVERAGE

The final dataset used for this report includes 4,294 cases from 16 participating hospitals. The total number of eligible cases (as coded on HIPE), and those collected by the IHFD, are shown in Figure 1.1. Coverage is defined as the number of hip fracture cases with appropriate hip fracture diagnosis codes on HIPE that have IHFD data added to them, and that meet the [inclusion criteria](#).

The coverage for 2024 is representative of all HIPE hip fracture cases coded with additional IHFD data for the 16 participating hospitals for the reference population; this was calculated at 95% (Figure 1.2). Individual hospital coverage ranges from 54% to 100% (Figure 1.3). Two hospitals unfortunately did not submit sufficient data (at least 80%) required in order to be included in the hospital-level analysis throughout this report: Sligo University Hospital and Mayo University Hospital.



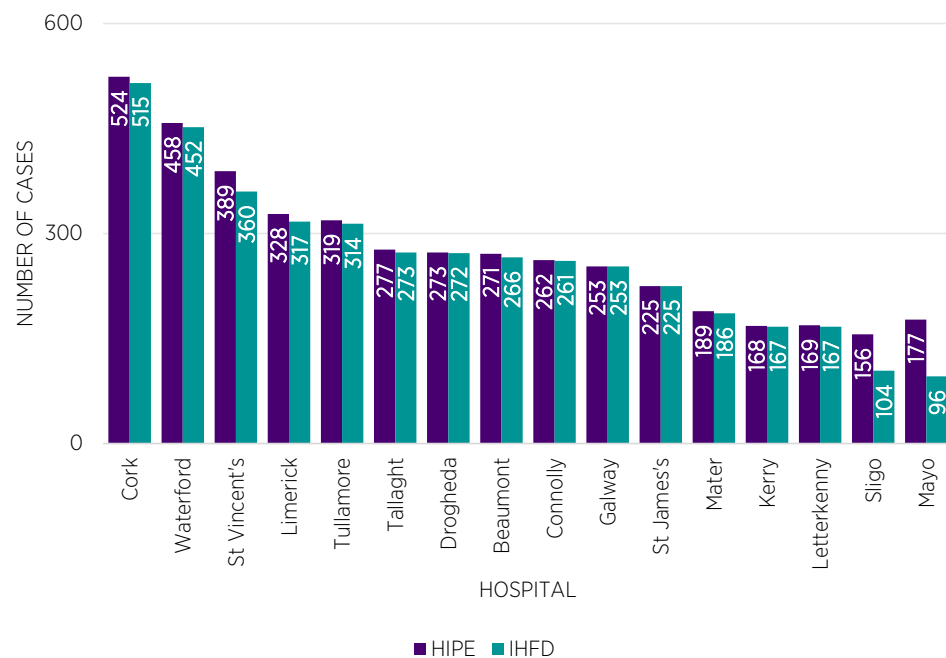


FIGURE 1.1: NUMBER OF HIP FRACTURE CASES PER HOSPITAL RECORDED ON THE HOSPITAL IN-PATIENT ENQUIRY SYSTEM IN 2024 (N=4438) AND HOSPITAL IN-PATIENT ENQUIRY CASES WITH IRISH HIP FRACTURE DATABASE DATA (n=4228)¹

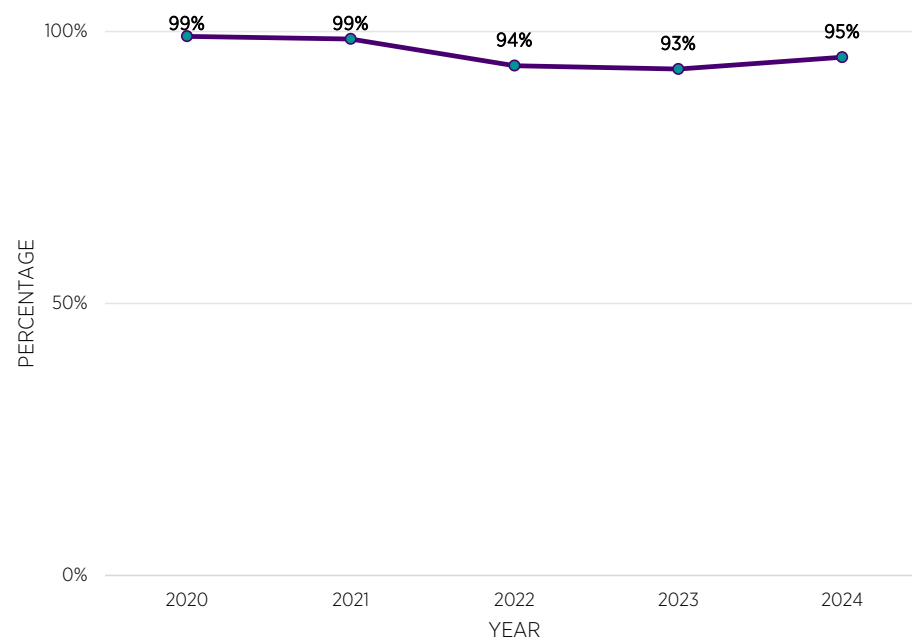


FIGURE 1.2: COVERAGE BY YEAR, 2020–2024 (BASED ON HOSPITAL IN-PATIENT ENQUIRY DATA)

¹ While the report includes 4,294 hip fracture cases in total, only 4,228 of these were HIPE cases included before the deadline for coverage calculation.

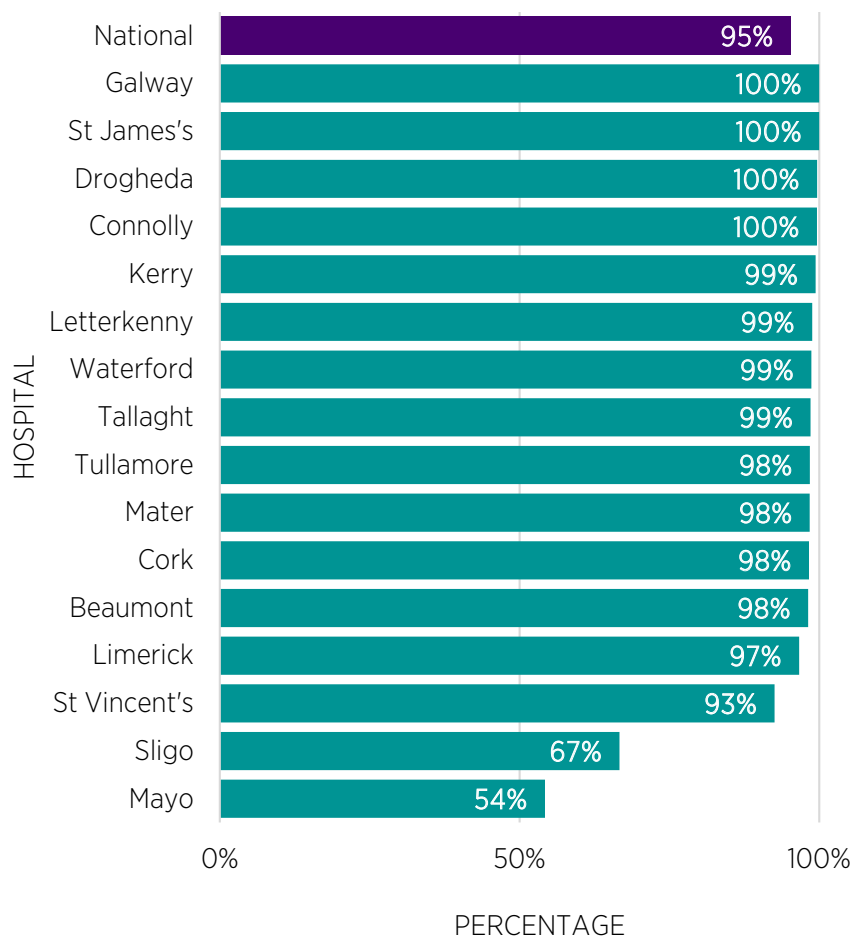
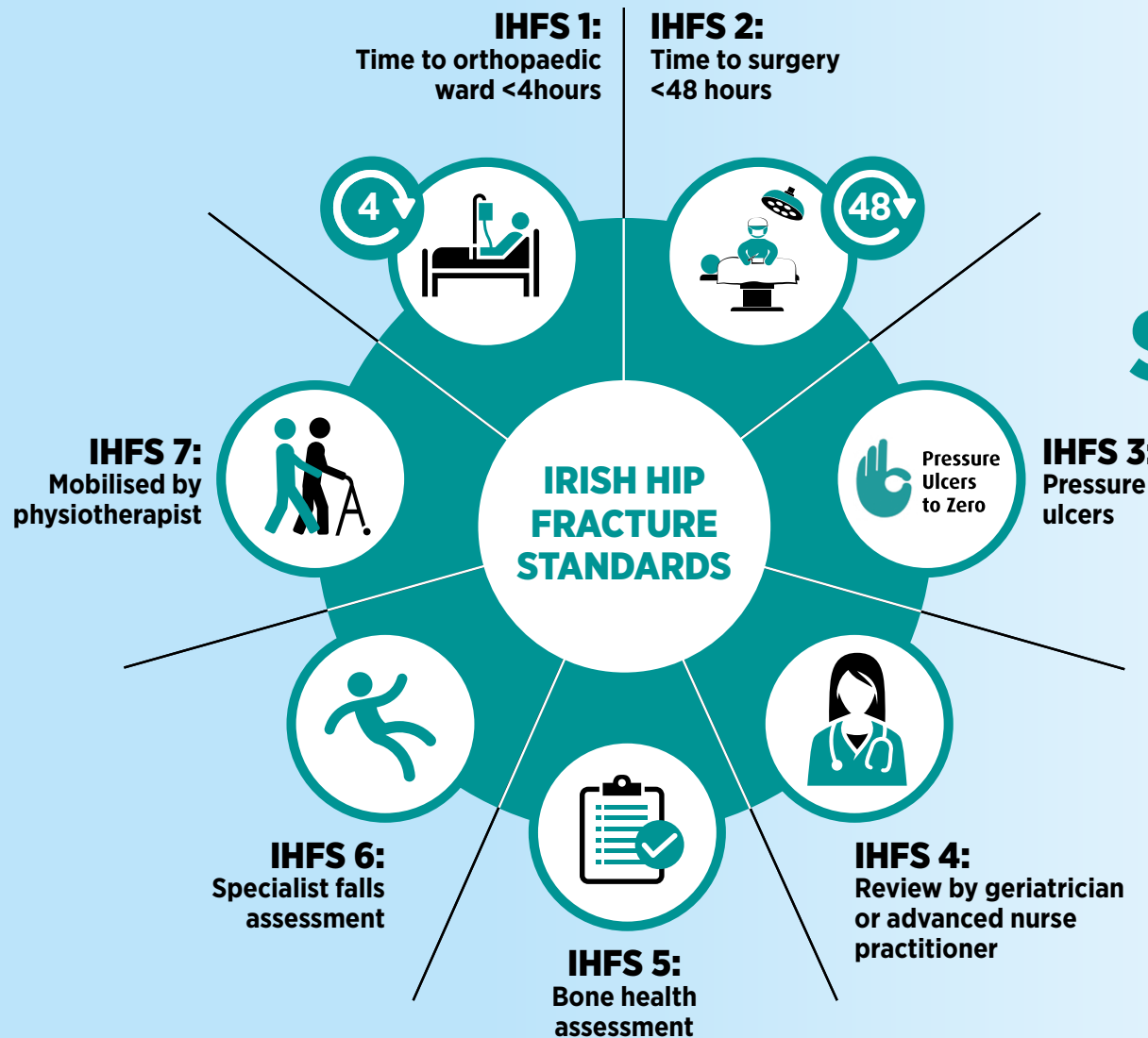


FIGURE 1.3: COVERAGE PERCENTAGES PER HOSPITAL, 2024

CHAPTER 2

IRISH HIP FRACTURE STANDARDS AND BEST PRACTICE TARIFF



CHAPTER 2: IRISH HIP FRACTURE STANDARDS AND BEST PRACTICE TARIFF

This chapter focuses on the [IHFS and the Best Practice Tariff](#). The data will be presented at the hospital level and the national level. This information is intended to allow hospitals to benchmark their individual performance against their previous performance and against other hospitals' performance.

This report includes data on 4,294 cases, the highest annual number recorded so far in an IHFD national report. In 2024, five of the IHFS improved, including the time to surgery, the percentage of patients seen by a geriatrician/advanced nurse practitioner (ANP), and the percentage of patients receiving a specialist falls assessment (Figure 2.1). The most notable improvement was in IHFS 1, the percentage of patients being admitted through the emergency department (ED) within 4 hours from presentation, which improved by 7 percentage points. While IHFS 7 (describing early mobilisation by a physiotherapist) dropped by 2 percentage points between 2023 and 2024, it remains very high (85%). IHFS 3, the standard for pressure ulcer development, remained static at 4%.

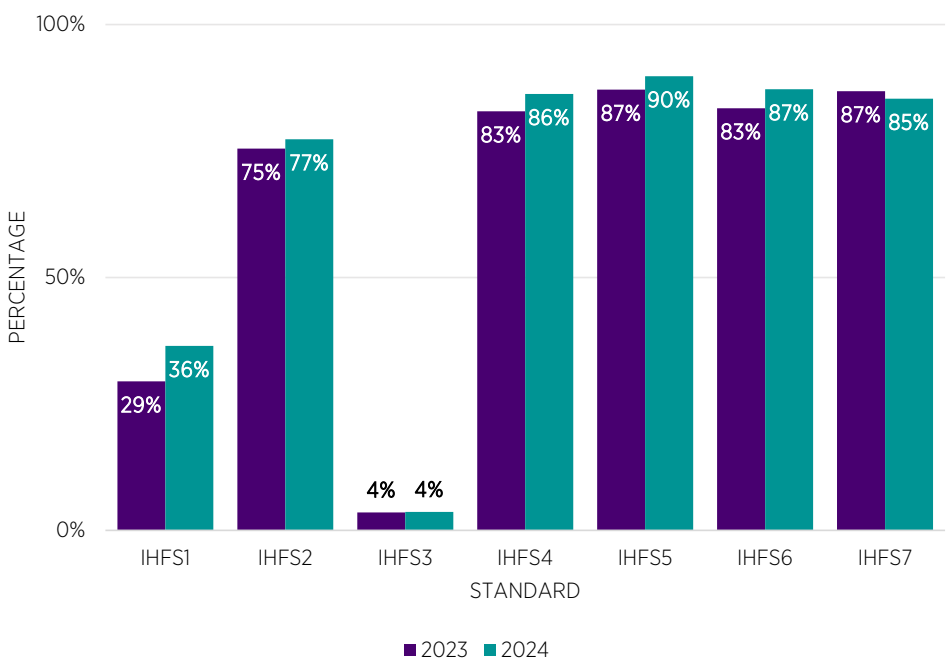


FIGURE 2.1: PERCENTAGE OF PATIENTS NATIONALLY WHO MET EACH IRISH HIP FRACTURE STANDARD, 2023 (N=3983) AND 2024 (N=4294)

IHFS 1

IHFS 1: Percentage of patients admitted to an orthopaedic ward within 4 hours of first presentation or admitted to the operating theatre from the ED within 4 hours of first presentation



In 2024, 36% (n=1566) of patients with a hip fracture were admitted to an orthopaedic ward or were admitted to the operating theatre from the ED within 4 hours of first presentation (Figure 2.2). This is a 7-percentage-point improvement from 2023 and a 15-percentage-point improvement from 2022. In 2024, hospital-level compliance with IHFS 1 ranged from 2% to 68%. Encouragingly, 11 of the 14 hospitals reported on here improved with regard to IHFS 1 since 2023, most notably University Hospital Kerry, which improved by 31 percentage points. IHFS 1 has long been a challenge for our hospitals, but these data suggest that there are emerging pathways through the EDs that are facilitating a better throughput of patients with a hip fracture.

Lack of available beds for patients with a hip fracture is the main reported reason for delay in transfers to the ward from the ED (21%; n=541), while 10% (n=255) of patients with a hip fracture were delayed because they were awaiting orthopaedic diagnosis or investigation. Ongoing work with the audit coordinators will continue to improve coverage of this variable, as 47% of patients with a hip fracture (n=1191) had no reason documented for their delay in transfer to the ward. Further reasons can be seen in detail in [Appendix 9: Additional information](#).

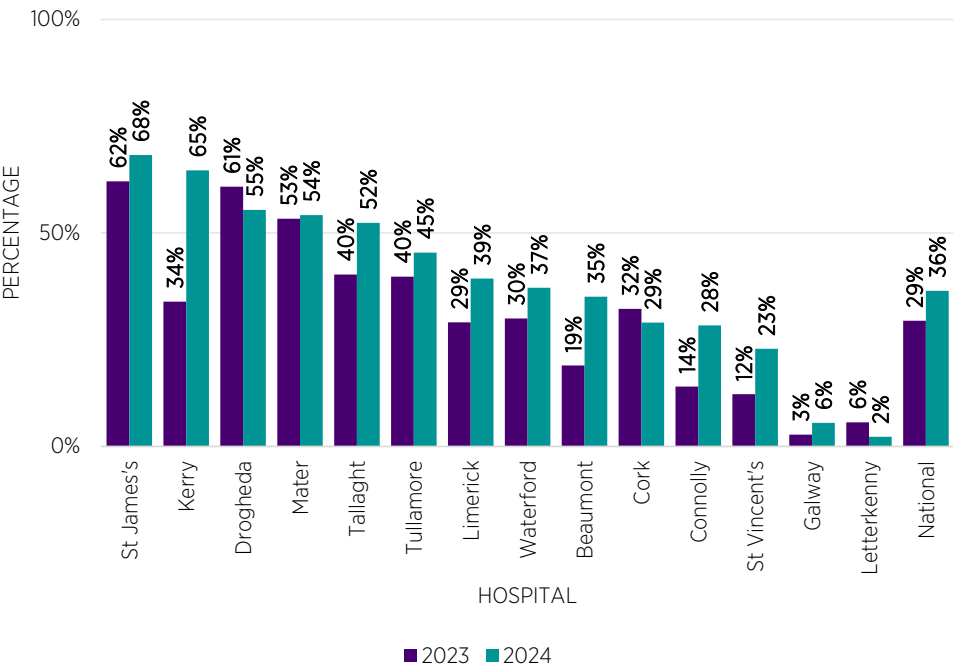


FIGURE 2.2: IRISH HIP FRACTURE STANDARD 1: PERCENTAGE OF PATIENTS ADMITTED TO AN ORTHOPAEDIC WARD WITHIN 4 HOURS OF FIRST PRESENTATION OR ADMITTED TO THE OPERATING THEATRE FROM THE EMERGENCY DEPARTMENT, BY INDIVIDUAL HOSPITAL, 2023 (N=3983) AND 2024 (N=4294)²

² Sligo University Hospital and Mayo University Hospital are not shown in the hospital-level results, as their data coverage was less than 80% for 2024.

IHFS 2

IHFS 2: Percentage of patients receiving surgery within 48 hours of first presentation (and within normal working hours)



In 2024, surgery was carried out on 96% (n=4124) of patients with a hip fracture. Seventy-seven percent (n=3189) of those surgeries were conducted within 48 hours and during working hours (Monday to Sunday, 8.00am–5.59pm) (Figure 2.3); this represents a 2-percentage-point increase from 2023. The national Health Service Executive (HSE) target that is reported to the HSE Business Intelligence Unit (BIU) is set at 85%. This allows for medical complications rather than avoidable process delays.

The hospital-level compliance with IHFS 2 ranged from 63% to 89% in 2024. The most improved hospital for IHFS 2 was the Mater Misericordiae University Hospital, where a 14-percentage-point increase was observed. The variation in individual hospital performance remains a concern, however, as surgery is the single most important intervention for hip fracture care and recovery.

In 2024, 62% of surgeries (n=2573) were carried out by a consultant orthopaedic surgeon, and 28% (n=1166) were carried out by a specialist registrar. The breakdown of operating surgeon can be found in [Appendix 9: Additional information](#).

