ANNUAL REPORT 2022

ANZHFR

Australian & New Zealand Hip Fracture Registry

ENHANCING OUTCOMES FOR OLDER PEOPLE

The Australian and New Zealand Hip Fracture Registry (ANZHFR) sincerely thank the multidisciplinary teams of the 93 hospitals that contributed to the patient level report (71 in Australia and 22 in New Zealand) and the 117 hospitals that contributed to the facility level results. Your support and dedication in the face of the many significant challenges of the COVID-19 pandemic is acknowledged and appreciated. This report would not be possible without your efforts.

The ANZHFR receives funding from the Australian Government Department of Health, New Zealand Accident Compensation Corporation, NSW Agency for Clinical Innovation, Victorian Agency for Health Information, SA Health, WA Health and Queensland Health. The Registry receives in-kind support from Neuroscience Research Australia, UNSW Sydney and the New Zealand Orthopaedic Association.

ABBREVIATIONS

ACT	Australian Capital Territory
AIHW	Australian Institute of Health and Welfare
ANZ	Australia and New Zealand
ANZHFR	Australian and New Zealand Hip Fracture Registry
ACSQHC	Australian Commission on Safety and Quality in Health Care
AOA	Australian Orthopaedic Association
ASA	American Society of Anesthesiologists
AUS	Australia
CT	Computed Tomography
ED	Emergency Department
FLS	Fracture Liaison Service
GP	General Practitioner
HDU	High Dependency Unit
ICU	Intensive Care Unit
MRI	Magnetic Resonance Imaging
NDI	National Death Index
NSW	New South Wales
NHFD	National Hip Fracture Database
NT	Northern Territory
NZ	New Zealand
NZOA	New Zealand Orthopaedic Association
OT	Operating Theatre
QLD	Queensland
SA	South Australia
TAS	Tasmania
VIC	Victoria
VTE	Venous Thromboembolism
WA	Western Australia

NOTE: Rehabilitation – when used in the figures, rehabilitation refers to inpatient rehabilitation at a public or private hospital. It does not include rehabilitation provided in the community or private residence.

CONTENTS

NeuRA Discover. Conquer. Cure.

NZOA New Zealand Orthopaedic Association

UNSW SYDNEY

In the spirit of reconciliation, the ANZHFR acknowledges the Traditional Custodians of country throughout Australia and their connections to land, sea and community. We pay our respect to Elders past and present and extend that respect to all Aboriginal and Torres Strait Islander peoples today.

The ANZHFR acknowledges Māori as tangata whenua and Treaty of Waitangi partners in Aotearoa New Zealand.

Extracts from this report may be reproduced provided the source of the extract is acknowledged.

Report prepared on behalf of the ANZHFR Steering Group by:
Ms Jamie Hallen, Registry Manager; Mr Stewart Fleming, Webmaster; Professor Jacqueline Close, ANZHFR Co-Chair Geriatric Medicine; A/Professor Catherine McDougall, ANZHFR Co-Chair Orthopaedic Surgery.

The ANZHFR extends its sincere thanks to Dr Reidar Lystad, Australian Institute of Health Innovation, Macquarie University NSW, for the outlier reports and Ms Barbara Toson, Biostatistician, Flinders University SA, for the risk-adjusted mortality analysis.

Report Design: patterntwo creative studio patterntwo.com.au

Suggested citation: Australian and New Zealand Hip Fracture Registry. Annual report of hip fracture care 2022. September 2022. Available at anzhfr.org/registry-reports/

ISBN: 978-0-7334-4037-3

CO-CHAIRS' FOREWORD

Welcome to the 2022 Annual Report, which includes the seventh patient level report and the tenth facility level report. With data on more than 80,000 hip fractures collected over the past seven years, the Australian and New Zealand Hip Fracture Registry (ANZHFR) continues to provide data to drive improvements in the care of patients with a hip fracture.

The number of hospitals contributing data continues to grow and this year, the patient level report includes 15,331 records from 93 hospitals. This represents 22 hospitals in New Zealand, and 71 Australian hospitals. All 117 hospitals provided facility level data to the report. We are grateful to the teams working in our hospitals across Australia and New Zealand who give their time to participate in Registry activities.

This year, the printed report again focuses on performance against the Hip Fracture Care Clinical Care Standard whilst the digital report covers additional domains relevant to clinicians, managers, and funders of health systems. Both are available on our website anzhfr.org/registry-reports.

As has been evident in previous years, variation exists in the delivery of key clinical standards across states and sites, but it is pleasing to see significant progress in several domains including:

- Preoperative assessment of cognition and assessment of delirium (year-on-year improvements in both countries in both domains)
- Pain assessment in the ED
- Use of nerve blocks. Significant improvements over time in NZ, and we highlight some of their innovative work, including engaging the ambulance service in provision of nerve blocks
- Increase in proportion of hospitals that have a weekend therapy service
- Provision of written information on treatment and care after hip fracture continues to slowly improve.

While we celebrate where we have made progress, our focus continues to be on areas that require improvement:

- Average time to surgery remains unchanged. Difficulty accessing theatre is reported as the reason for delay in nearly 30% of cases where surgery occurred beyond 48 hours. This remains a system level problem requiring collaboration between clinicians and executives within our facilities
- First day walking occurs in 49% of patients on average, with huge variation in both countries (15% to over 80%)
- There has been some progress over the last five years, with an increase in the proportion of people on bone protection medication at discharge to 34% in New Zealand, and 29% in Australia but there remains more work to do.

This year's report introduces some new metrics, including the clinical frailty scale, a marker known to directly affect patient outcomes, and the reason for no surgery in people who did not undergo operative management of their fracture.

The COVID-19 pandemic has continued to put pressure on our health system. In this year's facility level audit, we again explored the impact of COVID-19 on the way we cared for older people with a hip fracture. Hospitals that reported changes were asked about the impact of those changes on care against the quality indicators in the Hip Fracture Care Clinical Care Standard and the results in relation to each indicator are detailed later in the report.

In other Registry activity, 2021 saw the ANZHFR's first two sprint audits in nutrition and bone protection medication, with both highlighting gaps in the care for this vulnerable group. The results can be found at anzhfr.org/sprintaudits/. The third sprint audit in acute rehabilitation has just been completed and we look forward to continuing the sprint audit program next year.

After more than 10 years with the ANZHFR, we said goodbye to Professor Ian Harris, who has been instrumental in the vision and development of the Registry since its inception. We thank Professor Harris for his extraordinary contribution, and we welcome Associate Professor Catherine McDougall, who has transitioned into the co-chair role over the last 12 months.

The ANZHFR, with the support of the Commonwealth Department of Health, has launched My Hip My Voice, a consumer-focused program aimed at better understanding what is important to patients. After the pilot is complete, we hope to continue to foster this relationship and develop outward, consumer facing information on our website.

In September 2021, we announced our inaugural Golden Hip awards which were presented to the Princess Alexandra Hospital (PAH) in Brisbane, Australia and North Shore Hospital (NSH) in New Zealand, for being the most consistent performers against the Australian Commission on Quality and Safety in Health Care Clinical Care Standard. We congratulate both hospitals and all the finalists.

We strongly support sites learning from each other and will continue to highlight best practice and exemplar care through a variety of mechanisms including this report. After two years of virtual education events, we are looking forward to the upcoming binational Hip Fest in Melbourne on 19th October 2022, and encourage people involved in hip fracture care to register.
More details can be found at anzhfr.org/hipfest2022.

The Registry's podcast series *Hipcast* is into its second year and there have been more than 4000 downloads of published episodes. We continue to be active on social media, with Twitter, LinkedIn and Facebook accounts, and distribute a quarterly newsletter, which is easy to subscribe to through our website.

Our website has additional information and reports including a Digital National Report and we encourage you to peruse it in your own time:

Australian Digital National Report:
hipfracture.com.au/home/reports

New Zealand Digital National Report:
hipfracture.co.nz/home/reports

The aim of the ANZHFR is to improve the care provided to older people who fracture their hip. The 2022 Annual Report again demonstrates the commitment of all the multidisciplinary teams across our hospitals throughout Australia and New Zealand to achieve this aim.
We thank you for your participation and look forward to continuing this journey in 2023.

Professor
Jacqueline Close
Geriatrician

Co-Chair
Australian and New Zealand
Hip Fracture Registry

A/Professor
Catherine McDougall
Orthopaedic Surgeon

Co-Chair
Australian and New Zealand
Hip Fracture Registry

2021 CALENDAR YEAR SNAPSHOT

PATIENT LEVEL REPORT

LEGEND:
- Improvement
- No change
- Decline in performance

70%
of patients had a preoperative assessment of cognition

66%
of patients had a documented assessment of pain within 30 minutes of arrival at the ED

92%
of patients had a nerve block to manage pain before surgery

93
ANZ Hospitals

15, 331
Records

88%
of Australian patients and

85%
of NZ patients were seen by a geriatrician during their acute hospital stay

91%
of patients were given the opportunity to mobilise on the day of or day after surgery

82%
of patients had surgery within 48 hours

49%
of patients achieved first day walking

30%
of patients were on active treatment for osteoporosis at discharge from hospital

88%
of hospitals reported having a hip fracture pathway

30%
of hospitals utilise an orthopaedic/ geriatric medicine shared care service model

117
ANZ Hospitals

84%
of hospitals reported having a pain pathway

85%
of hospitals have a weekend therapy service

46%
of hospitals had planned operating lists for hip fracture patients

64%
of hospitals routinely provide written information on treatment and care after hip fracture

LEGEND:
- Improvement
- No change
- Decline in performance

ANZHFR INAUGURAL GOLDEN HIP AWARDS 2021

The Golden Hip award was initiated by the Scottish Hip Fracture Audit to promote and reward better health care for people with hip fractures. In 2021, for the first time in Australia and New Zealand, top-performing hospitals were recognised for their achievements against the Hip Fracture Care Clinical Care Standard quality indicators. Performance is based on the data submitted in the previous calendar year and reported in the year that the award is presented.

The top five hospitals in New Zealand and top ten hospitals in Australia were finalists and were in the running to receive the Golden Hip.

The awards were presented at virtual ceremonies on 22nd September 2021. The New Zealand and Australian ceremonies can be viewed on the ANZHFR Training and Education channel, youtube.com/channel/UCpp4eyskmQL3ZImxnCAKSUg/videos.

NEW ZEALAND FINALISTS

Auckland City Hospital
Middlemore Hospital
North Shore Hospital
Palmerston North Hospital
Waikato Hospital

AUSTRALIAN FINALISTS

Concord Repatriation General Hospital
Lyell McEwin Hospital
Prince of Wales Hospital
Princess Alexandra Hospital
Robina Hospital
Royal North Shore Hospital
Sunshine Coast University Hospital
The Prince Charles Hospital
Townsville University Hospital

Princess Alexandra Hospital, QLD Australia and North Shore Hospital, New Zealand were awarded the Golden Hip awards for the best overall performance against the Hip Fracture Care Clinical Care Standard.

Congratulations to the teams on their achievements providing high-quality hip fracture care.

Princess Alexandra Hospital

North Shore Hospital

BUNBURY REGIONAL HOSPITAL'S JOURNEY TO THE ANZHFR: IMPROVING PATIENT OUTCOMES ALONG THE WAY

Bunbury Regional Hospital, WA is delighted to be included for the first time in the ANZHFR 2022 Annual Report.

Hip fracture audit and using data as a driver for change is not new to our team. In the mid-2000's, the commencement of morbidity and mortality audits in our Orthopaedic Unit highlighted the high mortality associated with hip fracture. For more than a decade, departmental audits revealed that between 10-15% of patients admitted to our hospital with a hip fracture would not leave the hospital alive. Throughout this time, it was suggested that increased medical involvement and multidisciplinary responsibility for the care of hip fracture patients had the potential to improve outcomes, but we were unaware of comparable peer results, and the traditional models of orthopaedic care were difficult to shift.

Hearing of the National Hip Fracture Database (NHFD) in the UK and the marked reduction in hip fracture mortality, as well as the early work of the ANZHFR strengthened the resolve of the team to shine a light on inadequate practices. We strongly advocated for changes that were associated with improved patient outcomes, including development of a Bunbury Regional Hospital hip fracture pathway and an application to contribute data the Australian Hip Fracture Registry.

A change in the health legislation in WA prevented the authorisation of data sharing under previous arrangements and required more than 24 months of negotiation. The road to participate in the Registry was challenging and required the patience and determination of leaders in the orthopaedic, medical and patient safety departments.

Over this time, the introduction of the neck of femur pathway as well as a multidisciplinary neck of femur fracture audit every six months led to a reduction in in-hospital mortality from rates that were sustained above 10% for more than a decade to around two percent. We are incredibly pleased with the impact that the NOF pathway and the work of the Hip Fracture Registry has had.

We will continue updating our pathway in response to best practice and factors identified in our audit results.

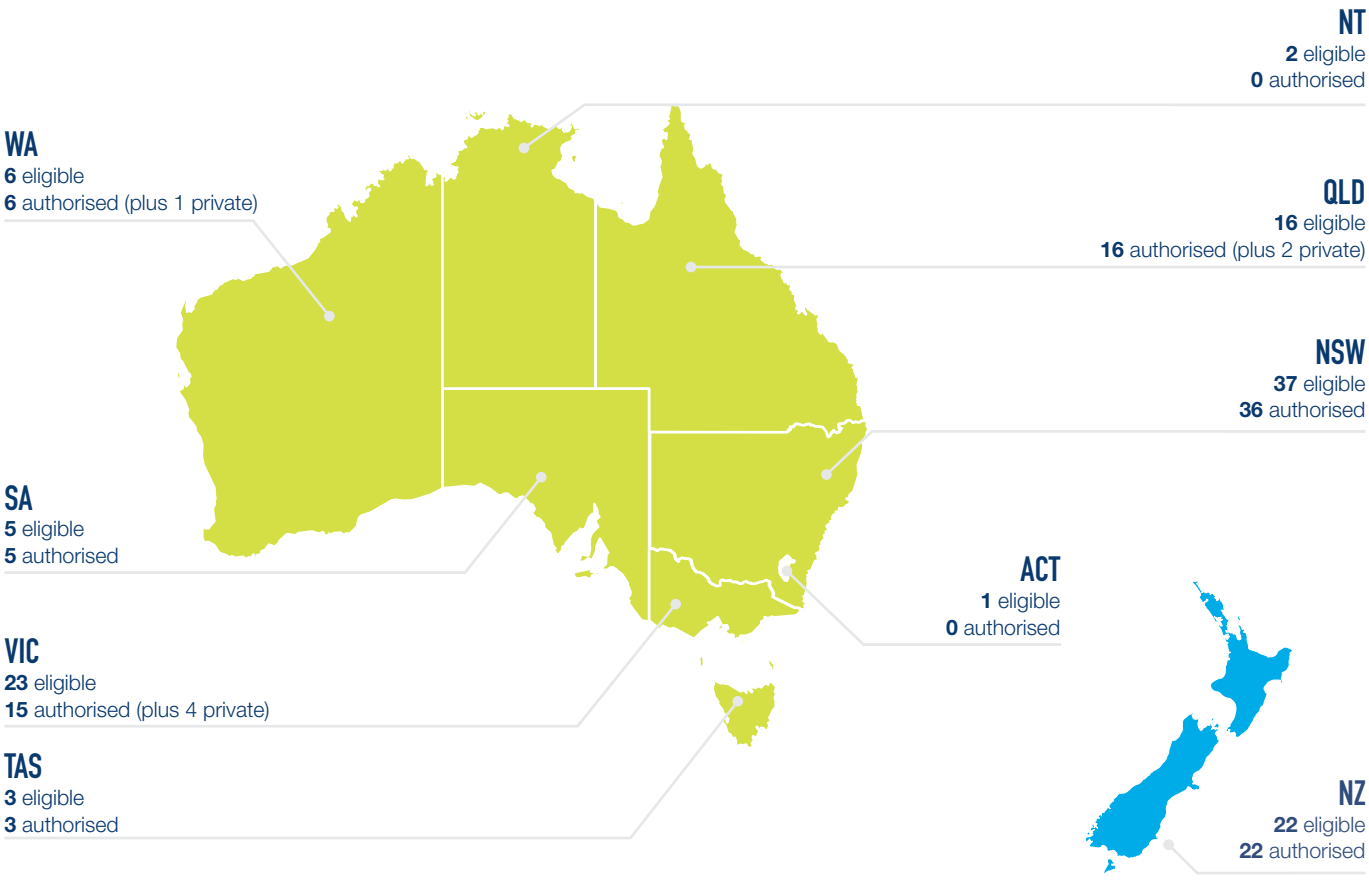
> We hope our work reducing mortality and improving patient outcomes motivates teams that do not have an active neck of femur pathway in place or are not yet participating in the Registry to do so.

ANZHFR PARTICIPATION

Hospitals in Australia and New Zealand that provide surgical treatment to patients admitted with a proximal femur fracture are eligible to contribute data to the ANZHFR. The proportion of eligible public hospitals approved to participate in the ANZHFR and be included in the annual report has increased from 21% of ANZ hospitals in 2016 to 90% in 2022. The total number of hospitals eligible for both patient and facility audits may vary each year as public health system services are reconfigured, or private hospitals increase their participation in the ANZHFR.

It is acknowledged that clinicians, health services, and the Australian and New Zealand health systems faced ongoing, significant challenges due to the global COVID-19 pandemic. In New Zealand, all 22 eligible hospitals contributed data to this report. In Australia, not all authorised hospitals were able to contribute data to the ANZHFR, due to resource availability. The ANZHFR continues to work with authorised sites who have been unable to identify sustainable processes for participation. Image 1 shows eligible public hospital participation by Australian state and territory and New Zealand. Five private hospitals currently contribute data to the ANZHFR; one in Western Australia, two in Queensland and two in Victoria.

Image 1: Public sector participation by Australian state and territory and New Zealand at July 2022



CONTRIBUTING HOSPITALS 2021

PATIENT LEVEL AUDIT

NEW ZEALAND HOSPITALS

	REPORT ID	2021
Auckland City Hospital	ACH	303
Christchurch Hospital	CHC	489
Dunedin Hospital	DUN	130
Gisborne Hospital	GIS	45
Hawkes Bay Hospital	HKB	113
Hutt Hospital	HUT	112
Middlemore Hospital	MMH	215
Nelson Hospital	NSN	113
North Shore Hospital	NSH	382
Palmerston North Hospital	PMR	139
Rotorua Hospital	ROT	78
Southland Hospital	INV	95
Taranaki Base Hospital	TAR	53
Tauranga Hospital	TGA	217
Timaru Hospital	TIU	48
Waikato Hospital	WKO	325
Wairarapa Hospital	MRO	26
Wairau Hospital	BHE	38
Wellington Hospital	WLG	56
Whakatane Hospital	WHK	32
Whanganui Hospital	WAG	36
Whangarei Hospital	WRE	133

AUSTRALIAN HOSPITALS

	REPORT ID	2021
Albany Hospital	ABA	47
Armidale Hospital	ARM	25
Bankstown-Lidcombe Hospital	BKL	174
Blacktown Hospital	###	159
Box Hill Hospital	BOX	274
Bunbury Hospital	BRH	76
Cairns Hospital	CNS	229
Campbelltown Hospital	CAM	66
Coffs Harbour Base Hospital	CFS	69
Concord Hospital	CRG	152
Dandenong Hospital	DDH	316
Dubbo Base Hospital	DBO	66
Fiona Stanley Hospital	FSH	592
Flinders Medical Centre	FMC	186
Footscray Hospital	FOO	257
Frankston Hospital	FRA	28
Geelong Hospital	GUH	166
Gold Coast University Hospital	GCH	26
Gosford Hospital	GOS	364
Goulburn Base Hospital	###	12
Grafton Hospital	GBH	29
Hornsby Ku-ring-gai Hospital	HKH	103
Ipswich Hospital	IPS	121
John Hunter Hospital	JHH	450
Joondalup Hospital	JHC	202
Launceston Hospital	LGH	128
Lismore Base Hospital	LBH	121
Liverpool Hospital	LIV	238
Logan Hospital	LOG	83
Lyell McEwin Hospital	LMH	254
Mackay Base Hospital	MKY	83
Maitland Hospital	TMH	125
Manning Base Hospital	MBH	106
Maroondah Hospital	MAR	183
Mater Hospital	MSB	86
Nepean Hospital	NEP	241
North West Regional Hospital	###	46
Orange Health Service Hospital	OHS	125
Port Macquarie Base Hospital	PMB	67
Prince of Wales Hospital	POW	158
Princess Alexandra Hospital	PAH	205
QEII Hospital	QII	121
Queen Elizabeth Hospital	QEH	169
Redcliffe Hospital	RED	82
Robina Hospital	ROB	314
Rockhampton Hospital	ROK	98
Royal Adelaide Hospital	RAH	507
Royal Hobart Hospital	RHH	153
Royal Melbourne Hospital	RMH	134
Royal North Shore Hospital	RNS	193
Royal Perth Hospital	RPH	401
Royal Prince Alfred Hospital	RPA	95
Ryde Hospital	RYD	119
Shoalhaven District Memorial Hospital	###	10
Sir Charles Gairdner Hospital	SCG	341
St George Hospital	STG	147
St Vincent's Hospital Darlinghurst	SVD	129
St Vincent's Hospital Melbourne	SVM	123
Sunshine Coast University Hospital	SCU	257
Tamworth Hospital	TAM	140
The Alfred	TAH	218
The Northern Hospital	TNH	195
The Prince Charles Hospital	PCH	486
The Sutherland Hospital	TSH	168
The Wesley Hospital	###	48
Toowoomba Hospital	TWB	188
Townsville Hospital	TSV	191
Tweed Hospital	TWE	134
Wagga Wagga Base Hospital	WGG	121
Westmead Hospital	WMD	200
Wollongong Hospital	TWH	233

The patient level report includes data from 93 hospitals. In 2021, 15,331 hip fracture records were contributed for the calendar year: 12,153 records from 71 Australian hospitals and 3,178 records from 22 New Zealand hospitals.

Contributing hospitals are listed with their three-letter report identifier and the number of records contributed for the 2021 calendar year. All New Zealand hospitals and 66 Australian hospitals have elected to be identified in this report.

117 hospitals completed the facility level audit for 2021.

FACILITY LEVEL AUDIT

New Zealand Hospitals

Auckland City Hospital
Christchurch Hospital
Dunedin Hospital
Gisborne Hospital
Hawkes Bay Hospital
Hutt Hospital
Rotorua Hospital
Middlemore Hospital
Nelson Hospital
North Shore Hospital
Palmerston North Hospital
Southland Hospital
Taranaki Base Hospital
Tauranga Hospital
Timaru Hospital
Waikato Hospital
Wairarapa Hospital
Wairau Hospital
Wellington Regional Hospital
Whakatane Hospital
Whanganui Hospital
Whangarei Base Hospital

Australian Hospitals

NEW SOUTH WALES

Armidale Hospital
Bankstown-Lidcombe Hospital
Bathurst Base Hospital
Bega - South East Regional Hospital
Blacktown Hospital
Bowral & District Hospital
Campbelltown Hospital
Canterbury Hospital
Coffs Harbour Base Hospital
Concord Hospital
Dubbo Base Hospital
Gosford Hospital
Goulburn Base Hospital
Grafton Hospital
Hornsby Ku-ring-gai Hospital
John Hunter Hospital
Lismore Base Hospital
Liverpool Hospital
Maitland Hospital
Manning Base Hospital
Nepean Hospital
Northern Beaches Hospital
Orange Health Service
Port Macquarie Base Hospital
Prince of Wales Hospital
Royal North Shore Hospital
Royal Prince Alfred Hospital
Ryde Hospital
Shoalhaven District Memorial Hospital
St George Hospital
St Vincent's Hospital Darlinghurst
Tamworth Base Hospital
The Sutherland Hospital
The Tweed Hospital
The Wollongong Hospital
Wagga Wagga Base Hospital
Westmead Hospital

VICTORIA

Albury Wodonga Health
Ballarat Health Service
Bendigo Hospital
Box Hill Hospital
Dandenong Hospital
Frankston Hospital
Geelong Hospital
Goulburn Valley Health Shepparton
Latrobe Regional Hospital
Maroondah Hospital
Mildura Base Hospital
Northeast Health Wangaratta
Royal Melbourne Hospital
Sandringham Hospital
South West Healthcare Warrnambool
St Vincent's Hospital Melbourne
The Alfred
The Austin Hospital
The Northern Hospital
West Gippsland Healthcare Group (Warragul)
Western District Health Service Hamilton
Western Health (Footscray)
Wimmera Health Care Group Horsham

QUEENSLAND

Bundaberg Hospital
Cairns Base Hospital
Gold Coast University Hospital
Hervey Bay Hospital
Ipswich Hospital
Logan Hospital
Mackay Base Hospital
Mater South Brisbane
Princess Alexandra Hospital
QEII Jubilee Hospital
Redcliffe Hospital
Robina Hospital
Rockhampton Base Hospital
Sunshine Coast University Hospital
The Prince Charles Hospital
Toowoomba Hospital
Townsville Hospital
The Wesley Hospital

WESTERN AUSTRALIA

Albany Hospital
Bunbury Hospital
Fiona Stanley Hospital
Geraldton Hospital
Joondalup Health Campus
Royal Perth Hospital
Sir Charles Gairdner Hospital

SOUTH AUSTRALIA

Flinders Medical Centre
Lyell McEwin Health Service
Mount Gambier Hospital
Royal Adelaide Hospital
The Queen Elizabeth Hospital

TASMANIA

Launceston General Hospital
North West Regional Hospital
Royal Hobart Hospital

NORTHERN TERRITORY

Alice Springs Hospital
Royal Darwin Hospital

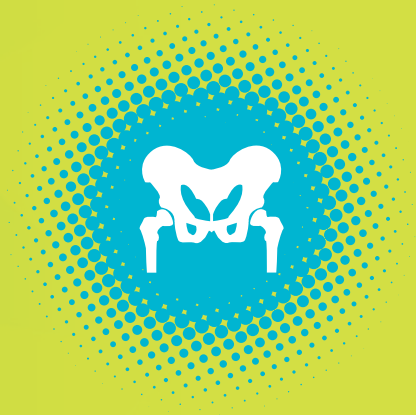
AUSTRALIAN CAPITAL TERRITORY

Canberra Hospital

HIP FRACTURE CARE CLINICAL CARE STANDARD

The Hip Fracture Care Clinical Care Standard was released in 2016 by the Australian Commission on Safety and Quality in Health Care, in collaboration with the Health Quality and Safety Commission New Zealand. The Clinical Care Standard plays a role in ensuring the delivery of high-quality hip fracture care by describing the components of care that should be provided to older people admitted with a hip fracture.

The Hip Fracture Care Clinical Care Standard contains seven quality statements and 16 indicators. The next sections of this report detail results from both the patient and facility level audits against the Hip Fracture Care Clinical Care Standard quality indicators. The quality statements and indicators enable the calculation of a quantitative measure of care processes, structures, or outcomes. The ANZHFR also reports on outliers against each indicator, which can be used by clinicians or health providers to identify areas of high-quality care, or areas that may require review.



QUALITY STATEMENT 1

Care at presentation

A patient presenting to hospital with a suspected hip fracture receives care guided by timely assessment and management of medical conditions, including diagnostic imaging, pain assessment and cognitive assessment.

