



ANNUAL REPORT 2021



ANZHFR

Australian & New Zealand Hip Fracture Registry

ENHANCING OUTCOMES FOR OLDER PEOPLE

The Australian and New Zealand Hip Fracture Registry (ANZHFR) sincerely thanks the multidisciplinary teams of the 86 hospitals who contributed to the patient level report (64 in Australia and 22 in New Zealand) and the 117 hospitals who contributed to the facility level results. This report would not be possible without your ongoing support, commitment and energy.

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



ABBREVIATIONS

ACEM	Australasian College of Emergency Medicine	NDI	National Death Index
ACT	Australian Capital Territory	NHFD	National Hip Fracture Database
AFRM	Australasian Faculty of Rehabilitation Medicine	NHMRC	National Health and Medical Research Council
AIHW	Australian Institute of Health and Welfare	NT	Northern Territory
ANZ	Australia and New Zealand	NZ	New Zealand
ANZBMS	Australian and New Zealand Bone and Mineral Society	NZOA	New Zealand Orthopaedic Association
ANZCA	Australian and New Zealand College of Anaesthetists	OT	Operating Theatre
ANZHFR	Australian and New Zealand Hip Fracture Registry	QLD	Queensland
ANZONA	Australian and New Zealand Orthopaedic Nurses Alliance	RACP	Royal Australasian College of Physicians
ANZSGM	Australian and New Zealand Society for Geriatric Medicine	RACS	Royal Australasian College of Surgeons
AOA	Australian Orthopaedic Association	SA	South Australia
APA	Australian Physiotherapy Association	VIC	Victoria
ASA	American Society of Anaesthesiologists	VTE	Venous Thromboembolism
AUS	Australia	WA	Western Australia
CT	Computed Tomography		
ED	Emergency Department		
FLS	Fracture Liaison Service		
GP	General Practitioner		
HDU	High Dependency Unit		
HFCCCS	Hip Fracture Care Clinical Care Standard		
ICU	Intensive Care Unit		
MRI	Magnetic Resonance Imaging		



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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.



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Additional copies of this report may be accessed at www.anzhfr.org or can be requested from the ANZHFR. Extracts from this report may be reproduced provided the source of the extract is acknowledged.

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The ANZHFR would like to thank 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: ANZHFR Annual Report of Hip Fracture Care 2021. Australian and New Zealand Hip Fracture Registry, September 2021.

ISBN: 978-0-7334-3991-9

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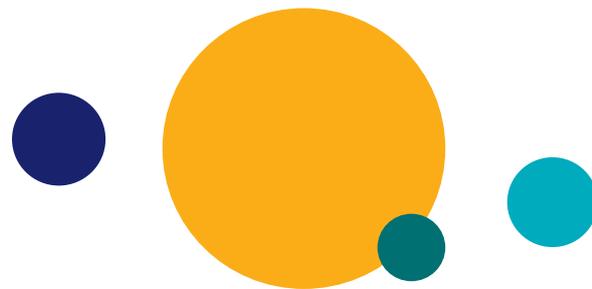
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CO-CHAIRS' FOREWORD



Welcome to the 2021 Annual Report, which includes the sixth patient level report and the ninth facility level report. This year, 86 hospitals have contributed patient level data and all 117 hospitals who were asked, provided facility level data to the report. Apart from having complete coverage of hospitals in New Zealand, we also have complete or near-complete coverage in Queensland, Western Australia, South Australia and Tasmania. We are grateful to the teams working in our hospitals across Australia and New Zealand who give their time to participate in Registry activities.

We continue to report against the binational Hip Fracture Care Clinical Care Standard and all quality indicators are included in the printed report, as for previous years. For the first time, the report also includes an outlier report, which monitors hospital performance against the quality indicators and enables sites to easily see areas of high quality care or those that require review. This year, however, not all variables included in previous reports are included in the printed report. A complete report is available online through the Registry website at www.anzhfr.org. This change has allowed room for more detailed mortality and outlier reporting, and we hope that by focussing on the most important outcomes, the written report is easier to read.

After introducing mortality data in the 2020 report, this section has been formalised in this report. The 2021 report provides 30-day mortality data from 2016 to 2020 included, and 365-day mortality for years prior to 2020. Consenting hospitals are identified for the first time and the mortality graphs allow comparison between regions and between hospitals.