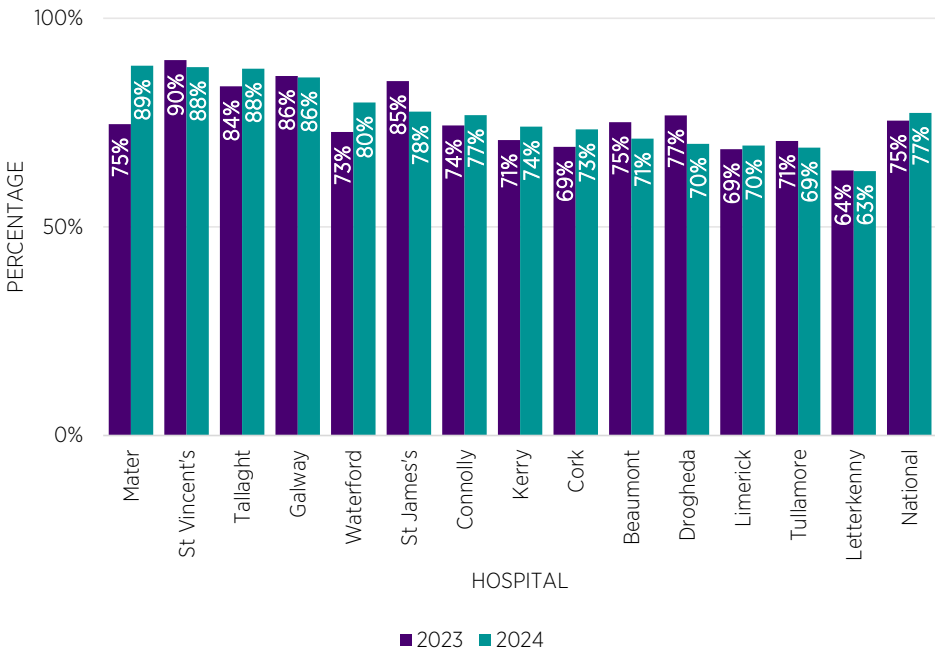


FIGURE 2.3: IRISH HIP FRACTURE STANDARD 2: PERCENTAGE OF PATIENTS RECEIVING SURGERY WITHIN 48 HOURS OF FIRST PRESENTATION (AND WITHIN NORMAL WORKING HOURS), BY INDIVIDUAL HOSPITAL, 2023 (n=3845) AND 2024 (n=4124)^{3,4}

³ Patients who did not have surgery have been excluded.

⁴ Sligo University Hospital and Mayo University Hospital are not shown in the hospital-level results, as their data coverage was less than 80% for 2024.

REASON FOR DELAY TO SURGERY

The main causes of delay to surgery were ‘issues due to anticoagulation’ (20%; n=191) and ‘awaiting medical review, investigation or stabilisation’ (20%; n= 191). ‘Other’ was another answer that was recorded (17%; n=158); however, of those cases listed as ‘other’, two-thirds referenced reasons that fell under the existing ‘awaiting medical review, investigation or stabilisation’ category (66%; n=105) (see Appendix 9: Additional information). NOCA will engage with the audit coordinators to improve the data quality for this variable, and to reduce reliance on free-text recording and analysis. In order to support further insights regarding this field, a new field will be introduced to the dataset in 2026 to capture pre-operative anticoagulant and anti-platelet medication prescribed. This will support further analysis of surgical delays.

IHFS 3

IHFS 3: Percentage of patients developing a pressure ulcer following admission



Of the patients who were discharged in 2024, 4% (n=150) developed a new pressure ulcer during admission (Figure 2.4). This is unchanged from 2023. For the purposes of this report, pressure ulcers Grade 2 or higher that developed after admission (but no later than 120 days after admission) are included in this IHFS. In 2024, the proportion of patients at the individual hospital level who had a pressure ulcer ranged from 1% to 10%, a reduction from 1% to 12% in 2023. In particular, University Hospital Galway improved from 12% to 7% in 2024.

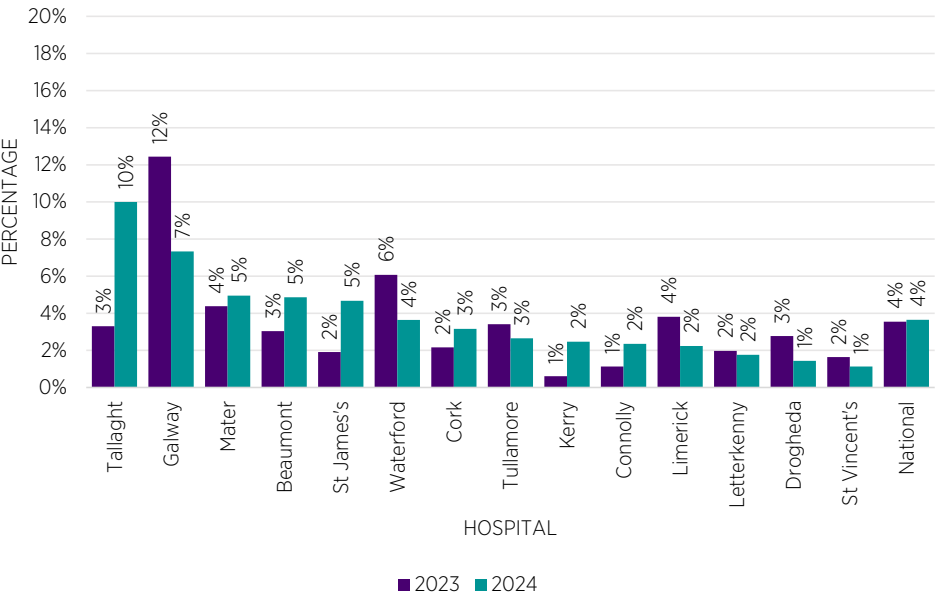
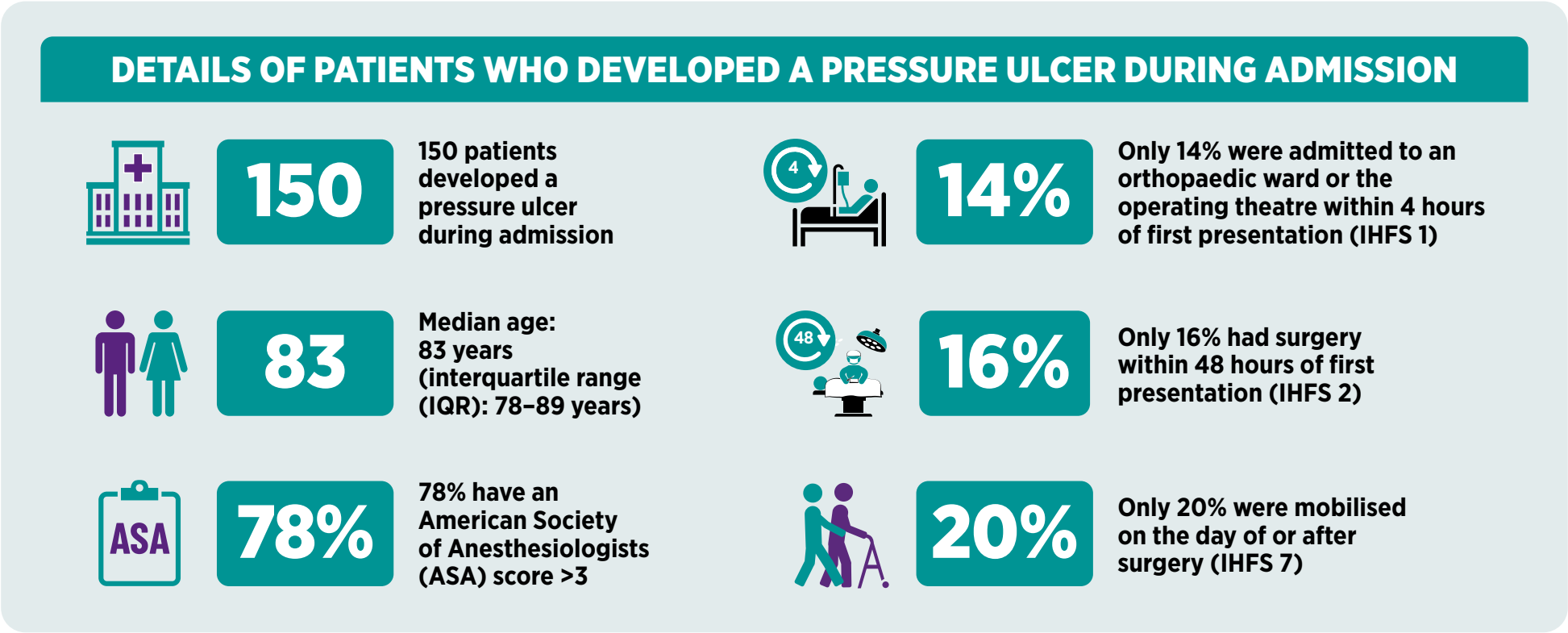


FIGURE 2.4: IRISH HIP FRACTURE STANDARD 3: PERCENTAGE OF PATIENTS WHO DEVELOPED PRESSURE ULCERS FOLLOWING ADMISSION, BY INDIVIDUAL HOSPITAL, 2023 (n=3803) AND 2024 (n=4112)^{5,6}

⁵ Patients who died have been excluded.

⁶ Sligo University Hospital and Mayo University Hospital are not shown in the hospital-level results, as their data coverage was less than 80% for 2024.

In the last two years there has been an increase in the number of hospitals above the national average: two hospitals were above 4% in 2023, but in 2024 this has risen to five hospitals. This follows a very stable period of 3% per year for 6 years (From 2017 to 2022) (NOCA, 2022b; 2023). The HSE's Patient Safety Strategy 2019-2024 (HSE, 2019) highlighted pressure ulcers as one of the most common causes of harm and a priority area for patient safety improvement across inpatient clinical areas. For these reasons, a more detailed description of the cohort who developed pressure ulcers is presented in the following infographic.



These details show that patients who develop pressure ulcers could be more unwell than other patients on admission and might experience periods of prolonged bed rest awaiting ward transfer, surgery and mobilisation, for a variety of reasons. It is important to note, however, that individual cases should be reviewed at a hospital level in order to understand local patterns and potential areas for quality improvement. As an example, the [Irish Hip Fracture Database National Report 2017-2021](#) (NOCA, 2022b) featured the ‘High HEEL’ project initiated by the Mater Misericordiae University Hospital, which was awarded the NOCA Quality Improvement Champion Award in 2022. Through the ‘High HEEL’ project, the team at the Mater Misericordiae University Hospital identified that pressure ulcers in patients with a hip fracture were mainly confined to the heel and was able to significantly reduce the incidence of pressure ulcers. In addition, the National Improvement Programme for Wound Management launched [Clinical Resource Pack: Pressure Ulcers](#) in June 2025 (HSE, 2025), which provides comprehensive and clinically practical guidance for use in care settings. It outlines the aSKINg care bundle, which is a tool to guide and document pressure ulcer prevention and management. NOCA will encourage use of this resource to support quality improvement at a hospital level.

IHFS 4

IHFS 4: Percentage of patients reviewed by a geriatrician or ANP at any point during admission



Figure 2.5 shows that in 2024, 86% of patients (n=3705) nationally were reviewed by a geriatrician or by an ANP at some point during their acute hospital stay, a 3-percentage-point increase from 2023. Our Lady of Lourdes Hospital Drogheda saw the biggest increase in compliance with IHFS 4, improving from 44% in 2023 to 93% in 2024. Sixty-three percent (n=2352) of those who achieved IHFS 4 (n=3652) had a review carried out by a consultant geriatrician and 29% (n=1060) were assessed by a candidate advanced nurse practitioner (cANP)/ANP. In addition, 29% of patients who received surgery (n=1184) were seen routinely in the pre-operative phase by a geriatrician. The composition/model of orthogeriatrics service delivery varies across hospitals, as described in the [Irish Hip Fracture Database 2024 Organisational Survey](#). While it is encouraging to see an overall improvement in IHFS 4, hospital-level variation persists. One hospital had only 30% of patients reviewed by a geriatrician or ANP, which was unchanged from 2023; this suggests that that hospital has limited access to routine orthogeriatric care.

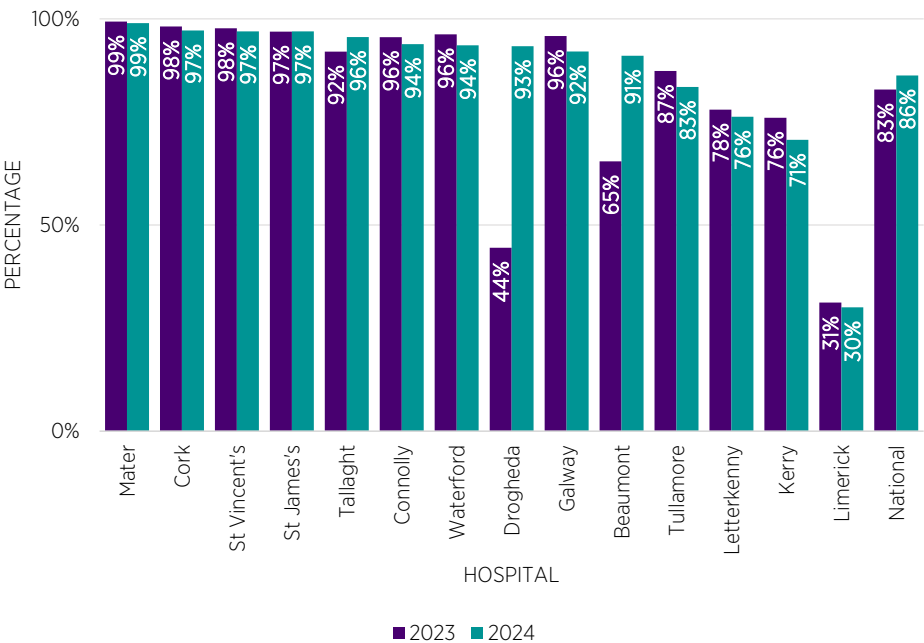


FIGURE 2.5: IRISH HIP FRACTURE STANDARD 4: PERCENTAGE OF PATIENTS SEEN BY A GERIATRICIAN OR ADVANCED NURSE PRACTITIONER AT ANY POINT DURING ADMISSION, BY INDIVIDUAL HOSPITAL, 2023 (N=3983) AND 2024 (N=4294)⁷

⁷ Sligo University Hospital and Mayo University Hospital are not shown in the hospital-level results, as their data coverage was less than 80% for 2024.

IHFS 5

IHFS 5: Percentage of patients receiving a bone health assessment



Figure 2.6 shows that 90% (n=3692) of patients had a bone health assessment in 2024, a 3-percentage-point increase from 2023; 12 of 14 hospitals achieved at least 90% compliance with this IHFS in 2024. The proportion of patients who had a bone health assessment at the individual hospital level ranged from 35% to 99% in 2024. Beaumont hospital showed the greatest improvement this year, from 62% in 2023 to 92% in 2024.

Furthermore, 9% of patients (n=363) were referred for outpatient assessment, while 55% (n=2272) were prescribed bone health medication during admission. Thirteen percent (n=550) of patients were assessed and continued their bone health medication from pre-admission, and 6% (n=258) of patients who were assessed had no bone health medication prescribed, or it may have been contraindicated.

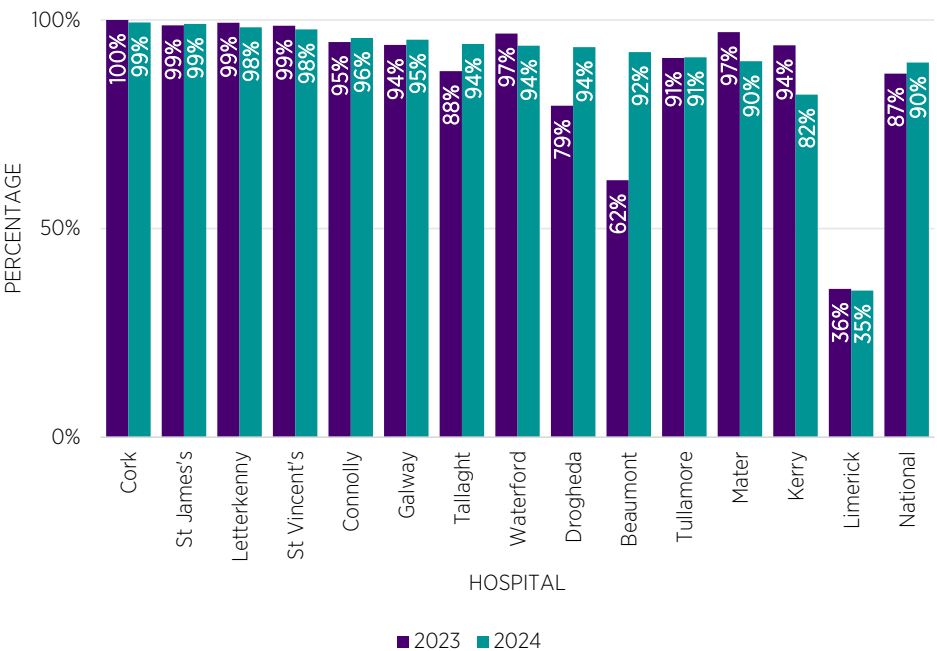


FIGURE 2.6: IRISH HIP FRACTURE STANDARD 5: PERCENTAGE OF PATIENTS RECEIVING A BONE HEALTH ASSESSMENT, BY INDIVIDUAL HOSPITAL, 2023 (n=3803) AND 2024 (n=4112)^{8,9}

⁸ Patients who died have been excluded.

⁹ Sligo University Hospital and Mayo University Hospital are not shown in the hospital-level results, as their data coverage was less than 80% for 2024.

IHFS 6

IHFS 6: Percentage of patients receiving a specialist falls assessment



In 2024, 87% of patients with a hip fracture (n=3586) had a specialist falls assessment during their admission (Figure 2.7). This represents a 4-percentage-point increase from 2023. There continues to be variation in the level of compliance across the participating hospitals, which in 2024 ranged from 28% to 99%. This is similar to the degree of hospital-level variation observed in IHFS 4 and 5. The greatest improvements were noted in Our Lady of Lourdes Hospital Drogheda and Beaumont Hospital noted in IHFS 6.

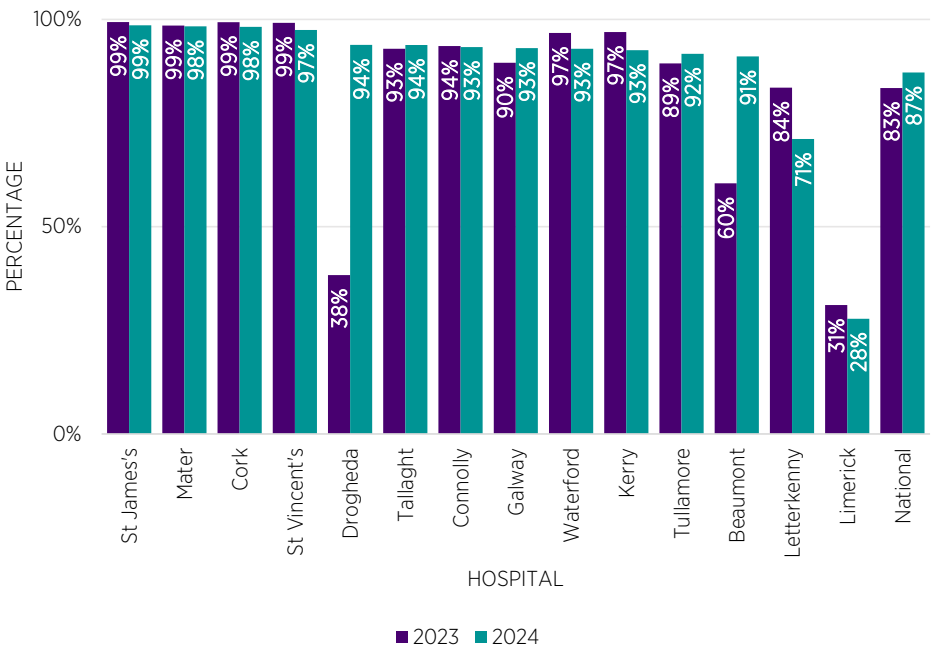


FIGURE 2.7: IRISH HIP FRACTURE STANDARD 6: PERCENTAGE OF PATIENTS RECEIVING A SPECIALIST FALLS ASSESSMENT, BY INDIVIDUAL HOSPITAL, 2023 (n=3803) AND 2024 (n=4112)^{10,11}

¹⁰ Patients who died have been excluded.

¹¹ Sligo University Hospital and Mayo University Hospital are not shown in the hospital-level results, as their data coverage was less than 80% for 2024.

IHFS 7

IHFS 7: Percentage of patients mobilised by a physiotherapist on the day of surgery or the day after surgery



Since 2018, the IHFD has tracked early mobilisation, a key modifiable factor linked to improved outcomes, including lower in-hospital mortality (Ferris *et al.*, 2020). In 2024, 85% of patients (n=3520) achieved IHFS 7 (Figure 2.8). Nationally, this marks a 2-percentage-point decrease from 2023, although individual hospital performance varied widely, from an 8-percentage-point increase to a 14-percentage-point decrease between 2023 and 2024. Tallaght University Hospital showed the greatest improvement in this IHFS, from 76% in 2023 to 84% in 2024.