Indicator 1a: Evidence of local arrangements for the management of patients with hip fracture in the Emergency Department (ED)

Figures 1 and 2 detail results from the tenth facility level audit of Australian and New Zealand hospitals undertaking surgical management of older people with a hip fracture. The aim of the audit is to document the services, resources, protocols and practices that exist across both countries over time. This year, 117 hospitals completed the audit for the 2021 calendar year. Where data is available, results have been reported from 2013-2021.

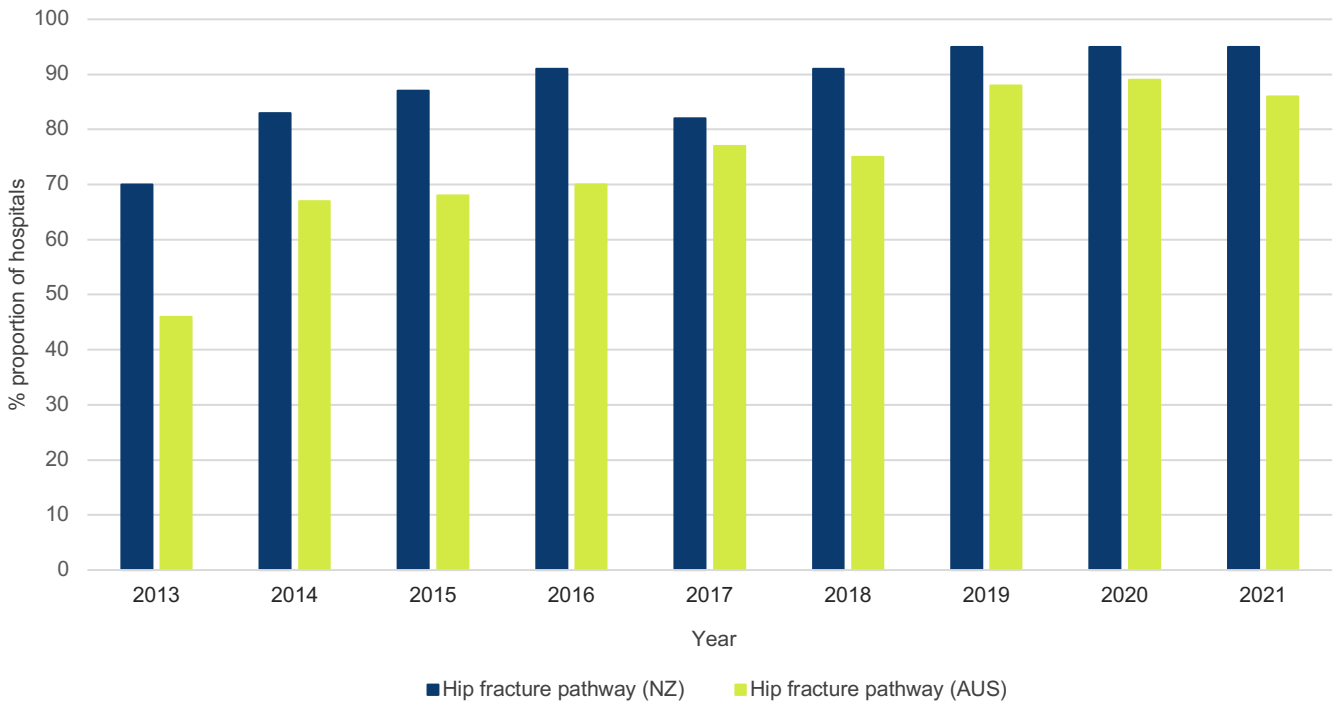
Protocols and pathways are interventions used in the provision of health care that aim to improve the quality, cost and satisfaction of that care. They help to sequence specific aspects of care for a given condition, such as hip fracture, and support improved communication and collaboration between healthcare professionals.

Some resources, including local protocols and clinical pathways for hip fracture care, have been shared by hospitals that contribute to the ANZHFR. These can be found on the ANZHFR website, anzhfr.org/resources.

HIP FRACTURE PATHWAY

In 2021, 95% of New Zealand hospitals and 86% of Australian hospitals reported having a hip fracture pathway. These have remained relatively static over the last few years. Where hospitals reported plans to alter service provision for hip fracture patients over the coming 12 months, review of the hip fracture pathway was the most common change detailed.

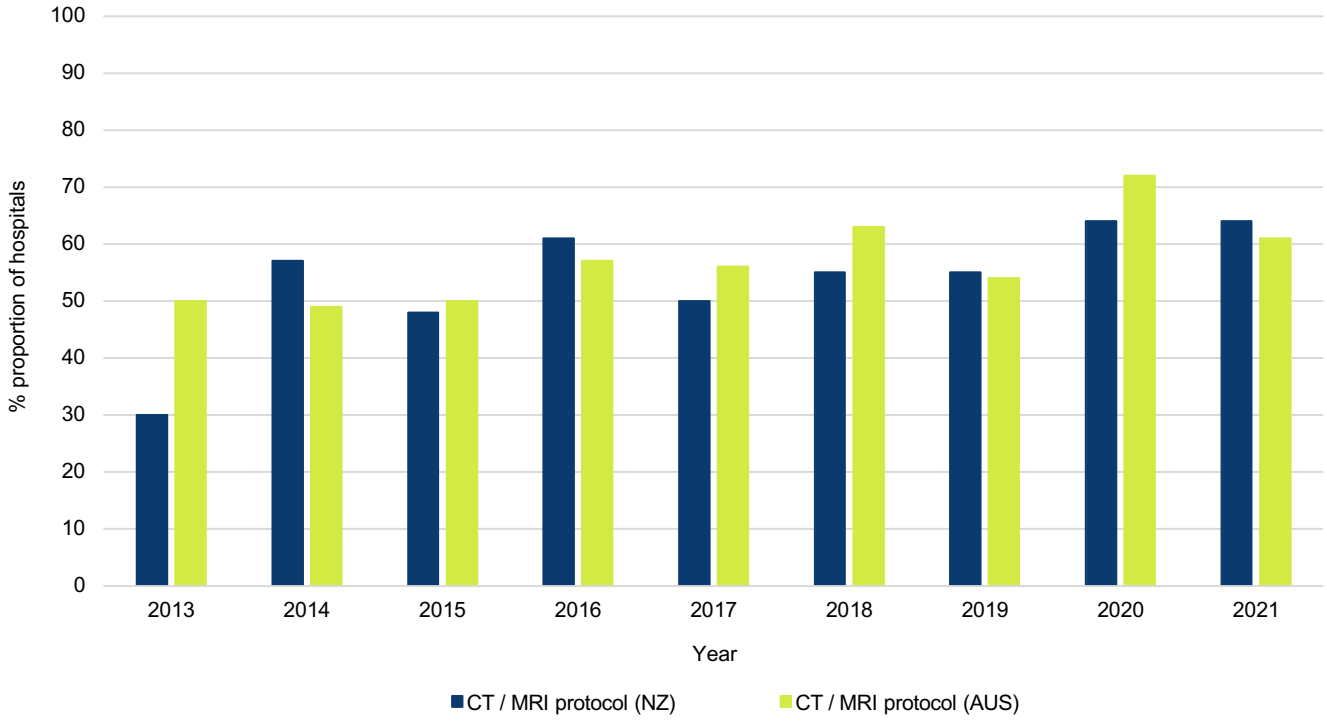
FIGURE 1 Hip fracture pathway as a reported element of hip fracture care in Australia and New Zealand 2013–2021



COMPUTED TOMOGRAPHY (CT) / MAGNETIC RESONANCE IMAGING (MRI)

In 2021, 64% of New Zealand hospitals and 61% of Australian hospitals reported the availability of a protocol or pathway to access either CT or MRI if plain imaging of a suspected fracture was inconclusive. For Australia, this is lower than reported in 2022 (72%). For some hospitals, the introduction of a protocol may be an opportunity to improve the diagnosis of clinically suspicious fractures.

FIGURE 2 CT / MRI protocol as a reported element of hip fracture care in Australia and New Zealand 2013–2021



DELIRIUM

Delirium is an acute change in mental status common among older patients hospitalised with a hip fracture. It is a condition more common in people with a cognitive impairment and can be poorly recognised. Delirium is associated with poorer outcomes, including increased mortality and subsequent dementia.

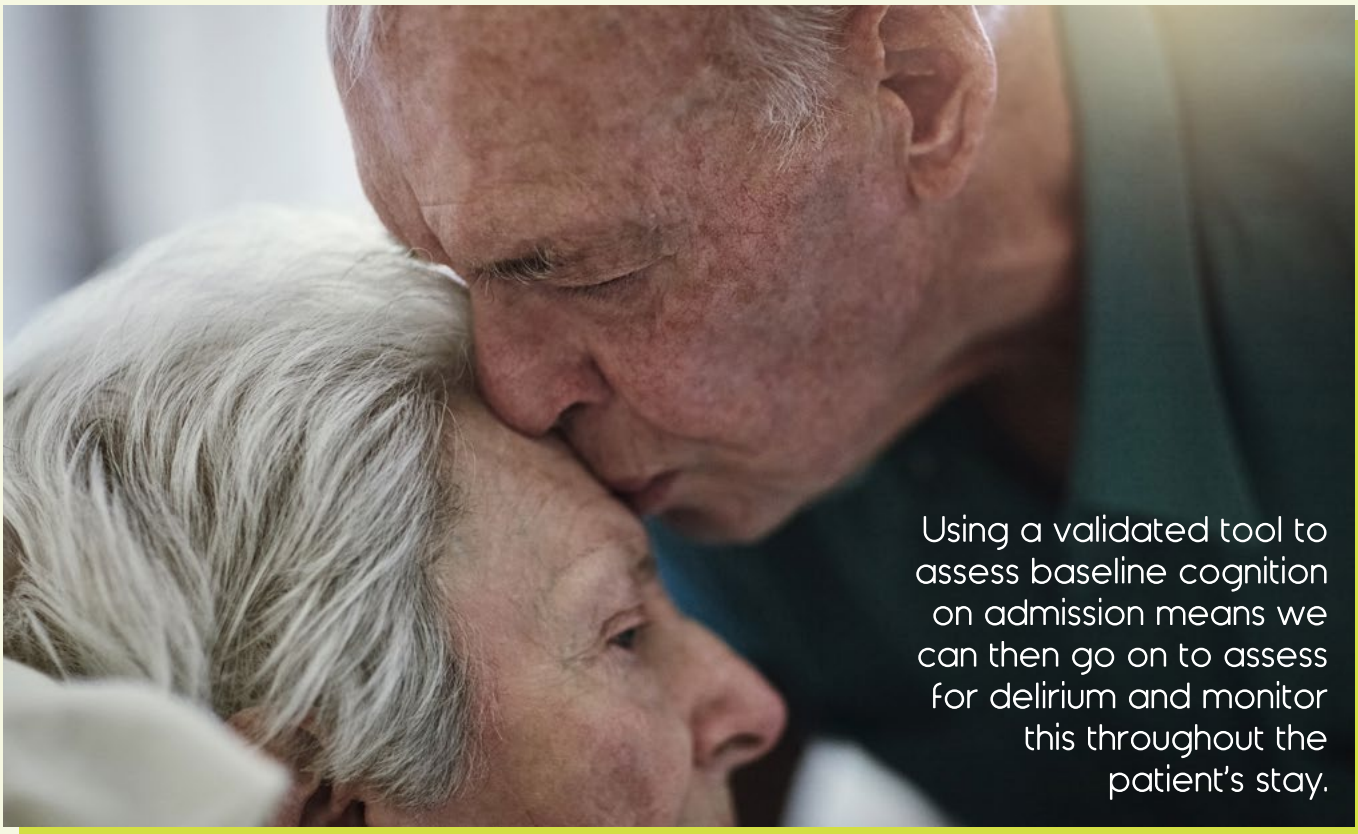
Patients with a hip fracture should be assessed for delirium postoperatively. Assessment of delirium requires the use of a validated tool. There are a range of validated diagnostic tools for delirium and they include:

- The 4AT
- Confusion Assessment Method (CAM)
- Confusion Assessment Method for the ICU (CAM-ICU)
- 3D-CAM

Identifying patients with delirium is a key step in providing high-quality care. Early diagnosis and prompt treatment reduce the risk of other hospital-acquired complications and offers patients with delirium the best chance of recovery.

The assessment of delirium continues to improve each year. In New Zealand, 65% of patients had an assessment for delirium and 46% of those assessed were identified as experiencing delirium during the acute hospital stay. In Australia, 75% of patients had an assessment for delirium and 39% of those assessed were identified as experiencing delirium. In both countries, a large proportion of patients were not assessed, suggesting delirium may be under reported.

The ACSQHC Delirium Clinical Care Standard aims to improve the prevention of delirium in patients at risk, and the early diagnosis and treatment of patients with delirium. The Standard and associated resources can be found at safetyandquality.gov.au/our-work/clinical-care-standards/delirium-clinical-care-standard.

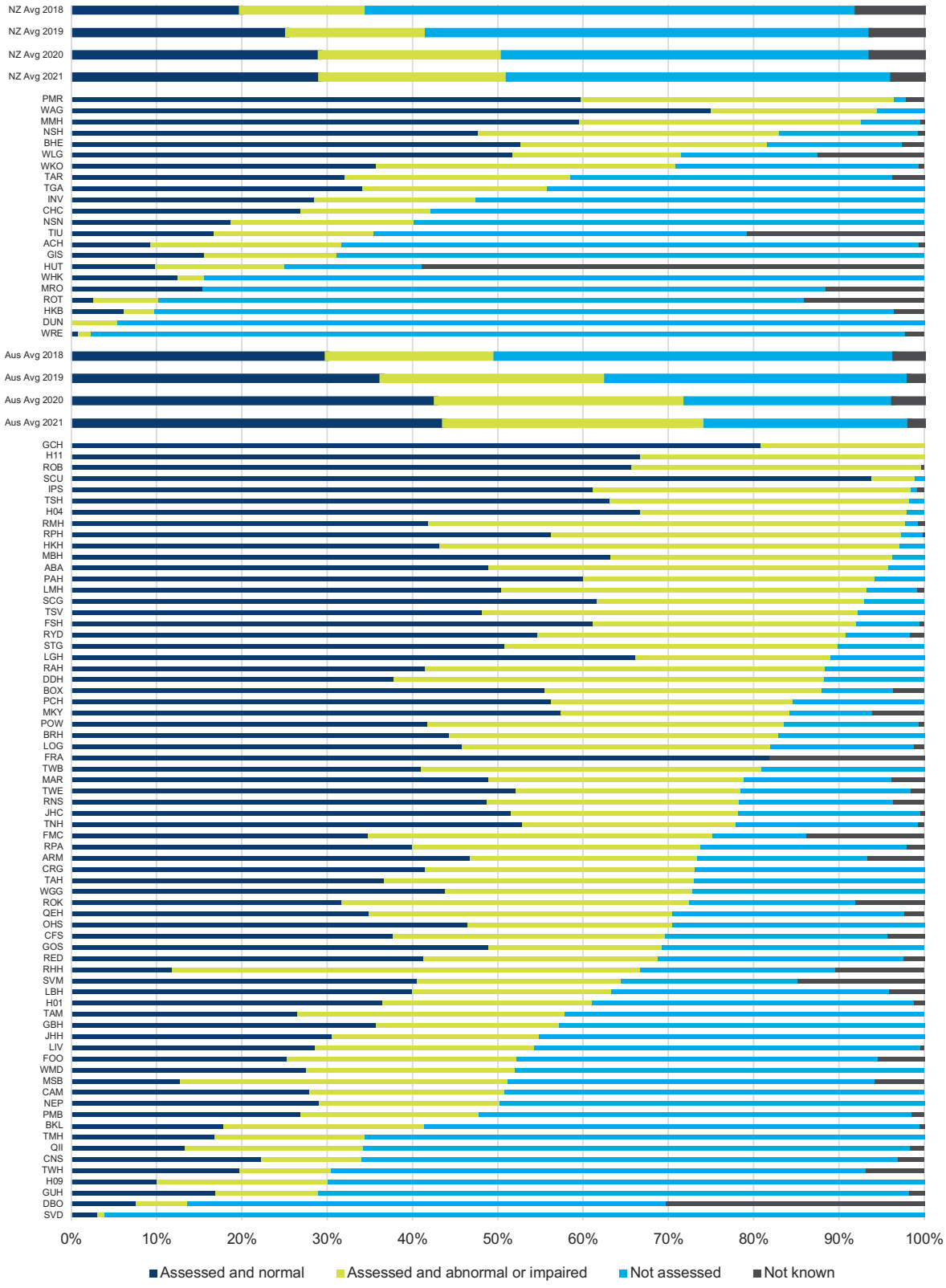


Watch this video at youtu.be/W4CpdCWXHTA, led by Dr Hannah Seymour, Geriatrician, to see how simple tools like the AMT4 and 4AT can be used to support the routine identification of delirium.

Indicator 1b: Proportion of patients with a hip fracture who have had their preoperative cognitive status assessed

Both countries have shown an increase each year in preoperative assessment of cognition in hip fracture patients. In New Zealand, 51% of patients had their cognition assessed using a validated tool prior to surgery. Forty-three percent of those assessed had impaired or abnormal cognition. In Australia, 75% of patients had their preoperative cognition assessed. Forty percent of those assessed had impaired or abnormal cognition.

FIGURE 3 Preoperative cognitive assessment



QUALITY STATEMENT 2
Pain management

A patient with a hip fracture is assessed for pain at the time of presentation and regularly throughout their hospital stay, and receives pain management including the use of multimodal analgesia, if clinically appropriate.

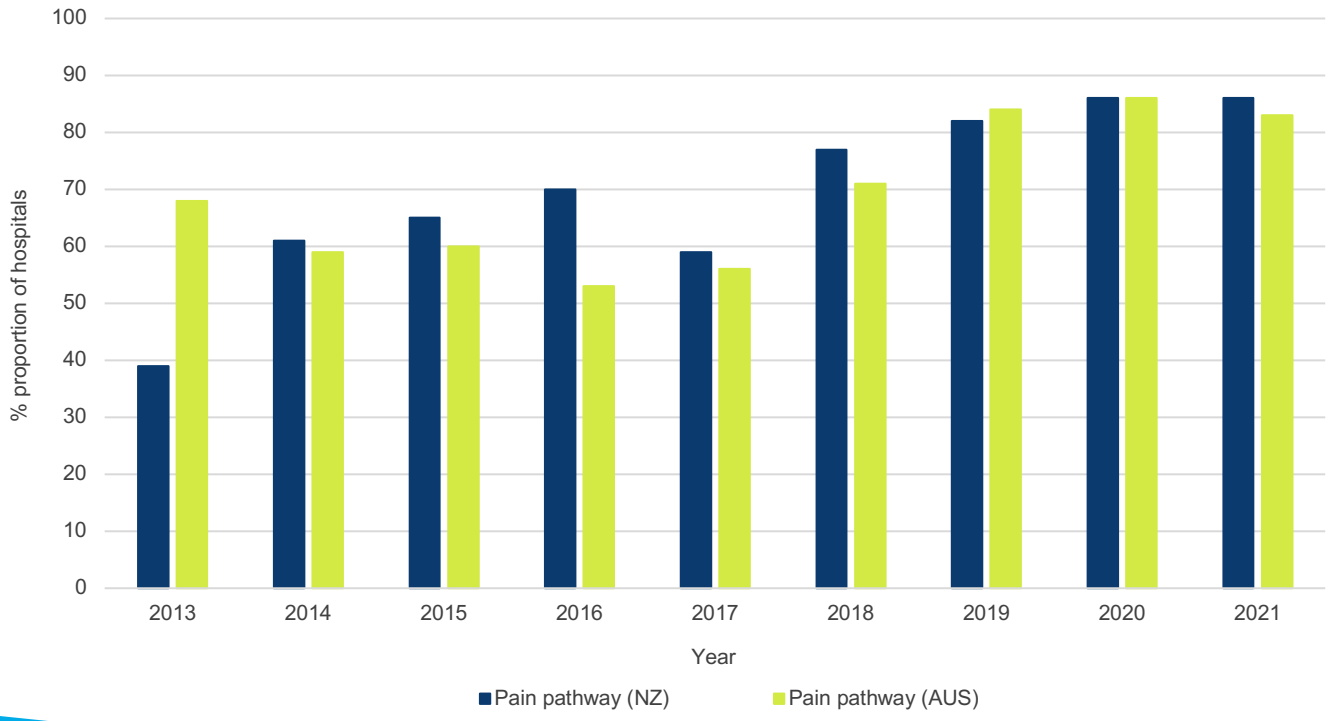
Indicator 2a: Evidence of local arrangements for timely and effective pain management for hip fracture

PAIN PATHWAY

In 2021, a protocol or pathway for pain was available at 86% of New Zealand hospitals and 83% of Australian hospitals. These results have remained relatively unchanged over the last three years.

The facility level audit also asks if patients are offered local nerve blocks as part of pre- and postoperative pain management. The results in 2021 were similar to the previous year. Ninety-seven percent (113/117) of New Zealand and Australian hospitals responded that patients were 'always' or 'frequently' offered nerve blocks preoperatively and 85% (100/117) responded that patients were 'always' or 'frequently' offered nerve blocks for postoperative pain relief.

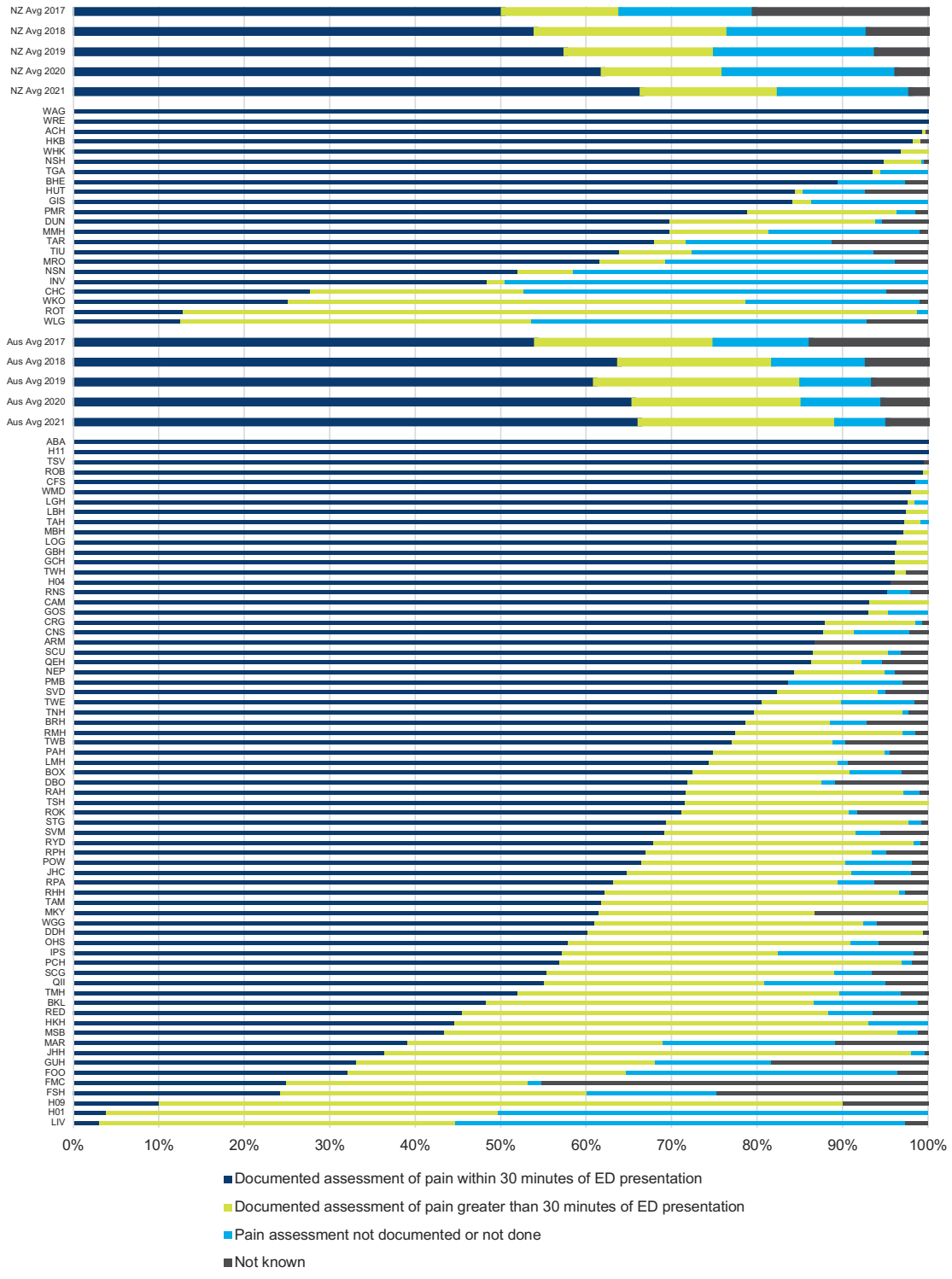
FIGURE 4 Pain pathway reported as an element of care in Australia and New Zealand 2013–2021



Indicator 2b. Proportion of patients with a hip fracture who have documented assessment of pain within 30 minutes of presentation to the ED and either receive analgesia within this time or do not require it according to the assessment

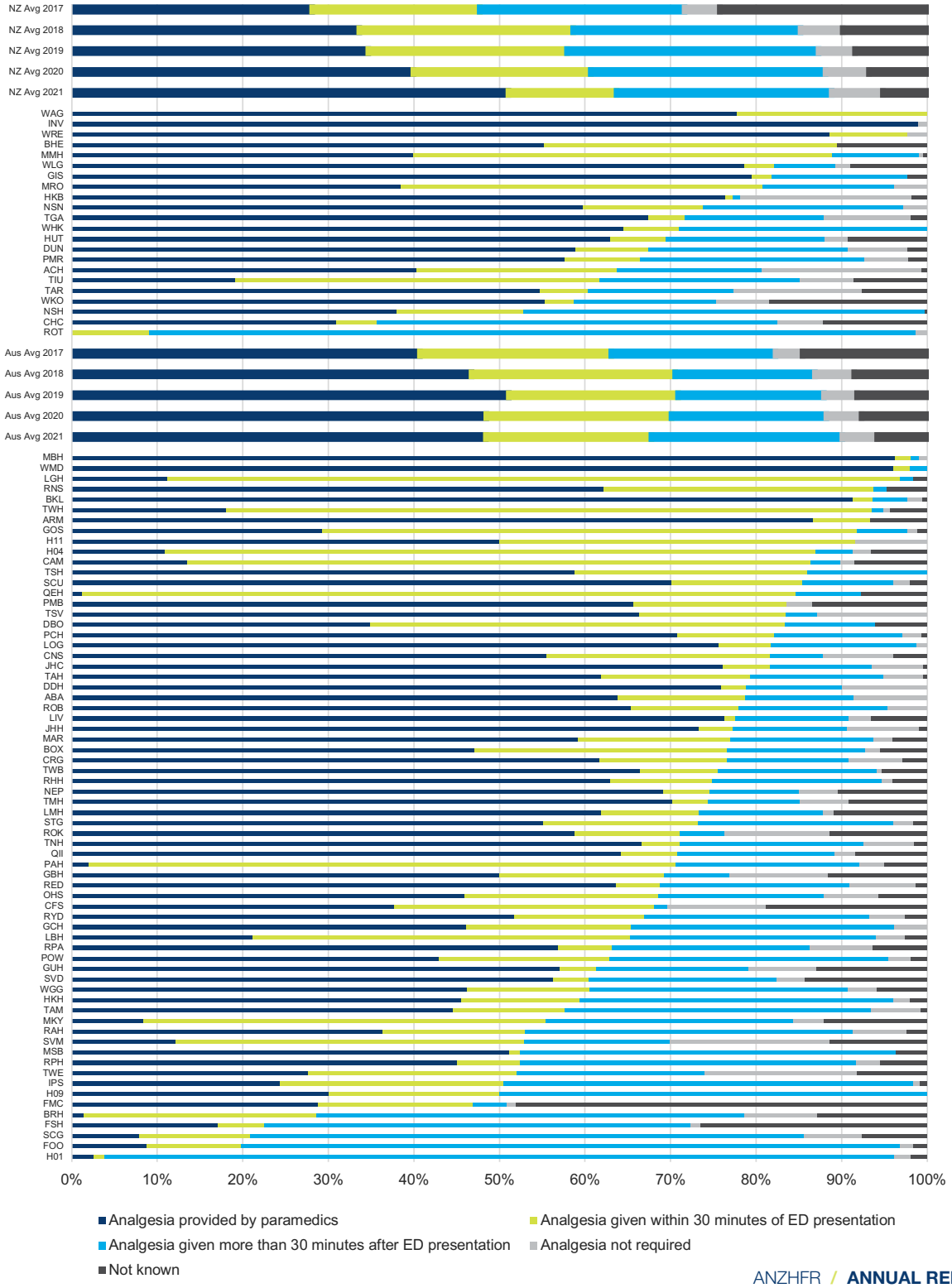
On average, 67% of New Zealand hip fracture patients and 66% of Australian hip fracture patients had a documented assessment of pain within 30 minutes of presentation. Pain assessment in the ED has increased each year in New Zealand, and overall, in Australia.