The Registry has also expanded other activities. The Research Committee is now producing publications based on Registry data and several Sprint Audits involving brief periods of focussed, additional data collection, have been planned for 2021. Custom fields are now available for all sites to collect institution-specific data of their choosing.

Despite continuing restrictions due to the COVID-19 pandemic, the Registry has developed alternative education methods. Our 2020 lecture series includes interviews with experts on specific topics and these have been made available on YouTube via the Registry website. The registry has also recently launched Hipcast, a podcast series to help improve hip fracture care, and is increasing the ways for teams to connect with registry news through Twitter and LinkedIn. HipFests were held virtually in both Australia and New Zealand in the first part of 2021, and New Zealand was able to return to a face-to-face format for its second HipFest of the year.

This year marks the last year of involvement for our long-term Australian registry manager, Elizabeth Armstrong, who will leave the Registry in 2021 to pursue a PhD looking at hip fracture care in low and middle-income countries. We would like to thank Elizabeth for her tireless effort in establishing and promoting the registry over many years and to welcome Jamie Hallen, who joined as the new Australian registry manager in 2021 after a transition period with Elizabeth.



The 2021 report provides the largest and most detailed report on hip fracture care in Australia and New Zealand. The steering group, representing the multidisciplinary stakeholders involved in hip fracture care, will continue to expand and refine outcome reporting and education to fulfil their mission to improve hip fracture care for all. We consider this report to be an important step on that path.

**Professor
Jacqueline Close
Geriatrician**

Co-Chair
Australian and New Zealand
Hip Fracture Registry

**Professor
Ian Harris AM
Orthopaedic Surgeon**

Co-Chair
Australian and New Zealand
Hip Fracture Registry

EXECUTIVE SUMMARY

The Australian and New Zealand Hip Fracture Registry (ANZHFR) is one of an increasing number of hip fracture registries globally, set up with the intention of using data to drive a quality improvement agenda. With data on over 65,000 hip fractures collected over the past 6 years, it continues to be a key source of information on how care is provided and the outcomes of care following a hip fracture.

The 2021 report includes 14,816 records from 86 hospitals and we continue to see a year-on-year increase in hospitals contributing data to the Registry including some private hospitals in Australia.

With an increasing number of annual reports, it is becoming easier to see where practice is improving and where the gaps are in care. Variability in practice is also evident and some of this variability is likely to be to the detriment of the patient.

This year the printed report 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.

Progress is evident in a number of domains including:

- › assessment of cognition
- › assessment of pain
- › management of pain
- › availability of a hip fracture pathway
- › availability of a pain pathway
- › provision of written information for patients as they transition from the acute hospital setting.

It is pleasing to see an increase in the number of hospitals that have developed a hip fracture pathway (91%). The development of pathways necessitates members of the multidisciplinary team to come together and map out the patient journey. It is highly likely that this process ensures that there is attention to all aspects of the hip fracture journey and can move sites from being exemplars in one or two aspects of care to high performing organisations in all aspects of care.

Time to surgery has remained fairly static with 81% of patients receiving surgery within 48 hours of presenting to hospital. However, there is the variability in time to surgery across sites with access to theatre continuing to be the main factor delaying surgery. There is also significant variability in the average time to surgery for patients who present to a non-operating hospital and need to be transferred (25 – 80 hours). Some of this will reflect the geographical challenges of transferring people long distances but it is also likely that a lack of transfer protocols and prioritisation mean that people spend longer in a transferring hospital than is optimal.

The data presented on fracture type and surgical procedure suggests that some sites may not be accurately recording this information. Involving a member of the surgical team is encouraged to ensure that both classification of the fracture type and surgical procedure are accurate.

The COVID-19 pandemic has disrupted care in many hospitals with some orthopaedic wards being repurposed to COVID-19 wards and staff being deployed to areas of increased need during the pandemic. The decrease in the number of patients seen by a geriatrician in 2020 in Australia (87%) is likely a reflection of the temporary deployment of geriatricians to other roles in the hospital and community setting. This is exemplified by the story from Frankston Hospital contained within this report.