Physiotherapy assessment on the day of or the day after surgery was achieved for 96% of patients (n=3958), while less than 1% (n=14) were mobilised by someone other than a physiotherapist. Within the IHFD, the term ‘mobilisation’ is defined here as the patient standing up out of bed at a minimum.

[Table 2.1](#) outlines reasons for non-mobilisation, with medical unfitness being the most common (41%; n=236). This underscores the variability in patient needs and reinforces that 100% compliance with IHFS 7 is neither expected nor always appropriate. The national achievement rate of IHFS 7 at 85% is high when compared internationally. For example, in 2024 the [National Hip Fracture Database](#) in the UK report 82% of patients were mobilised out of bed (standing or hoisted) by the day after hip fracture operation (National Falls and Fragility Fracture Audit (n.d.).

In March 2025, a joint workshop between orthogeriatric and physiotherapy IHFD networks facilitated the sharing of site-level practices and local updates. Physiotherapists showcased quality improvement initiatives, such as staff competency development, inter-site resource sharing and patient education, highlighting exemplary commitment across the country specifically around addressing challenges to meeting IHFS 7. While striving for early mobilisation remains a priority, clinicians acknowledged that universal compliance with IHFS 7 is unrealistic, given individual patient circumstances.

NOCA will continue to provide education and reassurance regarding IHFS 7. While all opportunities for mobilising patients should be explored, 100% compliance with IHFS 7 is not expected due to individual patient circumstances and complex needs in the early post-surgery phase.

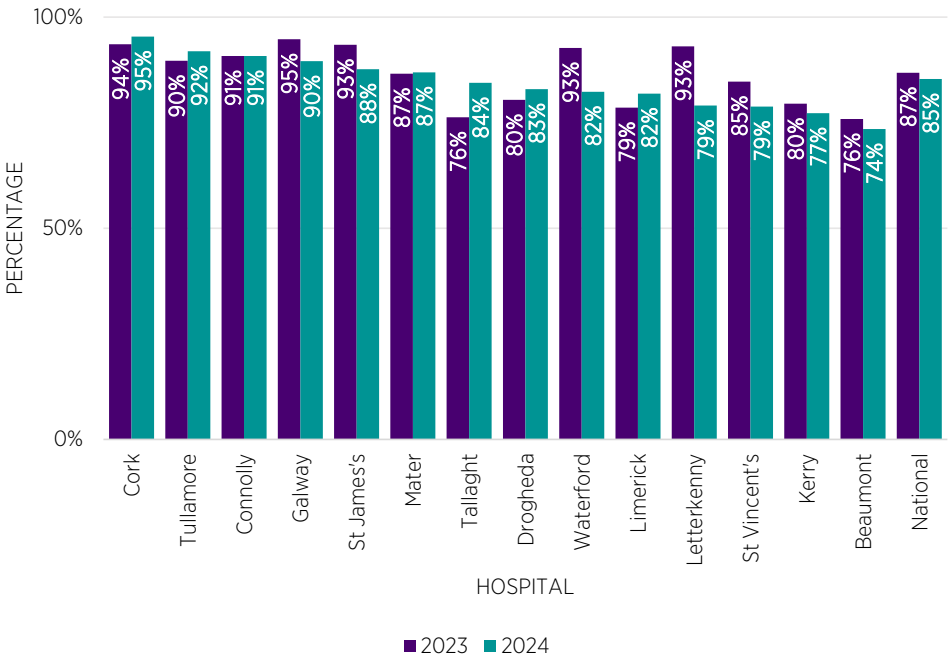


FIGURE 2.8: IRISH HIP FRACTURE STANDARD 7: PERCENTAGE OF PATIENTS MOBILISED BY A PHYSIOTHERAPIST ON THE DAY OF SURGERY OR THE DAY AFTER SURGERY, BY INDIVIDUAL HOSPITAL, 2023 (n=3845) AND 2024 (n=4124)^{12,13}

¹² Patients who did not have surgery have been excluded.

¹³ Sligo University Hospital and Mayo University Hospital are not shown in the hospital-level results, as their data coverage was less than 80% for 2024.

TABLE 2.1: REASONS FOR NOT MOBILISING IN 2024

Reasons	Count	%
Medically not fit	236	41%
Confusion/agitation/delirium	85	15%
Other	70	12%
Pain	61	11%
Patient declined	57	10%
Physiotherapy staffing issues	33	6%
Not documented	26	4%
Not mobile pre-fracture	10	2%
Other staffing issues	2	0%
Total	580	100%

BEST PRACTICE TARIFF

In 2018, the IHFD supported the introduction of the Best Practice Tariff (BPT). This process involved collaboration between the Healthcare Pricing Office, the National Clinical Advisor and Group Lead, the HSE, the National Clinical Programme for Trauma and Orthopaedic Surgery, and NOCA.

The BPT is a payment for hospitals operating on patients with a hip fracture (aged 60 years and over) that achieve nine standards of care for individual patients: the seven IHFS and two additional standards focusing on data quality and governance. The BPT assessment does not include inpatient falls or patients who do not have a top 10 primary Hospital In-Patient Enquiry (HIPE) diagnosis of a hip fracture. Hospitals also need to achieve 90% coverage to be eligible for the BPT. Each hospital receives €1,000 for every case that meets the BPT, and this money is to be used by the hospital to improve patient care within its trauma service. The BPT is reported on a quarterly basis to the IHFD participant hospitals, and the clinical lead for the local hip fracture governance committee (HFGC) links directly with the hospital finance manager to access the funds for the trauma service as designated by the HFGC.

BPT AND COVERAGE

Over €3.9 million has been paid out under the BPT incentive since 2018, and this has been shown to have had a positive effect on the trauma system overall. Overall, 21% of patients with a hip fracture received the best practice standard of care in 2024, representing a 6-percentage-point increase from 2023. This is the highest percentage achieved in any year since the BPT was introduced in 2018 (Figure 2.9).

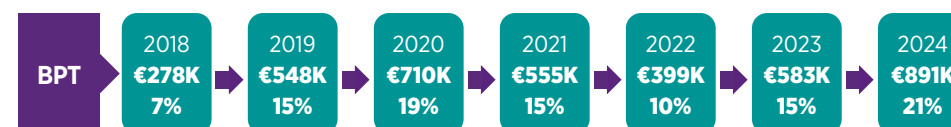


FIGURE 2.9: IRISH HIP FRACTURE DATABASE TOTAL BEST PRACTICE TARIFF PAYMENTS AND PERCENTAGE OF PATIENTS ACHIEVING THE STANDARD EACH YEAR FROM 2018 TO 2024.

BPT PAYMENTS BY HOSPITAL

All hospitals participating in the IHFD benefited from the BPT, although there was a wide range in the actual amount received by individual hospitals, from €1,000 to €115,000 (Figure 2.10). Table 2.2 shows the proportion of patients for whom the BPT was achieved at each hospital in both 2023 and 2024. Out of 16 hospitals, 12 showed an improvement in 2024 compared with 2023. Tallaght University Hospital has shown the biggest improvement from 2023, achieving the BPT for 37% of its patients in 2024 compared with 14% in 2023. St James's Hospital, at 51%, will receive the Golden Hip Award for 2024. The teams from both of these hospitals have shared their stories from 2024. Hopefully this can offer some learning that may be applicable to quality improvement efforts at other hospitals.

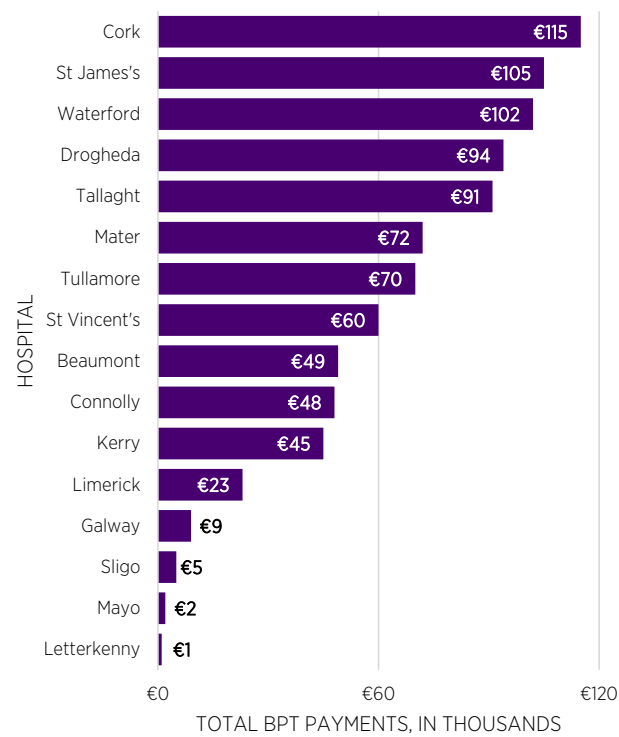


FIGURE 2.10: TOTAL BEST PRACTICE TARIFF PAYMENTS, BY INDIVIDUAL HOSPITAL, 2024

TABLE 2.2: BEST PRACTICE TARIFF ACHIEVEMENT BY INDIVIDUAL HOSPITAL, 2023–2024

Hospital	2023	2024
Beaumont Hospital	5%	18%
Connolly Hospital	10%	18%
Cork University Hospital	24%	22%
Our Lady of Lourdes Hospital Drogheda	13%	30%
University Hospital Galway	1%	3%
University Hospital Kerry	16%	27%
Letterkenny University Hospital	2%	1%
University Hospital Limerick	4%	7%
Mater Misericordiae University Hospital	39%	39%
Mayo University Hospital	3%	1%
Sligo University Hospital	2%	3%
St James's Hospital	49%	51%
St Vincent's University Hospital	8%	17%
Tallaght University Hospital	14%	37%
Midland Regional Hospital Tullamore	21%	22%
University Hospital Waterford	18%	25%
Total	15%	21%

N/A= Not applicable, no improvement between 2023 and 2024

GOLDEN HIP AWARD WINNER'S STORY : ST JAMES'S HOSPITAL

GOLDEN HIP AWARD 2024: A TESTAMENT TO SUSTAINABLE QUALITY AND SCALABLE IMPACT

For the second time, we are pleased to share that our CodeHip Team in St James's Hospital has been honoured with the **Golden Hip Award**. This recognition not only reflects the progress we have made in delivering high-quality care for older adults with hip fractures but, more importantly, it highlights the steps we have taken to ensure that those improvements are sustained over time and adapted across departments. The key aspects to achieving this are:

strong leadership, collaborative team dynamics and cultivating an open culture

using data as a driver for change

sustaining and scaling the quality of care through the effective allocation of the BPT funds

digital innovation as a supportive tool and its transferability.



STRONG LEADERSHIP, COHESIVE TEAM DYNAMICS AND AN OPEN CULTURE

Strong leadership and cohesive team dynamics have been fundamental to achieving the Golden Hip Award for 2024. Effective, distributive leadership ensured that a clear vision was communicated,

roles were well-defined and clinical priorities – such as timely transfer/surgery, multidisciplinary care and comprehensive discharge planning – were consistently met. Our leaders ensured the quality of care by fostering a culture of accountability, empowering team members and facilitating communication across departments. Their ability to remove

barriers and advocate for resources has significantly helped streamline the hip fracture care pathway. Equally vital was the synergy between the multidisciplinary team (MDT) members: cohesive team dynamics promoted collaboration, mutual respect and shared responsibility, which were crucial. The MDT acted as a unit, with each member

contributing their expertise while aligning with the common goal.

What also stood out through this work was the value of cultivating an open culture. Progress came from a wide range of people across the service who were willing to ask questions, share ideas and support one another. Some of the most meaningful changes were sparked by creating space for team members in our operational meetings to speak up, test ideas and learn from each other.

DATA AS A DRIVER FOR CHANGE

Throughout this work, data have played a key role – not just as a way to track performance, but as a real-time tool for change and sustaining the quality of care. By sharing relevant information in our scheduled monthly operational meetings, we have been able to identify areas for attention early and support timely responses and actions. Making data visible and accessible in real time has helped us shift to more proactive ways of sustaining improvements in hip fracture care.

SUSTAINING AND SCALING THE QUALITY OF CARE OVER TIME

Following our first Golden Hip Award, our main focus became understanding what made the improvements work. We wanted to ensure that the changes were not short-lived, but instead were part of a wider culture of shared responsibility and continuous learning. With the effective allocation of the BPT funds, we have put a focus on supporting teams on the floor by making sure that they are equipped with the up-to-date tools necessary in order to provide and maintain the best level of hip fracture care in their own areas.

Among the improvement work we undertook from 2024 to early 2025 was:

- enabling real-time visibility of patients with a hip fracture on their arrival in emergency department (ED) to the orthopaedic team by deploying the Digital Hip Fracture Pathway on the whiteboard in the operating theatre
- initiating the Whiteboard Hip Fracture Pathway from Radiology to flag possible hip fractures identified via X-rays

- procuring equipment across the different departments, such as upgrading patient beds and buying new wheelchairs for our orthopaedic ward, acquiring new physiotherapy materials and machines, upgrading equipment used in our operating theatre, obtaining a new ultrasound machine for the ED, updating dual-energy X-ray absorptiometry (DEXA) scan software, and acquiring delirium mitigation supports for the ward (e.g. televisions in the side rooms).

DIGITAL INNOVATION AS A SUPPORTIVE TOOL AND ITS TRANSFERABILITY

An important factor that contributed to our success was the introduction of a streamlined digital approach using an integrated electronic care pathway, which enabled real-time visibility and coordination across the MDT. By using this tool, our compliance with IHFS 1 has continued to improve significantly.

While our success is supported by digital tools, a culture of interdisciplinary collaborative practice using the standard

tools of improvement methodology has enabled the team at St James's Hospital to sustain high adherence to the seven standards of best practice for our patients with a hip fracture.

LOOKING TO THE FUTURE

Being awarded the Golden Hip Award for a second year in a row is encouraging, but more than anything it is also a moment for reflection and responsibility. Our story shows that a high quality of care can be sustained when supported by the right culture, leadership, data and team engagement. It has also shown us that some of these improvements can be thoughtfully adapted to benefit other pathways and organisations.

As we move forward, our focus is on further improvements, sharing our learnings with other organisations, and continuing to build a health system that is equitable, efficient and enduring.

To every member of the team who contributed to this achievement, we give a huge congratulations. Your work has improved patient lives and raised the bar for what is possible.

“With the effective allocation of the BPT funds, we have put a focus on supporting teams on the floor by making sure that they are equipped with the up-to-date tools necessary in order to provide and maintain the best level of hip fracture care in their own areas.”

MOST IMPROVED AWARD WINNER'S STORY: TALLAGHT UNIVERSITY HOSPITAL

We are grateful to National Office of Clinical Audit (NOCA) for their continued vision to improve outcomes for patients with hip fractures across Ireland. It is with immense pride that we accept this inaugural award for **Most Improved Performance** in relation to the Irish Hip Fracture Standards. This achievement is a testament to the dedication, collaboration, and unwavering commitment of each person who plays a part in the care and journey of hip fracture patients attending our hospital

The hip fracture team at Tallaght University Hospital is a collaboration across many services and disciplines and includes our colleagues in the Emergency Department, our orthopaedic surgeons, the orthogeriatric team, nurses, physiotherapists, occupational therapists, dietitians, anaesthetists and colleagues in bed management. This

multidisciplinary team have worked together and refined the processes required to bring about improvements in the patient journey in our institution.



A major challenge for us, as for many hospitals, was the safe and timely transfer of patients from the ED to the trauma ward within 4 hours. A number of key process changes brought about considerable improvement in our performance in the Standards:

- Hip Bleep: carried by staff on the trauma orthopaedic ward to alert of potential hip fracture patients in ED.
- Development of a streamlined admission pathway in collaboration with our colleagues in ED: prioritising early assessment and bed allocation and analgesia via Fascia Iliaca Compartment Block.
- Ring-fenced Hip Fracture bed: allowing for timely transfer of suitable patients direct to trauma ward.
- Physiotherapy Resource: 7-day physiotherapy service for hip fracture patients ensuring we continue to meet standard 7.
- Orthogeriatric Team: the commencement of the Orthogeriatric service ensures that our hip fracture patients receive a comprehensive geriatric assessment incorporating falls, bone health and delirium screening and prevention.

This award is a significant achievement, and we are committed to building on this success and ensuring that every patient with a hip fracture receives the high-quality, timely, and compassionate care they deserve. Consistent review of our audit data allows us to concentrate on areas where we can continue to make changes to improve the patient journey from admission to recovery.

Thank you again to everyone involved. We are truly proud of this accomplishment.



KEY FINDINGS FROM CHAPTER 2

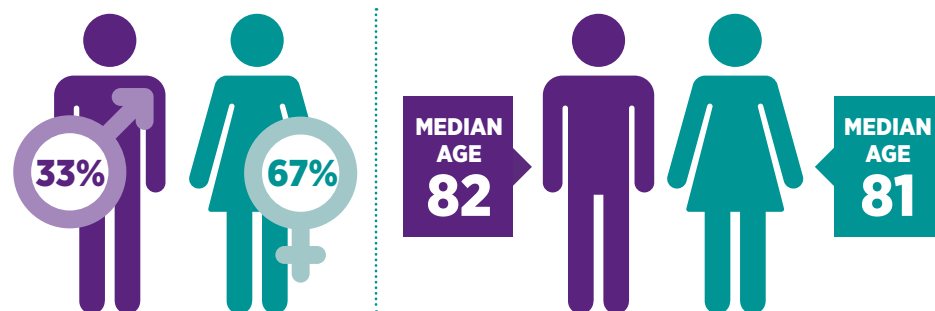
- 2024 saw the highest annual number of hip fractures recorded in the IHFD.
- The data from 2024 show an increase in compliance with the IHFS, with compliance with five of the seven IHFS increasing since 2023.
- A total of €891,000 was paid out in BPT funds.
- Data quality in capturing reasons for delay to ward and surgery has improved.

CHAPTER 3

CASE MIX FOR 2024

CHAPTER 3: CASE MIX FOR 2024

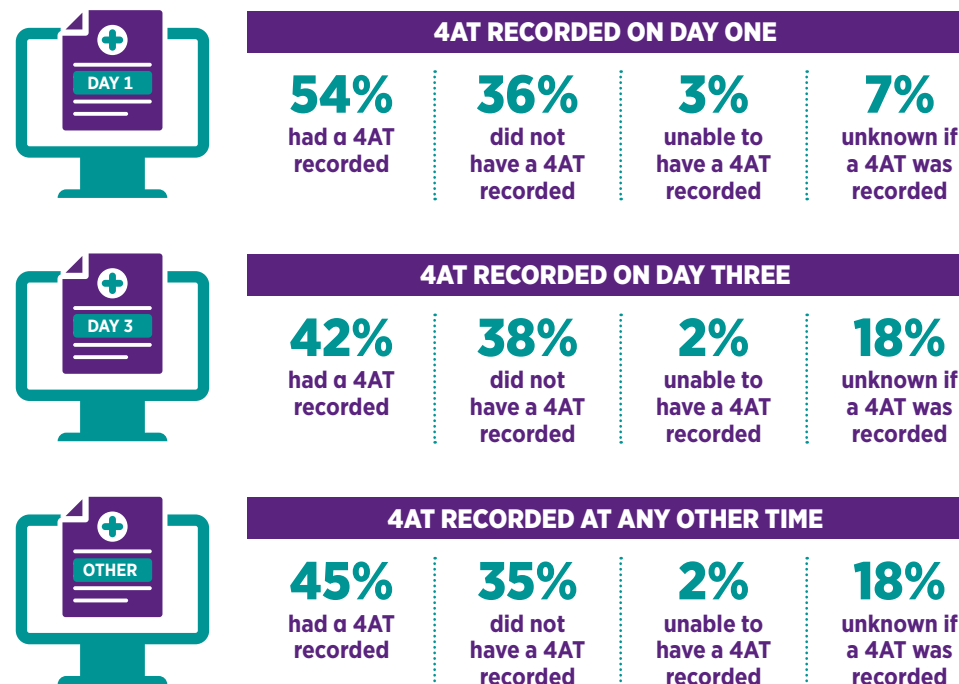
SEX & AGE GROUP



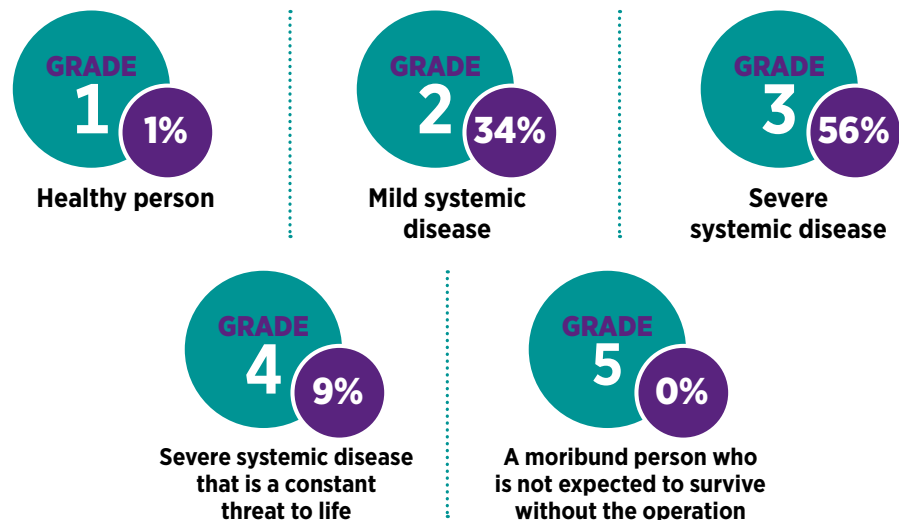
SOURCE OF ADMISSION



4AT (RAPID CLINICAL TEST FOR DELIRIUM)



AMERICAN SOCIETY OF ANESTHESIOLOGISTS (ASA) PHYSICAL STATUS CLASSIFICATION (DRIPPS, 1963)¹⁴



CLINICAL FRAILTY SCALE RECORDED

CFS 1	CFS 2	CFS 3	CFS 4	CFS 5
2%	6%	9%	8%	10%
CFS 6	CFS 7	CFS 8	CFS 9	UNKNOWN
11%	7%	0%	0%	44%

¹⁴ A total of 440 patients did not have an ASA grade recorded and have been excluded from the analysis.