FIGURE 5 Pain assessment in the ED



Sixty-four percent of New Zealand and 68% of Australian hip fracture patients received analgesia either in transit (by paramedics) or within 30 minutes of arrival at the ED.

FIGURE 6 Pain management in the ED



Reuben Merrett, Critical Care Paramedic St John

PARAMEDICS IN NEW ZEALAND DELIVER NERVE BLOCKS TO OPTIMISE PAIN RELIEF

In early 2020 St John New Zealand frontline ambulance staff began administering fascia iliaca blocks for patients with fractures to their femur. Specifically, this was done prehospital in the setting of fractured femoral shaft, and fractured neck of femur.

This procedure can provide good pain relief, with less medication than the previous approach through a targeted nerve block, resulting in more optimal analgesia.

This type of nerve block benefits patients that are older and therefore more susceptible to the side effects of intravenous (IV) pain relief. By administering the nerve block we can, in many cases use lower doses of IV opioids or sometimes even avoid IV opioids altogether, and this has benefits for our patients.

> This procedure can provide good pain relief, with less medication than the previous approach through a targeted nerve block, resulting in more optimal analgesia.

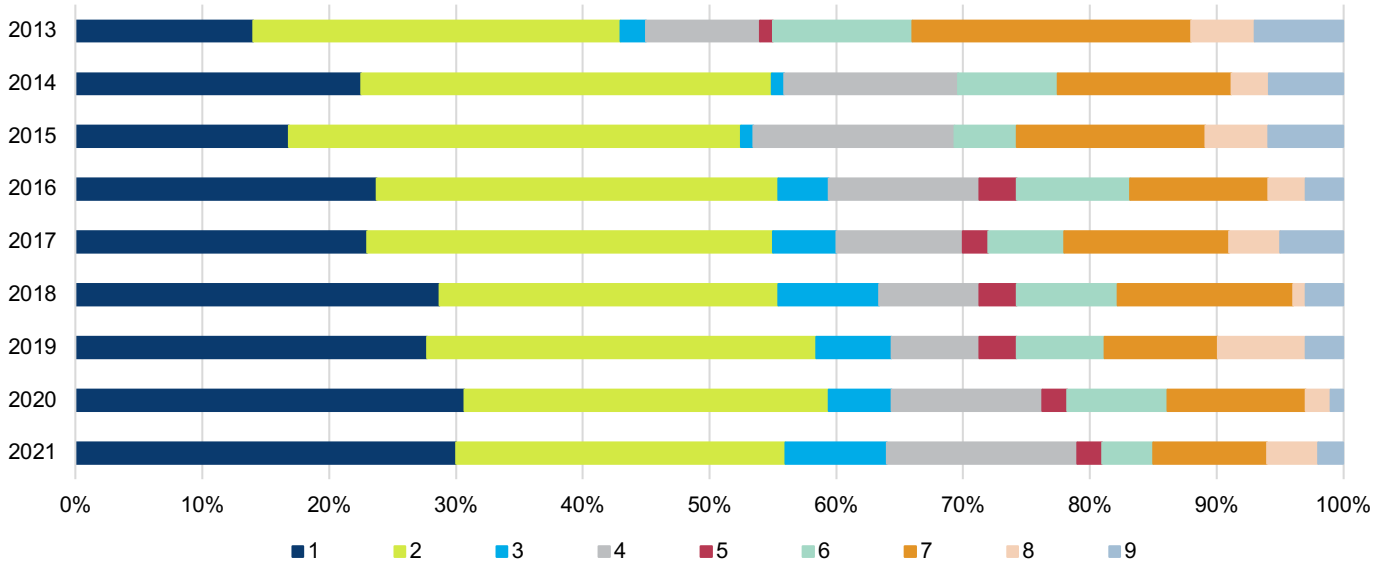
QUALITY STATEMENT 3
Orthogeriatric model of care

A patient with a hip fracture is offered treatment based on an orthogeriatric model of care as defined in the Australian and New Zealand Guideline for Hip Fracture Care.

3a. Evidence of orthogeriatric (or alternative physician or medical practitioner) management during an admitted patient's hip fracture episode of care

Health services should ensure systems are in place to offer hip fracture care that is based on an orthogeriatric model of care, as recommended in the Australian and New Zealand Guideline for Hip Fracture Care[1]. In 2021, shared care arrangements were reported in 30% of Australian and New Zealand hospitals (35/117). A weekday orthogeriatric liaison service was reported in 26% (30/117) of hospitals (Figure 7). Only 2% of hospitals reported that no formal service exists. In some hospitals, staff deployments and changes to the way hip fracture patients were cared for throughout the COVID-19 pandemic reduced the availability of orthogeriatric services.

FIGURE 7 Orthogeriatric care service model by hospital (New Zealand and Australia combined) 2013–2021

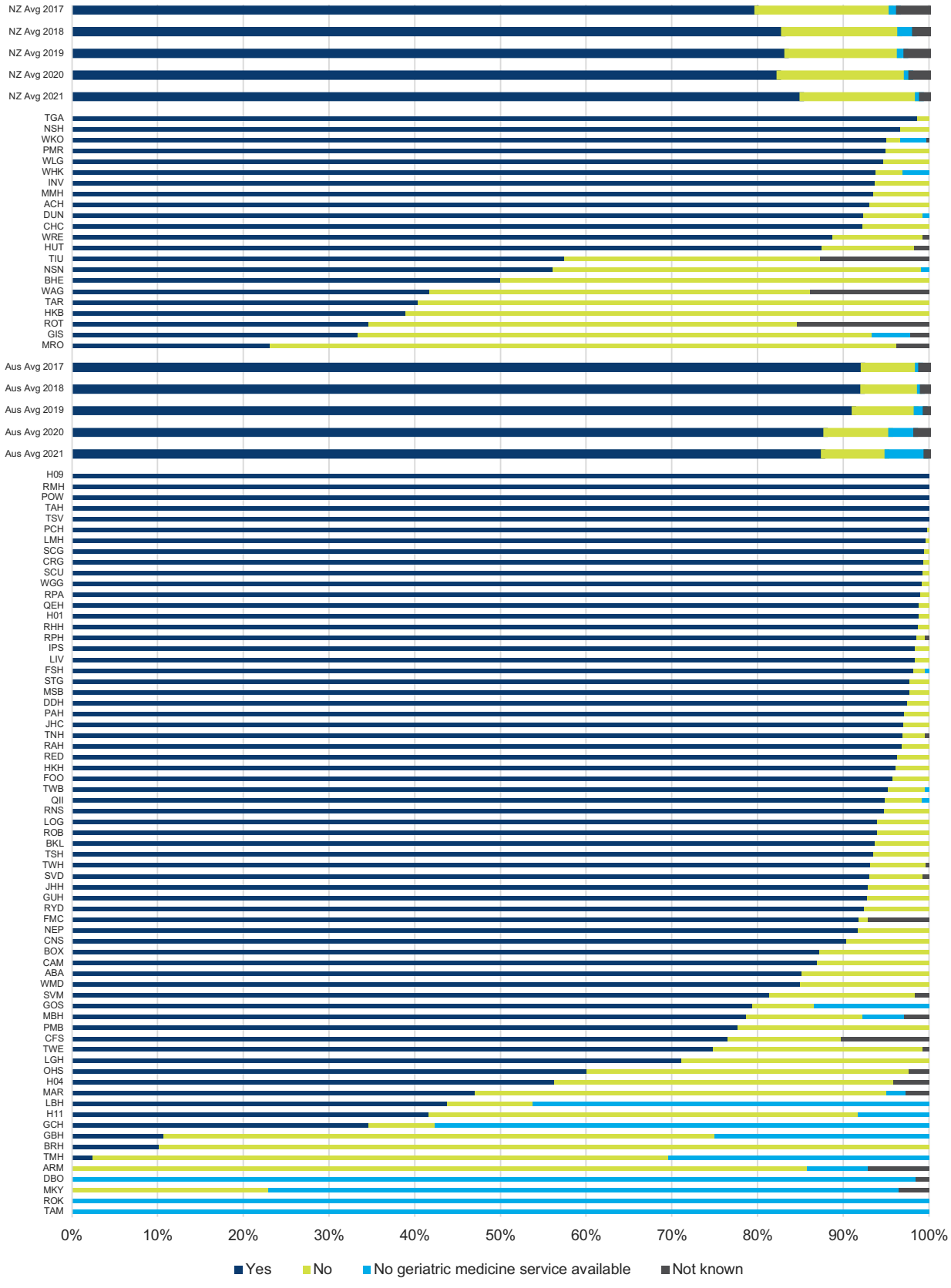


1. A shared care arrangement where there is joint responsibility for the patient from admission between orthopaedics and geriatric medicine for all older hip fracture patients
2. An orthogeriatric liaison service where geriatric medicine provides regular review of all older hip fracture patients (daily during working week)
3. A medical liaison service where a general physician or GP provides regular review of all older hip fracture patients (daily during working week)
4. An orthogeriatric liaison service where geriatric medicine provides intermittent review of all older hip fracture patients (2-3 times weekly)
5. A medical liaison service where a general physician or GP provides intermittent review of hip fracture patients (2-3 times weekly)
6. An orthogeriatric liaison service (2014) / geriatric service (2015) where a consult system determines which patients are reviewed
7. A medical liaison service (2014) / medical service (2015) where a consult system determines which patients are reviewed
8. Other
9. No formal service exists

1 Australian and New Zealand Hip Fracture Registry Steering Group. Australian and New Zealand guideline for hip fracture care: improving outcomes in hip fracture management of adults. Sydney: ANZHFR Steering Group, 2014. Available from anzhfr.org/resources.

In New Zealand, 85% of hip fracture patients saw a geriatrician during their acute hospital stay, representing an increase over time. In Australia, 88% of patients were seen by a geriatrician, which is unchanged from 2020 but represents a decrease over the last five years.

FIGURE 8 Assessed by geriatric medicine during acute admission



FRAILTY AMONG PEOPLE WITH A HIP FRACTURE

Frailty is common in older people who sustain a hip fracture and is associated with a longer length of stay and complications. It is increasingly being used as an assessment of risk and by the multidisciplinary team to guide planning and prognosis after hip fracture.

The Clinical Frailty Scale (CFS) was added as a new variable in 2021 to capture the proportion of patients who are assessed for frailty and track the frailty profile of hip fracture patients in Australia and New Zealand. The CFS was created based on the Canadian Study of Health and Aging Frailty Index to summarise the overall level of fitness or frailty of an older adult[2].

In 2021, the CFS was known in 82% of hip fracture patients in New Zealand, and 77% in Australia. Details of the CFS profile of hip fracture patients where CFS was known can be found in our full digital report online.

Assessing frailty, or increasing the proportion of hip fracture patients that have their CFS recorded may be an opportunity for improvement. The Registry will also explore the use of frailty in adjusted mortality data in the future.

The following resources around the CFS may provide guidance to clinicians unfamiliar with the CFS:

- **ANZHFR Hipcast episode:**
  Using the Clinical Frailty Scale
  podcasts.apple.com/au/podcast/hipcast/id1560257806
- **ANZHFR YouTube video:**
  Using the Clinical Frailty Scale
  youtube.com/watch?v=ao9M_A4sytQ
- ***Clinical Frailty Scale Training Module***
  rise.articulate.com/share/deb4rT02lvONbq4AfcMNRUudcd6QMts3#/
- ***Dalhousie University Geriatric Medicine Research***
  dal.ca/sites/gmr/our-tools/clinical-frailty-scale.html

Image 2: Clinical Frailty Scale

CLINICAL FRAILTY SCALE

1	VERY FIT	People who are robust, active, energetic and motivated. They tend to exercise regularly and are among the fittest for their age.
2	FIT	People who have **no active disease symptoms** but are less fit than category 1. Often, they exercise or are very **active occasionally**, e.g., seasonally.
3	MANAGING WELL	People whose **medical problems are well controlled**, even if occasionally symptomatic, but often are **not regularly active** beyond routine walking.
4	LIVING WITH VERY MILD FRAILTY	Previously "vulnerable," this category marks early transition from complete independence. While **not dependent** on others for daily help, often **symptoms limit activities**. A common complaint is being "slowed up" and/or being tired during the day.
5	LIVING WITH MILD FRAILTY	People who often have **more evident slowing**, and need help with **high order instrumental activities of daily living** (finances, transportation, heavy housework). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation, medications and begins to restrict light housework.
6	LIVING WITH MODERATE FRAILTY	People who need help with **all outside activities** and with **keeping house**. Inside, they often have problems with stairs and need **help with bathing** and might need minimal assistance (cuing, standby) with dressing.
7	LIVING WITH SEVERE FRAILTY	**Completely dependent for personal care**, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~6 months).
8	LIVING WITH VERY SEVERE FRAILTY	Completely dependent for personal care and approaching end of life. Typically, they could not recover even from a minor illness.
9	TERMINALLY ILL	Approaching the end of life. This category applies to people with a **life expectancy <6 months**, who are **not otherwise living with severe frailty.** (Many terminally ill people can still exercise until very close to death.)

SCORING FRAILTY IN PEOPLE WITH DEMENTIA

The degree of frailty generally corresponds to the degree of dementia. Common **symptoms in mild dementia** include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.

In **moderate dementia**, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting.

In **severe dementia**, they cannot do personal care without help.

In **very severe dementia** they are often bedfast. Many are virtually mute.

DALHOUSIE UNIVERSITY

Clinical Frailty Scale ©2005–2020 Rockwood, Version 2.0 (EN). All rights reserved. For permission: **www.geriatricmedicineresearch.ca**

Rockwood K et al. A global clinical measure of fitness and frailty in elderly people. CMAJ 2005;173:489–495.

2 Rockwood K, Song X, MacKnight C, Bergman H, Hogan DB, McDowell I, Mitnitski A. A global clinical measure of fitness and frailty in elderly people. CMAJ. 2005;173(5):489-495.

QUALITY STATEMENT 4
Timing of surgery

A patient presenting to hospital with a hip fracture, or sustaining a hip fracture while in hospital, receives surgery on the day of or the day after, where clinically indicated and surgery is preferred by the patient.

Indicator 4a: Proportion of patients with a hip fracture receiving surgery within 48 hours of presentation with the hip fracture

Figures 9 and 10 include both transferred patients and patients admitted directly to the operating hospitals. Prompt hip fracture surgery reduces morbidity, hastens functional recovery, and reduces length of stay. Figure 9 shows that 85% of patients in New Zealand and 81% of patients in Australia who underwent surgery were operated on within 48 hours of presentation to the first hospital. This is relatively unchanged from 2020.

Figure 10 provides useful information for hospitals and health services wishing to improve the proportion of patients treated within 48 hours as it highlights causes for surgical delay. The primary modifiable reasons for delay are access to theatres and deemed medically unfit.

FIGURE 9 Surgery within 48 hours

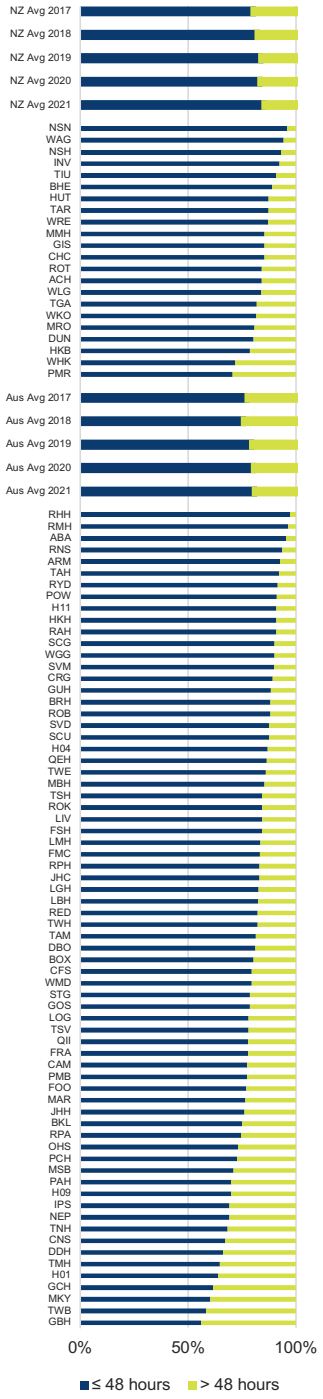
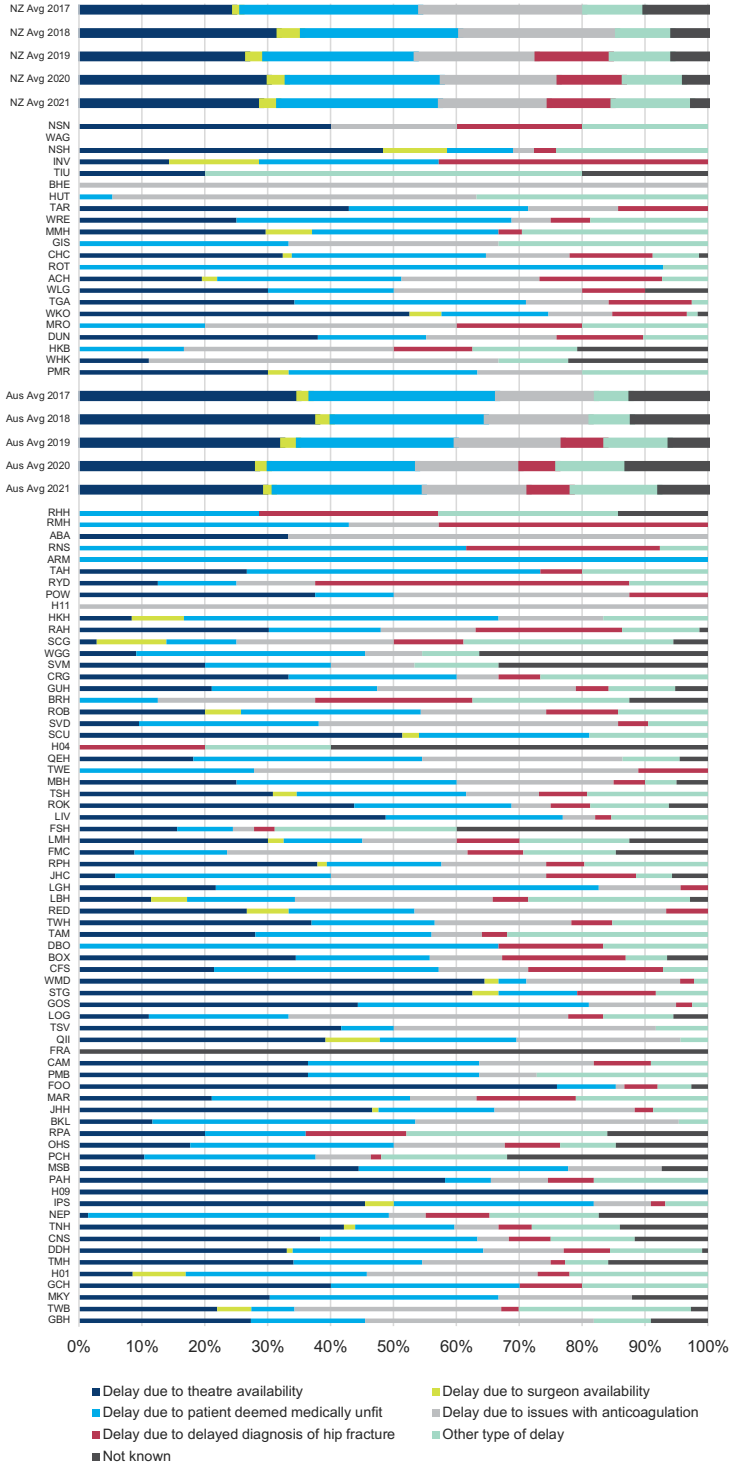


FIGURE 10 Reason for delay > 48 hours



THE ROYAL HOBART HOSPITAL HANDLES HIP FRACTURE TIME TO SURGERY

We have had significant streamlining of services across Tasmania. In the last 3 years, we have introduced a statewide emergency department hip fracture pathway to improve outcomes. This has led to near universal pain management with preoperative blocks, not delaying operations for people taking direct oral anticoagulants and trying to ensure non-fasting perioperative approaches with DEX drink, amongst other advances.

Early identification of patients requiring orthopaedic and orthogeriatric involvement has significantly improved time to surgery. We have also tried to facilitate a prioritisation system for hip fractures via an electronic theatre booking system. The orthopaedic theatre lists have a daily acute plan, where hip fractures are usually placed first. Sometimes, there is also flexibility in trauma lists, with underbooked elective lists. This has been seen more commonly with a lack of inpatient beds in the hospital due to decreased patient flow. The specific stressors on beds have come from COVID-19 infection waves impacting subacute rehabilitation beds and staffing levels.

In the last month there has been implementation of a statewide inpatient hip fracture pathway, which we hope is the next step to further improving the outcomes for people who sustain a hip fracture. We aim to standardise the care provided by medical, nursing and allied health teams across our state.

Early identification of patients requiring orthopaedic and orthogeriatric involvement has significantly improved time to surgery.

QUALITY STATEMENT 5

Mobilisation and weight bearing

A patient with a hip fracture is offered mobilisation without restrictions on weight bearing the day after surgery and at least once a day thereafter, depending on the patient's clinical condition and agreed goals of care.

Indicator 5a: Proportion of patients with a hip fracture who are mobilised on day one post hip fracture surgery

Ninety percent of hip fracture patients in New Zealand and 92% in Australia were given the opportunity to mobilise the day after surgery.

FIGURE 11 Opportunity for first day mobilisation

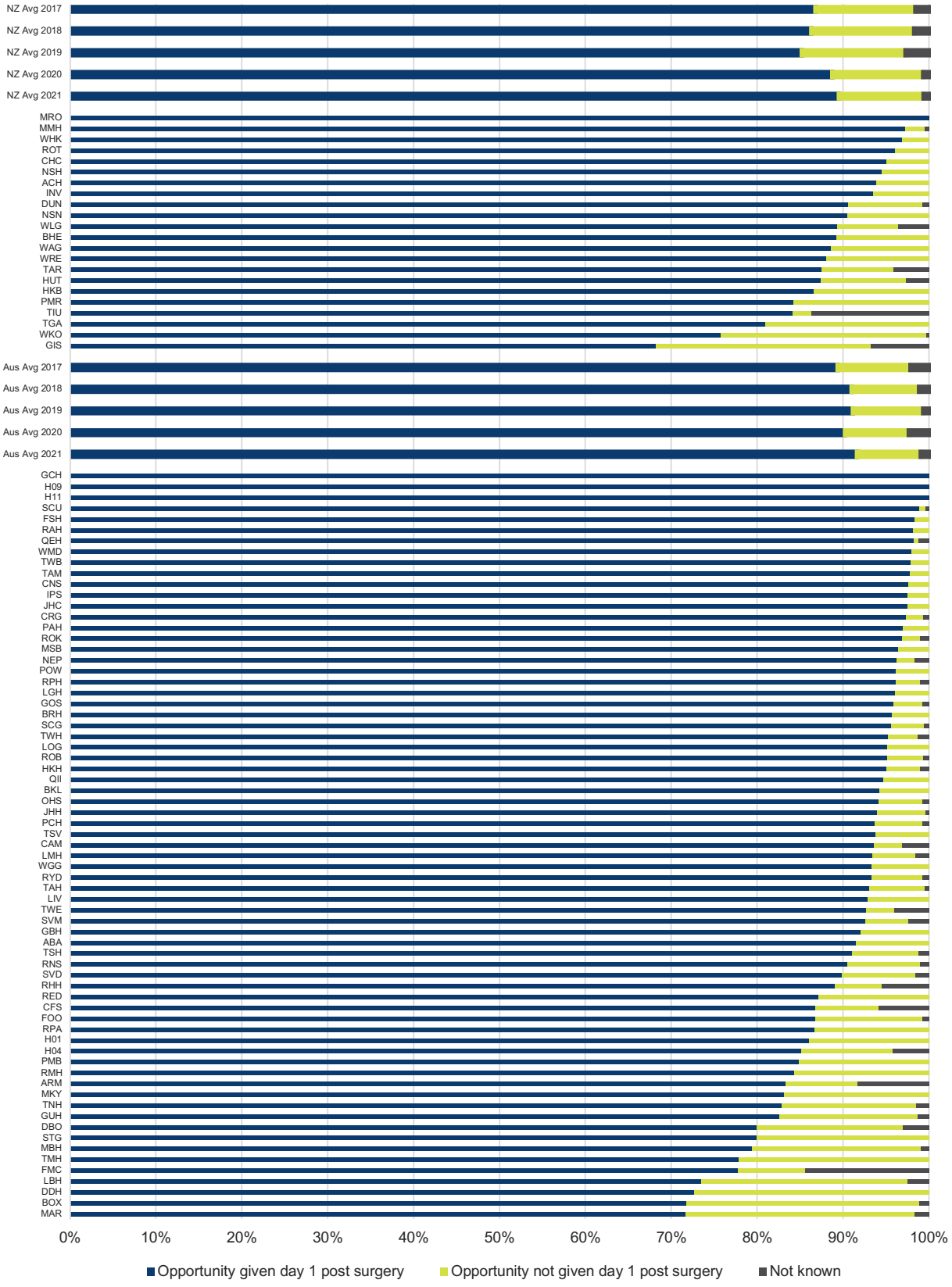
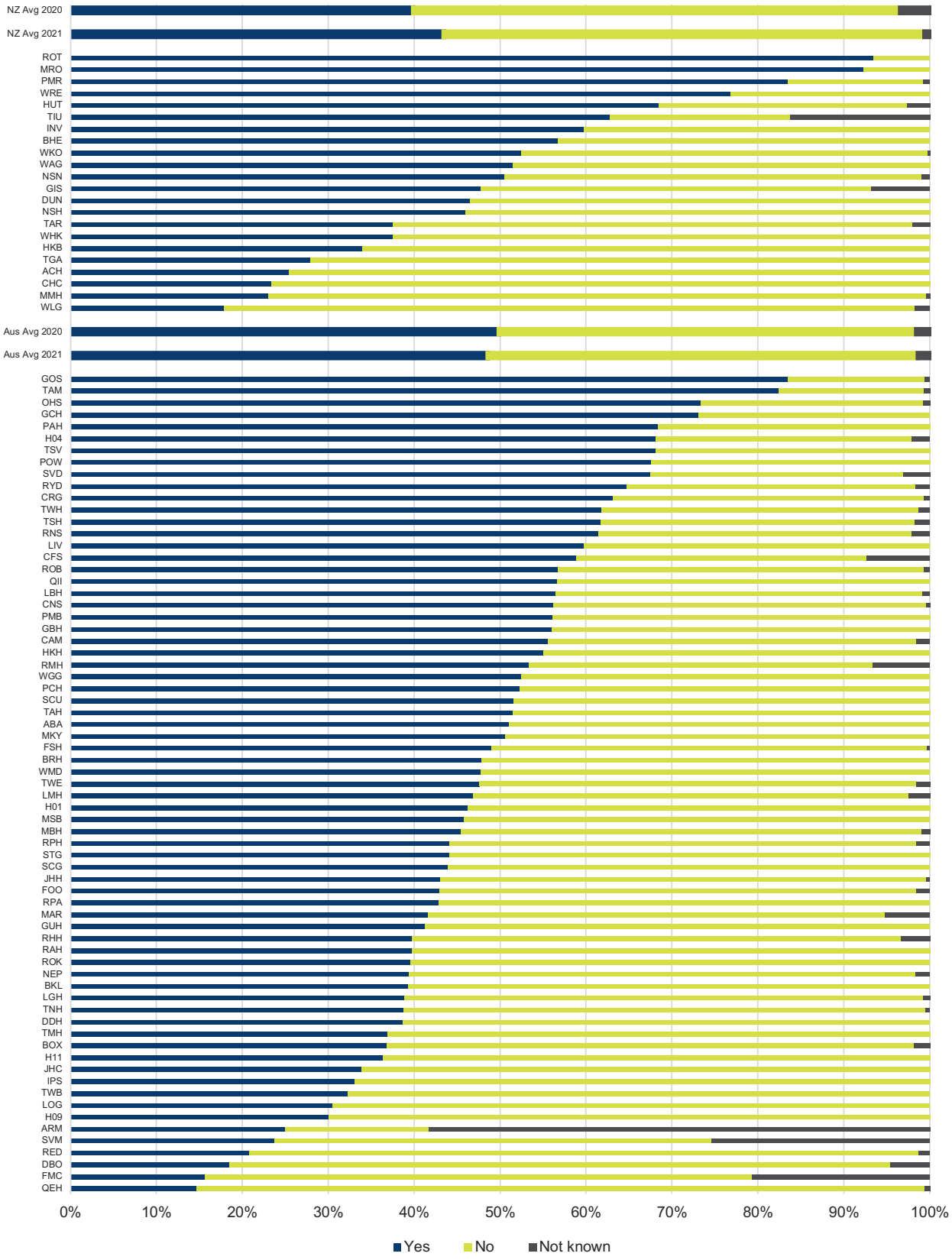


FIGURE 12 First day walking

First day walking tracks the proportion of patients who mobilise on day one post-surgery. Mobilise means the patient managed to stand and step transfer out of bed onto a chair/commode or walk. Forty-three percent of patients in New Zealand and 49% of patients in Australia achieved first day walking. Substantial variation exists between hospitals. The ANZHFR is currently undertaking a sprint audit to better understand the enablers and barriers to day one mobilisation.