¹⁵ Only patients with scores for all three types of mobility are included in this analysis; 332 patients did not have an NMS recorded for any of the following: indoor walking, outdoor walking or shopping.

PRE-FRACTURE MOBILITY, NEW MOBILITY SCORE (NMS)¹⁵

LOW FUNCTIONAL ABILITY



52%

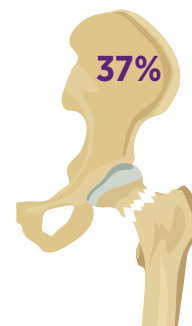
HIGH FUNCTIONAL ABILITY



48%

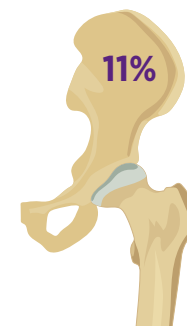
FRACTURE TYPE

INTRACAPSULAR DISPLACED



37%

INTRACAPSULAR UNDISPLACED



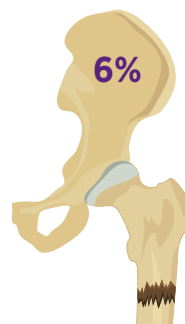
11%

INTERTROCHANTERIC



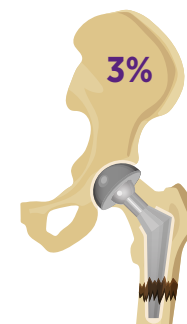
36%

SUBTROCHANTERIC



6%

PERIPROSTHETIC



3%

OTHER
1%

NOT KNOWN
6%



CHAPTER 4

PATIENT PATHWAY

CHAPTER 4: PATIENT PATHWAY

This chapter describes the journey patients take from the time of their injury and through the hospital system.

PLACE OF INJURY

In 2024, a new variable was added to the IHFD dataset to capture the place where the injury was sustained. Figure 4.1 shows that, comparable with the Major Trauma Audit data, 66% of hip fractures happen in the home, followed by 15% that happen in an institution (NOCA, 2025). Opportunities for injury prevention and safety awareness have been highlighted in previous NOCA reports. It is hoped that the data from this report will continue to inform the need for better safety measures in our homes, which are the most common setting of incidents causing injury. Some materials are already available on the NOCA website, including a [home safety infographic](#), and a [home safety checklist](#). Falls prevention advice is also provided in the hip fracture [patient video](#) described at the start of this report.

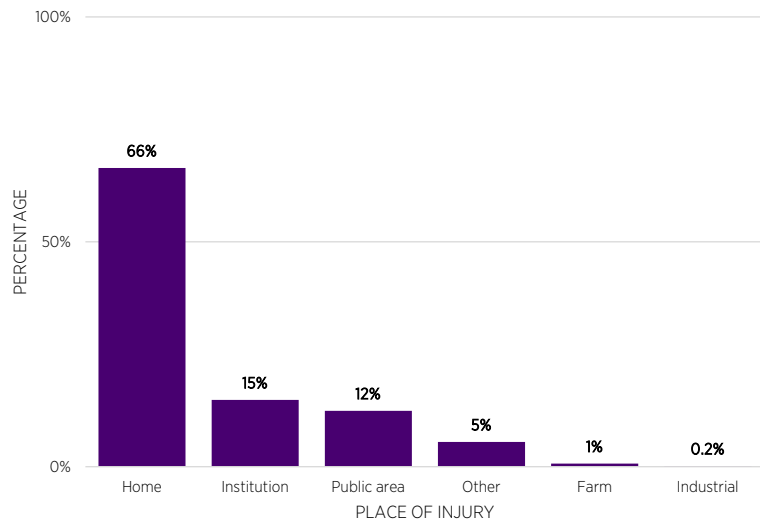


FIGURE 4.1: PLACE OF INJURY AMONG PATIENTS WITH A HIP FRACTURE IN 2024 (n=3985)

ADMISSION PATHWAY AND INPATIENT FALLS

In 2024, 94% of patients with a hip fracture (n=4056) were brought directly to the operating hospital.



Five percent of patients (n=215) were assessed by the orthopaedic team during their hospital stay, either following admission through another service, such as a clinic or under a different specialty, or after experiencing an inpatient fall. Figure 4.2 displays the number of hip fractures sustained by inpatients over the 5-year period from 2020 to 2024, which accounts for less than 2% of all hip fracture cases per year and does not indicate an increasing volume.

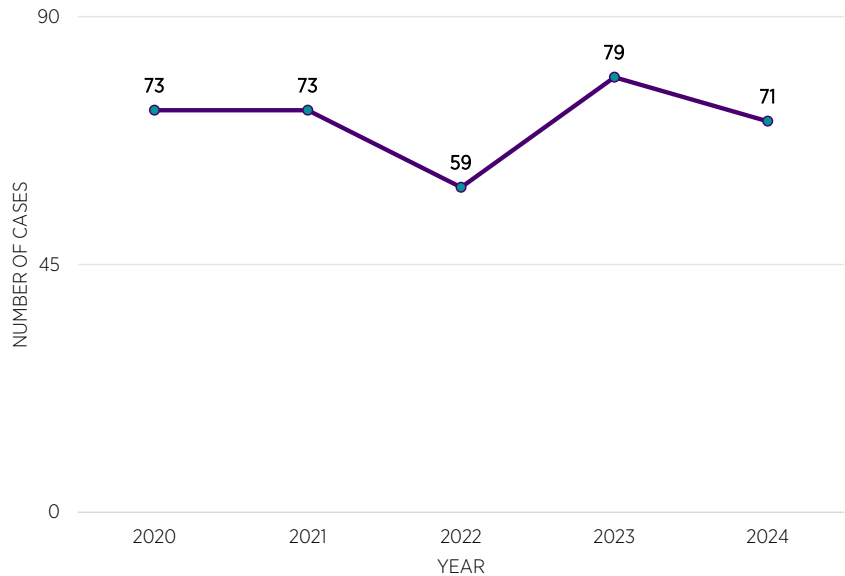


FIGURE 4.2: NUMBER OF HIP FRACTURES SUSTAINED BY INPATIENTS, BY YEAR, 2020–2024

CUMULATIVE TIME TO SURGERY

In 2024, 44% of patients with a hip fracture (n=1829) received their surgery within 24 hours, 61% (n=2501) received surgery within 36 hours and 78% (n=3213) received surgery within 48 hours (Figure 4.3). There has been improvement in all three time points by 1–2% since 2023. The median time to surgery was 26 hours (interquartile range (IQR): 19–46 hours). This compares with a median of 27 hours (IQR: 19–47 hours) in 2023.

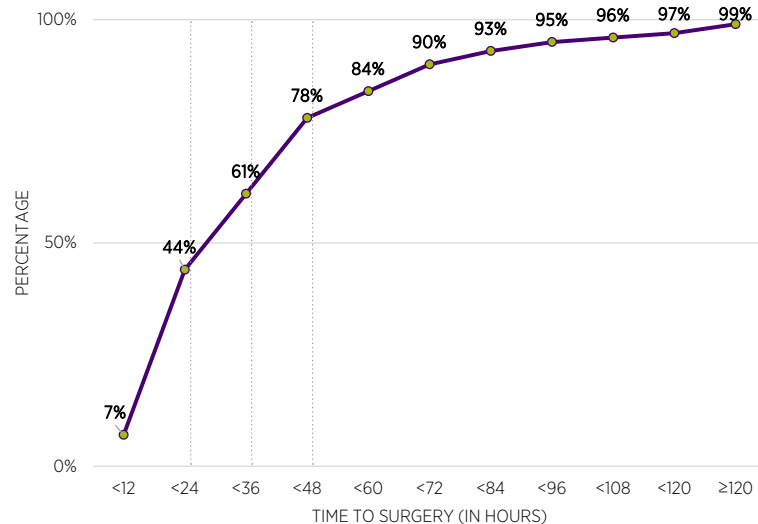
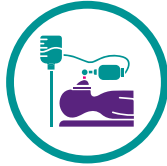


FIGURE 4.3: CUMULATIVE TIME TO SURGERY, 2024

TYPE OF ANAESTHESIA

Spinal anaesthetic (SA) continues to be the predominant type of anaesthesia used (71%; n=2924); this includes SA on its own and a combination of SA and sedation or SA and a nerve block. It is also used in combination with general anaesthetic (GA) (2%; n=89). Twenty-five percent (n=1048) of patients with a hip fracture received GA in 2024, a 3% increase from 2023. There continues to be variation across individual hospitals in terms of the type of anaesthesia used.



PERCENTAGE RECEIVING A NERVE BLOCK

Eighty-four percent (n=3480) of patients received a nerve block pre-operatively in 2024 (Figure 4.4), which represents a further increase of 2 percentage points since 2023.

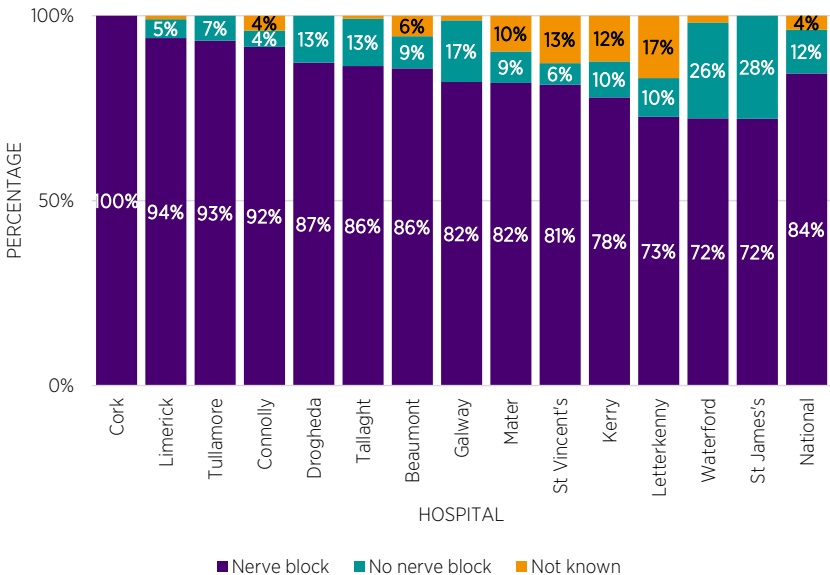


FIGURE 4.4: PERCENTAGE OF PATIENTS WHO RECEIVED A NERVE BLOCK PRE-OPERATIVELY, BY INDIVIDUAL HOSPITAL, 2024 (n=4124)^{16,17}

¹⁶ Patients who did not have surgery have been excluded.

¹⁷ Sligo University Hospital and Mayo University Hospital are not shown in the hospital-level results, as their data coverage was less than 80% for 2024.

NUTRITIONAL RISK ASSESSMENT

Figure 4.5 shows that 71% of patients (n=3042) received a nutritional risk assessment during their admission in 2024, similar to 2023. Of those, 15% (n=658) were identified as being at risk of malnutrition, 3% (n=112) were identified as malnourished and 53% (n=2272) were identified as normal. There is wide variation in the proportion of assessments that were performed at hospital level, ranging from 1% to 98%.



Internationally, assessment of malnutrition is commonly included as a quality indicator in hip fracture care (Voeten *et al.*, 2018). Recognising the importance of this and the current variation in practice demonstrated by the IHFD, nutritional screening was chosen as a topic for our IHFD Networks collaboration event, hosted in March 2025 (see Chapter 6 for further details). This event brought together the IHFD network of dietitians for the first time, and facilitated a discussion of the barriers to and facilitators of nutrition screening. Facilitators described included identifying a ward champion; ‘weigh days’ (a designated day when patients’ weights are measured and recorded); empowering patients to advocate for themselves; and having sufficient resources, such as dietetic assistants, weighing beds and scales. Further factors that were considered to promote good nutritional status were protected mealtimes, communal eating, a red tray system (identification and provision of one-to-one assistance with meals) and family involvement.

The IHFD will continue to work with the IHFD dietetic representative, IHFD networks and audit coordinators in order to facilitate shared learning from quality improvement initiatives across sites, with the goal of reducing hospital-level variation in nutritional assessment.

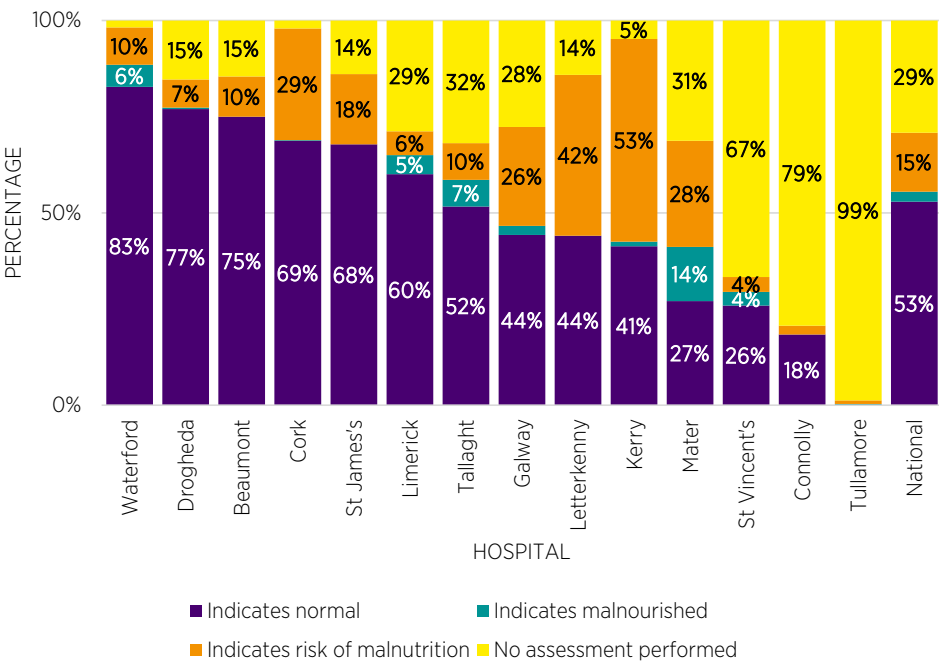


FIGURE 4.5: PERCENTAGE OF PATIENTS BY NUTRITIONAL RISK ASSESSMENT RESULTS, BY INDIVIDUAL HOSPITAL, 2024 (N=4294)¹⁸

¹⁸ Sligo University Hospital and Mayo University Hospital are not shown in the hospital-level results, as their data coverage was less than 80% for 2024.

4AT SCREENING

Delirium is a serious condition that arises rapidly in which a person becomes confused or agitated, and it is very common in people with a hip fracture. Delirium significantly affects patient outcomes and can lead to longer hospital stays, a greater chance of hospital readmission and an increased risk of death. [The Trauma System Implementation Programme Clinical Guidance Document: for the Management of Major Trauma in Older Adults](#) published in 2023 (Health Service Executive, 2023), states that units providing trauma care for older people should routinely use a validated delirium assessment tool, such as the 4AT, and have a delirium policy that describes preventative measures, ensures rapid identification of potentially reversible causes and delivers individualised interventions. Further national guidance on delirium tools and algorithms in the ED and on inpatient wards can be found on the Dementia Pathways [website](#).

4AT screening determines the percentage of patients who have had a delirium screening on the day of admission (described as day 1 in the dataset), on day 3 of admission, and at any other time, and it ascertains the cognitive status of those patients based on 4AT scores (MacLulich, 2011). A 4AT score of 0 indicates that delirium is unlikely, a 4AT score of 1–3 indicates that possible delirium is present and a 4AT score of 4 or higher indicates a positive screen for delirium (see www.the4AT.com for further details). Identification of patients with delirium by means of a screening test within the acute setting is essential and should be performed and incorporated into local hip fracture protocols/pathways in order to identify high-risk patients.

Delirium assessment and 4AT recording in the IHFD has shown wide hospital-level variation for a number of years. For this reason, this report will provide a detailed comparison of the 4AT assessments in order to identify areas for improvement.

Table 4.1 depicts the demographics of patients with a hip fracture who were assessed with the 4AT during their hospital admission in 2024, those who were not assessed with the 4AT at any time point and those for whom it was not possible to complete the 4AT. Approximately 75% of patients were assessed with the 4AT at some point during admission.



TABLE 4.1: CASE-MIX OF PATIENTS WITH AND WITHOUT A 4AT ASSESSMENT RECORDED DURING ADMISSION IN 2024 (N=4294)

	4AT assessment recorded during hospital admission (n=3229; 75%)	4AT assessment not recorded during hospital admission (n=938; 22%)	Unable to conduct a 4AT assessment during hospital admission (n=127; 3%)
SEX			
Male	33%	36%	24%
Female	67%	64%	76%
Median age (IQR)	82 years (75–87 years)	80 years (72–86 years)	85 years (79–90 years)
SOURCE OF ADMISSION			
Home	85%	82%	59%
Nursing home	10%	13%	39%
Hospital transfer	4%	4%	2%
Other	0%	1%	1%
ASA GRADE			
Grade 1/2	34%	27%	12%
Grade 3	50%	50%	63%
Grade 4/5	7%	9%	16%
Not recorded	9%	13%	9%
PRE-FRACTURE MOBILITY			
High functional mobility	47%	39%	9%
Low functional mobility	47%	48%	71%
Not recorded	6%	13%	20%

Figure 4.6 demonstrates 4AT screening completion of 54% on day 1 of admission, representing an improvement of 5 percentage points between 2023 and 2024. Figure 4.7 shows 4AT screening completion of 42% on day 3 of admission, which represents an improvement of 7 percentage points between 2023 and 2024. [Figure 4.8](#) demonstrates 4AT screening completion of 45% at any other time during admission, representing an improvement of 6 percentage points between 2023 and 2024. There remains large hospital-level variation in 4AT screening completion, ranging from 97% to 3% on day 1 of admission, from 89% to 2% on day 3 of admission, and from 86% to 11% at any other time during admission. Figure 4.9 shows that 12% of patients who were assessed with the 4AT screened positive for delirium on day 1 of admission, 19% screened positive for delirium on day 3 and 21% screened positive for delirium at any other time during admission. Ongoing work will continue to improve the quality of data collected on 4AT assessment across all time points (i.e. day 1 of admission, day 3 of admission and at any other time during admission).

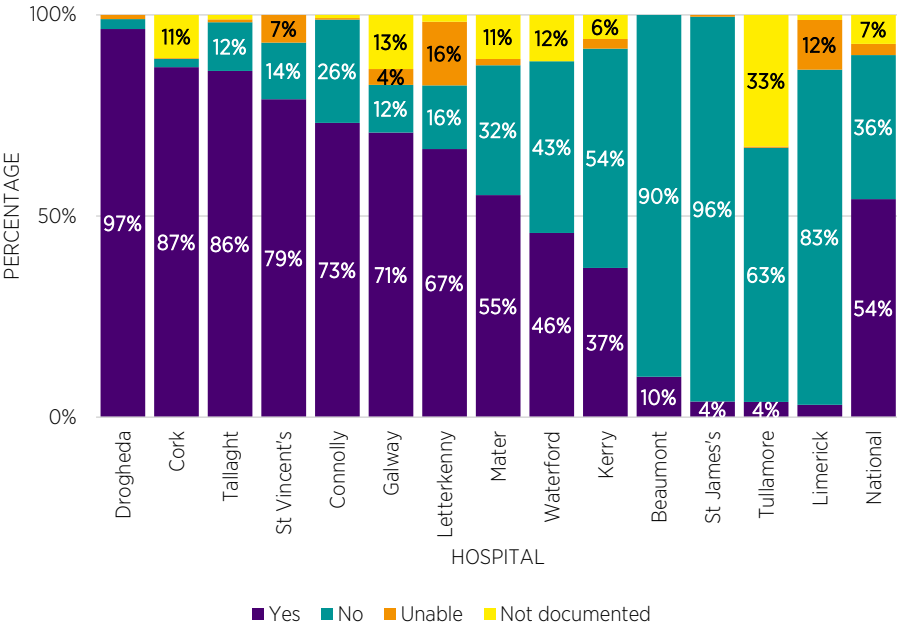


FIGURE 4.6: PERCENTAGE OF PATIENTS RECORDED AS HAVING A 4AT DELIRIUM ASSESSMENT ON DAY 1 OF ADMISSION, BY INDIVIDUAL HOSPITAL, 2024 (N=4294)¹⁹

¹⁹ Sligo University Hospital and Mayo University Hospital are not shown in the hospital-level results, as their data coverage was less than 80% for 2024.

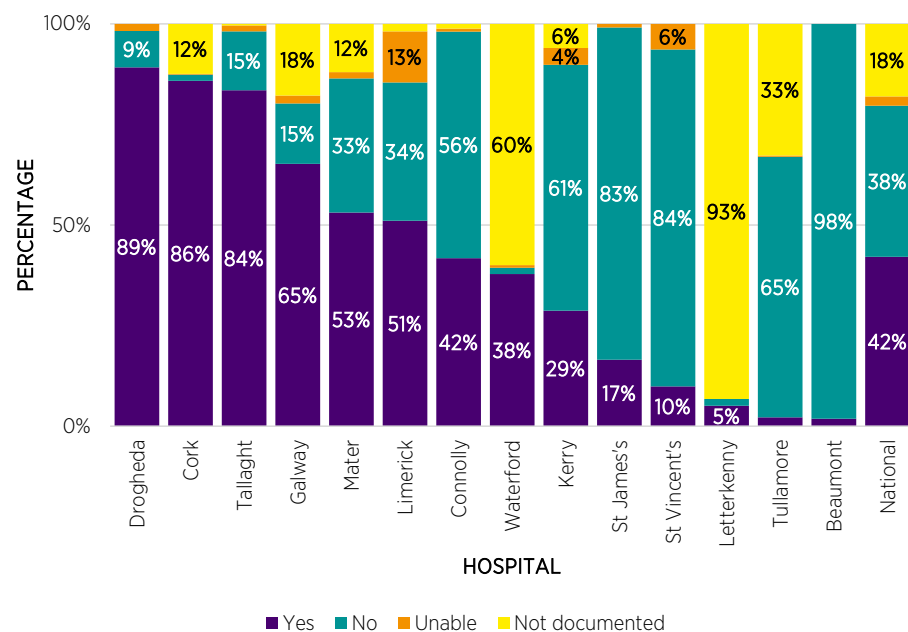


FIGURE 4.7: PERCENTAGE OF PATIENTS RECORDED AS HAVING A 4AT DELIRIUM ASSESSMENT ON DAY 3 OF ADMISSION, BY INDIVIDUAL HOSPITAL, 2024 (N=4294)²⁰

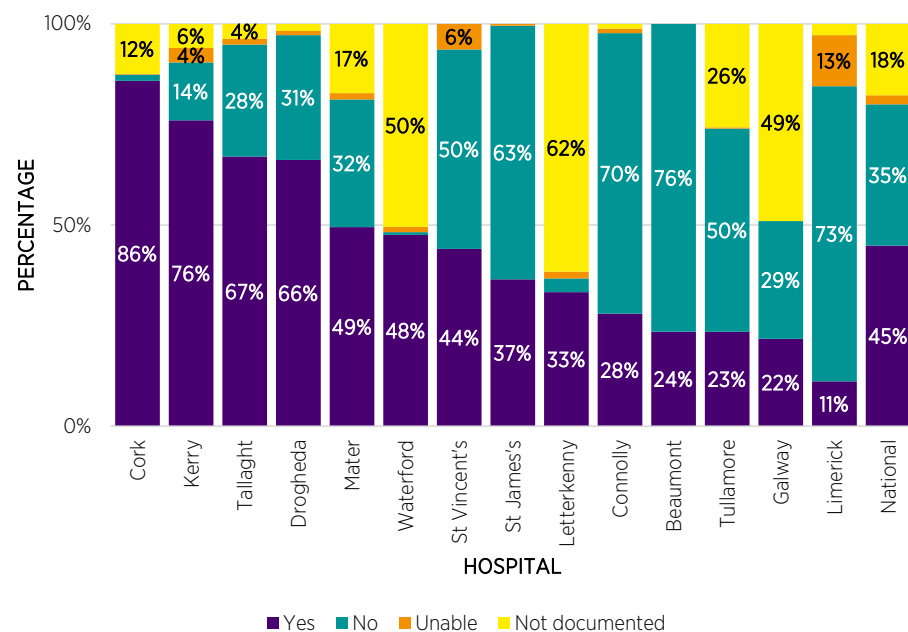


FIGURE 4.8: PERCENTAGE OF PATIENTS RECORDED AS HAVING A 4AT DELIRIUM ASSESSMENT AT ANY OTHER TIME POINT DURING ADMISSION, BY INDIVIDUAL HOSPITAL, 2024 (N=4294)²¹

²⁰ Sligo University Hospital and Mayo University Hospital are not shown in the hospital-level results, as their data coverage was less than 80% for 2024.

²¹ Sligo University Hospital and Mayo University Hospital are not shown in the hospital-level results, as their data coverage was less than 80% for 2024.

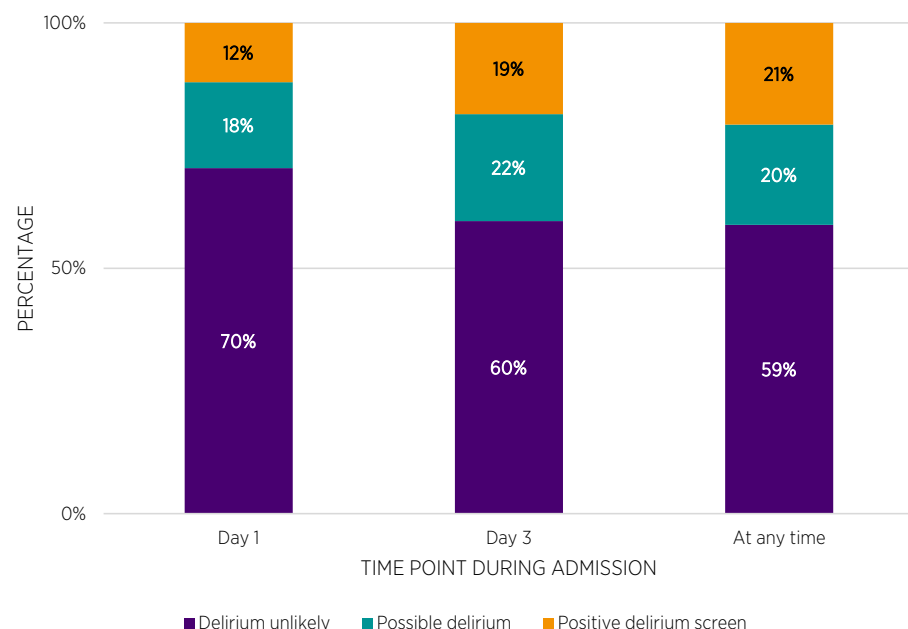


FIGURE 4.9: PERCENTAGE OF PATIENTS GROUPED BY 4AT SCORE ON DAY 1 OF ADMISSION (n=2336), DAY 3 OF ADMISSION (n=1823) AND AT ANY OTHER TIME DURING ADMISSION (n=1930), 2024

A workshop on barriers to and solutions for delirium care was held in March 2025 as part of the IHFD Network collaboration event. The identified barriers to effective delirium care included issues with baseline or collateral information, such as inaccuracies, assumptions and unreliable diagnoses. The care of medically unstable patients can be complicated by unreliable patient histories. There is often a lack of clarity regarding responsibility for delirium care, with team roles not being well defined. Communication and handovers can be inconsistent and fluctuate in quality. Knowledge gaps in delirium care can hinder optimal care. The cognitive testing component of delirium screening may be met with resistance or stigma from patients. Additionally, transitions between wards or institutions can be poorly coordinated, and frequent bed moves lead to confusion and misunderstandings during care transfers.

Suggestions for effective delirium care included the identification of key time points for screening and intervention, including during the Comprehensive Geriatric Assessment, during intentional rounds, and at patient entry and handover in the ED. Central solutions included developing clear care pathways (such as pre-operative protocols for patients with hip fracture) and establishing 'dementia champions' who provide education, training and advocacy. Patient 'passports', completed at admission with family input, alongside active liaison and communication with families, can support personalised care. Weekly MDT meetings before care transitions, regular case discussions and designated key workers ensure continuity of care, while 'delirium awareness champions' can foster ongoing knowledge sharing. Optimising the hospital environment by encouraging patients to move from bed to chair can reduce delirium risk. A 'bedside to boardroom' approach promotes hospital-wide management and a multidisciplinary culture to minimise care transitions, supported by safety boards and intentional rounds to maintain best practices. Facilitators discussed also included family involvement, creating a positive environment, and focusing on de-medicalisation in order to prioritise well-being and the four 'M's (what matters, medication, mentation and mobility). Continuous staff education to enhance skills and knowledge is also important. Workshop attendees considered these factors to contribute to a comprehensive and effective approach to delirium prevention and management.

TYPE OF SURGERY

In 2024, 39% of patients (n=1607) underwent cemented hemiarthroplasty and 20% (n=811) underwent an internal fixation by intramedullary (IM) nail (short) (Figure 4.10). These rates and those of all procedures have remained consistent since 2022. There is an expected variation in fixation methods across individual hospitals, which has remained similar over this time frame. This includes the number of total hip replacements (THRs) completed. Figure 4.11 shows the percentage of arthroplasties that are cemented at each hospital.

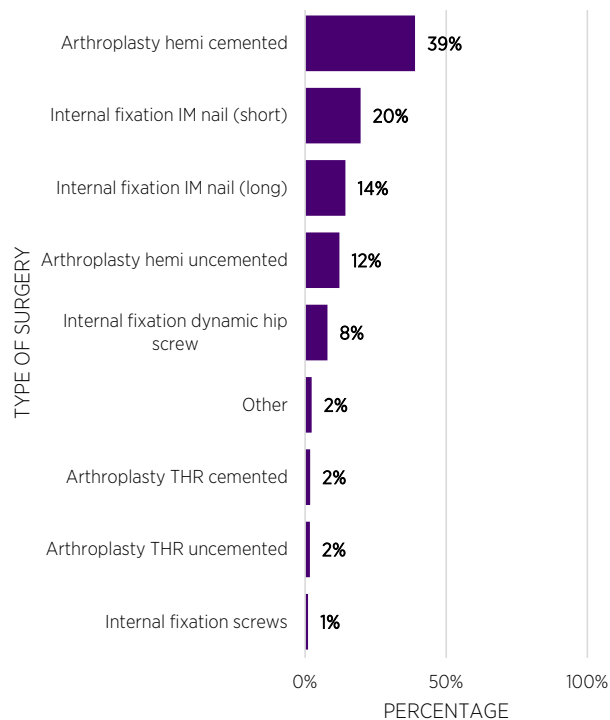


FIGURE 4.10: TYPE OF SURGERY, 2024 (n=4124)²²

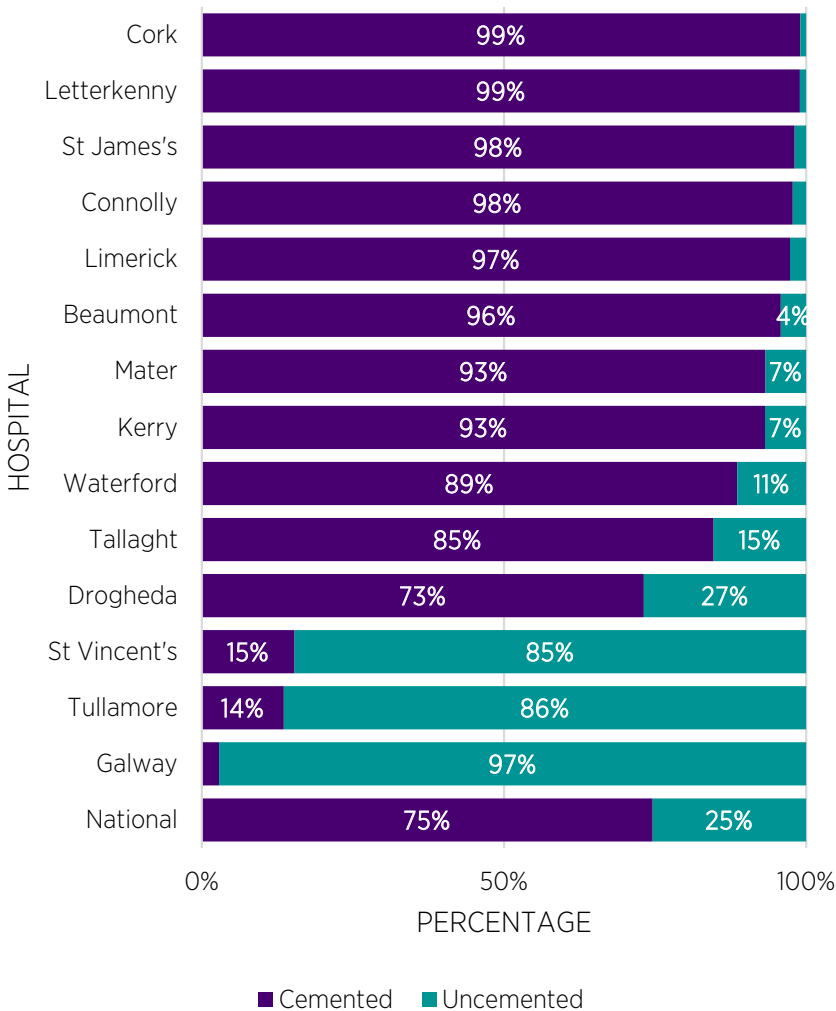


FIGURE 4.11: PERCENTAGE OF PATIENTS WITH A HIP FRACTURE WITH CEMENTED AND UNCEMENTED ARTHROPLASTIES, BY INDIVIDUAL HOSPITAL, 2024 (n=2255)²³

²² Patients who did not have surgery have been excluded.

²³ Sligo University Hospital and Mayo University Hospital are not shown in the hospital-level results, as their data coverage was less than 80% for 2024.

In April 2025, the clinical leads and audit coordinators completed an implant survey in all 16 IHFD participating hospitals. The results of this survey will support how we progress the next steps and updates to the dataset in the future. There remains debate with regard to the optimum choice of implant type around hemiarthroplasties. In line with the survey and current evidence, we will evolve the data fields for recording implants used in 2026. This will allow us to be more specific in our analysis of implants, allowing for the recording of biomechanical properties as well as cementing, in line with current practice. This will allow for the exploration of associations with patient outcomes as data quality improves. We would like to thank all the 16 hospitals for completing the implant survey.

OCCUPATIONAL THERAPY

In 2023, the IHFD Governance Committee agreed to add a new variable to the dataset in order to capture whether a patient receives an assessment by an occupational therapist.



Occupational therapists play a vital role in hip fracture rehabilitation by enabling patients to regain independence in their daily activities, supporting safe discharge planning and addressing environmental and functional barriers through tailored interventions within a multidisciplinary framework (Dyer *et al.*, 2021).

In 2024, 68% of patients with a hip fracture had an occupational therapy assessment as an inpatient. Figure 4.12 shows wide variation between hospitals in the percentage of patients with a hip fracture who received occupational therapy assessments, ranging from 33% to 97%. Additional information on occupational therapy services available can be found in the [Irish Hip Fracture Database 2024 Organisational Survey](#).

Occupational therapists working with people after a hip fracture in Ireland have been invited to join the IHFD physiotherapy network. The IHFD is also actively seeking occupational therapy representation for the IHFD Governance Committee via the National Health and Social Care Professions Office in the HSE.

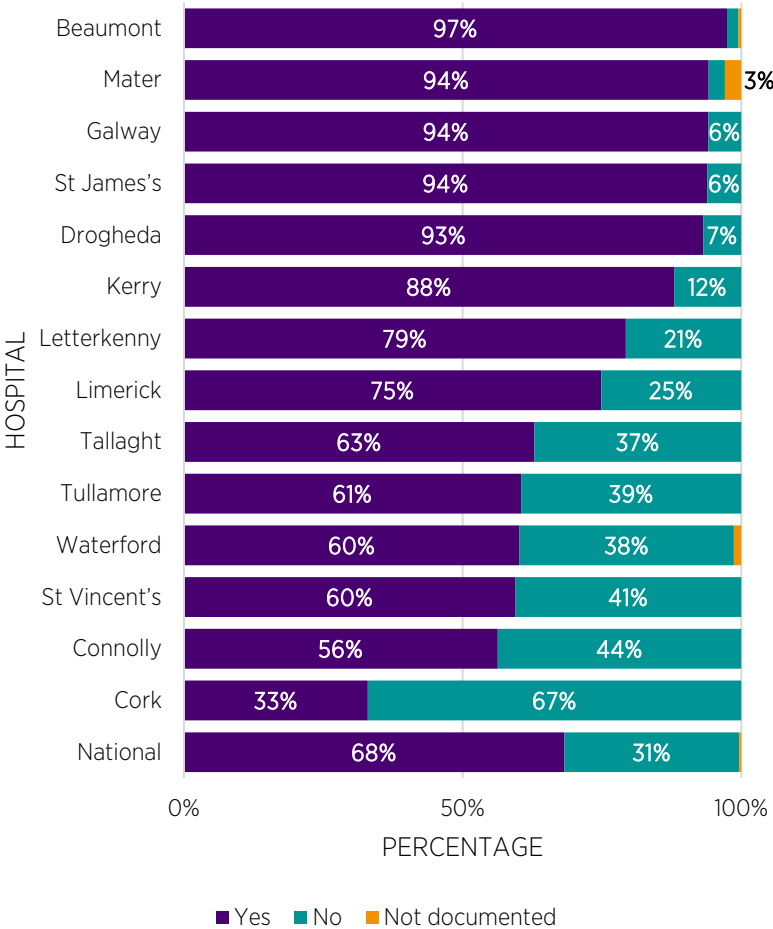


FIGURE 4.12: PERCENTAGE OF PATIENTS WITH A HIP FRACTURE WHO RECEIVED OCCUPATIONAL THERAPY ASSESSMENT, BY HOSPITAL, 2024 (n=3996)²⁴

²⁴ Sligo University Hospital and Mayo University Hospital are not shown in the hospital-level results, as their data coverage was less than 80% for 2024.

KEY FINDINGS FROM CHAPTER 4

- In 2024, the overall time from patients presenting at hospital to surgery has improved slightly from 2023.
- Eighty-four percent of patients received a nerve block pre-operatively in 2024, a 2-percentage-point increase from 2023.
- Seventy-one percent of patients with a hip fracture received a nutritional risk assessment during their admission in 2024, which is unchanged from 2023. Wide variation across hospitals still persists.
- Fifty-four percent of patients received 4AT screening on their first day of admission in 2024. 4AT screening at all recorded time points has improved by 5–7 percentage points since 2023.



CHAPTER 5 **OUTCOMES**

CHAPTER 5: OUTCOMES



Forty-one percent of patients with a hip fracture (n=1747) had a Cumulated Ambulation Score (CAS) recorded (after surgery and at discharge).