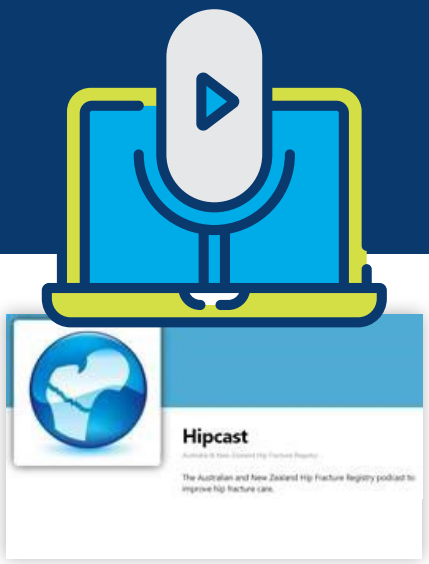


TOOWOOMBA HOSPITAL

A small representation of the much larger multidisciplinary team that work cooperatively to provide care here at Toowoomba Hospital. We continue to value and utilise the ANZHFR data to monitor how well we are travelling, in what have been challenging times. It is important to ensure we remain patient-centred in our care. Strong communication between all members of our team, which includes patients and carers, is vital.

Have you listened to Hipcast, ANZHFR's podcast to improve hip fracture care? Hear a range of expert speakers talk about topics relevant to the multidisciplinary care of older people with a hip fracture.

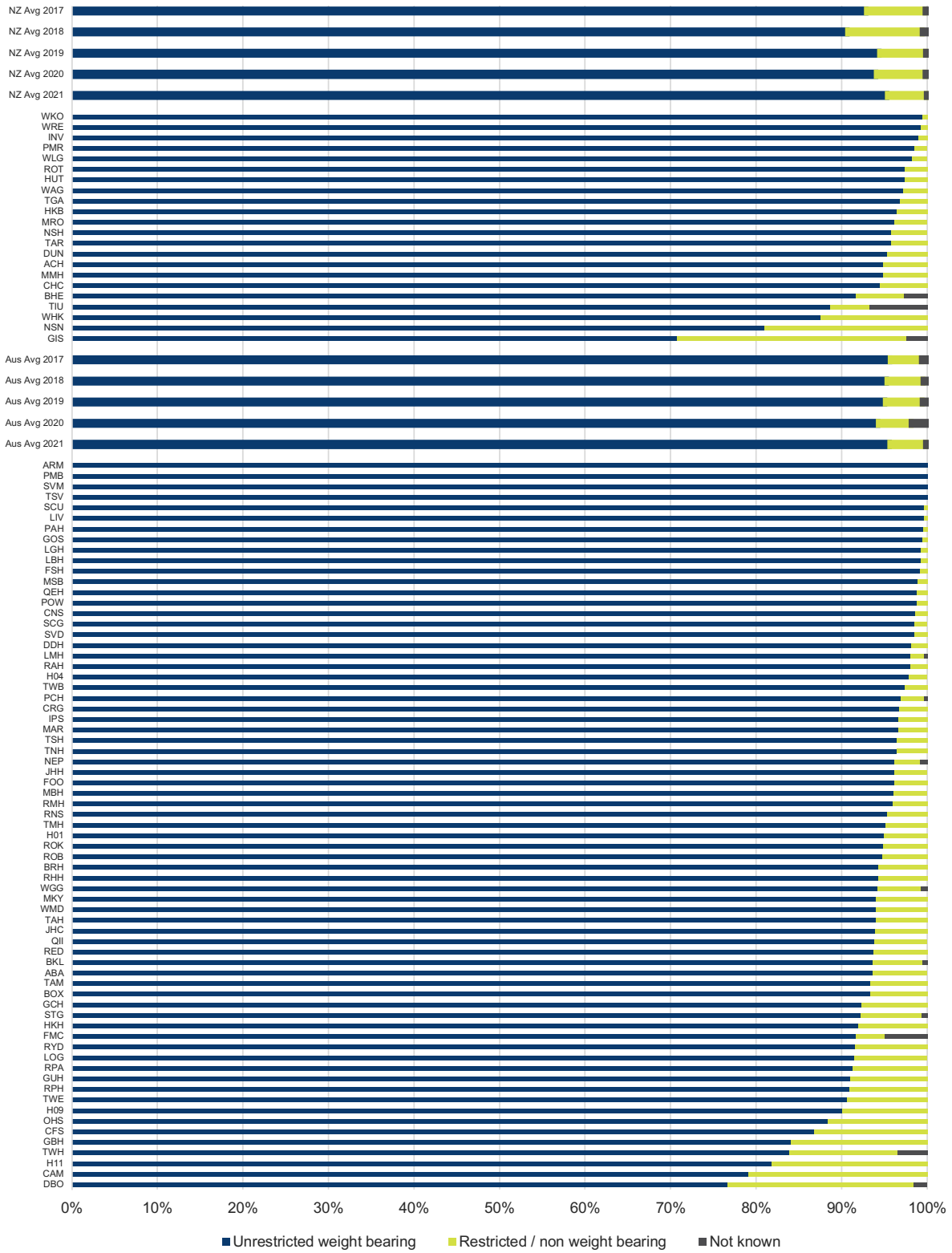
Go to hipcast.buzzsprout.com to subscribe.



Indicator 5b: Proportion of patients with a hip fracture with unrestricted weight bearing status immediately post hip fracture surgery

Allowing immediate unrestricted weight bearing after surgery supports early rehabilitation and functional recovery. Figure 13 shows that 95% of patients in New Zealand and 96% of patients in Australia were permitted to weight bear without restriction after surgery. Variation in some hospitals remains evident.

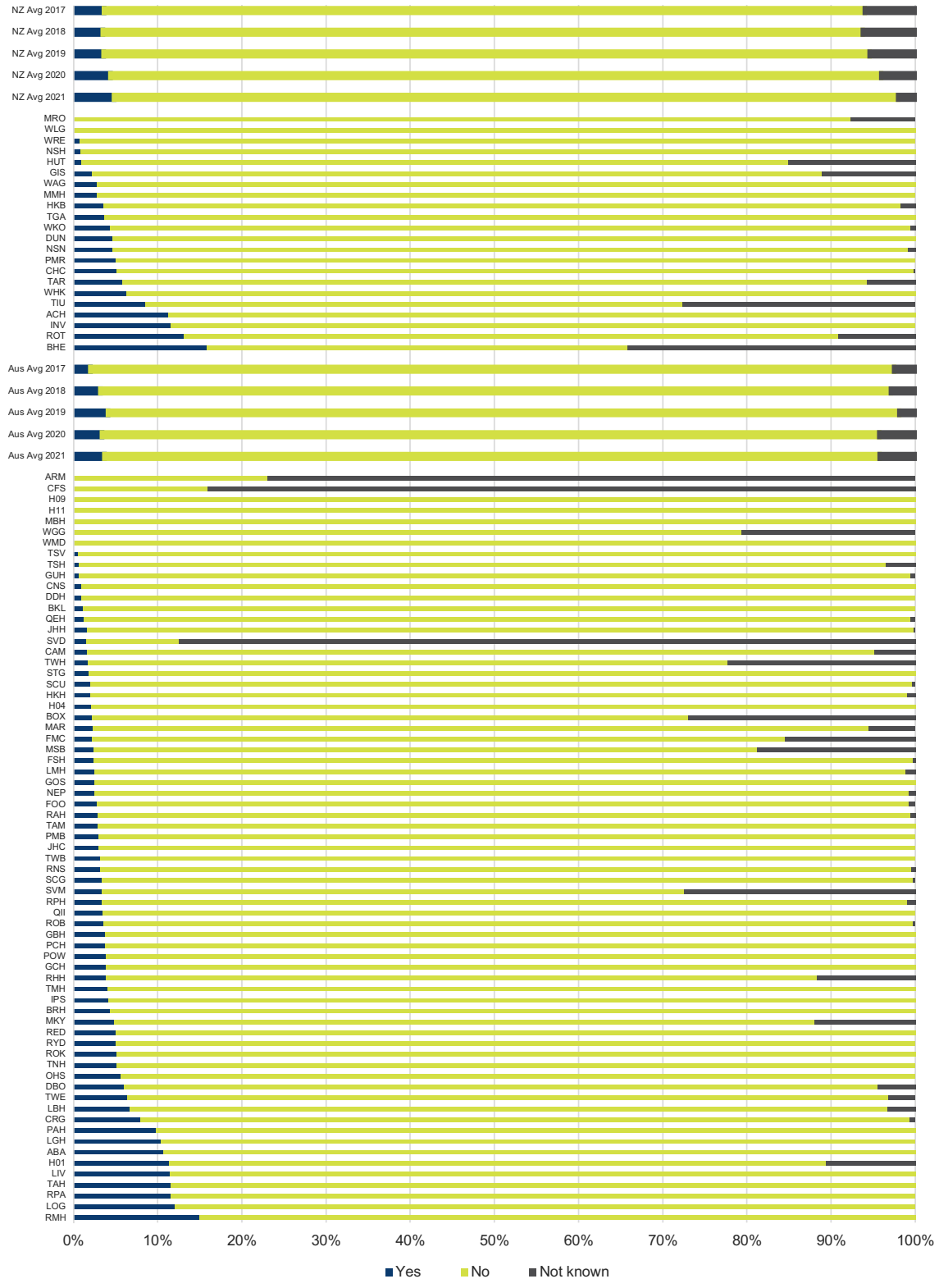
FIGURE 13 Weight bearing status after surgery



Indicator 5c: Proportion of patients with a hip fracture experiencing a new Stage II or higher pressure injury during their hospital stay

A pressure injury of the skin is a potentially preventable complication of hip fracture care. It is associated with delayed functional recovery and an increased length of stay. Five percent of patients in New Zealand and 4% in Australia were documented as acquiring a pressure injury of the skin during their acute hospital stay.

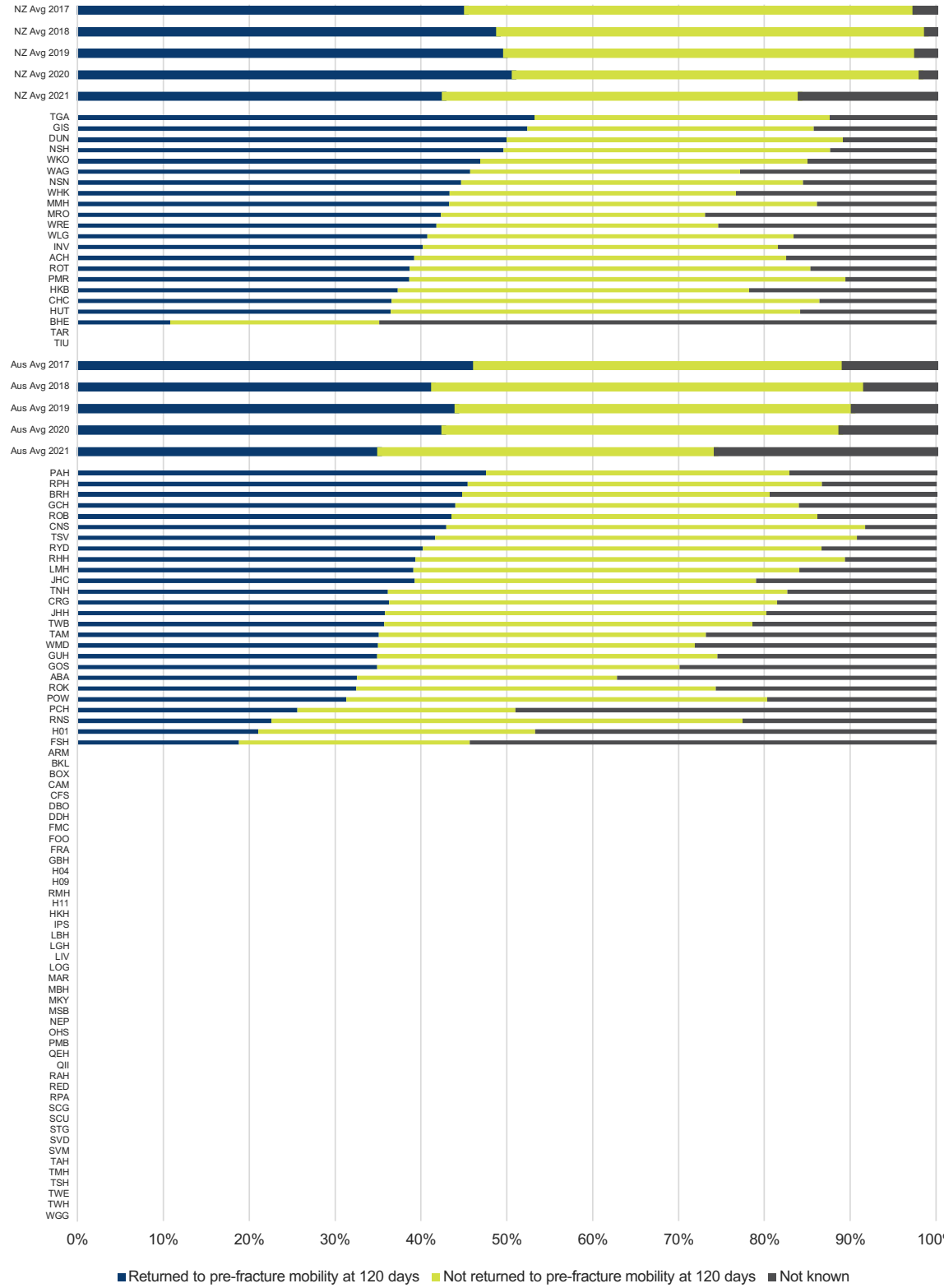
FIGURE 14 Hospital acquired pressure injuries of the skin



Indicator 5d: Proportion of patients with a hip fracture returning to pre-fracture mobility

Functional recovery, including a return to pre-fracture mobility, is a vitally important outcome for people after a hip fracture. Currently, this is captured as part of 120-day follow-up at sites where follow-up occurs. Figure 15 reports hospitals with > 80% follow-up completed and at least 10 records. In New Zealand, follow-up has increased over time and in 2021, 96% of records had data for 120 days. In Australia, 53% had data for 120 days. For a high proportion of patients in both countries return to pre-fracture mobility is not known, suggesting caution with interpretation of the results.

FIGURE 15 Return to pre–fracture mobility at 120 days



A TEAM APPROACH TO FALLS ASSESSMENT AT THE ROYAL ADELAIDE HOSPITAL

RAH, CALHN Orthogeriatric multidisciplinary team

Back Row: Aimee Macoustra, Dietitian AHA; Carmen Fuller-Gooley, Speech Pathologist; Alessia Pivato, Occupational Therapist; Renee Robinson, Occupational Therapist; Jay Chongvathanakij, Orthogeriatric Registrar

Front Row: Jenny De Young, Nurse Consultant; Trudy Egan, Dietitian; Anita Taylor, Nurse Practitioner; Lachie Swain, Physiotherapist

The responsibility for falls assessment rests with all members of the RAH multidisciplinary team, led by occupational therapy and orthogeriatrics, who address the patient's intrinsic and extrinsic risk factors for falls and formulate a plan.

QUALITY STATEMENT 6

Minimising risk of another fracture

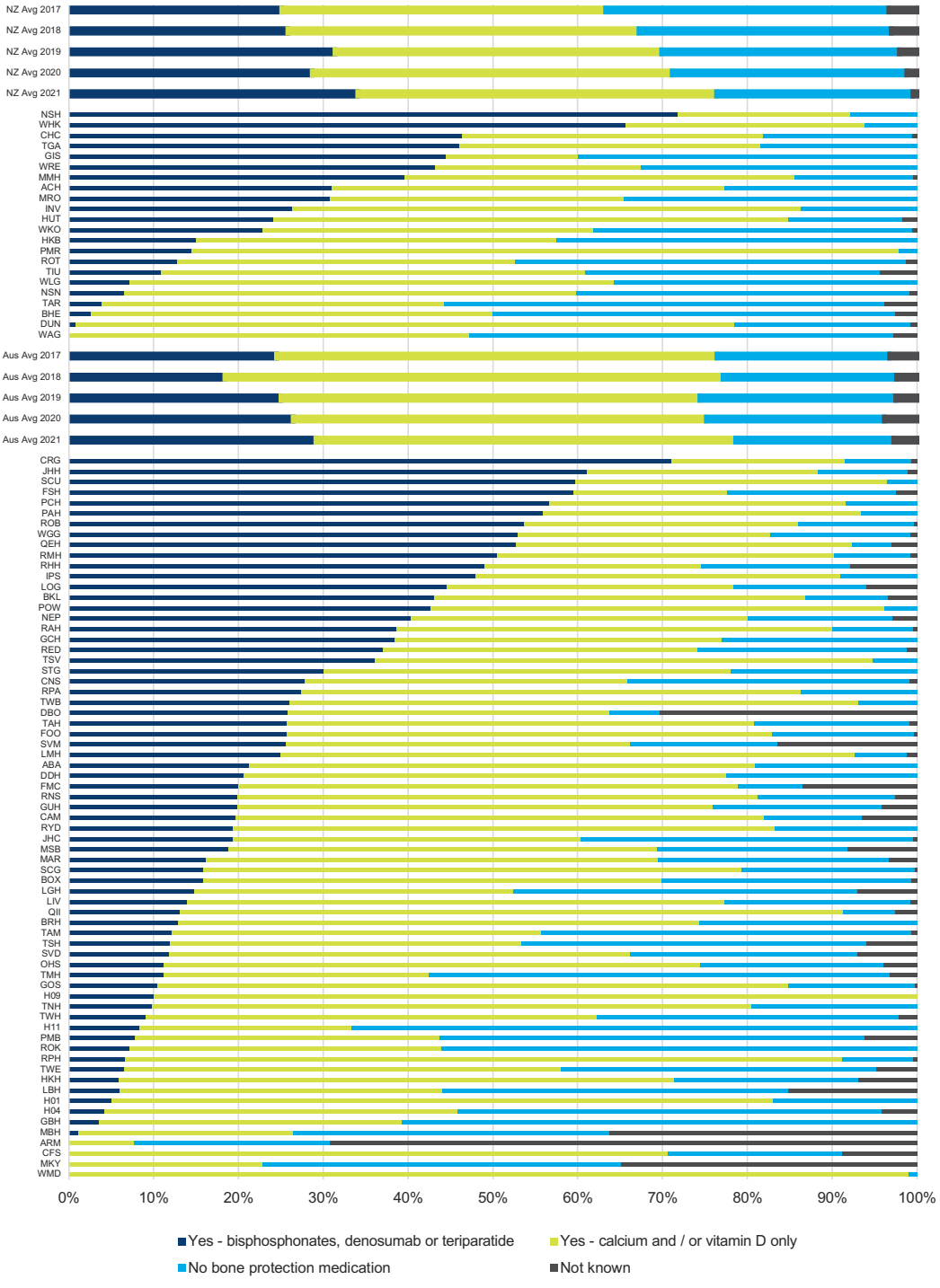
Before a patient with a hip fracture leaves hospital, they are offered a falls and bone health assessment, and a management plan based on this assessment to reduce the risk of another fracture.

Indicator 6a: Proportion of patients with a hip fracture receiving bone protection medicine prior to separation from the hospital at which they underwent hip fracture surgery

Future fracture prevention is a key component of high-quality hip fracture care, and includes initiation of treatment for osteoporosis in hospital where appropriate. The Registry is able to capture bone protection medication on discharge from the acute setting but data reported here may underestimate the number of people treated for osteoporosis, particularly in cases where patients are transferred to another hospital for subacute care.

Figure 16 shows that in New Zealand, 34% of hip fracture patients left hospital on a bisphosphonate, denosumab or teriparatide, compared with 11% on admission. In Australia, 29% of patients left hospital on a bisphosphonate, denosumab or teriparatide, compared with 12% on admission. Whilst it's not always possible to initiate treatment in the acute setting, the data continues to highlight substantial variation between hospitals and represents a significant missed opportunity to contribute towards preventing another fracture.

FIGURE 16 Bone protection medication on discharge



CONCORD REPATRIATION GENERAL HOSPITAL, NSW

Patients who present with a fractured neck of femur are reviewed by the Orthogeriatric team at Concord Hospital. One of the main areas of focus is to promote bone health and protection. Patients are screened by the team and, depending on their individual needs, are prescribed either a Zoledronic acid infusion or Denosumab injection during their acute care stay. They are also followed up in the hospital's osteoporosis clinic post discharge, where possible.

Patients are screened by the team and, depending on their individual needs, are prescribed either a Zoledronic acid infusion or Denosumab injection during their acute care stay.

QUALITY STATEMENT 7

Transition from hospital care

Before a patient leaves hospital, the patient and their carer are involved in the development of an individualised care plan that describes the patient's ongoing care and goals of care after they leave hospital. The plan is developed collaboratively with the patient's general practitioner. The plan identifies any changes in medicines, any new medicines, and equipment and contact details for rehabilitation services they may require. It also describes mobilisation activities, wound care and function post-injury. This plan is provided to the patient before discharge and to their general practitioner and other ongoing clinical providers within 48 hours of discharge.

Indicator 7a: Evidence of local arrangements for the development of an individualised care plan for hip fracture patients prior to the patient's separation from hospital

Health systems should be set up to enable development of an individualised care plan with patients prior to discharge. There has been a steady increase in the provision of written information on treatment and care after hip fracture over the years of the facility level audit. This year, 68% of New Zealand respondents and 63% of Australian respondents reported providing this at their hospital (Figure 17)

The provision of individualised written information on the prevention of future falls and fractures remains low overall, with 14% of New Zealand and 34% of Australian hospitals reporting that they routinely provide individualised falls prevention information to hip fracture patients (Figure 18).