Twenty-three percent (n=397) of patients with a hip fracture who had a CAS recorded achieved independent mobility on the day of discharge.



The mean and median length of stay for patients with a hip fracture were 19 days (standard deviation: 22) and 12 days (IQR: 8–21 days), respectively.



Sixty-two patients (2%) underwent reoperation within 30 days.²⁵



Twenty-two percent of patients with a hip fracture (n=964) were discharged directly home.



At least 36% of patients with a hip fracture were transferred to a rehabilitation unit, of which 5% were to a unit on the same site as the acute hospital.



Thirteen percent of patients with a hip fracture were discharged to a location defined as 'other'. This category included early supported discharge and other hospitals not meeting a rehabilitation definition.



Four percent of patients with a hip fracture (n=182) died as inpatients.



Less than 1% of patients had a surgical site infection (SSI).



63% of hospitals reported longer-term outcomes from 2022 to 2024 with varying coverage and levels of completeness.



One hospital reported 1-year mortality: 6% at 30 days, 14% at 120 days and 22% at 1 year.

²⁵ Excluding patients who did not have surgery.



Antimicrobial Resistance
and Infection Control Team



NOCA National Office of
Clinical Audit

Irish Hip Fracture
Database **IHFD** 

SURGICAL SITE INFECTION SURVEILLANCE COLLABORATION WITH ANTIMICROBIAL RESISTANCE AND INFECTION CONTROL (AMRIC), HSE

A Surgical site infection surveillance (SSIS) data collection process for infections post hip fracture surgery was established as a pilot in four hospital sites in 2022 ([Further information can be found here on page 61](#)). This is the first national SSI data collection process in Ireland as outlined by the [Framework for HSE National Programme for Surgical Site Infection Surveillance - Pilot through the Irish Hip Fracture Database \(IHFD\)](#). This framework was collaboratively developed by HSE Antimicrobial Resistance and Infection Control (HSE AMRIC), NOCA and the IHFD. 2024 was the second complete year of SSI data collection within the IHFD. Data collection, with the agreed SSI variables, was commenced in the 16 participating hospitals in January 2023. Data collection definitions are reviewed and updated as appropriate on a yearly basis with additional variables added as required. ([Appendix 4: IHFD dataset – hip fracture admission](#)).

Key objectives achieved in 2024:

- continued support of systematic collection of data on the occurrence of SSI during inpatient stay for patients who underwent surgery for a hip fracture in acute hospitals
- ongoing training for IHFD audit coordinators on SSI data definitions
- communicate with IHFD clinical leads through reporting and attending conferences
- development of supplementary completeness reports, which include all the new SSI variables at hospital and national level
- provision of hospital-level data to support targeted local quality improvement initiatives
- addition to the dataset of the variable ‘time of knife to skin’ in order to measure accurate duration of surgery, which is calculated using time to knife to skin and surgery end time
- publication of the guidance document [Prevention of Surgical Site Infections \(2024\)](#).

PLANNED OBJECTIVES FOR 2025–2026 INCLUDE THE FOLLOWING:

- Activate the 2025 IHFD portal in order to allow SSI data to be collected up to 90 days after patient discharge.
- Incorporate the [CDC National Healthcare Safety Network \(NHSN\) Risk Index \(page 28 of linked document\)](#) as part of a risk-adjusted analysis. This consists of incorporating the following variables into the risk calculation:
 - duration of surgery • wound contamination • ASA score.
- Continue to educate the IHFD audit coordinators about SSI data definitions and inform the IHFD clinical leads about the data collection process.
- Develop SSI dashboards and key indicators in collaboration with HSE AMRIC and in line with national guidance. These will be available alongside the IHFD dashboards end of Q4 2025.
- Add the crude rate of SSI calculation to the IHFD reports.

INTRODUCTION INTO SURGICAL SITE INFECTION SURVEILLANCE

Data coverage in the IHFD has enabled, for the first time in Ireland, robust collection and surveillance of SSI data in patients post hip fracture surgery. At present, the scope of the audit is the routine collection of the required variables ([Appendix 4: IHFD dataset – hip fracture admission](#)) during the acute episode of inpatient care.

In 2024, 4,294 hip fractures were entered into the IHFD database portal, of which 96% (n=4124) required surgical intervention. Fifteen out of the 16 participating hospitals routinely enter data during the acute episode of care. In line with the European Centre for Disease Prevention and Control (ECDC, 2025) definition, superficial SSIs should be recorded up to 30 days after patient discharge, while deep and organ/space infections should be recorded up to 90 days after patient discharge if an implant is in situ, as is the case with patients with a hip fracture. Routine 90-day surveillance remains a key goal of the audit, with four sites already progressing towards a structured approach to this data collection. This reflects the strong commitment of participating hospitals to quality improvement and patient safety.

Expanding the scope of data collection will bring Ireland into alignment with European standards, allowing for meaningful international benchmarking and the future submission of national SSI data so Ireland can align with other European countries. Importantly, this will strengthen our ability to identify trends, drive targeted infection prevention initiatives and ultimately improve surgical outcomes for patients.

The following section reviews documented SSIs and key SSI related perioperative variables. For the purpose of this analysis, Cork University Hospital has been excluded, as it submitted no additional data for SSI in 2024. Therefore, the analysis below is based on the data submitted from 15 out of the 16 participating hospitals (n=3602 cases).

SURGICAL SITE INFECTIONS

In 2024, 30 cases were documented ‘yes’ to having a surgical site infection diagnosis documented. In 3 out of these cases, an SSI was diagnosed but further information was not provided, therefore there were a total of 27 cases that were classified by a clinician as either a superficial, deep or organ/space infection and included in the analysis in this report below. The majority of SSIs were reported as superficial (59%; n=16), with nine (33%) classified as deep and two (7%) as organ/space infections. Of the 27 SSIs diagnosed as either superficial, deep or organ/space, 24 cases had specimens sent to the microbiology laboratory for culture, three specimen results were not available at the time of data entry. Therefore, the results are available for 21 cases which are displayed in Table 5.1. The most common pathogens identified are listed in Table 5.1. Enterobacterales was the most common, followed by mixed growth. Patients who developed an SSI had a longer average length of stay, at 37 days, compared with an average of 20 days for those without an SSI. As data collection is still in the early stages, the available data do not yet allow for the reliable identification of clear risk factors associated with SSI development. The hope is that this will be possible with more comprehensive data in the future.

TABLE 5.1: SAMPLE RESULTS COLLECTED

MICROORGANISM
Gram-positive cocci
Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA)
Methicillin-susceptible <i>Staphylococcus aureus</i> (MSSA)
<i>Staphylococcus epidermidis</i>
<i>Enterococcus</i> (not speciated)
Skin flora (not speciated)
Gram-negative bacilli
<i>Enterobacter cloacae</i>
<i>Escherichia coli</i>
Enterobacterales (not speciated)
Mixed growth
No organism identified (culture negative)

INTRODUCTION TO PERIOPERATIVE VARIABLES

The following sections examine nationally collected data on key perioperative variables that are known to influence a patient's risk of developing an SSI.

WOUND CONTAMINATION

The type of surgical procedure influences the risk of infection and can be categorised as 'clean', 'clean-contaminated', 'contaminated' or 'dirty'. Hip fracture surgery is usually classified as a 'clean' procedure. In 2024, 95% (n=3410) of hip fracture surgery procedures were reported as 'clean', while 4% (n=155) were recorded as 'unknown'.



SKIN PREPARATION

Skin preparation is the process of cleansing the operative site prior to incision, with the aim of minimising the risk of contamination by removing microorganisms that normally colonise the skin. AMRIC national guidance on [Prevention of Surgical Site Infections](#) (2024) recommends the use of alcohol-containing pre-operative skin preparatory agents in combination with an antiseptic such as chlorhexidine gluconate (CHG) or povidone-iodine.

In 2024, the most commonly used skin preparation was CHG solution with alcohol (48%; n=1993), followed by iodine (28%; n=1146). A variable has been added to the 2025 dataset to extrapolate the use of iodine with and without alcohol.



SURGICAL ANTIBIOTIC PROPHYLAXIS

The administration of surgical antibiotic prophylaxis (SAP) is essential in inhibiting microorganism growth at the operative site, thereby reducing the risk of SSI development. AMRIC provides further guidance in [Prevention of Surgical Site Infections](#).

In 2024, 98% (n=3521) of patients received SAP. The most commonly prescribed prophylactic antibiotic in 2024 was cefuroxime, followed by co-amoxiclav and teicoplanin.

Of note, 13% of patients (n=480) in 2024 were currently receiving antibiotics for another reason, such as respiratory tract or urinary tract infection, at the time of surgery.



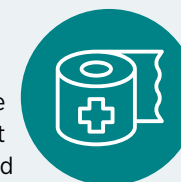
WOUND CLOSURE

In 2024, the most common method of wound closure was staples (66%; n=2386), followed by sutures (27%; n=965).



WOUND DRESSING

The prevention of surgical site infections (2024) recommends that a sterile wound dressing be applied at the end of surgery. In 2024, 100% of hip fracture surgeries had a dressing applied, with the Jubilee method – using Aquacel and DuoDERM – being the most commonly used approach.



DURATION OF SURGERY

In 2024, an additional data point – time of knife to skin, defined as the start time of the surgical procedure – was added to the dataset in order to more accurately capture the duration of surgery. This calculation will be derived from the time of knife to skin and surgery end time.

In 2024, there was 93% (n=3344) completion of the surgery end time variable, with 54% of surgeries (n=2367) lasting longer than 2 hours. A data quality validation (in document link to data quality statement) has been added to this question to review any cases submitted where the surgery lasts longer than 2 hours.



LIMITATIONS OF DATA COLLECTION

Data Collection for SSI continues to be built which is supported by the development of guidance documents such as Framework for HSE National Programme for Surgical Site Infection Surveillance - Pilot through the Irish Hip Fracture Database (IHFD) and the Prevention of Surgical Site Infections available [here](#) along with increasing awareness of the importance of capturing SSI data. While the number of reported SSIs remains relatively small, there has been an increase from 2023 to 2024. It is likely, however, that some SSIs are still not being identified, and as surveillance improves, it is anticipated that reported numbers may continue to rise.

It is also recognised that there are different variations of SSI data collection methodology, as described in the [Irish Hip Fracture Database 2024 Organisational Survey](#).

SUMMARY

In summary, to date an SSI data collection process for infection post hip fracture surgery in Ireland has been established and expanded. We continue to support and expand the data collection process by adding new variables and data presentation through establishing a dashboard and sharing key metrics to hospital sites to inform quality improvement efforts.

This joint collaboration looks forward to building on the progress made over the past 2 years, which will support more robust national data year-on-year comparisons.

LONGER-TERM OUTCOME DATA



BACKGROUND

Longer-term outcomes (including survival, function and quality of life) enable us to better understand how patients with a hip fracture recover and how this relates to the care they receive. Since 2022, the IHFD has included additional fields to record seven outcomes across three time points: survival, residential status, reoperation, hip-related readmission, bone protection status, New Mobility Score (NMS), and quality of life as per the [EuroQol 5-Dimension 5-level \(EQ-5D-5L\) questionnaire](#), at 30 days, 120 days and 1 year after presentation. Full details of variables are available in [Appendix 5: IHFD dataset – hip fracture follow-up](#). The *Irish Hip Fracture Database National Report 2023* was the first IHFD report in which a full year of longer-term outcome data was presented, as well as a description of how hospitals were supported around implementation. This 2024 report will focus on coverage and completeness of data entered into the IHFD portal over the years 2022–2024.



OBJECTIVES

The objectives of this section of the report are:

- to report coverage of outcome recording across hospitals
- to report completeness of data collection at specific time points and of specific outcome measures
- to report on outcome results where there is sufficient coverage.



METHODS

Individual hospital sites recorded outcomes for their patients as part of routine follow-up procedures and were responsible for their own data collation and inputting, as for all IHFD data fields. The [Irish Hip Fracture Database 2024 Organisational Survey](#) reported that whether data are collected by physiotherapists, nurses, geriatricians or MDTs varies by hospital. The percentage of IHFD cases with any follow-up data was calculated for each hospital, year, time point and outcome. For hospitals where there was over 60% coverage in a year, further analysis was conducted.

Patients considered eligible for follow-up in this analysis:

- were discharged between 1 January 2022 and 31 December 2024, inclusive
- met IHFD inclusion criteria as detailed in Chapter 1 of this report.



RESULTS

Figure 5.1 shows the proportion of IHFD cases with at least one follow-up field recorded at each hospital. Six hospitals have not recorded these data. Most of the 10 hospitals recorded data on all 7 outcomes, although University Hospital Limerick recorded only the ‘pain’ component of the EQ-5D-5L, while University Hospital Waterford only recorded survival and date of death retrospectively. Table 5.2 shows the time points and outcomes collected at each hospital.

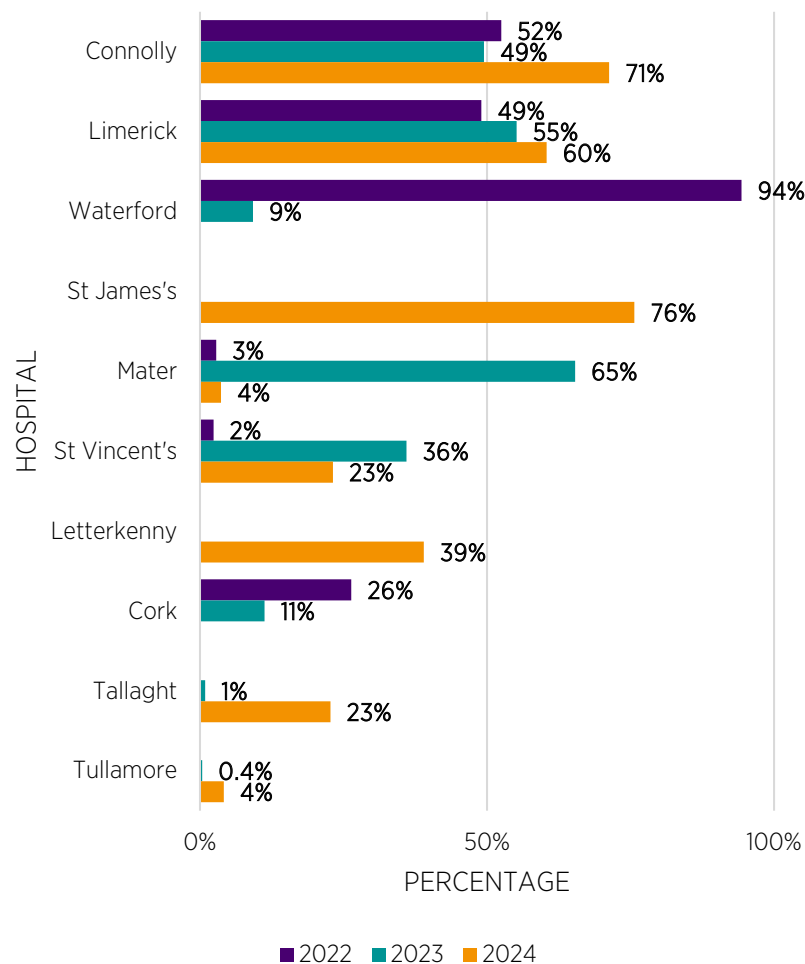


FIGURE 5.1: COVERAGE OF LONG-TERM OUTCOME FIELDS AT 10 IRISH HIP FRACTURE DATABASE SITES, 2022-2024

TABLE 5.2: MEASURES COLLECTED AND TIME POINTS AT EACH HOSPITAL

Hospital	Number of time points (of 3)	Time point(s)	Number of measures (of 7)
Connolly Hospital	2	30 days/120 days	7
Cork University Hospital	2	30 days/120 days	7
Letterkenny University Hospital	1	120 days	7
University Hospital Limerick	1	30 days	6
Mater Misericordiae University Hospital	1	30 days	7
St James's Hospital	1	30 days	7
St Vincent's University Hospital	2	30 days/1 year	7
Tallaght University Hospital	2	30 days/1 year	7
Midland Regional Hospital Tullamore	1	120 days	7
University Hospital Waterford	1	1 year	1

RESULTS OF HOSPITALS WITH HIGH COVERAGE (GREATER THAN 60%) FOR LONGER-TERM OUTCOMES

For the year 2022, University Hospital Waterford had survival/mortality fields completed for 94% of patients with hip fracture, including a date of death where applicable. This was entered retrospectively over 1 year after admission. From these data, the following outcomes could be calculated: 30-day mortality: 5.7% (24/423); 120-day mortality: 13.7% (58/423); and 1-year mortality: 21.5% (90/423).

In 2023, only the Mater Misericordiae University Hospital had greater than 60% coverage of follow-up data. These data were reported in the *Irish Hip Fracture Database National Report 2023*, so will not be presented here.

In 2024, a total of 814 hip fracture cases were from 3 hospitals (St James's Hospital, Connolly Hospital and University Hospital Limerick) with greater than 60% coverage of follow-up measures. The case mix of patients both with (n=555) and without (n=259) any follow-up data from these hospitals was similar to the baseline IHFD case mix, as reported in Chapter 3, although those without follow-up data were more likely to have no NMS recorded at baseline.

This report will present aggregated results of 30-day follow-up fields from 3 hospitals for 515 patients in 2024. The median number of days from hospital admission to 30-day follow-up was 43 days (IQR: 30-49 days). Measures of residence, mobility, hip-related readmission, reoperation and bone protection were 61-63% complete overall for these three hospitals.

TABLE 5.3: OUTCOME RESULTS AT 30 DAYS AFTER PRESENTATION FROM THREE HOSPITALS (n=515)²⁶

	n	%
RESIDENCE/SURVIVAL²⁷		
Died	30	6%
Home	239	46%
On-site rehabilitation	45	9%
Off-site rehabilitation	55	11%
Convalescence	27	5%
New Nursing Home admission	<5	<1%
Return Nursing Home admission	63	12%
Other	42	8%
MOBILITY		
Low mobility level	441	86%
High mobility level	26	5%
HIP-RELATED READMISSION		
Yes	7	1%
No	472	92%
REOPERATION		
Yes	6	1%
No	476	92%
BONE PROTECTION		
Yes	271	53%
No	197	47%

The EQ-5D-5L fields were completed with sufficient coverage (62–63%) at 2 hospitals that had 491 cases in total. Figure 5.2 shows the percentage of people with a hip fracture who reported various problems, and the severity of their experience as per EQ-5D-5L domains and ratings. The majority of patients reported moderate difficulty with mobility and usual activities, and likewise the majority reported slight problems with pain, self-care and mood.

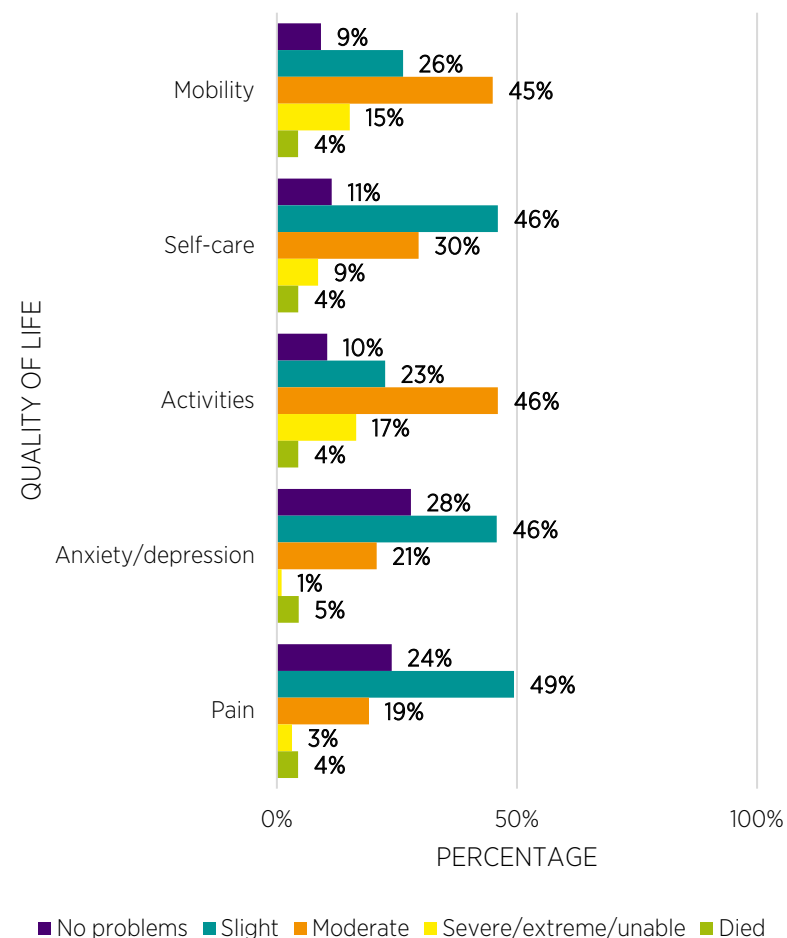


FIGURE 5.2: EUROQOL 5-DIMENSION 5-LEVEL OUTCOME RESULTS AT 30 DAYS AFTER PRESENTATION FROM TWO HOSPITALS, INCLUDING PERCENTAGE OF SEVERITY REPORTED FOR EACH PROBLEM (N=326, INCLUDING REPORTED DEATHS)

²⁶ The denominator for all measures is n=515, so the percentages for each outcome do not sum to 100%; the remainder is accounted for by deaths and missing values.