FIGURE 17 Proportion of New Zealand and Australian hospitals reporting routine provision of written information on treatment and care after hip fracture 2013–2021

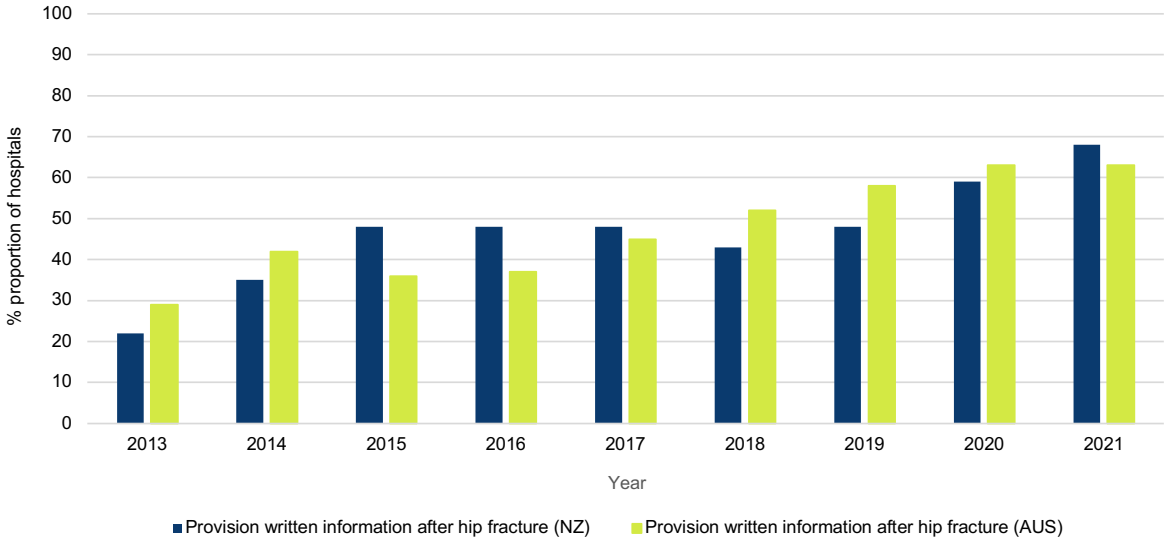
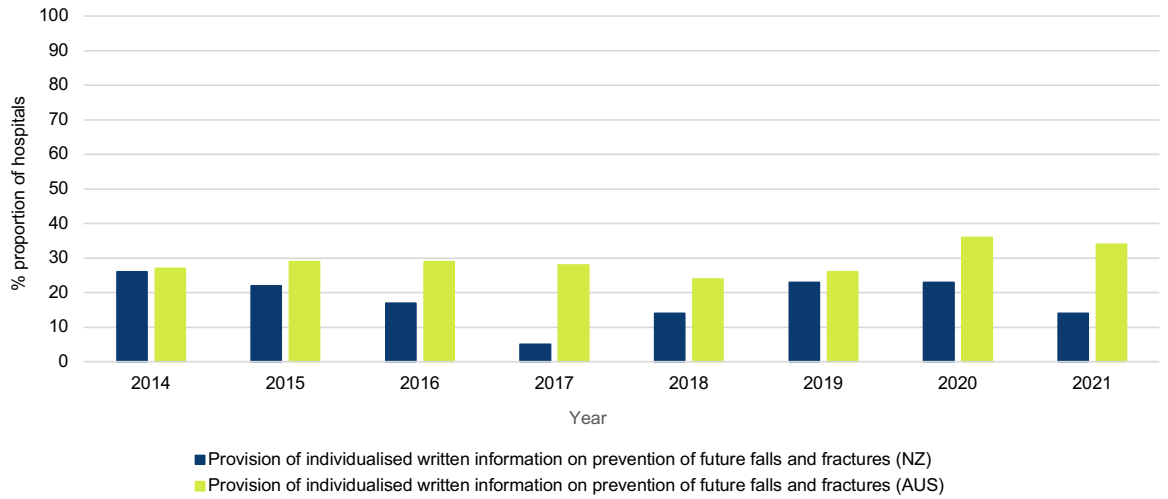


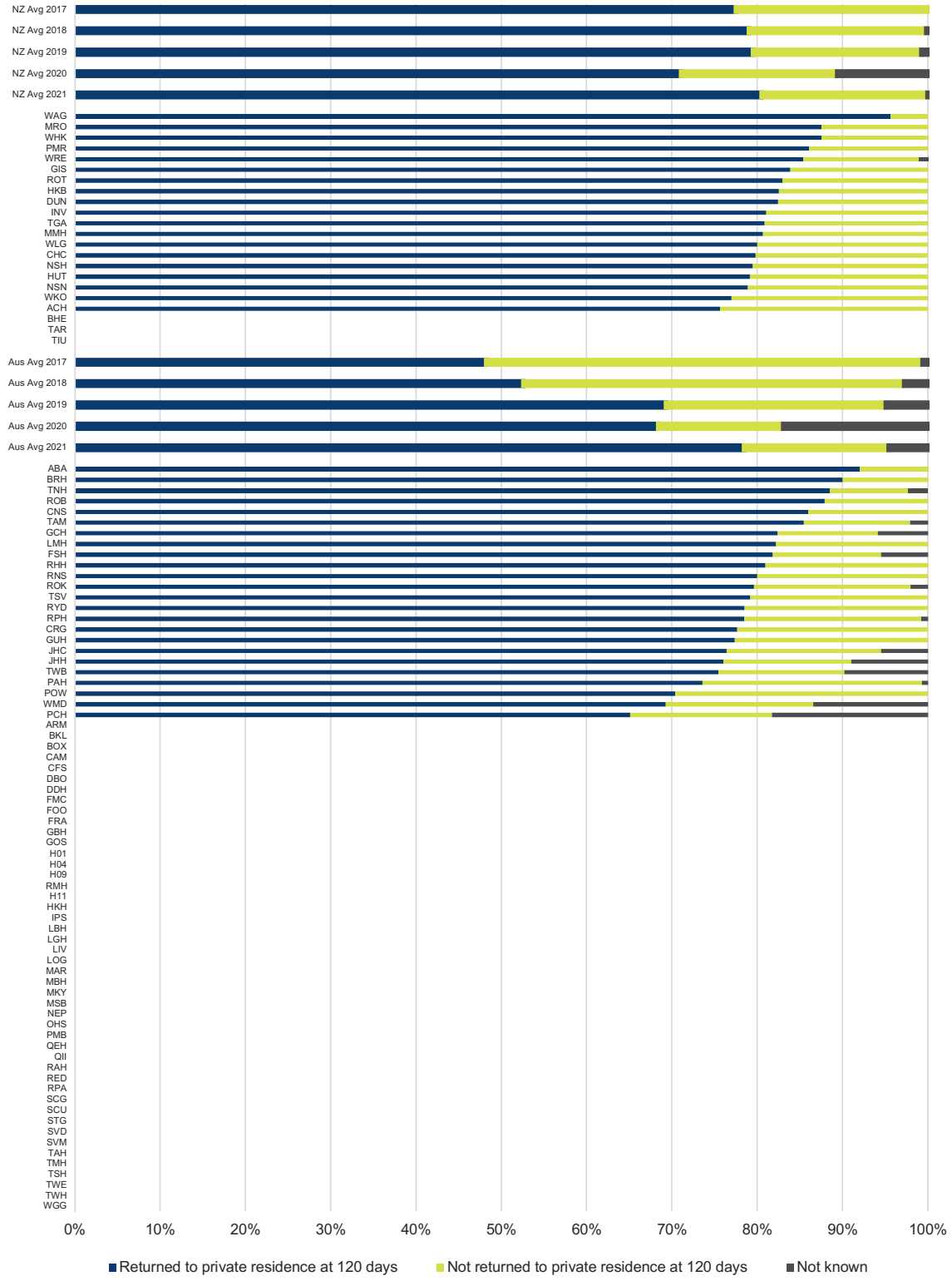
FIGURE 18 Proportion of New Zealand and Australian hospitals reporting routine provision of individualised written information on prevention of future falls and fractures 2014–2021



7b. Proportion of patients with a hip fracture living in a private residence prior to their hip fracture returning to private residence within 120 days post separation from hospital

Figure 19 includes records for patients who came from private residence and were followed-up at 120 days. In 2021, 80% of patients in New Zealand and 78% of patients in Australia had returned to their private residence 120 days after hip fracture.

FIGURE 19 Return to private residence at 120 days



IMPACT OF COVID-19 ON HIP FRACTURE CARE

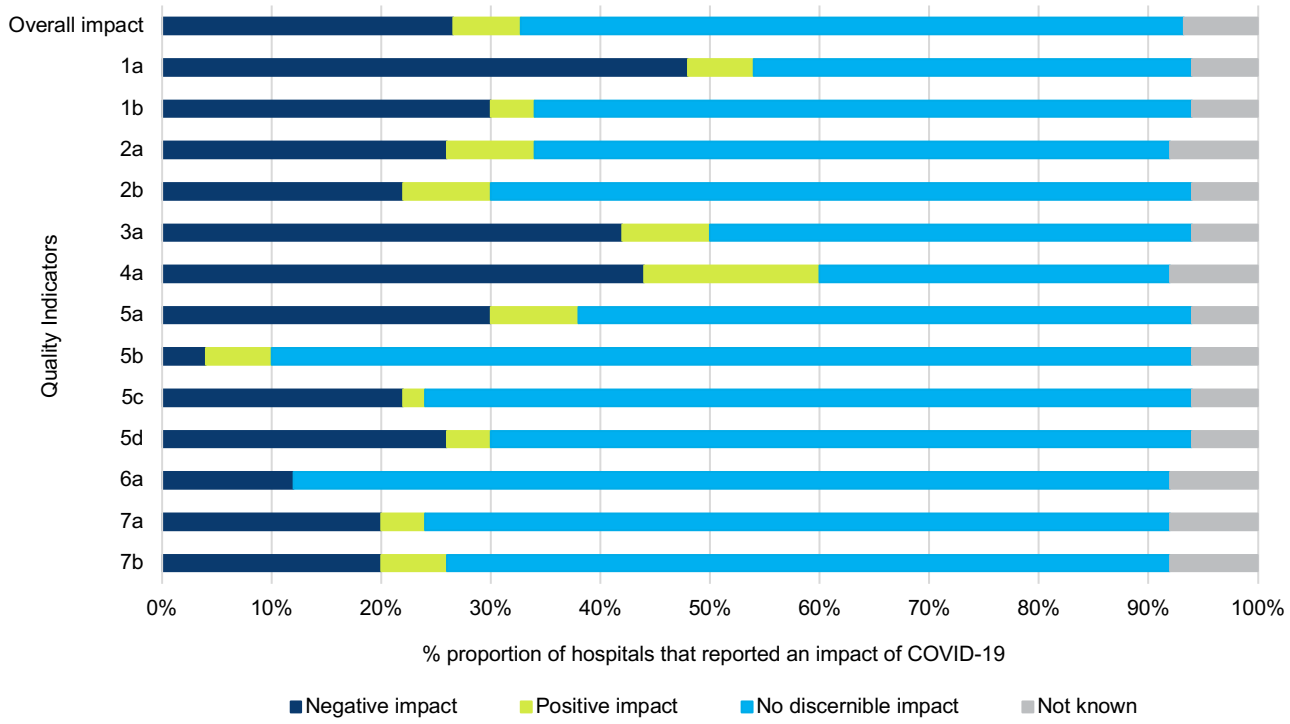
In this year's facility level audit, we again asked if there were any changes in the way older patients with a hip fracture were cared for during 2021 due to the impact of COVID-19 on health care services. Four New Zealand hospitals (18%) and 46 Australian hospitals (48%) reported changes to usual care.

Hospitals that reported changes were asked about the impact of those changes on care against the quality indicators in the Hip Fracture Care Clinical Care Standard. The results in relation to each indicator are detailed in Figure 20.

The most commonly reported changes were:

- Ward configuration, with conversion of orthopaedic wards to dedicated COVID-19 wards
- Hip fracture patients cared for on outlying wards, due to the absence of a dedicated orthopaedic ward, or suspected/confirmed COVID-19
- Transfer of hip fracture patients to other hospitals for definitive management
- Reduced access to rehabilitation, with closure of rehabilitation wards or transfer delays
- Reduced access to orthogeriatric services, due to staff deployment
- Challenges caring for patients in isolation rooms
- Improved access to operating theatres.

FIGURE 20 Reported impact of changes due to COVID–19 on care against Clinical Care Standard quality indicators



1a. Evidence of local arrangements for the management of patients with hip fracture in the emergency department

1b. Proportion of patients with a hip fracture who have had their preoperative cognitive status assessed

2a. Evidence of local arrangements for timely and effective pain management for hip fracture

2b. Proportion of patients with a hip fracture who have documented assessment of pain within 30 minutes of presentation to the emergency department and either receive analgesia within this time or do not require it according to the assessment

3a. Evidence of orthogeriatric (or alternative physician or medical practitioner) management during an admitted patient's hip fracture episode of care

4a. Proportion of patients with a hip fracture receiving surgery within 48 hours of presentation with the hip fracture

5a. Proportion of patients with a hip fracture given the opportunity to mobilise on day one post hip fracture surgery

5b. Proportion of patients with a hip fracture with unrestricted weight bearing status immediately post op

5c. Proportion of patients with a hip fracture experiencing a new Stage II or higher pressure injury during their hospital stay

5d. Proportion of patients with a hip fracture returning to pre-fracture mobility

6a. Proportion of patients with a hip fracture receiving bone protection medicine prior to separation from the hospital at which they underwent hip fracture surgery

7a. Evidence of local arrangements for the development of an individualised care plan for hip fracture patients prior to the patient's separation from hospital

7b. Proportion of patients with a hip fracture living in a private residence prior to their hip fracture returning to private residence within 120 days post separation from hospital

> Orthopaedic wards were turned into COVID wards and orthopaedic service relocated. This led to dispersion of orthopaedic nursing staff and allied health staff. Changes to medical staffing during this period left the orthogeriatric registrar role uncovered.
>
> Geriatrician, NSW

CARING FOR HIP FRACTURE PATIENTS THROUGHOUT THE PANDEMIC

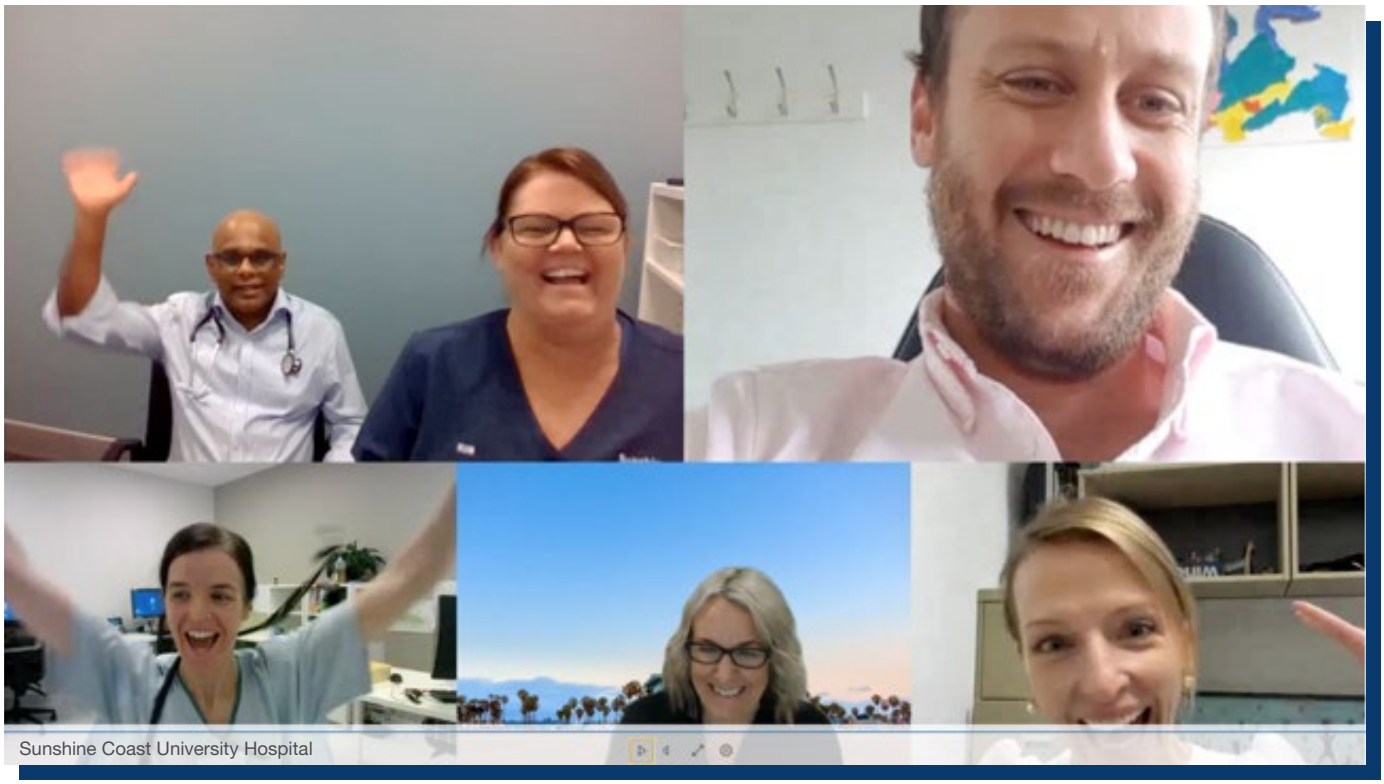
Thirty months into this pandemic and it would be fair to say that COVID-19 has thrown some curve balls. Early in the pandemic when elective surgery was drastically reduced, we had the benefits of half empty operating theatres and surgeons pacing the corridors looking for things to do. Time to surgery for many was initially reduced. Of course, this single and fairly short-lived benefit pales in to insignificance when we consider the many challenges. For me, it has been the exclusion of families from hospitals that has had the biggest impact. Husbands, wives, sons and daughters not being able to meaningfully interact with loved ones in hospital. Our IT limitations were quickly apparent and whilst some were able to use phones and the various communication apps available, many of the hip fracture population don't have these devices or the ability to use them effectively. It has also been a stark reminder around the crucial care and support role that families play when a frail older person is hospitalised and particularly for those living with dementia. It is great to see visitors back on our wards and whilst none of us really knows what the next curve ball will bring, hopefully we will be better prepared and more cognisant of the integral role families play in older people's hospital journey after hip fracture.

Professor Jacqueline Close
Geriatrician

INNOVATIVE WAYS OF WORKING DURING COVID-19

We formed a partnership with Queensland Ambulance Service to bypass outlying rural hospitals and transfer any patient with a suspected neck of femur fracture directly to Sunshine Coast University Hospital. This enabled early identification and fast track to surgery. It was instigated to avoid a prolonged hospital stay for the older, at-risk patient.

It was a very successful initiative, though has been difficult to maintain due to challenges with the number of ambulances on the road and the logistics of having to transfer patients over a large geographical distance in some cases.



Sunshine Coast University Hospital

myHip myVoice

In 2022, the Registry commenced two pilot projects under a body of work known as "My Hip My Voice".

The first pilot project will improve how the ANZHFR reports information to consumers on hip fracture care and its outcomes. Public reporting of the information collected by the Registry is essential to its activities being transparent and accountable. Since it commenced, the reports of the ANZHFR have been targeted at those who work in the health system – clinicians, administrators, and policy makers. However, patients and other consumers are the primary recipients of hip fracture care. We need an improved understanding of consumer needs to ensure Registry information is reported in a way that is meaningful to them.

This project seeks to understand how to make information accessible, more easily understood, and relevant. The project's first stage involved undertaking a literature review and talking with people who have lived experience of a broken hip, as a patient, relative, friend, carer, or advocate for older people. The second stage will use the findings from the literature review and the consumer conversations to develop a mechanism for reporting aggregated information from the ANZHFR, specifically aligned to the identified needs of consumers.

The second project is a pilot capturing the patient and family or carer's experience of hip fracture care using a novel electronic system. Patient-reported measures (PRM) are the group of experiences and outcomes as told by the patient. A patient-reported experience measure (PREM) collects the views and opinions of consumers as an indirect measure of the quality of the care they receive. The results provide insight for clinicians, hospital managers and decision-makers into what's important to the patient.

The hip fracture PREM has been designed around the Australian Commission on Safety and Quality in Health Care Hip Fracture Care Clinical Care Standard. It has been co-designed and tested by consumers and clinicians. Data collection using the Research Electronic Data Capture (REDCap) system (a secure web application for building and managing online surveys and databases) will commence later this year at several Australian hospitals that have volunteered as pilot sites.

More information on these projects and how to contribute can be found at anzhfr.org/myhipmyvoice.

The ANZHFR is grateful to the patients, families and carers involved in the My Hip My Voice projects. We recognise the power of their stories and acknowledge their vital contribution to improving hip fracture care.

My Dad was still living in the family home, where we had grown up, when he fell and broke his hip. He was outside in the garden so had to yell out hoping that someone would hear him. Thankfully, the neighbours did, and called me and called an ambulance. I arrived at the hospital just after him, and the initial care seemed to be fine. Although it was really hard to know what to expect. There were so many people involved but there wasn't one specific person for me to talk to. My brother and sister didn't live locally, and I worked full-time, so I couldn't get in to visit until the evenings. The day staff had gone home, and there didn't seem to be anyone to ask about Dad's care, or at least someone who was able to fill me in on the bigger picture. It was really difficult to find out what was going on.

Dad's broken hip was the trigger for some major family decisions. The house was starting to become too much for him. He was also getting forgetful. It would have been good to have some information about the plan for his treatment, as well as options that were specific to his situation. We weren't sure whether he would be able to go home. You don't know what you don't know…which makes it hard to know what questions to ask. I found I was going home and looking things up on the internet, but you have to be a bit careful about what you read, and it is hard to know what information to trust.

OUTLIER REPORT

The 16 quality indicators in the Hip Fracture Care Clinical Care Standard focus on the priority areas for quality improvement in hip fracture care and, as such, were selected for the identification of outliers of hospital-level performance and subsequent investigation of the causes of variation by participating hospitals.

Outliers constitute unusually low or high values for an indicator of clinical care quality. Information on Indicators 1a, 2a, and 7a are obtained from the annual facility level survey and are reported as either 'evidence provided' (green) or 'evidence not provided' (red). Information on the remaining indicators (excluding Indicator 6b that is not currently collected and 8b that is reported separately) is obtained from the patient level data. All clinical care quality indicators are reported as a percentage for each hospital in the ANZHFR annual report, where:

- Excellence is in the top 2.5th percentile from the average performance of all hospitals
- Normal variation is less than 2 standard deviations from the average performance of all hospitals
- An alert is between 2 and 3 standard deviations from the average performance of all hospitals
- An outlier is greater than 3 standard deviations from the average performance of all hospitals for the indicator
- Not recorded

Missing values were included with 'not known', and hospitals with >30% 'not known' / missing were omitted from the calculations.

The ANZHFR data outlier review protocol details the identification and management of outlier values for binational indicators of hip fracture care at the level of the participating hospital. It can be found at https://anzhfr.org

FIGURE 21 New Zealand hospital data indicators

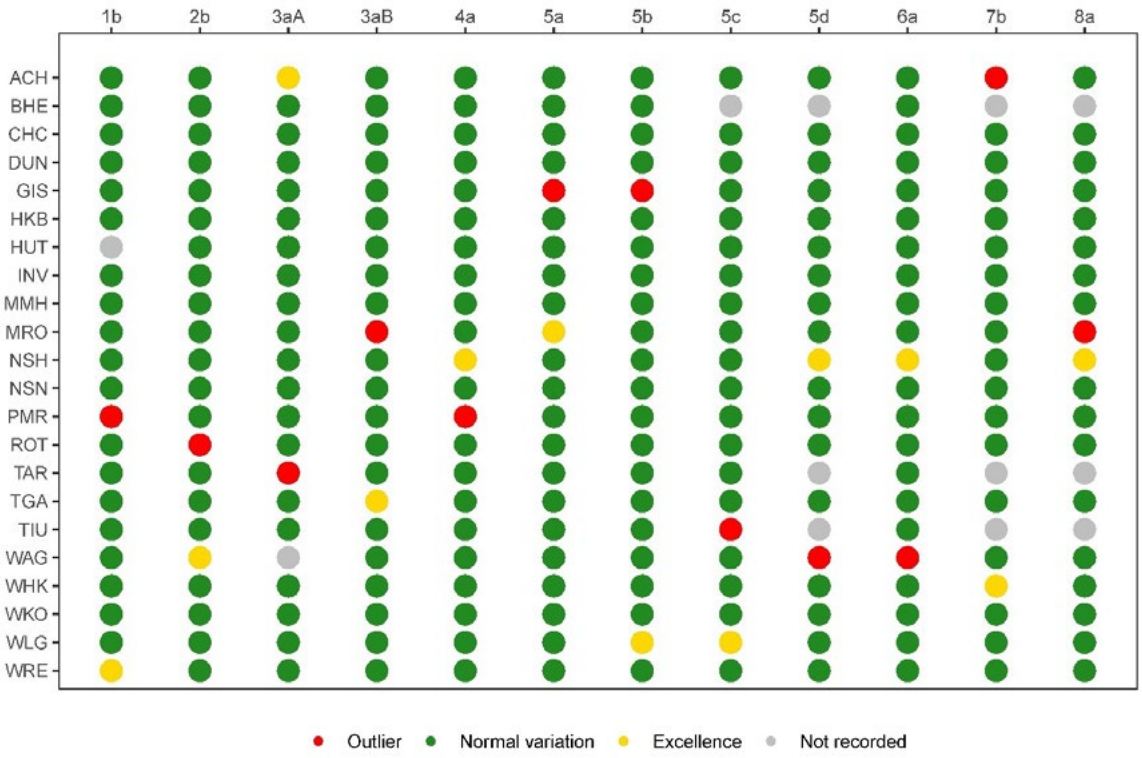
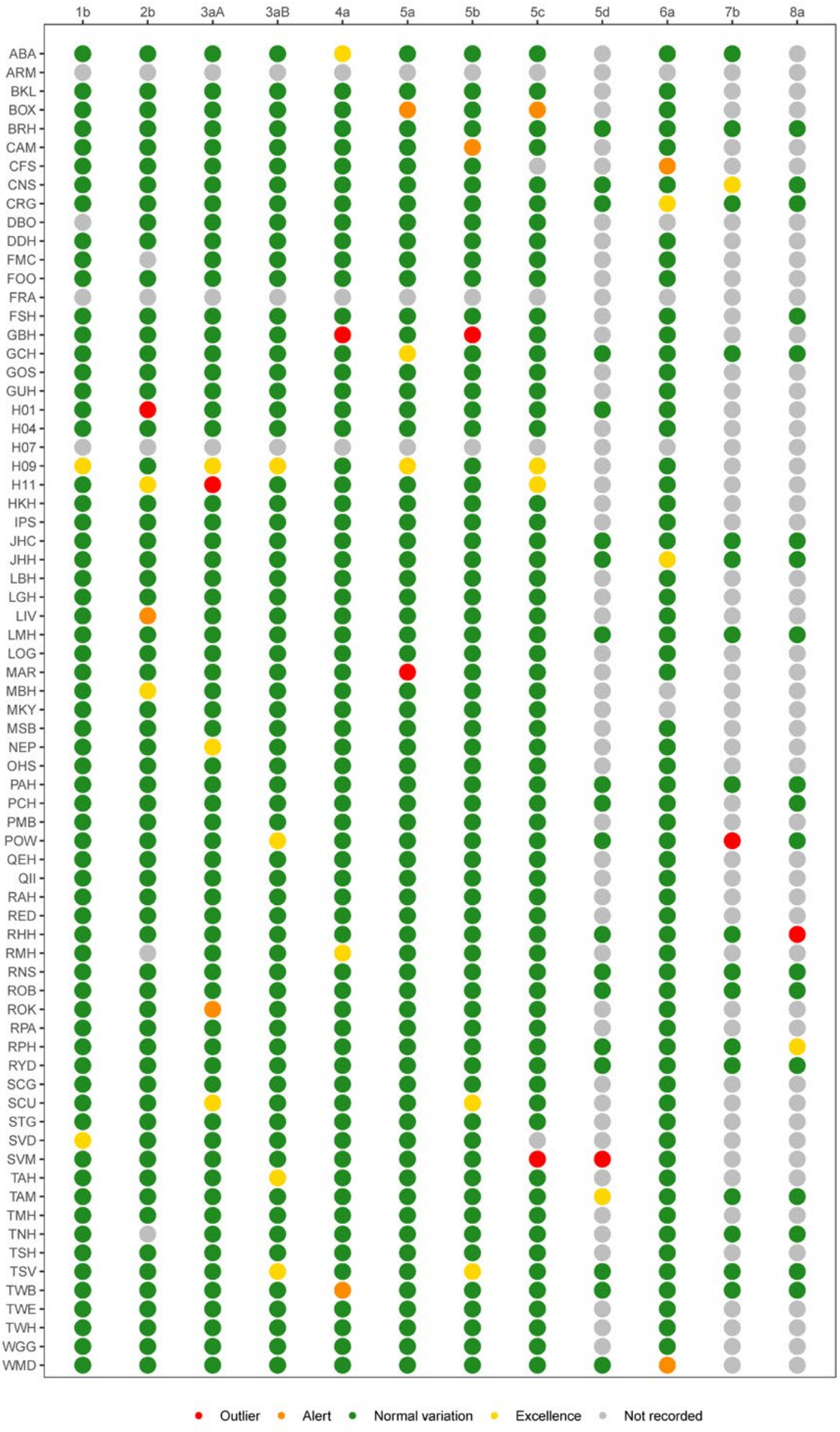


FIGURE 22 Australian hospital data indicators



Hospital data indicators:

Indicator 1b
Proportion of patients with a hip fracture who have had their preoperative cognitive status assessed

Indicator 2b
Proportion of patients with a hip fracture who have documented assessment of pain within 30 minutes of presentation to the emergency department AND either receive analgesia within this time or do not require it according to the assessment

Indicator 3aA
Proportion of patients with a hip fracture receiving a preoperative medical assessment

Indicator 3aB
Proportion of patients with a hip fracture receiving a geriatric medicine assessment during the acute phase of the episode of care

Indicator 4a
Proportion of patients with a hip fracture receiving surgery within 48 hours of presentation with the hip fracture

Indicator 5a
Proportion of patients with a hip fracture given the opportunity to mobilise on day one post hip fracture surgery

Indicator 5b
Proportion of patients with a hip fracture with unrestricted weight bearing immediately post hip fracture surgery

Indicator 5c
Proportion of patients with a hip fracture experiencing a new Stage II or higher pressure injury during their hospital stay

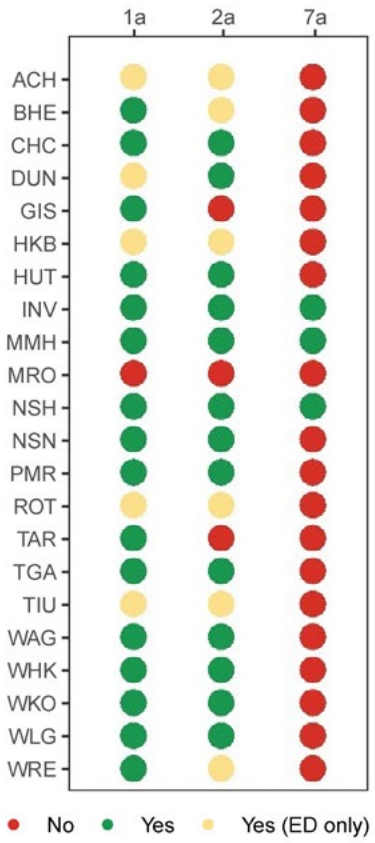
Indicator 5d
Proportion of patients with a hip fracture returning to pre-fracture mobility

Indicator 6a
Proportion of patients with a hip fracture receiving bone protection medicine at discharge from the operating hospital

Indicator 7b
Proportion of patients with a hip fracture living in a private residence prior to their hip fracture returning to private residence within 120 days post-surgery

Indicator 8a
Proportion of patients undergoing reoperation of hip fracture patients within 120 days post-surgery

FIGURE 23 New Zealand survey data indicators



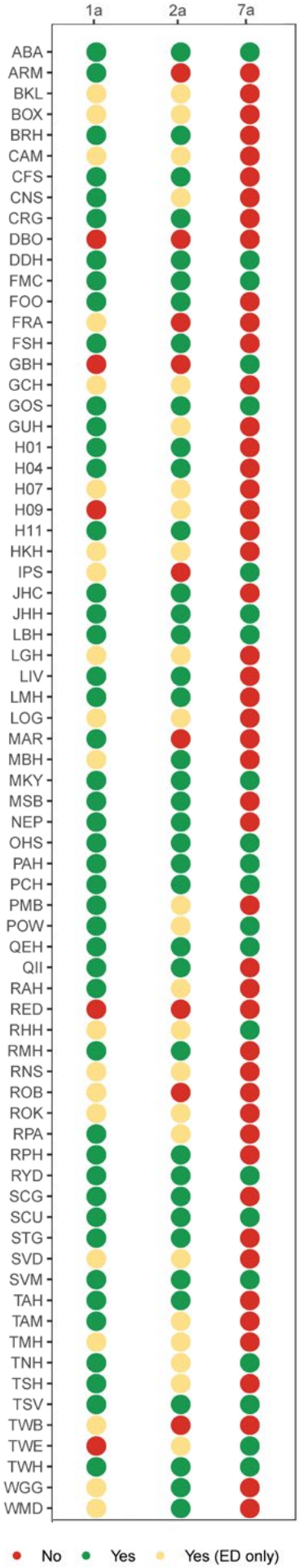
Survey data indicators:

Indicator 1a
Evidence of local arrangements for the management of patients with hip fracture in the emergency department

Indicator 2a
Evidence of local arrangements for timely and effective pain management for hip fracture

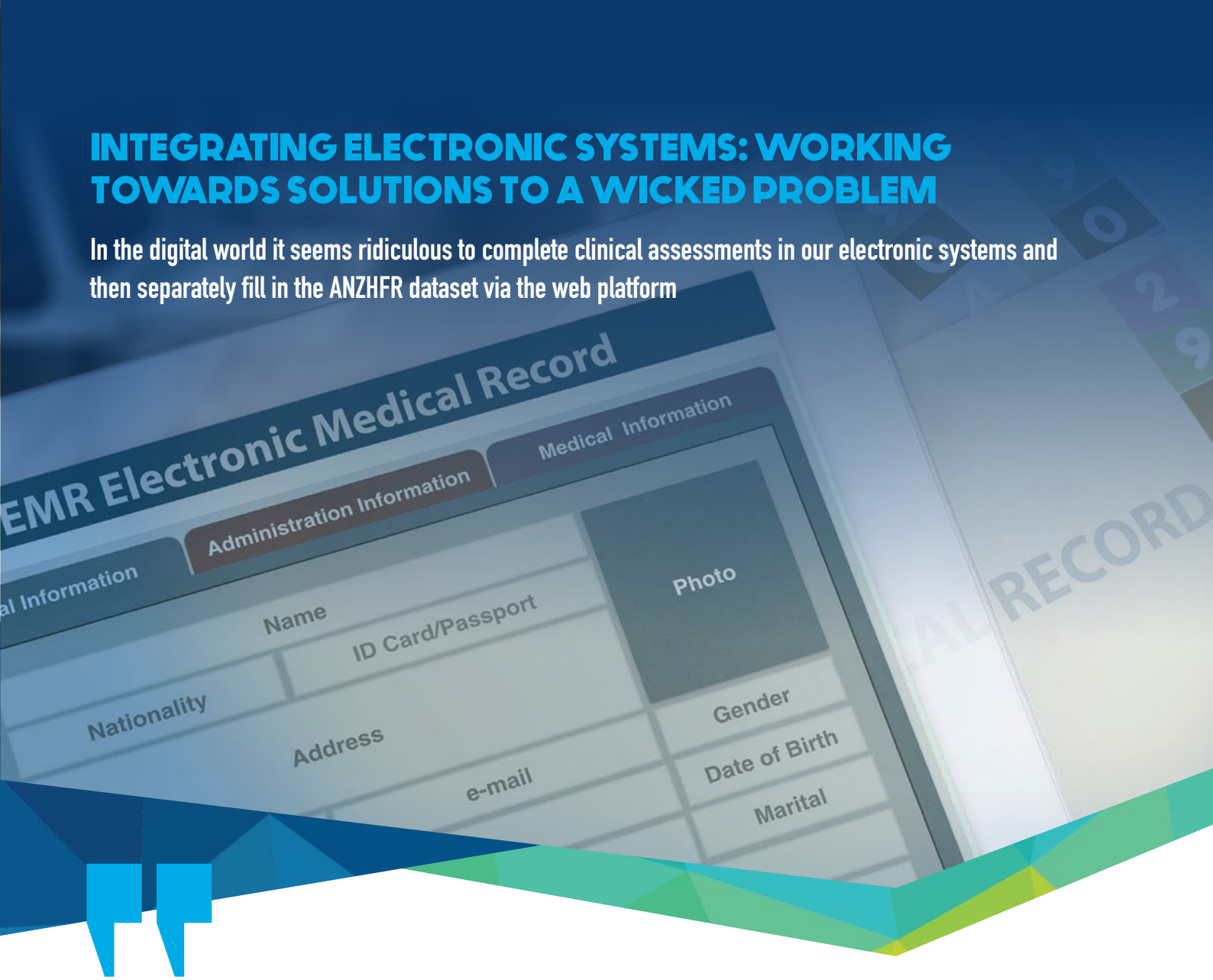
Indicator 7a
Evidence of local arrangements for the development of an individualised care plan at discharge for hip fracture patients

FIGURE 24 Australian survey data indicators



INTEGRATING ELECTRONIC SYSTEMS: WORKING TOWARDS SOLUTIONS TO A WICKED PROBLEM

In the digital world it seems ridiculous to complete clinical assessments in our electronic systems and then separately fill in the ANZHFR dataset via the web platform



Some states have managed to integrate parts of the ANZHFR form with local Patient Administration Systems. It has proved difficult at most sites to fully integrate the ANZHFR data collection with local IT systems.

WHY IS IT SO DIFFICULT?

As with most wicked problems, the causes are multifactorial. Each state has different base platforms. Some states have single systems, others have many different systems, and some states are still predominantly using paper medical records. This means multiple integrations between systems would need to occur to have a single "output form" to the ANZHFR.

Each different system would then produce the output in slightly different versions making it nearly impossible to merge that information into a single registry.

HOW CAN WE IMPROVE THE SITUATION?

The data collection for the ANZHFR is an example of the benefits of a single statewide instance of EMRs. If each state used the same system with the same configuration, there are enough users requesting the same standard input and output form to make it worth developing. Funding for this process is also more likely to be available. One integration per state into the ANZHFR should be achievable.

We also need a stable ANZHFR dataset – changes each year require updates to each integrating system which is time consuming and expensive.

As with all IT issues it generally comes down to time and money for integration and standardised form development. We can help by agreeing to standardised assessment forms and keeping the dataset stable year to year.

Dr Hannah Seymour, Geriatrician, Fiona Stanley Hospital and Medical Lead, Electronic Medical Record (EMR) Program Team, WA Dept of Health

MORTALITY

The Annual Report includes mortality data derived from linking Registry data with the National Death Index (NDI) in Australia and the Ministry of Health mortality data in New Zealand.

Mortality has been adjusted for age, sex, premorbid level of function (mobility), fracture type, residence type and ASA grade. Data is presented for two follow-up periods and in two ways. The follow-up periods are 30 and 365 days following presentation with a hip fracture. Both 30-day and 365-day mortality are common benchmarks for hip fracture care. Mortality at 365 days is more likely to be influenced by factors beyond hospital care, but remains an important outcome for patients. ASA grade has been aggregated as (i) ASA grades 1 to 2; (ii) ASA grade 3 and unknown; and (iii) ASA grades 4 and 5, according to relevant literature[3]. It is important to note that ASA grade was recorded as unknown in 4205 (11.0%) of patient records in 2019-2021 and 4562 (12.8%) of patient records in 2018-2020. The proportion of unknowns affects mortality data at the hospital level. Reviewing and where needed, increasing, the proportion of patients for whom a known ASA grade is recorded as part of the data should be an area of focus for hospitals.

In this report, the adjusted mortality rate at 30 days is presented by year for Australian states for the period 2016-2021, and New Zealand for the period 2017-2021 (Figure 25). The adjusted mortality rate at 365 days is presented by year for Australian states for the period 2016-2020, and New Zealand for the period 2017-2020 (Figure 26). Mortality rates for South Australia were not able to be calculated as patient identifiers were not permitted to be collected for a period of time, which meant the majority of records were unable to be linked to the NDI. As such, South Australia is not reported separately in Figures 25 and 26. Tasmania is also not reported separately due to a small number of deaths. However, Tasmania is included in the rates calculation for Australia (combined states). It should be noted that the number of hospitals reporting in each state has grown over time from 2016, which impacts the results.

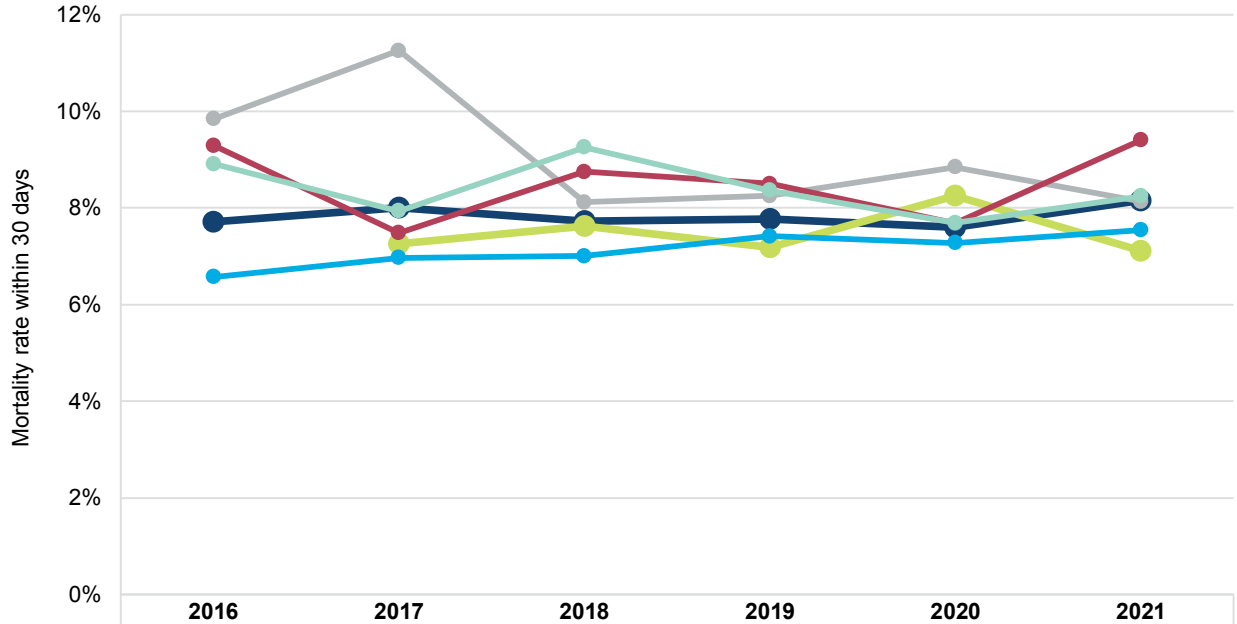
Pooled data is used for all patients included in the Registry from each site, from the start of 2019 to the end of 2021 for 30-day mortality and from the start of 2018 to the end of 2020 for 365-day mortality (as the 12-month follow-up period was not complete to enable inclusion of 2021 data at the time of publication). Results have been aggregated over a three-year period to limit the effect of yearly fluctuations at hospital level. Hospitals that have not been contributing patient level data for the specified three-year period have not been included for this reason.

Data are presented in funnel plots (Figures 27, 29, 31, 33), where each dot represents a hospital, and the x-axis represents hospital volume. Because of the higher precision from a greater number of patients, data points should 'funnel' to a narrower distribution on the right side of the funnel plot. The horizontal line represents the national mortality rate over the three-year time period. Hospitals above the line have a higher mortality rate than the national rate and those below the line have a lower mortality rate than the national rate. Confidence limits set at 2 and 3 standard deviations are included so that outlier hospitals can be seen. This year, no hospitals have a mortality rate greater than 3 standard deviations above the national rate.

Figures 28, 30, 32 and 34 are 'caterpillar' plots (named because of their resemblance to a caterpillar) where each hospital is ranked according to the mortality rate and the 'legs' of the caterpillar represent the 95% confidence interval.

2 Tsang C CD. Statistical methods developed for the National Hip Fracture Database annual report, 2014: a technical report. London: The Royal College of Surgeons of England, 2014.

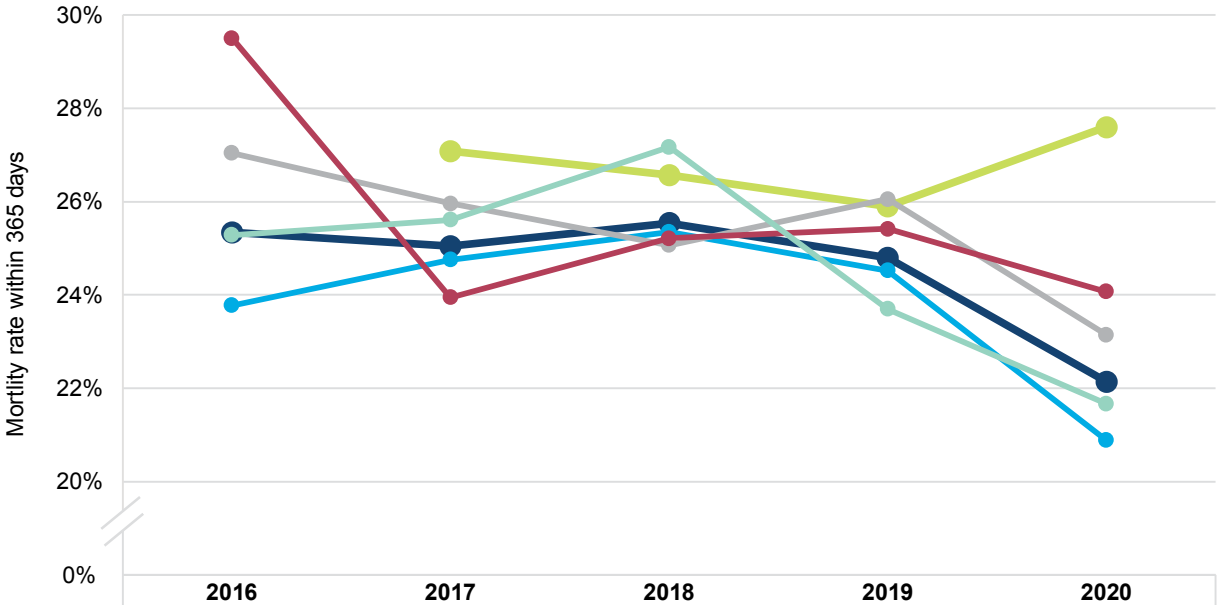
FIGURE 25 Adjusted mortality rate at 30 days by year for Australian states and New Zealand (2016–2021)



	2016	2017	2018	2019	2020	2021
AUS*	7.7%	8.0%	7.7%	7.8%	7.6%	8.2%
NZ		7.3%	7.6%	7.2%	8.3%	7.1%
NSW	6.6%	7.0%	7.0%	7.4%	7.3%	7.5%
QLD	9.8%	11.3%	8.1%	8.3%	8.8%	8.1%
VIC	9.3%	7.5%	8.7%	8.5%	7.7%	9.4%
WA	8.9%	7.9%	9.3%	8.4%	7.7%	8.2%

*States combined, including Tasmania

FIGURE 26 Adjusted mortality rate at 365 days by year for Australian states and New Zealand (2016–2020)



	2016	2017	2018	2019	2020
AUS*	25.3%	25.0%	25.5%	24.8%	22.1%
NZ		27.1%	26.6%	25.9%	27.6%
NSW	23.8%	24.8%	25.3%	24.5%	20.9%
QLD	27.0%	26.0%	25.1%	26.0%	23.1%
VIC	29.5%	23.9%	25.2%	25.4%	24.1%
WA	25.3%	25.6%	27.2%	23.7%	21.7%

*States combined, including Tasmania

FIGURE 27 Funnel plot of adjusted mortality rate at 30 days: New Zealand hospitals (2019–2021)

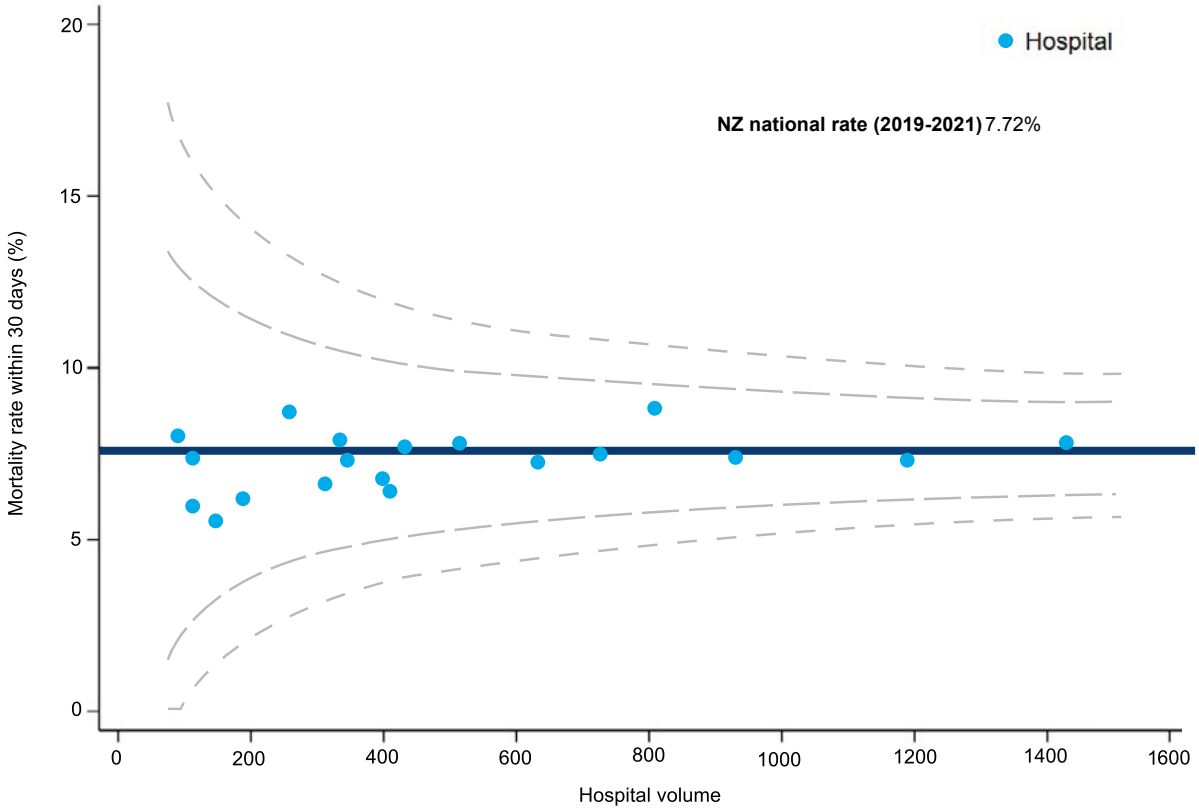


FIGURE 28 Caterpillar plot of adjusted mortality rate at 30 days: New Zealand hospitals (2019–2021)

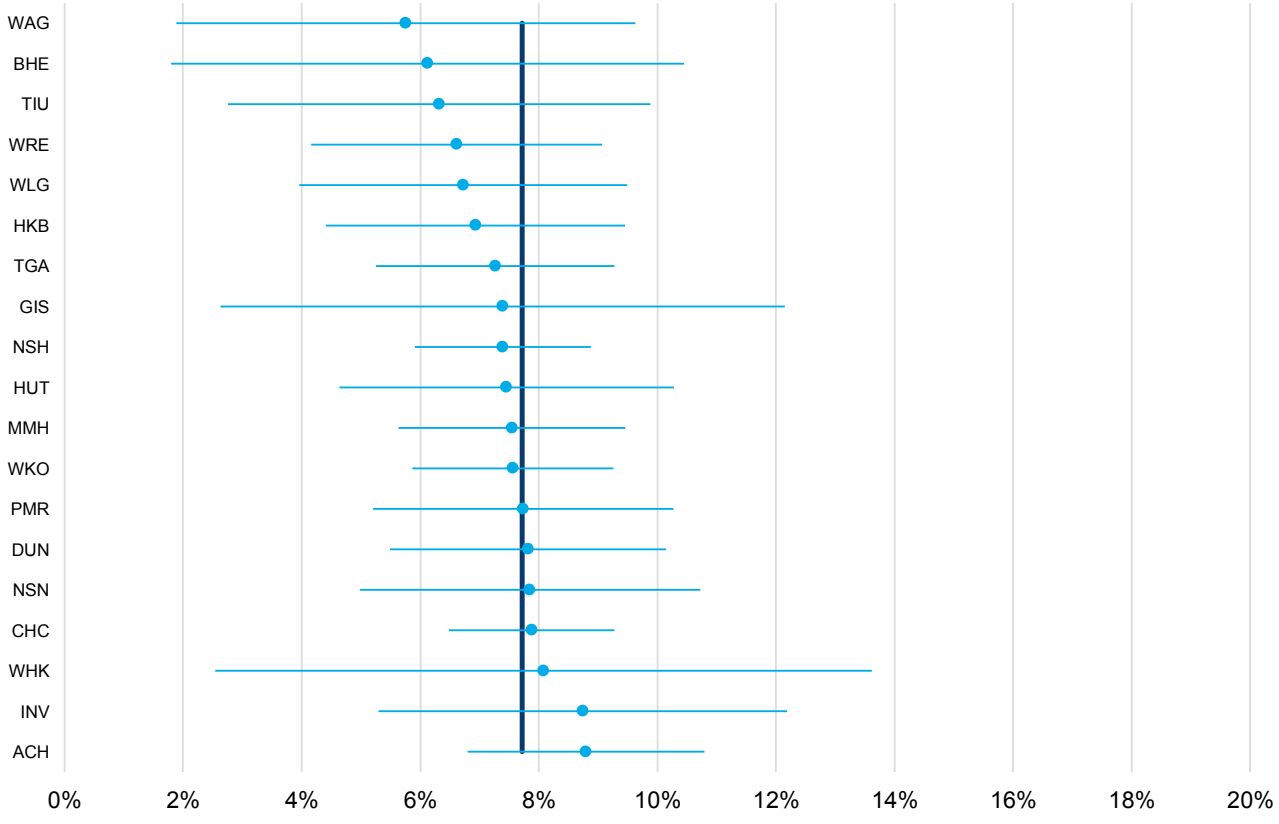


FIGURE 29 Funnel plot of adjusted mortality rate at 365 days: New Zealand hospitals (2018–2020)