²⁷ From Hospital In-Patient Enquiry (HIPE) data, it is known that an additional 41 cases were still inpatients in acute hospital and an additional 21 cases died as inpatients within 30 days of presentation. These cases are not included in the total of 515.

DISCUSSION AT IHFD NETWORK COLLABORATION EVENT IN MARCH 2025

The IHFD network collaboration event facilitated the sharing of hospital-level practices around integrating longer-term outcome recording into routine care. While there was broad consensus on the value of capturing this information, sites highlighted persistent barriers including time constraints, lack of standardised guidance, fragmented follow-up pathways, and limited access to HIPE data. Challenges around staffing, continuity, and role clarity were also noted, particularly in relation to data collection and succession planning. Despite these obstacles, representatives from several hospitals shared promising practices, such as embedding outcome measures into documentation, visualising data at governance committee meetings and collaboration between acute and rehabilitation hospitals. Looking ahead, participants proposed greater visibility of long-term outcomes at national level, and recognition of the important role of rehabilitation hospitals within the hip fracture care pathway.

CONCLUSIONS

There has been increasing participation and coverage in data collection across follow-up fields and hospitals from 2022 to 2024.

NOCA, in collaboration with the IHFD Governance Committee, will continue to review the accumulated data in order to refine follow-up fields, recommend optimal time points and provide standardised guidance for national use.

Hospitals should continue to collect follow-up data in a manner that is feasible for their service. We recommend that functional outcomes should be recorded at a single medium-term time point (30–120 days), and 1-year mortality can be captured retrospectively. Recording the date of follow-up is important in order to inform future guidance and standardisation of the recommended time point for data collection.



CHAPTER 6

QUALITY IMPROVEMENT

CHAPTER 6: QUALITY IMPROVEMENT

This chapter describes how we are enabling quality improvement (QI) through developing educational resources and facilitating collaboration within the IHFD networks. The IHFD hosted an in-person event on 25 March 2025 at the Royal College of Surgeons in Ireland (RCSI). This was funded by the Health Research Board (HRB) through the HipFORGE research project. More than 60 attendees participated in breakout sessions focused on reducing variation in patient nutritional screening, early mobility, and delirium management, as well as the recording of outcomes. These sessions brought together members of the IHFD physiotherapy, orthogeriatrics and dietetic networks to identify practical, scalable actions for local and national implementation of these goals. Findings from these sessions have been described in chapters 3, 4 and 5 of this report



The event also marked the official launch of the animated [patient video](#) (which was detailed in the section 'Understanding hip fracture from the patient's perspective') and a new [HSeLanD](#) module, 'Enhancing Individual Recovery after Hip Fracture'. This module was developed as a follow-on to the existing 'Care of Hip Fracture Patients in the Acute Hospital' module. It was designed to equip healthcare professionals with the knowledge and skills needed in order to optimise patient recovery in the weeks and months following a hip fracture. The module includes a 19-minute video and a short assessment, and it takes approximately 20–25 minutes to complete. Topics covered include early mobilisation, delirium recognition and prevention, discharge preparation, and post-discharge follow-up.

After completing the module, learners will be able to:

- describe the importance of monitoring patient outcomes after hip fracture
- improve patient outcomes by meeting Irish Hip Fracture Standards (IHFS)
- recognise and prevent delirium
- implement effective discharge preparation and follow-up.

This module was informed by findings from the HipFORGE research project (2021–2024), which identified variation in hip fracture care across Ireland and highlighted the need for practical tools to support change (Walsh, 2023a; Walsh, 2023b; Walsh, 2022). Parts of the module were delivered across eight hospitals, with content revised following feedback in order to ensure relevance for MDTs. The module was co-developed with input from Sage Advocacy, the IHFD Governance Committee and researchers from University College Dublin. Ben O'Grady, physiotherapist, deserves a special mention for compiling, designing and producing the final version.

The [HSeLanD](#) modules and patient video are available through the QR codes below.

CARE OF HIP
FRACTURE
PATIENTS IN
THE ACUTE
HOSPITAL



ENHANCING
INDIVIDUAL
RECOVERY
AFTER HIP
FRACTURE



SUPPORTING
YOUR HIP
FRACTURE
RECOVERY
JOURNEY



CHAPTER 7

AUDIT UPDATE



CHAPTER 8: AUDIT UPDATE

This chapter highlights the progress made on last year's recommendations, as well as key achievements in research, publications and presentations.

RESEARCH AND COLLABORATIONS

The HipCog Study: Evaluating the impact of cognitive impairment on outcomes for older adults with hip fracture

The HipCog Study is funded by the HRB and is being led by Dr Niamh Merriman (University College Dublin/Dublin City University). One of the project's aims is to identify the most appropriate cognitive and delirium screening tools for use with older adults who have suffered physical trauma, as well as the most appropriate time to screen patients. This involved a scoping review, a systematic review and qualitative study. Further details of these research studies are provided below.

A scoping review of delirium and cognitive assessment in national hip fracture registries was conducted and published in June 2025 ([Merriman et al., 2025a](#)). This review identified 22 eligible hip fracture registries, 14 (64%) of which collected delirium assessment data and 18 (82%) of which collected cognitive assessment data. There was heterogeneity in the recommended delirium and cognitive assessment tools (although 50% of hip fracture registries recommended the 4AT), cut-off scores, and tool completion and positive score rates. This review concluded that, while most identified hip fracture registries recommended delirium and/or cognitive assessment, there was considerable variation in methods of assessment and documentation. Greater standardisation in data items and their collection could improve international comparability and patient care.

A systematic review of the diagnostic accuracy of screening tools for neurocognitive disorders (i.e. delirium, cognitive impairment and dementia) following physical trauma in older adults was conducted and published in August 2025 ([Merriman et al., 2025b](#)). The review identified five eligible studies that assessed five different tools for detecting delirium in older adults following hip fracture. Delirium prevalence and the diagnostic accuracy of the identified tools varied widely across studies, and all had a high or unclear risk of bias in at least one domain. No studies were found that assessed the diagnostic accuracy of screening tools for cognitive impairment in older adults following physical trauma in acute care settings. Due to the need for a robust reference standard, some well-cited delirium studies and those focusing on the feasibility and applicability of such screening tools were excluded, meaning that widely used screening tools such as the 4AT were not included. This review highlights the gap in

methodologically rigorous diagnostic accuracy studies for detecting delirium or cognitive impairment in older adults following physical trauma in acute care settings. The findings from both reviews have been presented to the IHFD Governance Committee.

A qualitative study was then conducted in order to explore barriers to and facilitators of screening for delirium and cognitive impairment following hip fracture. A total of 24 healthcare professionals (in the fields of nursing, physiotherapy, occupational therapy, dietetics, geriatrics and orthopaedic surgery) who had experience providing care to older adults with hip fracture in Ireland participated in virtual interviews. The analysis is ongoing, and the results will be described under the five domains of the Consolidated Framework for Implementation Research: (1) innovation, (2) outer setting, (3) inner setting, (4) individuals and (5) implementation process. Findings from the qualitative study will be presented to the IHFD Governance Committee.

The HipCog Study also aims to explore what rehabilitation interventions work best for older adults with hip fracture and cognitive impairment, how they work best, and under what circumstances. This involves a survey of post-acute inpatient rehabilitation provision for older adults with a hip fracture, a realist review, and a survey and qualitative study of early supported discharge provision.

The survey of post-acute inpatient rehabilitation provision for older adults with a hip fracture and cognitive impairment is currently under way, and healthcare professionals from rehabilitation units/facilities have been invited to participate. The survey questions cover: (1) organisation information, (2) staffing and clinical governance, (3) referral processes, (4) overall assessment of rehabilitation needs, (5) assessment of cognitive impairment/dementia, (6) exclusion considerations/criteria, (7) rehabilitation interventions, (8) discharge and outcomes, (9) barriers and recommendations, and (10) survey completion information. It is recommended that one person from the management team or senior clinical staff at each facility act as lead respondent to coordinate and gather input from all healthcare professionals involved in hip fracture rehabilitation in their unit/facility. The results from this survey will help inform rehabilitation practices for older adults with a hip fracture and cognitive impairment. The realist review and early supported discharge study will begin in Quarter 4 2025.

The HipCog Study will continue to the end of 2027. Further project aims are to analyse the impact of cognitive disorders on indicators of care quality and to identify possible modifiable risk factors for mortality and long-term care admission in order to enable older adults to live independently for as long as possible. This will involve analysis of the national IHFD data in combination with other sources and will be conducted in the final year of the HipCog Study.

Update on PhD studies being conducted by Louise Brent

Louise Brent, Head of Audit Management at NOCA, previously Audit Manager of the IHFD is currently undertaking a PhD in the field of hip fracture audit. As part of this work, a scoping review was conducted in order to assist in understanding governance for a national hip fracture clinical audit. This was published in August 2025 (Brent *et al.*, 2025) and can be read [here](#). Factors for establishing the governance of a national hip fracture clinical audit were extracted and reported. Findings were shared with knowledge users from the Global Fragility Fracture Network (FFN) Hip Fracture Audit Special Interest Group and the IHFD Governance Committee in order to ascertain their completeness and validity. Thirteen articles were eligible for inclusion, representing 60% of the known established hip fracture national clinical audits. From these, 11 components for the governance of hip fracture national clinical audits were identified; however, the level of detail varied across the included articles. At least one of these components appeared in 83% of the included articles, suggesting substantial consistency across hip fracture national clinical audits. Notably, 5 articles provided descriptions of all 11 components. Overall, there was congruency in the approach taken to establish the governance of hip fracture national clinical audits and therefore the components identified could be used to support existing and emerging hip fracture national clinical audits in their development and sustainability. This review will inform future studies of the PhD which will involve analysis of IHFD data.

The IHFD Frailty Index

The IHFD research subcommittee continued a collaboration this year with frailty expert Professor Roman Romero-Ortuno, Head of the Discipline of Medical Gerontology in the School of Medicine, Trinity College Dublin. An analysis was conducted using data from two hospitals in the IHFD where completeness of the prospectively collected Clinical Frailty Scale was sufficient to compare it to the retrospectively derived Irish Hip Fracture Database Frailty Index (IHFD FI). The full article can be read [here](#) (Ferris *et al.*, 2025). The original derivation of the IHFD FI has been previously reported (Walsh *et al.*, 2023c).

PRESENTATIONS

The IHFD was represented through talks and poster presentations at several events throughout 2025, including:

- Public Health Webinar series: 25 February 2025
- Galway Orthopaedic Nursing Conference: 27 March 2025
- All-Ireland Conference on Integrated Care, University College Dublin: 26 March 2025
- British Geriatrics Society, Belfast: April 2025
- Surgical Infection Society Europe, RCSI: 14-16 May 2025
- Irish Orthopaedic Association Annual Meeting: 20-21 June 2025
- HSE Integrated Healthcare Conference: 4 September 2025
- Fragility Fracture Network Global Congress, Porto: 1-4 October 2025
- Cappagh National Orthopaedic Nurses Conference: 18 October 2025.

PUBLICATIONS

Recent publications from the IHFD include:

- Ferris, H.A., Walsh, M.E., Merriman, N.A., Brent, L., Hickey, P., O'Regan, N., Coughlan, T. and Romero-Ortuno, R. (2025) Identifying frailty in acutely hospitalised patients with hip fracture: are the clinical frailty scale and Irish Hip Fracture Database frailty index comparable for predicting adverse outcomes? *European Geriatric Medicine*. Available from: <https://doi.org/10.1007/s41999-025-01268-y>
- Salaja, B.T., Staunton, P., Hickey, P., Ryan, J., Madden, S.F. and Condon, F. (2025) Unveiling Factors Influencing Mortality in Irish Hip Fracture Patients: A Comprehensive Five-Year Analysis. *The Journal of Arthroplasty*, 40(4), pp. 923-928. Available from: <https://doi.org/10.1016/j.arth.2024.10.012>.
- Merriman, N.A., Penfold, R.S., Walsh, M.E., Sexton, E., Brent, L., Hickey, P., Coughlan, T., Ojeda-Thies, C., Johansen, A., Hall, A.J., MacLulich, A.M., O'Regan, N. and Blake, C. (2025) Delirium and cognitive assessment in national hip fracture registries: a scoping review. *European Geriatric Medicine*. 2025 Oct;16(5):1679-1701.
- Merriman, N.A., Penfold, R.S., Walsh, M.E., Sexton, E., Brent, L., Hickey, P., Coughlan, T., Ojeda-Thies, C., Johansen, A., Hall, A.J., MacLulich, A.M., O'Regan, N. and Blake, C. (2025a) Delirium and cognitive assessment in national hip fracture registries: a scoping review. *European Geriatric Medicine*. 2025 Oct;16(5):1679-1701.
- A further paper is due for publication in January 2026: Codyre L, Brent L, Hickey P, Briody J, Kelly F, Murphy T, Valentelyte G. A cost analysis of surgical site infection for hip fracture patients using national clinical audit data. *Irish Medical Journal*. (in press)

UPDATE ON AUDIT RECOMMENDATIONS

Recommendations to the National Office for Trauma Services, HSE	Update
The National Office for Trauma Services will: learn from the IHFD to apply key successes to all older trauma patients in parallel with the work ongoing following the publication of <i>Trauma System Implementation Programme Clinical Guidance Document: Management of Major Trauma in Older Adults</i> (HSE, 2023) from the National Office for Trauma Services, Health Service Executive.	As Ireland’s trauma system continues to be reconfigured, it is imperative that the IHFD data are used to continually enhance the patient pathway of care and that of other similar cohorts. The HSE, through the National Office for Trauma Services, should use the data from this report to inform improved pathways of care for older adults following major trauma. It will be implemented over the next 5 years. Update from Mr Keith Synnott, National Office for Trauma Services, 5 June 2025: The Trauma System Implementation Programme continues to advance the recommendations of the National Trauma Strategy on a phased, multi-annual basis. To date, the main focus of the strategy has been on building capacity and enhancing services in the designated Major Trauma Centres. As part of the National Service Plan 2025, resources will be allocated to support the development of the Trauma Unit with Specialist Services (TUSS) at University Hospital Galway, as well as the trauma units at Our Lady of Lourdes Hospital Drogheda and University Hospital Waterford. These resources are intended to enhance services and expand capacity in these units, and are a key step in laying the groundwork for both secondary transfers to the centres with specialist services and the implementation of primary bypass to Our Lady of Lourdes Hospital Drogheda and University Hospital Waterford. The Trauma System Implementation Programme has collaborated with colleagues in rehabilitation medicine to develop a Rehabilitation Prescription which, while initially intended for trauma patients, is set to become a standardised form to document patients’ rehabilitation needs more broadly. This will be of benefit to older patients with hip fractures. The Rehabilitation Prescription is due to be launched in quarter 4 2025 and will be widely available across hospital system. The Trauma System Implementation Programme aims to continue enhancing trauma care resources in the trauma units. A self-identified deficit across the system has been in the area of rehabilitation. In order to address this deficit, it will be beneficial to utilise data from the IHFD.

UPDATE ON NOCA COMMITMENTS

Commitment	Updates
DATA QUALITY The Irish Hip Fracture Database has high data coverage levels (>90%) since 2018. In 2023, two hospitals dropped below that threshold, so a renewed focus on data coverage and quality will apply throughout 2024. Several new variables added by the IHFD are still improving in quality and therefore a focus will continue to be placed on the hospitals to ensure they are documented and captured. Specifically, these are delirium, nutrition, cumulative ambulatory score, surgical site infection and longer term outcome data.	In 2023, two hospitals dropped below the coverage threshold. In 2024, both sites filled vacant posts and data entry has recommenced. Ongoing monthly calls with audit coordinators have highlighted areas for data quality throughout the year, and the benefits can be seen in the increase in data quality for variables such as delirium, nutrition, Cumulated Ambulation Score, SSI and longer-term outcome data. The newly designed data validation reports are now implemented and sent to hospitals on a quarterly basis.
REPORTS NOCA will support the hospitals to use the IHFD PowerBI dashboards locally.	IHFD dashboard access now has 49 users allocated across 16 participating hospitals. The audit management team continues to communicate the PDF dashboards quarterly in order to ensure engagement with the data at a local level. The IHFD has requested user feedback on how to improve the dashboards in 2026, and plans to do so are currently under consideration.
COLLABORATIONS AND ENGAGEMENTS - Promote the circulation of the <i>Trauma System Implementation Programme Clinical Guidance Document: Management of Major Trauma in Older Adults</i> (HSE, 2023) and continue to work closely with and share data with the National Office for Trauma Services. - Continue to work closely with AMRIC to support the development of a national SSI surveillance programme. - Work with Age Friendly Homes Ireland to share and use data to improve home safety. - Work with Nursing Homes Ireland to provide educational updates about falls and hip fractures in residential care settings. - Work with the National Integrated Care Programme for Older Persons to support the development of a public frailty education programme. - Continue to work with patient and public partner groups, e.g. Sage Advocacy. - Engage with The College of Anaesthesiologists of Ireland.	- We promoted the circulation of the Trauma System Implementation Programme Clinical Guidance Document: Management of Major Trauma in Older Adults (HSE, 2023) and continued to work closely with and share data with the National Office for Trauma Services. - We continue to work closely with AMRIC to support the development of a national SSI surveillance programme. - We continue to engage with staff in Age Friendly Homes Ireland to share and use data in order to improve home safety. - In 2024 we participated in a webinar for staff in Nursing Homes Ireland to provide educational updates about falls and hip fractures in residential care settings. - The final stage of work with the National Integrated Care Programme for Older Persons to support the development of a public frailty education programme is near completion and is expected to be rolled out in 2026. - We continue to work with patient and public partner groups such as Sage Advocacy and Age & Opportunity.. - We are seeking a representative from the College of Anaesthesiologists of Ireland.

Commitment	Updates
SECONDARY USE OF CLINICAL AUDIT DATA • Continue to use the data for research, research grants and peer-reviewed research publications. • Promote and support the hospitals to use data for QI.	• We continue to work collaboratively with our HRB postdoctoral researcher on the HipCog Study. • We have received and completed three research data access requests in 2024. • We attended the Irish Orthopaedic Association annual meeting in June 2025 to promote the use of IHFD data for QI and research. • In June 2025, we had an extended audit coordinator training session in which we focused on the fundamentals of data entry. These training slides have been made available to audit coordinators for use locally. • In April 2025, the IHFD was the first audit to present to the NOCA audit impact committee QI clinic. • In Q1 2026, a QI collaborative session is planned to take place.



CHAPTER 8

RECOMMENDATIONS & NOCA COMMITMENTS

CHAPTER 8: RECOMMENDATION AND NOCA COMMITMENTS

RECOMMENDATION 1 (HOSPITAL MANAGERS): PRESSURE ULCERS

RECOMMENDATION: We recommend that hospital managers support their staff to improve education around risk-assessment, prevention, identification and review of pressure ulcers in patients with hip fracture.