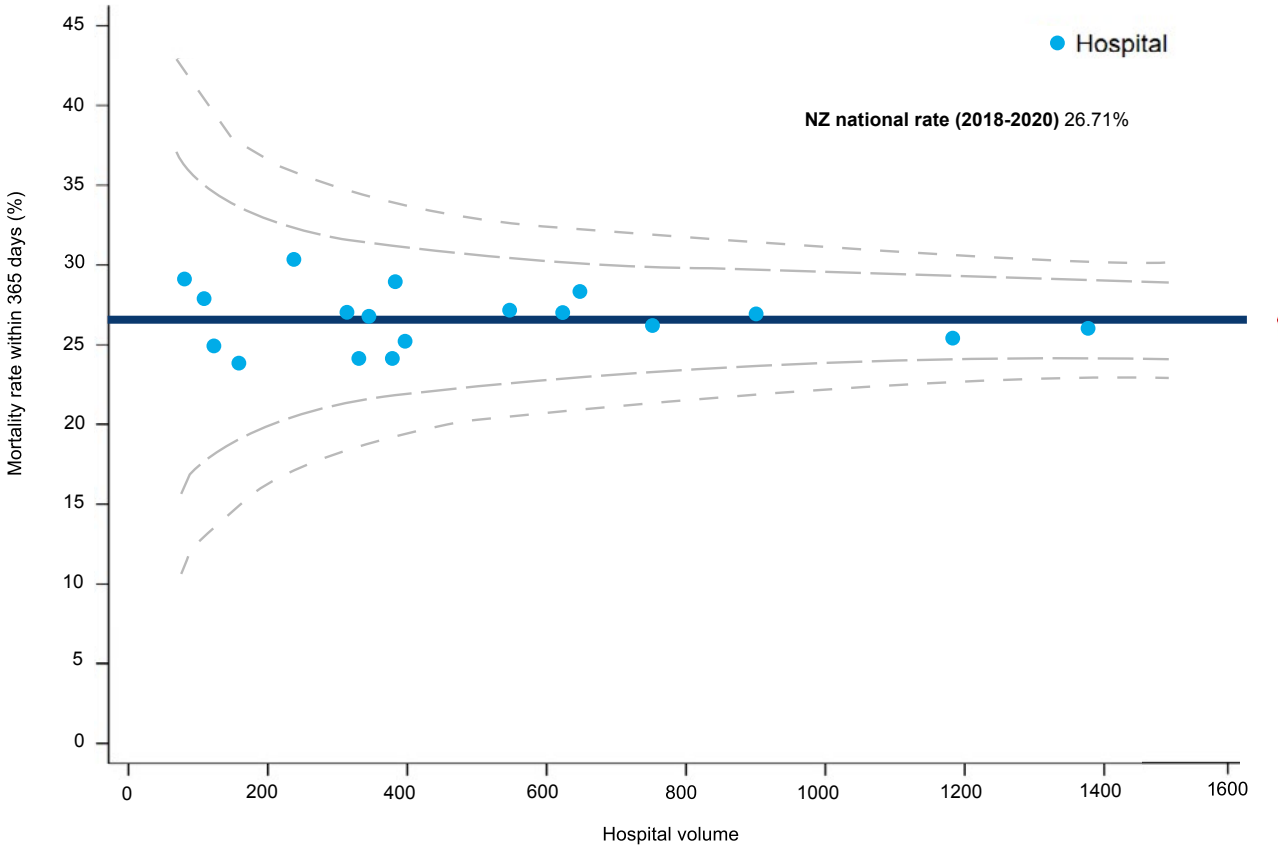


FIGURE 30 Caterpillar plot of adjusted mortality rate at 365 days: New Zealand hospitals (2018–2020)

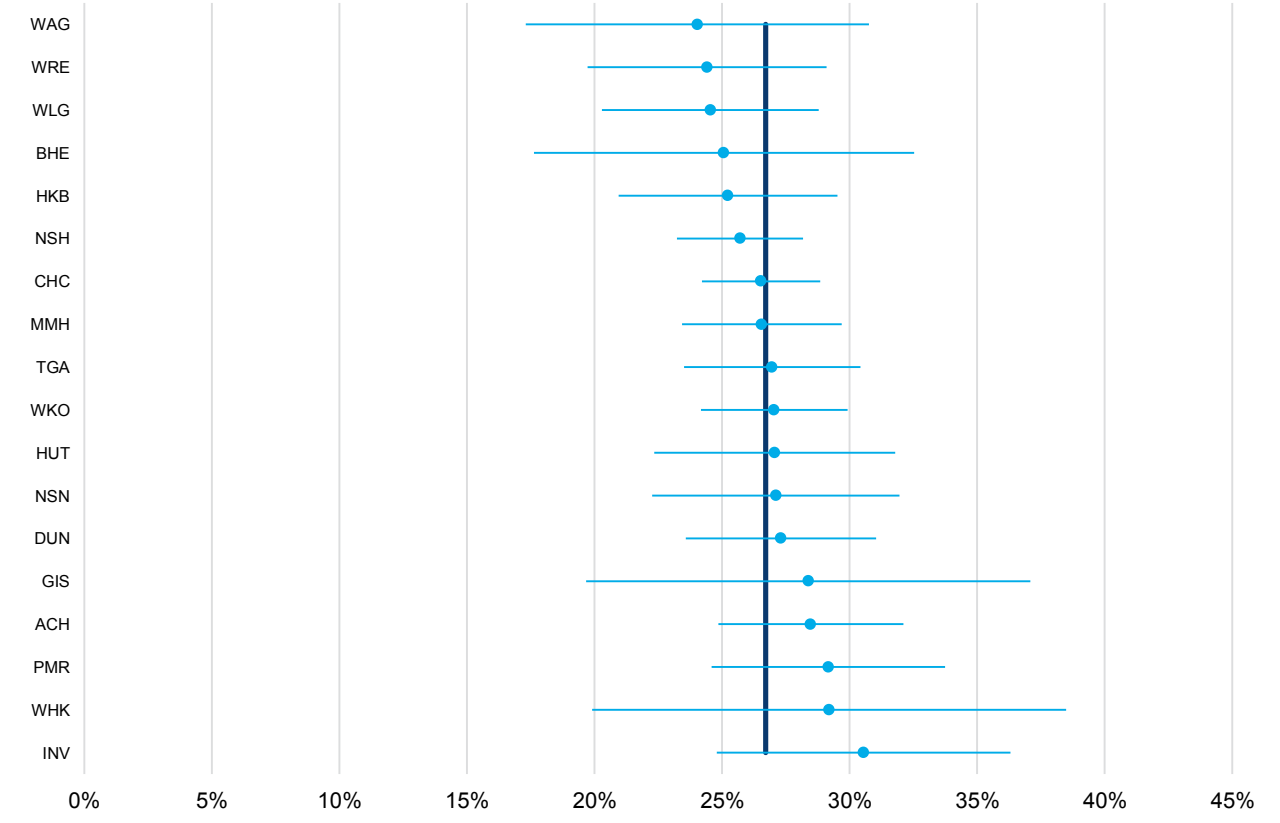


FIGURE 31 Funnel plot of adjusted mortality rate at 30 days: Australian hospitals (2019–2021)

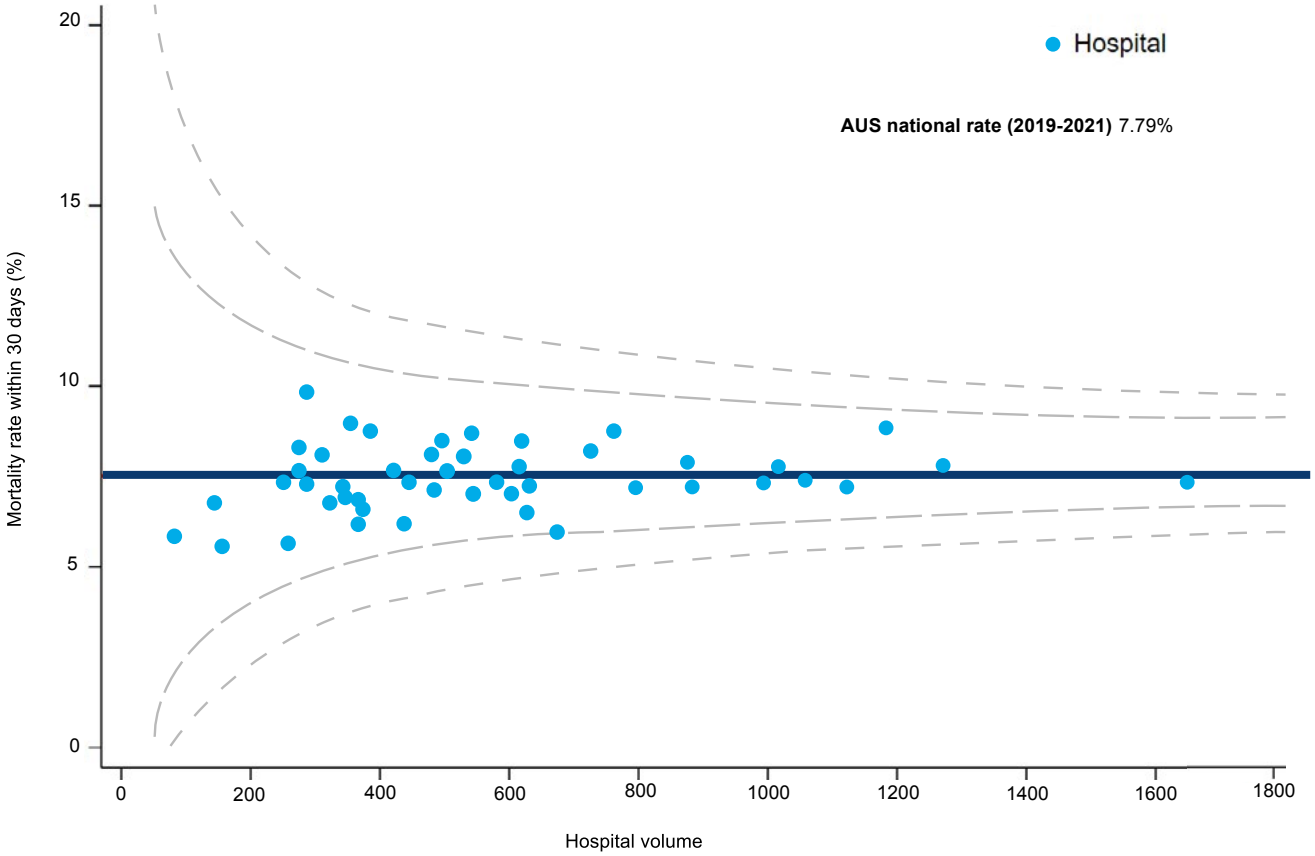


FIGURE 32 Caterpillar plot of adjusted mortality rate at 30 days: Australian hospitals (2019–2021)

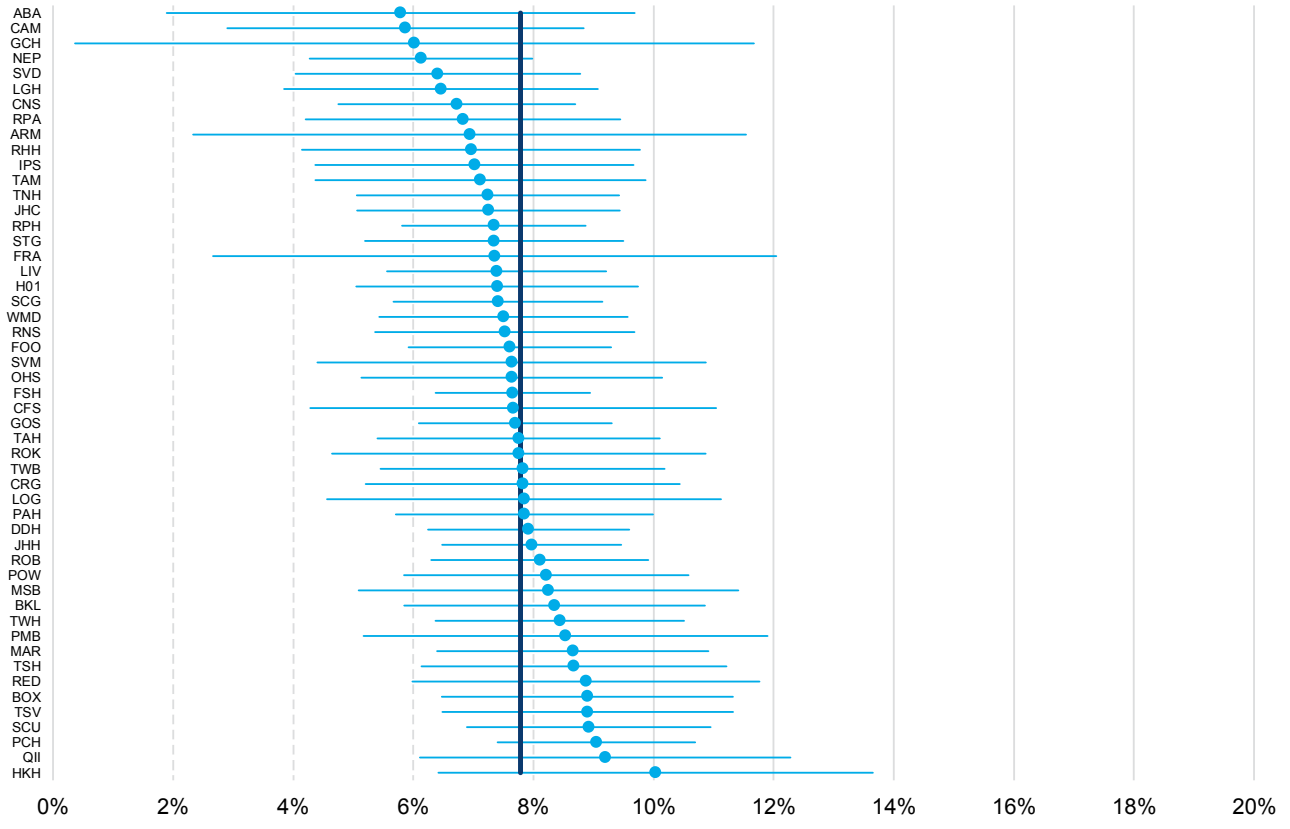


FIGURE 33 Funnel plot of adjusted mortality rate at 365 days: Australian hospitals (2018–2020)

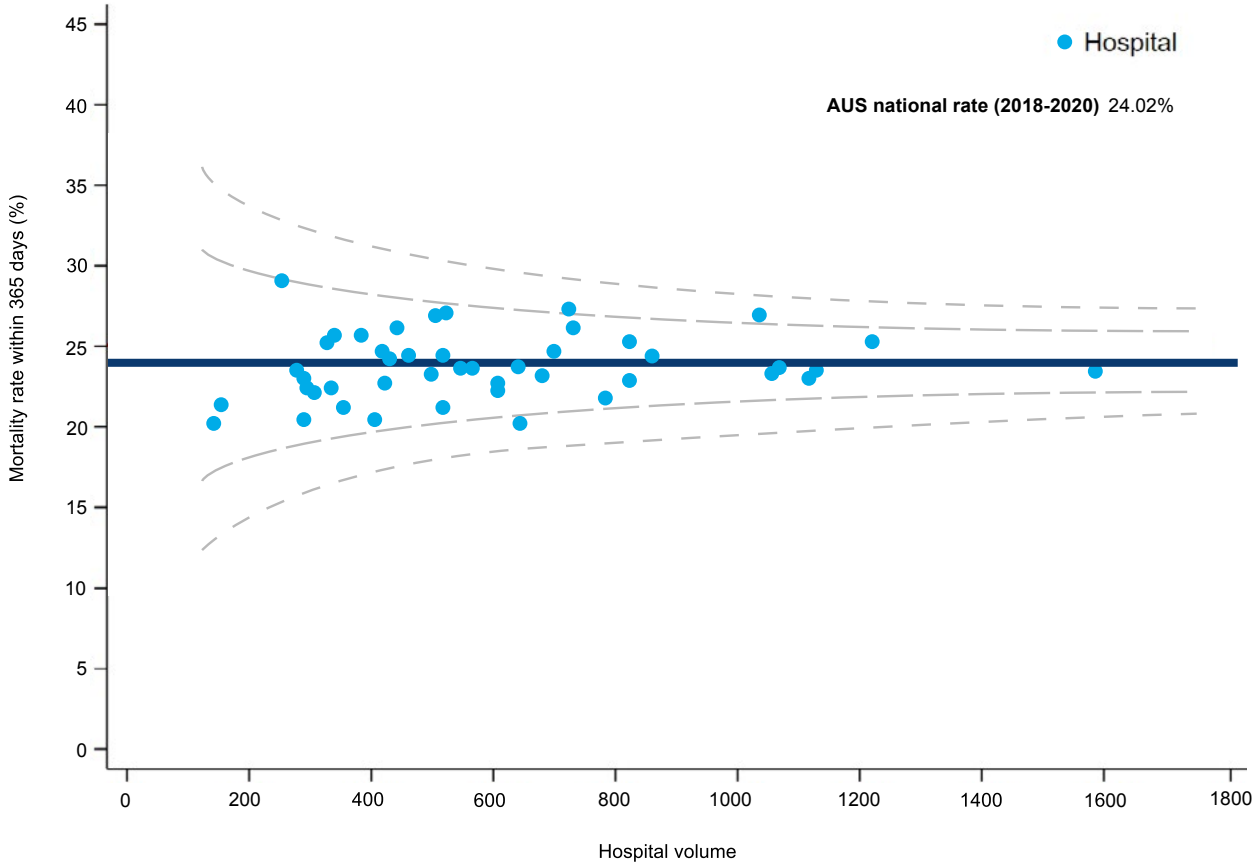
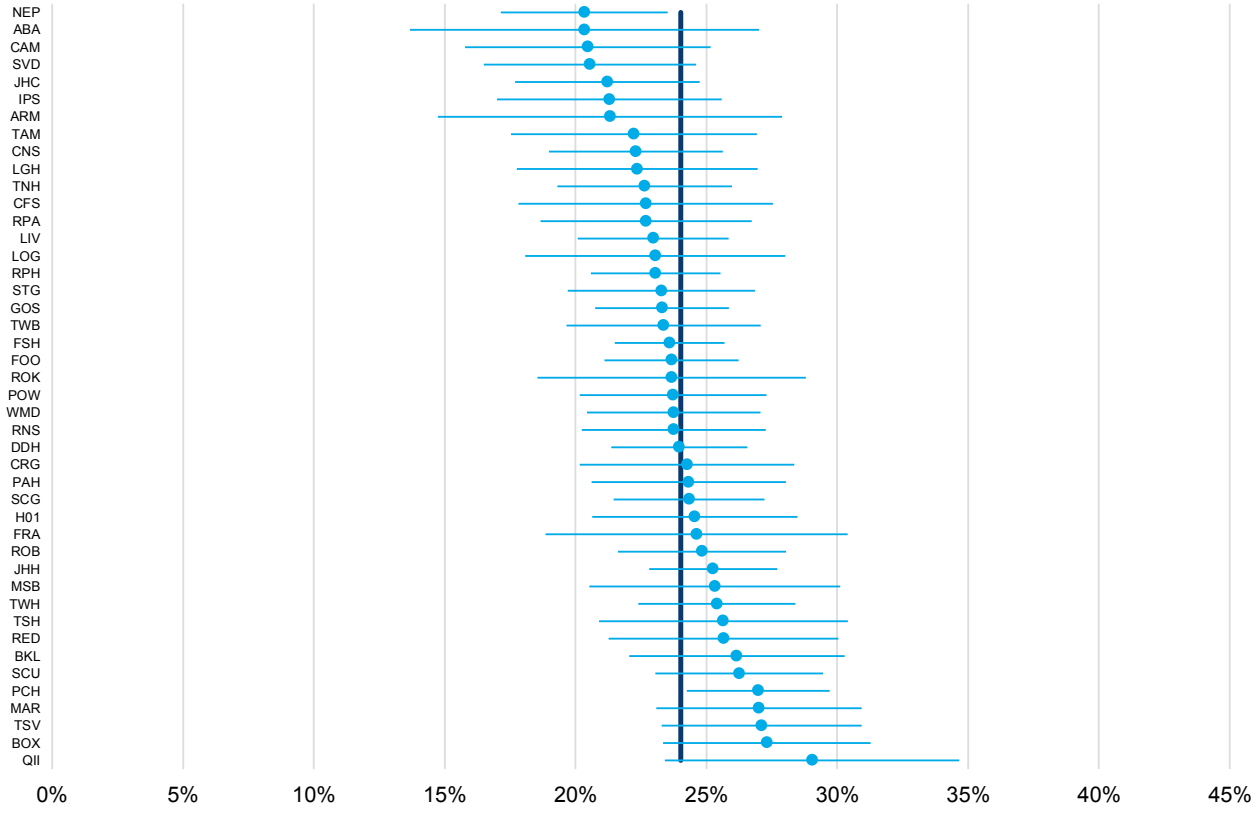


FIGURE 34 Caterpillar plot of adjusted mortality rate at 365 days: Australian hospitals (2018–2020)



AUSTRALIAN STATE REPORT

This section of the report details results broken down by Australian state, allowing interstate comparisons of performance of hip fracture care. Using this information, states can consider where best care is delivered and provide a benchmark for future performance. The interstate comparisons use data from the 2021 calendar year, including records from 12,153 patients treated in 71 hospitals in Australia. It also includes responses from the facility level audit regarding reported elements of care.

FIGURE 35 Hip fracture pathway as a reported element of care by state 2021

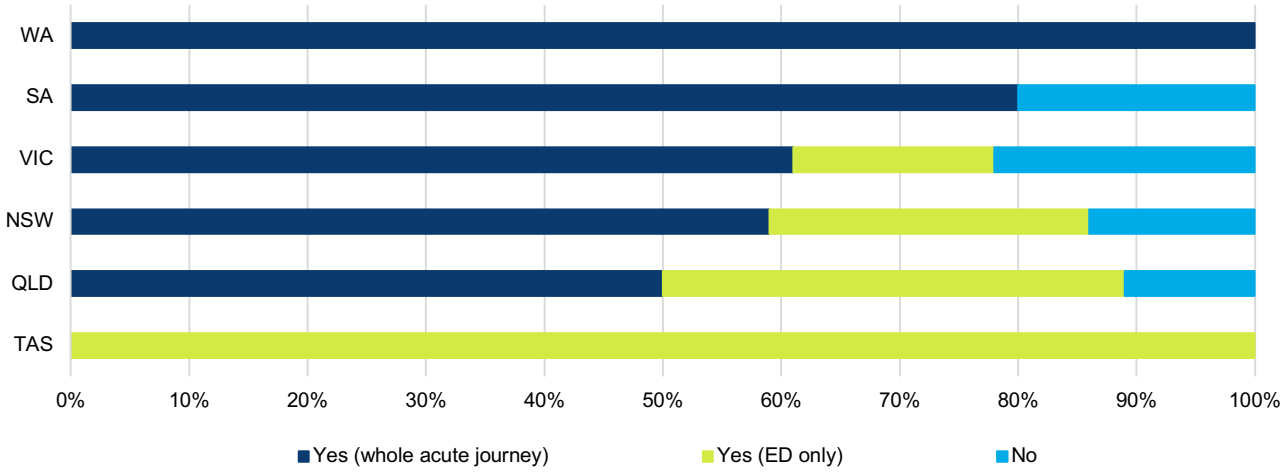


FIGURE 36 CT / MRI protocol as a reported element of hip fracture care by state 2021

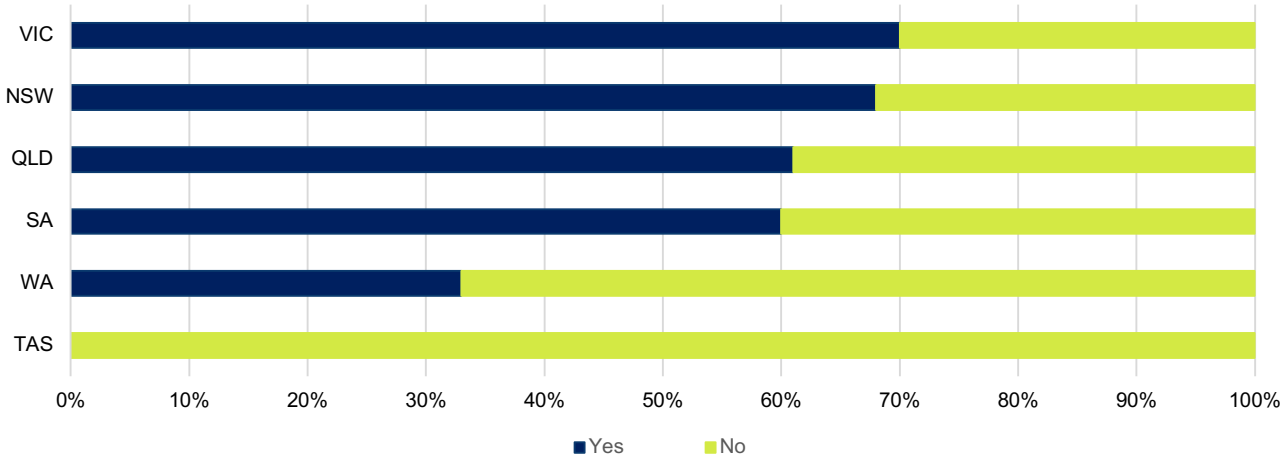


FIGURE 37 Preoperative cognitive assessment by state

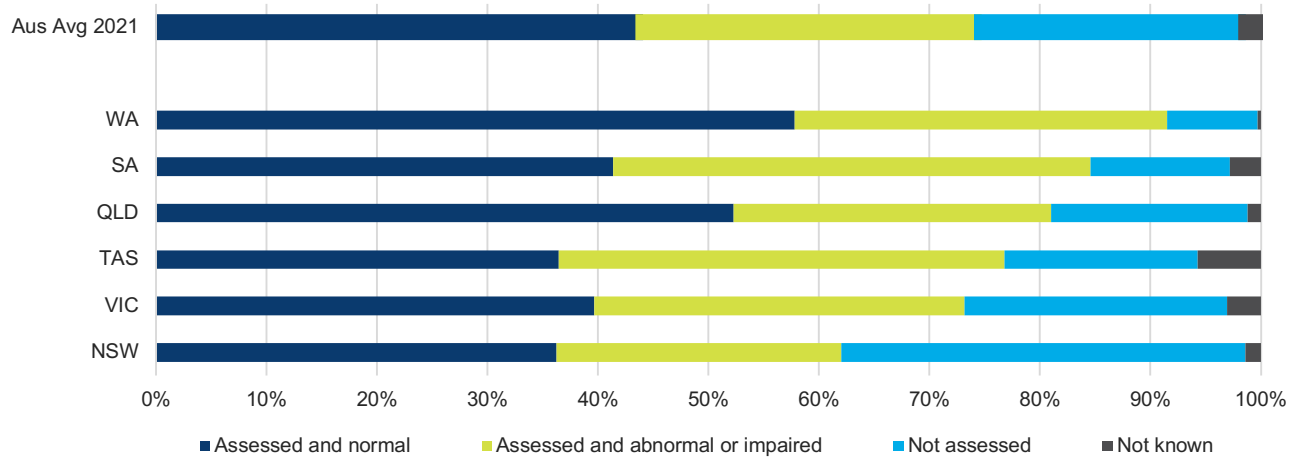


FIGURE 38
Clinical frailty known by state

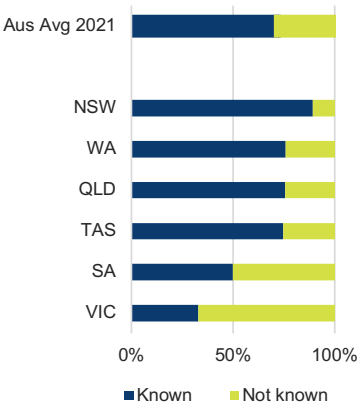
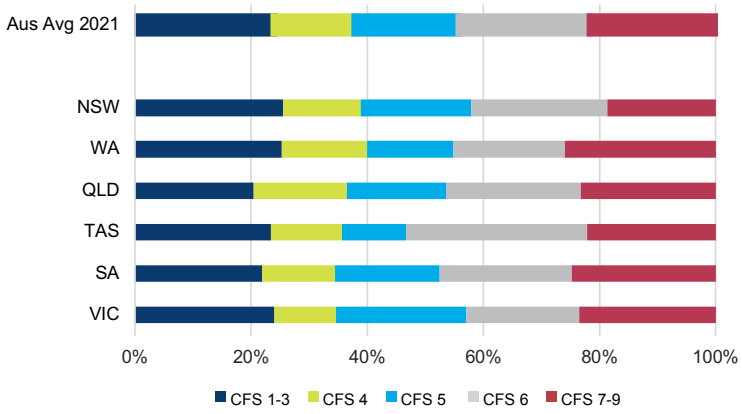


FIGURE 39
Clinical frailty scale by state



Preoperative cognitive assessment continues to improve year-on-year.