Rationale	What action should be taken?
Of patients with a hip fracture who were discharged in 2024, 4% (n=150) developed a new pressure ulcer. There has been an increase overall in pressure ulcers following a very stable period of 3% per year for 6 years. In the last two years there has been an increase in the number of hospitals above the national average: 2 hospitals were above 4% in 2023, but in 2024 this has risen to five hospitals. The cohort who developed pressure ulcers was more medically unwell (as per the American Society of Anaesthesiologists (ASA) score) and experienced longer times to surgery and mobilisation.	We recommend that hospital managers review the rate and variation of pressure ulcer development after hip fracture at their hospitals, and that they ensure that pressure ulcer cases are identified in line with HSE procedures. Hospital managers should engage their local hip fracture governance committees in order to review the data around pressure ulcers, ensuring that this is on their quarterly agenda. NOCA will facilitate hip fracture governance committees to review pressure ulcer rates with static quarterly reports and through data dashboards. Hospital-level hip fracture governance committees should review their pressure ulcer rates on a quarterly basis. We also recommend reviewing reasons why IHFS 1, 2 and 7 were not met in these cases and discussing whether this was preventable. NOCA will promote recently developed HSE Resources including the aSSKINg care bundle (HSE, 2025).
Evidence base for the recommendation	Who will benefit from this action/recommendation?
Pressure ulcers that develop within the hospital setting are a common cause of harm and a priority as detailed in the HSE Patient Safety Strategy 2019–2024 (HSE, 2019). The National Improvement Programme for Wound Management published a Clinical Resource Pack: Pressure Ulcers in June 2025 (HSE,2025). This provides comprehensive and clinically practical guidance for use in care settings. It outlines the the aSSKINg care bundle, which is a tool to guide and document pressure ulcer prevention and management. Most patients with a hip fracture are in older age categories and will experience a period of immobility, which places them at increased risk. Early comprehensive skin assessment and documentation of same, would allow for accurate monitoring and reassessment during admission in order to facilitate prevention.	Patients with a hip fracture will benefit. Healthcare professionals treating hip fracture will also benefit in that they will have increased levels of confidence around pressure ulcer risk assessment, prevention, identification and review. The HSE will benefit from having a reduced rate of hospital-level injury, with the potential to reduce patients’ length of stay and other high-cost outcomes.
	Who is responsible for implementing this action/recommendation?
	Hospital managers are responsible.
	When will this be implemented?
	This will be implemented in 2025 and 2026.

RECOMMENDATION 2 (HOSPITAL MANAGERS): SUPPORT ROUTINE LONG-TERM OUTCOME RECORDING AFTER HIP FRACTURE

RECOMMENDATION: We recommend that hospital managers support their staff to continue or to begin to record follow-up data after hip fracture as part of routine care processes.

Rationale	What action should be taken?
While much is known about the inpatient journey after hip fracture, we do not have good data on outcomes after discharge. This is important as most patients have not returned to baseline function at hospital discharge and many have complications. Participation and coverage across follow-up fields have increased steadily from 2022 to 2024. Ten of 16 hospitals are now entering some data but only five hospitals are recording follow-up with at least 60% coverage. Available data are very valuable as they provide outcomes that can be benchmarked across hospitals regardless of service structure. For example, we can calculate what proportion return to baseline mobility and residence. Most follow-up occurs between 30- and 120-days post-admission with hip fracture. This report also shows that recording one-year mortality retrospectively is feasible, with high levels of coverage observed at individual hospitals.	Hospitals should continue to collect follow-up data in a manner that is feasible for their service. Functional outcomes should be recorded at a single medium-term time point (30–120 days), and 1-year mortality can be captured retrospectively. Recording the exact date of assessment is important in order to inform future guidance and standardisation of the recommended follow-up time point. NOCA, in collaboration with the Irish Hip Fracture Database (IHFD) Governance Committee, will review the accumulated data in order to refine follow-up fields, recommend optimal time points and provide standardised guidance for national use.
Evidence base for the recommendation	When will this be implemented?
Clinical follow-up in this cohort is important to ensure secondary prevention of falls and fractures, recovery of function and avoidance of readmission. A national focus is required to ensure increased coverage across hospitals and to highlight its importance. International guidance from the Fragility Fracture Network (FFN) recommends hip fracture outcome recording between 30 and 120 days, which should include mortality, mobility, residence, bone protection and reoperation (Johansen <i>et al.</i> , 2022) Follow-up at 90 days is in line with European surgical site infection surveillance guidance (ECDC,2025). A systematic review of Irish hip fracture studies found that 1-year post-fracture mortality was the most wide-spread reported outcome, demonstrating its feasibility and relevance. Increased coverage of this field would provide a valuable benchmark for survival outcomes.	This will be implemented in 2025 and 2026.

RECOMMENDATION 3 (NOCA AND IHFD ORTHOGERIATRIC NETWORK): REVIEW STANDARDS MEASURING ORTHOGERIATRIC CARE

RECOMMENDATION: The National Office of Clinical Audit (NOCA) should explore whether combining Irish Hip Fracture Standards (IHFS) 4–6 would appropriately measure best practice orthogeriatric care.

Rationale	What action should be taken?
Nationally, performance across IHFS 4–6 has seen consistent improvements since 2017. These improvements have been in line with an increased focus on orthogeriatrics as a subspecialty across the country, among both consultant and advanced nurse practitioner roles. However, the relationship between the performance on these standards raises questions about whether they are measuring distinct aspects of care. In addition, IHFS 5 has been met in some hospitals without meaningful involvement from specialists in the geriatric field, suggesting the need for refinement. Merging these standards may allow for the introduction of new standards in line with emerging evidence and current potential for QI in areas which include delirium and nutritional assessment.	The IHFD has established an orthogeriatric network, which has actively engaged in collaborative activities and events. The IHFD Governance Committee should continue to engage with the orthogeriatric network to review IHFS 4–6 in order to ensure that they are in line with up-to-date best practice in the field. The NOCA data analytics team will support this decision-making.
Evidence base for the recommendation	When will this be implemented?
There is strong evidence that orthogeriatric care improves outcomes. A national analysis of data from the United Kingdom found that attaining a minimum of ‘joint care by surgeon and orthogeriatrician’, ‘delirium assessment’ and ‘falls assessment’ was associated with a large, clinically relevant increase in quality of life 4 months after hip fracture (Griffin <i>et al.</i> , 2021). Currently, the IHFS do not include delirium assessment. The international FFN orthogeriatric care model defines orthogeriatric care as “the integrated multidisciplinary management of an older person with a fracture using evidence informed pathways from admission to return to the community to maximise the quality-of-care and patient outcomes within the resources available” (FFN, 2023). Several international hip fracture audits are moving towards an orthogeriatric indicator that measures broad bundles of care throughout the patient pathway (Public Health Scotland, 2025).	The IHFS will be reviewed throughout 2026, with a goal of establishing revised standards that will come into practice in 2027.

COMMITMENTS FROM NOCA

Data Quality

In 2025, the IHFD will continue to work closely with audit coordinators to improve data completeness and quality, particularly in free-text fields that help identify areas for improvement. A key focus will be on:

- Delayed transfer to ward from ED: Twenty-four percent of cases had no reason documented for the delay. We aim to improve the capture of these reasons in order to better understand and address delays.
- Delay to surgery: We will improve the categorisation of cases recorded as ‘other’.
- A new option was added to the ‘Discharged to’ variable in 2025 to capture emerging rehabilitation models such as early supported discharge. This will allow us to explore further the 13% of patients discharged under the category of ‘other’, and reduce the need for free-text recording and analysis.

A new field will be introduced in 2026 to capture pre-operative anticoagulant and anti-platelet medication. This will support further analysis of surgical delays, particularly those (currently 20%) attributed to anticoagulation.

Time of administration of surgical antibiotic prophylaxis (SAP) will be added to the 2026 dataset. This will allow us to assess whether SAP is administered within 60 minutes prior to incision, in line with the joint position statement on SAP duration developed by AMRIC, the HSE Antimicrobial Stewardship Advisory Group and the National Clinical Programme for Surgery. This will allow for benchmarking against data collated by the European Centre for Disease Prevention and Control.

We will evolve the data fields for recording implants used in 2026.

Collaborations

We will continue to collaborate with the HipCog Study in order to improve delirium capture, completion of the 4AT and rehabilitation pathways for patients with cognitive impairment.

We will continue to promote newly developed HipForesst (Hip Fracture Outcome Recording – Empowering, Supporting and Sustaining Teams) education materials for patients and healthcare professionals.

We will continue engagement with patient and public partner groups, including Sage Advocacy and Age & Opportunity.

Through engagement with the feasibility study for a national rehabilitation audit which is ongoing in NOCA in 2025–2026, we will explore ways to align IHFD rehabilitation indicators and length-of-stay metrics with national recommendations, recognising the variability in service configurations.

Facilitating QI

We will work with audit coordinators in order to highlight incidences of pressure ulcers as part of our standard quarterly reporting. We will encourage audit coordinators to review individual pressure ulcer cases. Through our networks, we will provide opportunities to learn from other sites that have successfully implemented QI initiatives for managing pressure ulcers.

A sustained improvement has been observed in the percentage of patients admitted to an orthopaedic ward or operating theatre from the emergency department within 4 hours of presentation (12 of 16 hospitals improved since 2023). Through our networks, we will continue to facilitate the sharing of information about effective pathways across hospitals.

We will continue to provide education and reassurance regarding IHFS 7. While all opportunities for mobilising patients should be explored, 100% compliance with IHFS 7 is not expected due to individual patient circumstances and complex needs in the early post-surgery phase.

We will continue to work with the IHFD dietetic representative, newly formed network of dietitians and audit coordinators in order to facilitate learning and QI initiatives across hospitals, with the goal of reducing variation in nutritional assessment.



CHAPTER 9

CONCLUSION

CHAPTER 9: CONCLUSION

This report has reaffirmed the extraordinary commitment of the healthcare teams involved in hip fracture care in the 16 hospitals involved in this audit. Providing such high-quality and timely data continues to strengthen the benefit of the audit so hospitals can share and learn from exemplary pathways of care. This report shows the importance of clinical audit and standards in ensuring that patients with a hip fracture receive a high standard of care.

Most notable in this report is the progress made in measuring patient outcomes after the acute hospital journey, and what matters most is the patients who journey through the health service. It is imperative to listen to the patient's voice in order to provide care that is tailored to their needs. The data from this audit can be used as a key driver not only for the best standard of care but as a catalyst for applying a multidisciplinary approach to many other patient groups.

Most notable in this report is the progress made in measuring patient outcomes after the acute hospital journey, and what matters most is the patients who journey through the health service.



REFERENCES

REFERENCES

Antimicrobial Resistance & Infection Control (2024). *Prevention of Surgical Site Infections V1.0*. Health Service Executive.

Available from: <https://www.hpsc.ie/a-z/microbiologyantimicrobialresistance/infectioncontrolandhai/guidelines/SSIPrevention.pdf> [Accessed 17 October 2025].

Brent, L., Ojeda Thies, C., Fitzpatrick, F., Merriman, N.A. and Byrne, E. (2025) Understanding governance for a national hip fracture clinical audit: a scoping review. *Injury*, 56(8), p. 112572.

Central Statistics Office (n.d.) Ageing population. Available from: <https://www.cso.ie/en/releasesandpublications/hubs/p-opi/olderpersonsinformationhub/ageingpopulation/> [Accessed 16 September 2024].

Dripps, R.D. (1963) New classification of physical status. *Anesthesiology*, 24, p. 111.

Dyer, S.M., Perracini, M.R., Smith, T., Fairhall, N.J., Cameron, I.D., Sherrington, C. and Crotty, M. (2021) Rehabilitation Following Hip Fracture. In: P. Falaschi and D. Marsh (eds) *Orthogeriatrics: The Management of Older Patients with Fragility Fractures*. 2nd edn. Cham (CH): Springer.

European Centre for Disease Prevention and Control (2025) *Protocol for the surveillance of surgical site infections and prevention indicators in European hospitals – HAI-Net SSI protocol, version 2.3*. Stockholm: European Centre for Disease Prevention and Control.

Available from: <https://www.ecdc.europa.eu/en/publications-data/surveillance-surgical-site-infections-and-prevention-indicators-european> [Accessed 16 October 2025].

Fragility Fracture Network (2023). Orthogeriatric care model.

Available from: <https://fragilityfracturenetwork.org/wp-content/uploads/2023/10/ocm-2-pdf.pdf>. [Accessed 17 October 2025].

Ferris, H., Brent, L. and Coughlan, T. (2020) Early mobilisation reduces the risk of in-hospital mortality following hip fracture. *European Geriatric Medicine*, 11(4), pp. 527-533.

Ferris, H., Brent, L. and Sorensen, J. (2022a) Cost of hospitalisation for hip fracture—findings from the Irish Hip Fracture Database. *Osteoporosis International*, 33(5), pp. 1057-1065.

Ferris, H.A., Walsh, M.E., Merriman, N.A., Brent, L., Hickey, P., O'Regan, N., Coughlan, T. and Romero-Ortuno, R. (2025) Identifying frailty in acutely hospitalised patients with hip fracture: are the clinical frailty scale and Irish Hip Fracture Database frailty index comparable for predicting adverse outcomes? *European Geriatric Medicine*.

Available from: <https://doi.org/10.1007/s41999-025-01268-y> [Accessed 17 October 2025].

Griffin, X.L., Achten, J., Parsons, N., Costa, M.L. and WHiTE collaborators (2021) Does performance-based remuneration improve outcomes in the treatment of hip fracture? *The Bone & Joint Journal*, 103-B(5), pp. 881-887.

HSE National Improvement Programme for Wound Management (2025) *Clinical Resource Pack: Pressure Ulcers*.

Available from: https://assets.hse.ie/media/documents/HSE_Clinical_Resource_Pack_Pressure_Ulcers.pdf [Accessed 16 October 2025].

Health Service Executive (2008) *Strategy to Prevent Falls and Fractures in Ireland's Ageing Population: Report of the National Steering Group on the Prevention of Falls in Older People and the Prevention and Management of Osteoporosis throughout Life*. Dublin: Health Service Executive.

Available from: <https://www.hse.ie/eng/services/publications/olderpeople/strategy-to-prevent-falls-and-fractures-in-irelands-ageing-population---full-report.pdf> [Accessed 10 September 2025].

Health Service Executive (2019) *Patient Safety Strategy 2019-2024*.

Available from: <https://www.hse.ie/eng/about/who/nqpsd/patient-safety-strategy-2019-2024.pdf> [Accessed 17 October 2025].

Health Service Executive (2023) *Trauma System Implementation Programme Clinical Guidance Document: Management of Major Trauma in Older Adults*. Dublin: Health Service Executive.

Available from: <https://www.hse.ie/eng/about/who/acute-hospitals-division/trauma-services/resources/management-of-major-trauma-in-older-adults.pdf> [Accessed 26 April 2024].

Health Service Executive (2023) *Framework for HSE National Programme for Surgical Site Infection Surveillance - Pilot through the Irish Hip Fracture Database (IHFD)*.

Available from: [Performance Assurance Process for Key Performance Indicators for HCAI AMR in Acute Hospitals](#) [Accessed 16 October 2025].

Health Service Executive (2024) *Prevention of Surgical Site Infections*: Available from: [SSIPrevention.pdf](#) [Accessed 16 October 2025].

Healthcare Pricing Office (2023) *ABF 2023 Admitted Patient Price List*. Dublin: Healthcare Pricing Office.

Johansen, A, Ojeda-Thies, C, Poacher, A.T, Hall, A.J, Brent, L, Ahern, E.C, Costa, M.L, and the Global Fragility Fracture Network Hip Fracture Audit Special Interest Group (2022). Developing a minimum common dataset for hip fracture audit to help countries set up national audits that can support international comparisons. *The Bone & Joint Journal*, 104-B(6):721-728.

MacLulich, A. (2011) The 4AT, a rapid clinical test for delirium. Available from: <https://www.the4at.com/> [Accessed 31 August 2025].

Merriman, N.A., Penfold, R.S., Walsh, M.E., Sexton, E., Brent, L., Hickey, P., Coughlan, T., Ojeda-Thies, C., Johansen, A., Hall, A.J., MacLulich, A.M., O'Regan, N. and Blake, C. (2025a) Delirium and cognitive assessment in national hip fracture registries: a scoping review. *European Geriatric Medicine*. 2025 Oct;16(5):1679-1701.

Merriman, N.A., Walsh, M.E., Ferris, H., Sexton, E., O'Regan, N., Penfold, R.S., Carrigan, M., Coughlan, T., Gurren, L., Adams, J., Reidy, C., Jeyaseelan, A., Doyle, P., Ashraf, M., Ó Flatharta, T., Hearne, S., Gaffey, J., Brent, L., Hickey, P. and Blake, C. (2025b) Diagnostic test accuracy of screening tools for the detection of neurocognitive disorders in older adults post-trauma in acute care settings: a systematic review. *European Geriatric Medicine*. Available from: <https://doi.org/10.1007/s41999-025-01287-9> [Accessed 17 October 2025].

National Falls and Fragility Fracture Audit Programme (n.d.) National Hip Fracture Database Charts: KPIs Overview (online dashboard).

Available from: <https://www.nhfd.co.uk/Charts/KPIsOverview> [Accessed 17 October 2025].

National Office of Clinical Audit (2020) *Major Trauma Audit National Report 2018*. Dublin: National Office of Clinical Audit.

National Office of Clinical Audit (2022a) *Major Trauma Audit National Report 2019 and 2020*. Dublin: National Office of Clinical Audit.

National Office of Clinical Audit (2022b) *Irish Hip Fracture Database National Report 2017-2021*. Dublin: National Office of Clinical Audit.

National Office of Clinical Audit (2023) *Irish Hip Fracture Database National Report 2022*. Dublin: National Office of Clinical Audit.

National Office of Clinical Audit (2025) *Major Trauma Audit National Report 2022*. Dublin: National Office of Clinical Audit.

Neuburger, J., Currie, C., Wakeman, R., Tsang, C., Plant, F., De Stavola, B., Cromwell, D.A. and van der Meulen, J. (2015) The impact of a national clinician-led audit initiative on care and mortality after hip fracture in England: an external evaluation using time trends in non-audit data. *Medical Care*, 53(8), pp. 686-691.

Public Health Scotland (2025) Scottish Hip Fracture Audit: Reporting on 2024.

Available from: <https://publichealthscotland.scot/publications/scottish-hip-fracture-audit/scottish-hip-fracture-audit-reporting-on-2024/> [Accessed 12 September 2025].

Voeten, S.C., Krijnen, P., Voeten, D.M., Hegeman, J.H., Wouters, M.W.J.M. and Schipper, I.B. (2018) Quality indicators for hip fracture care, a systematic review.

Osteoporosis International, 29(9), pp. 1963-1985.

Walsh, M.E., Cunningham, C., Brent, L., Savin, B., Fitzgerald, M. and Blake C. (2023a) Long-term outcome collection after hip fracture in Ireland: a systematic review of traditional and grey literature. *Osteoporosis International*, 34(7), pp. 1179-1191.

Walsh, M., Cunningham, C., Brent, L., Savin, B. and Blake, C. (2023b) Challenges and facilitators experienced by professionals recording long-term outcomes after hip fracture: a Consolidated Framework for Implementation Research qualitative study. *Age and Ageing*, 52(Supplement_3), afad156.014.

Walsh, M.E., Sorensen, J., Blake, C., Johnsen, S.P. and Kristensen, P.K. (2022) Geographic variation in hip fracture surgery rate, care quality and outcomes: a comparison between national registries in Ireland and Denmark. *Archives of Osteoporosis*, 17(1): p. 128.

Walsh, M., Ferris, H., Brent, L., Ahern, E., Coughlan, T. and Romero-Ortuno, R. (2023c) Development of a Frailty Index in the Irish Hip Fracture Database. *Archives of Orthopaedic and Trauma Surgery*, 143(7), pp. 4447-4454.

ACCESSING REPORT APPENDICES

National Office of Clinical Audit (2025)

Irish Hip Fracture Database National report 2024 - Appendices.

Dublin: National Office of Clinical Audit.

Available at: <https://www.noca.ie/publications/publications-listing/P0/category/3>

APPENDIX 1	GLOSSARY OF TERMS AND ACRONYMS AND INITIALISMS	CLICK HERE
APPENDIX 2	HOSPITALS AND PEOPLE THAT WE WORK WITH	CLICK HERE
APPENDIX 3	DATA COLLECTION CALENDAR 2024	CLICK HERE
APPENDIX 4	IHFD DATASET – HIP FRACTURE ADMISSION	CLICK HERE
APPENDIX 5	IHFD DATASET – HIP FRACTURE FOLLOW-UP	CLICK HERE
APPENDIX 6	IHFD FREQUENTLY ASKED QUESTIONS	CLICK HERE
APPENDIX 7	FREQUENCY TABLES	CLICK HERE
APPENDIX 8	SPECIFICATIONS FOR COMPOSITE VARIABLES	CLICK HERE
APPENDIX 9	ADDITIONAL INFORMATION	CLICK HERE
APPENDIX 10	IHFD GOVERNANCE COMMITTEE MEETING ATTENDEES, 2024	CLICK HERE

NOCA National Office of
Clinical Audit

Phone: +353 1 4028577

Email: ihfd@noca.ie



www.noca.ie