This year, 74% of Australian hip fracture patients had their cognition assessed prior to surgery using a validated tool

FIGURE 40 Pain pathway as a reported element of care by state 2021

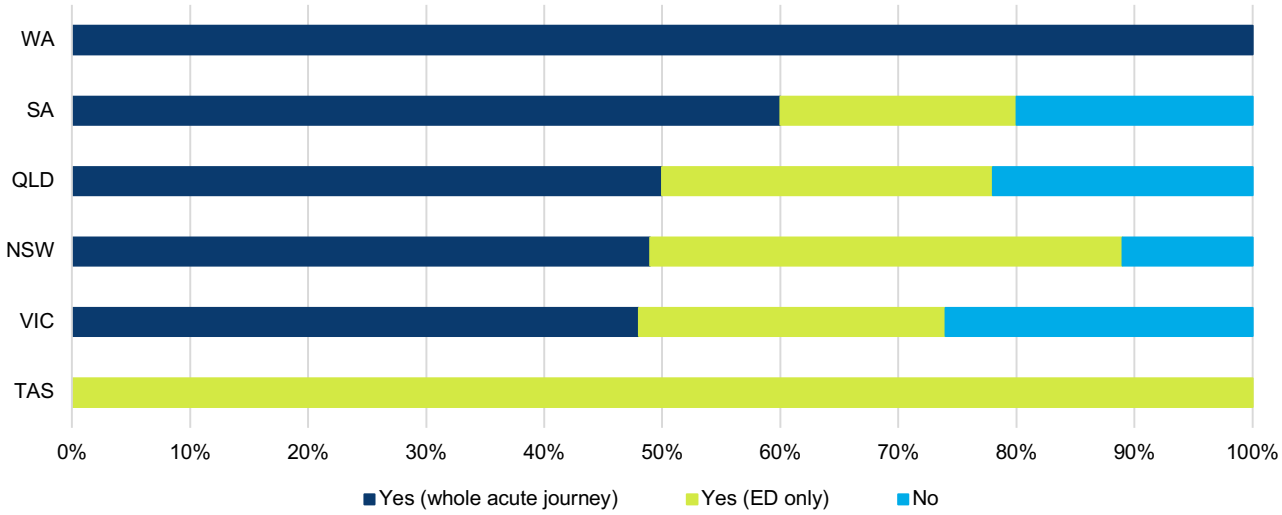


FIGURE 41 Nerve blocks by state

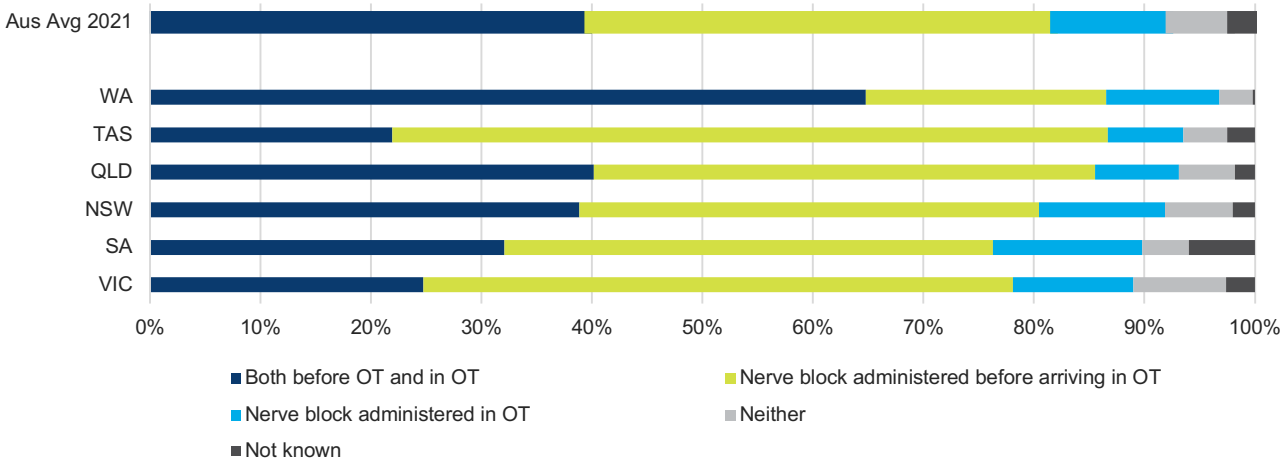
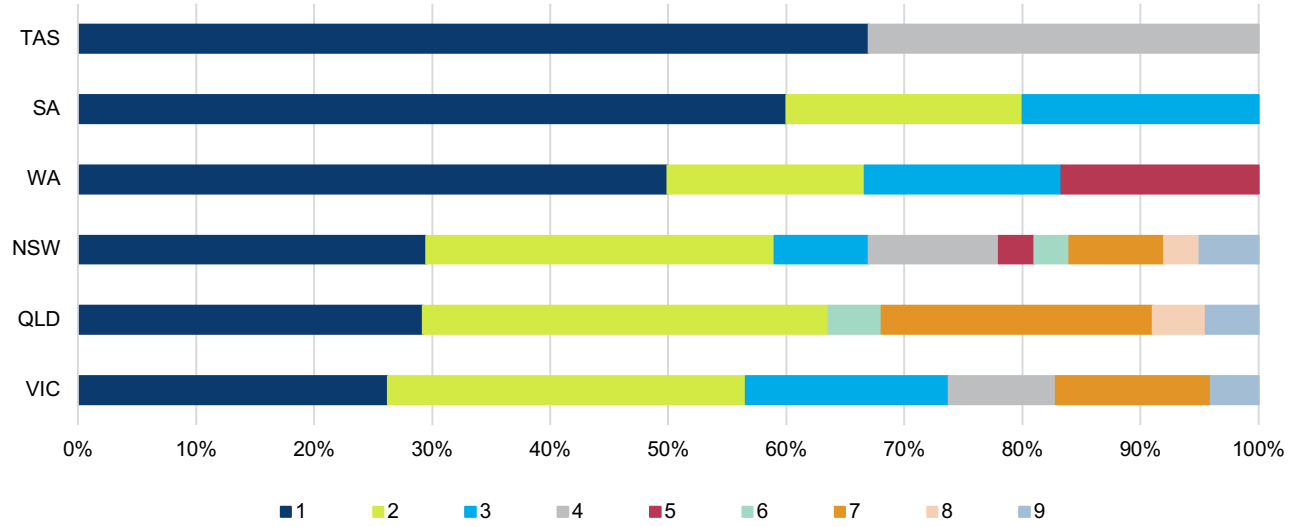


FIGURE 42 Orthogeriatric model of care by state 2021



1. A shared care arrangement where there is joint responsibility for the patient from admission between orthopaedics and geriatric medicine for all older hip fracture patients
2. An orthogeriatric liaison service where geriatric medicine provides regular review of all older hip fracture patients (daily during working week)
3. A medical liaison service where a general physician or GP provides regular review of all older hip fracture patients (daily during working week)
4. An orthogeriatric liaison service where geriatric medicine provides intermittent review of all older hip fracture patients (2-3 times weekly)
5. A medical liaison service where a general physician or GP provides intermittent review of hip fracture patients (2-3 times weekly)
6. An orthogeriatric liaison service (2014) / geriatric service (2015) where a consult system determines which patients are reviewed
7. A medical liaison service (2014) / medical service (2015) where a consult system determines which patients are reviewed
8. Other
9. No formal service exists

FIGURE 43 ED LOS by state

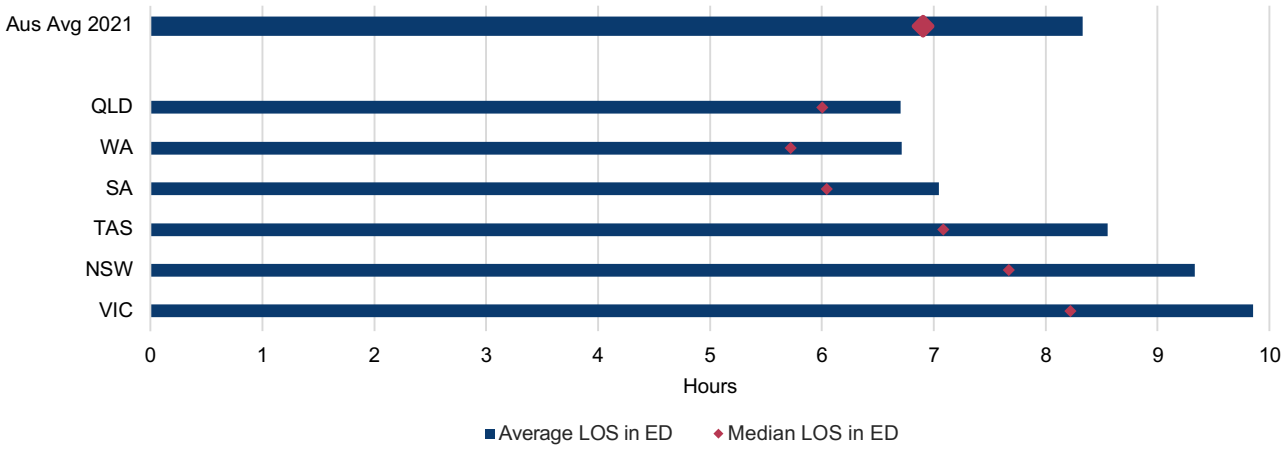


FIGURE 44 Average time to surgery by state

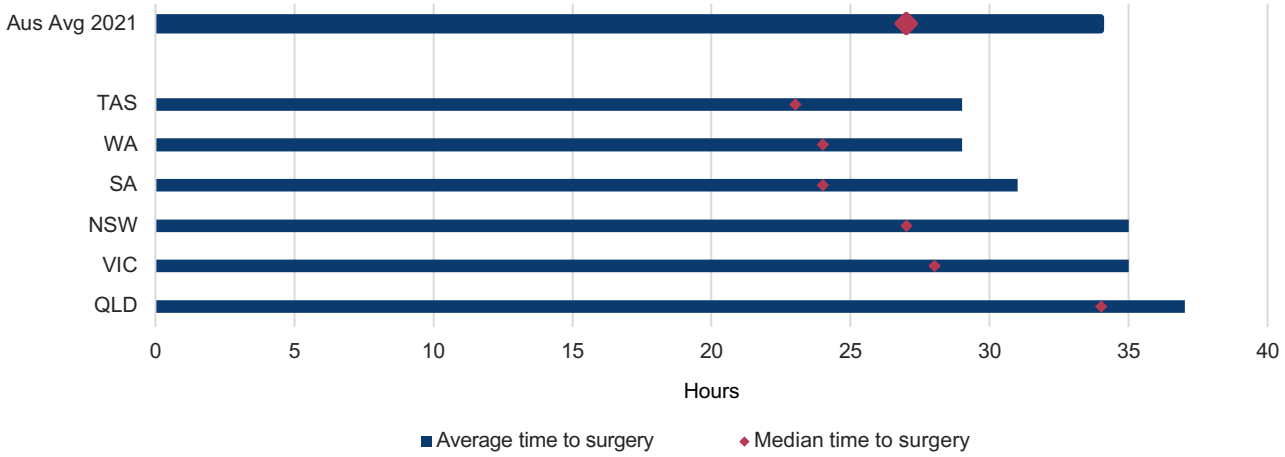


FIGURE 45
Surgery within 48 hours by state

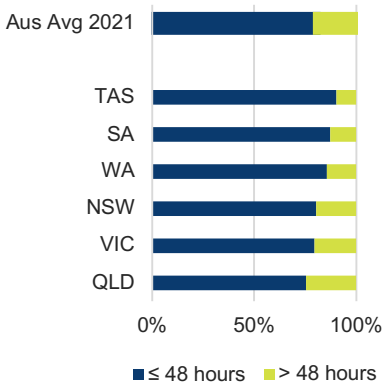


FIGURE 46
Reason for delay longer than 48 hours by state

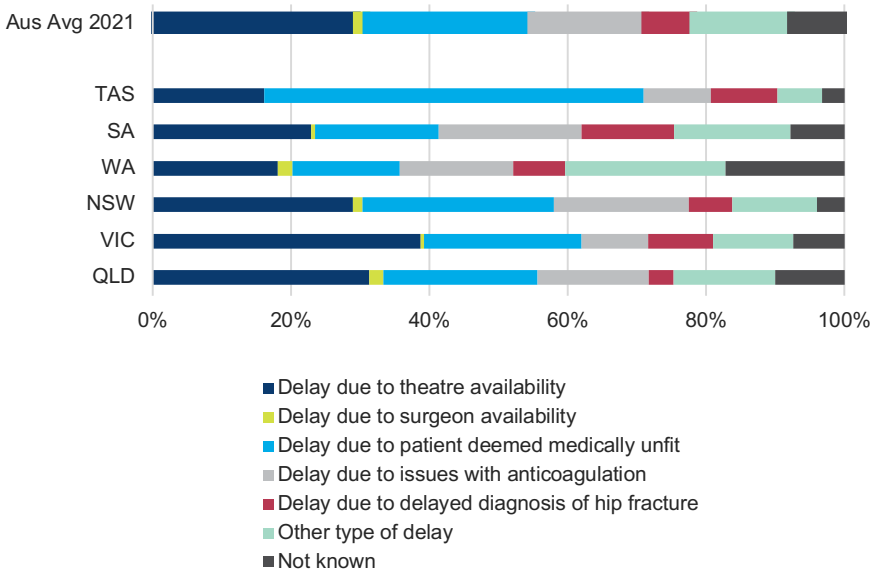


FIGURE 47
Opportunity first day mobilisation by state

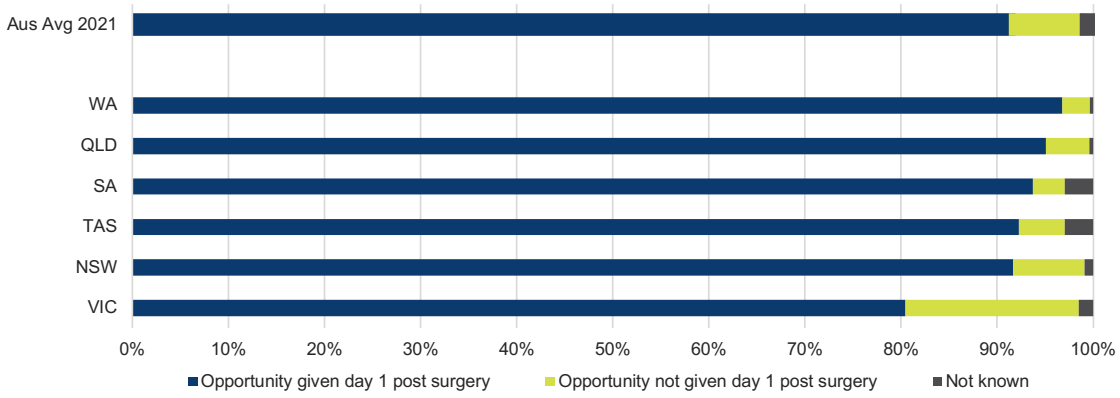


FIGURE 48
First day walking by state

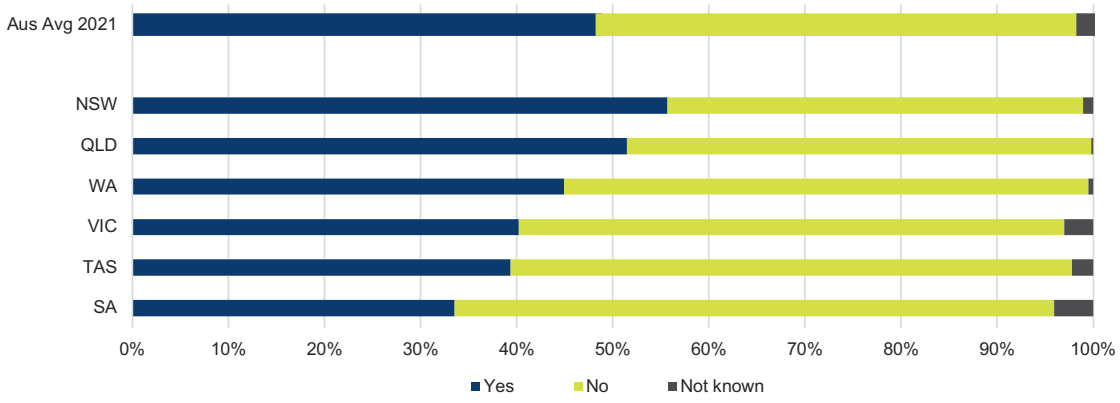


FIGURE 49
Average LOS in acute ward by state

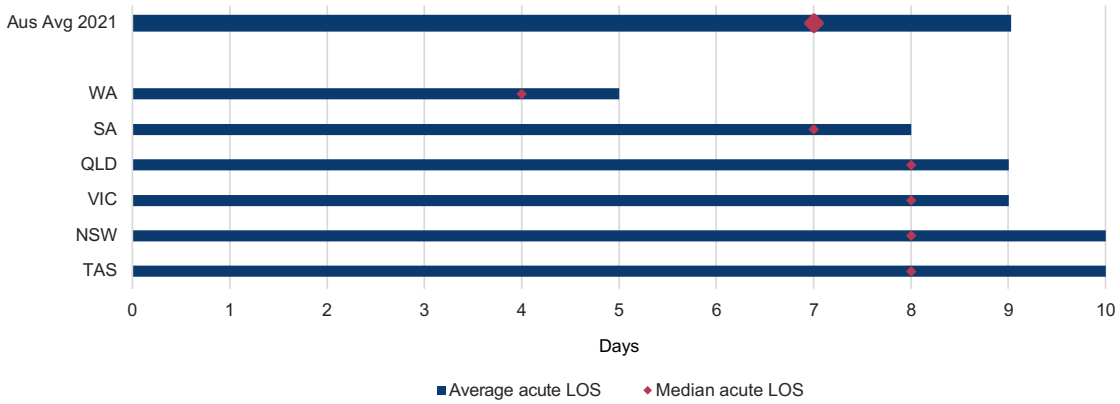


FIGURE 50 Discharge destination from acute care by state

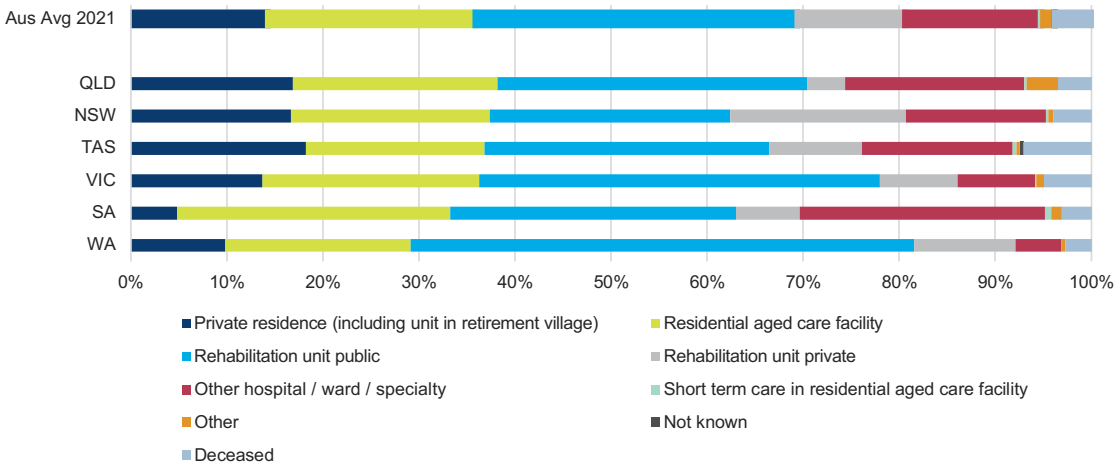


FIGURE 51 Bone protection medication on discharge by state

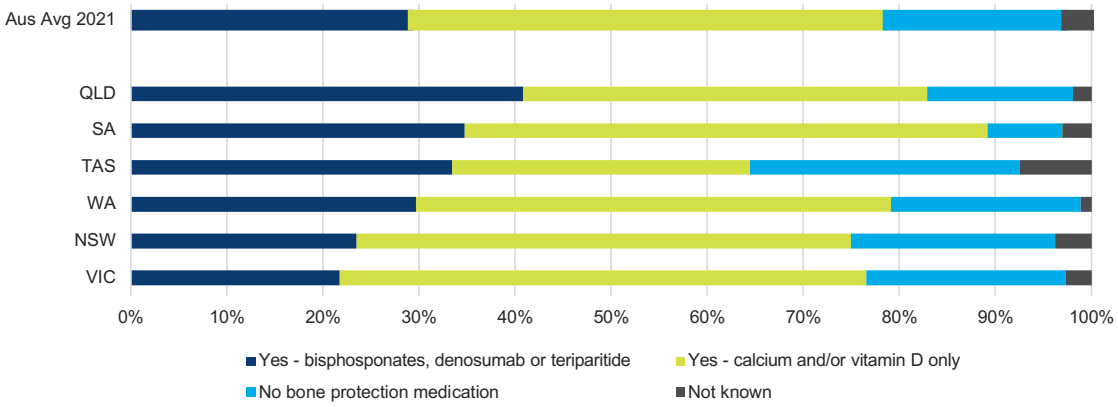


FIGURE 52 Proportion of hospitals reporting routine provision of written information on treatment and care after hip fracture by state 2021

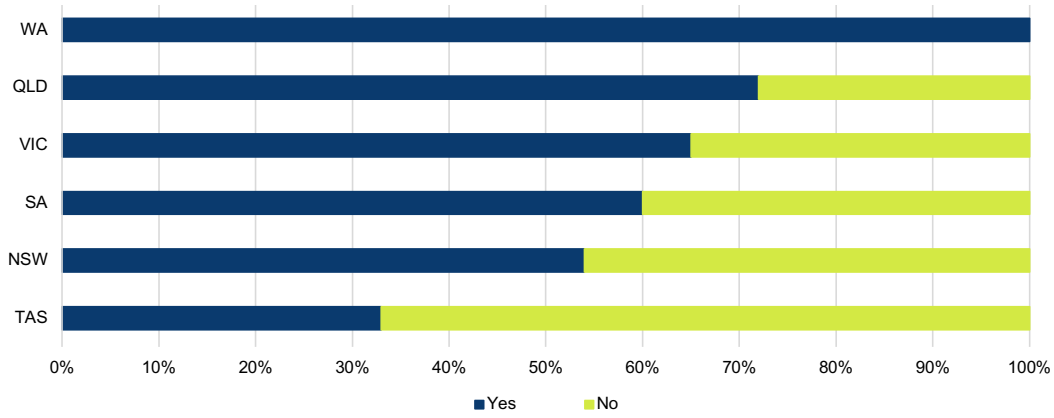
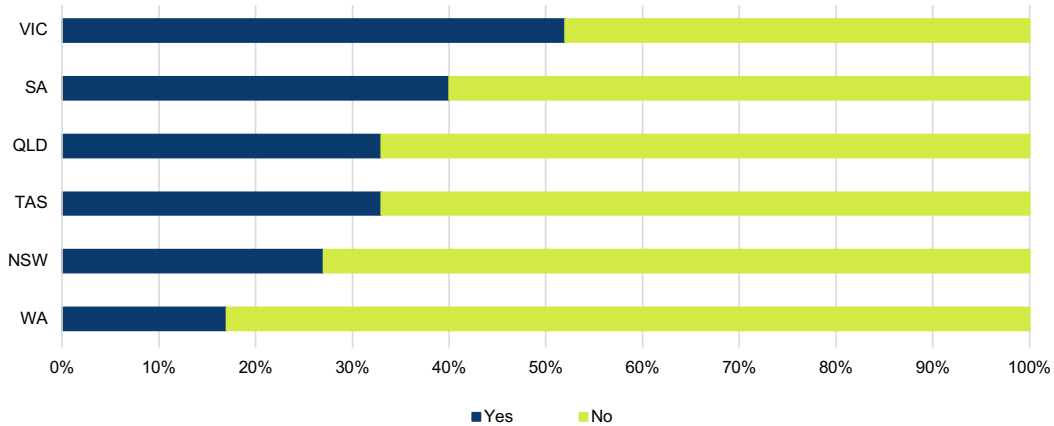


FIGURE 53 Proportion of hospitals reporting routine provision of individualised written information on prevention of future falls and fractures by state 2021



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MEMBERS OF THE ANZHFR STEERING GROUP

Professor Jacqueline Close, Geriatrician Co-Chair

A/Professor Catherine McDougall, Orthopaedic Surgeon Co-Chair

Mr Brett Baxter, Physiotherapist, Australian Physiotherapy Association

Dr Jack Bell, Advanced Accredited Practising Dietitian, Dietitians Australia

Professor Ian Cameron, Rehabilitation Physician, Australasian Faculty of Rehabilitation Medicine

A/Professor Mellick Chehade, Orthopaedic Surgeon, Australian and New Zealand Bone and Mineral Society

Dr Weiwen Chen, Endocrinologist, Healthy Bones Australia

Dr Owen Doran, Emergency Medicine Physician, Australasian College of Emergency Medicine

A/Professor Kerin Fielding, Orthopaedic Surgeon, Royal Australasian College of Surgeons and Osteoporosis Australia

Mr Stewart Fleming, Webmaster

Ms Jamie Hallen, Australian Registry Manager

Dr Roger Harris, Geriatrician, Osteoporosis New Zealand

Dr Sarah Hurring, Geriatrician, Clinical Lead New Zealand

Dr Angel Hui-Ching Lee, Geriatrician, Royal Australasian College of Physicians

Dr Sean McManus, Anaesthetist, Australian and New Zealand College of Anaesthetists

A/Professor Rebecca Mitchell, Injury Epidemiologist, Australian Institute Health Innovation, Macquarie University

Mr Pierre Navarre, Orthopaedic Surgeon, New Zealand Orthopaedic Association

A/Professor Marinis Pirpiris, Orthopaedic Surgeon, Victoria

Dr Gretchen Poiner, Consumer

Dr Hannah Seymour, Geriatrician, Australian and New Zealand Society for Geriatric Medicine

Ms Anita Taylor, Orthopaedic Nurse Practitioner, Australian and New Zealand Orthopaedic Nurses Alliance

Dr Chris Wall, Orthopaedic Surgeon, Australian Orthopaedic Association

Ms Nicola Ward, New Zealand National Coordinator

Mr Mark Wright, Orthopaedic Surgeon, New Zealand

ANZHFR TEAM

Ms Elizabeth Armstrong, Project Manager, My Hip, My Voice

Ms Karen Lee, Project Officer

Ms Narelle Payne, Project Officer

Ms Niamh Ramsay, Research Assistant

James Wright, Project Manager, My Hip, My Voice

THANK YOU TO ALL THE TEAMS WORKING ACROSS OUR HOSPITALS IN AUSTRALIA AND NEW ZEALAND. YOUR EFFORTS ARE DRIVING IMPROVEMENTS IN HIP FRACTURE CARE.


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