Frustratingly, the number of people leaving hospital on treatment for osteoporosis is low (27%) and we have seen little improvement over time. Understanding why we aren't making progress is a priority for ANZHFR and a Sprint audit is planned for late 2021 to try and gain a better understanding of the barriers and enablers to adopting evidence-based care in this area.

We have taken on board feedback from the sites contributing data to the Registry and this year we move from reporting on whether a patient was "offered" the opportunity to mobilise the day after surgery to whether the patient "actually" mobilised.



Whilst 90% of patients were reported to have been given the opportunity to mobilise the day after surgery, only 47% actually mobilised. This stark difference generates more questions than it answers and further work is needed to understand the barriers to actually mobilising a patient the day after surgery.

Whilst the Registry is reaching a mature phase, we are aware that sites across the countries are at different stages along their journey to improving hip fracture care. Many sites have moved from a project-based approach where one area of care is in focus to teams that have streamlined the whole hip fracture care pathway. This years' introduction of an outlier report will allow sites to see how they are performing against the Hip Fracture Care Clinical Care Standard and hopefully encourage teams to focus on areas where improvement is still needed. Using the custom fields option of the Registry can help teams collect additional fields of their choice for a time-limited period to gain a better understanding where the gaps are in care.

We strongly support sites learning from each other and we will continue to highlight exemplar care through a variety of channels including this report.

ANZHFR continues its journey to improve the care provided to and outcomes for people who fracture their hip. Much has been achieved and the data is there to support this. Much is still to be done and the Registry will continue to work with clinicians and managers across our two countries to ensure that the provision of timely and relevant data continues to have a key role in improving care.

KEY RECOMMENDATIONS

- › For teams early in the journey, map out the hip fracture journey in your hospital and engage the key stakeholders from the outset
- › Teams review the outlier report to identify areas where they may need to undertake quality improvement work
- › Use the custom fields function of the Registry to add variables of interest to support any local quality improvement activity
- › Access real time data and share with all members of the hip fracture team
- › In the absence of a local booklet, use the ANZHFR booklet (available in 15 languages) which provides an individualised care plan for patients as they transition from hospital to home
- › Participate in ANZHFR Sprint Audits

2020 SNAPSHOT

CALENDAR YEAR

PATIENT LEVEL REPORT



65%

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



67%

of patients had a preoperative assessment of cognition



79%

of patients had a nerve block to manage pain before surgery

86

ANZ Hospitals

14,816

Records



87%

Australian patients and

82%

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

90%

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



81%

of patients had surgery within 48 hours



47%

of patients achieved first day walking



27%

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



91%
of hospitals reported
having a hip fracture
pathway



31%
of hospitals utilise
an orthopaedic/
geriatric medicine
shared care
service model



86%
of hospitals
reported having
a pain pathway



82%
of hospitals
have a weekend
therapy service

117
ANZ Hospitals



43%
of hospitals had planned
operating lists for hip
fracture patients



62%
routinely provide written
information on treatment and
care after hip fracture

INTRODUCTION

The Australian and New Zealand Hip Fracture Registry (ANZHFR) is managed by the Falls, Balance and Injury Research Centre at Neuroscience Research Australia, a medical research institute affiliated with the UNSW Sydney Faculty of Medicine. In New Zealand, the Registry is supported by the New Zealand Orthopaedic Association. The Registry is guided by a multidisciplinary advisory group, consisting of representatives from key clinical stakeholder and consumer organisations. Since inception, this advisory group has been chaired by both a geriatrician and an orthopaedic surgeon, reflecting the ideal, shared approach to high-quality hip fracture care.

The ANZHFR is a clinical quality registry that collects data on the care provided, and the outcomes of care, to older people in Australia and New Zealand, admitted to hospital with a fracture of the proximal femur. Its minimum dataset is intentionally aligned with the ANZ Guideline for Hip Fracture Care in Adults (2014), developed by the ANZHFR Steering Group, and the binational Hip Fracture Care Clinical Care Standard, an initiative of the Australian Commission for Safety and Quality in Health Care, in partnership with the Quality and Safety Commission New Zealand.

The ANZHFR is pleased to present the 2021 Annual Report, which includes the sixth patient level report and the ninth facility level report.

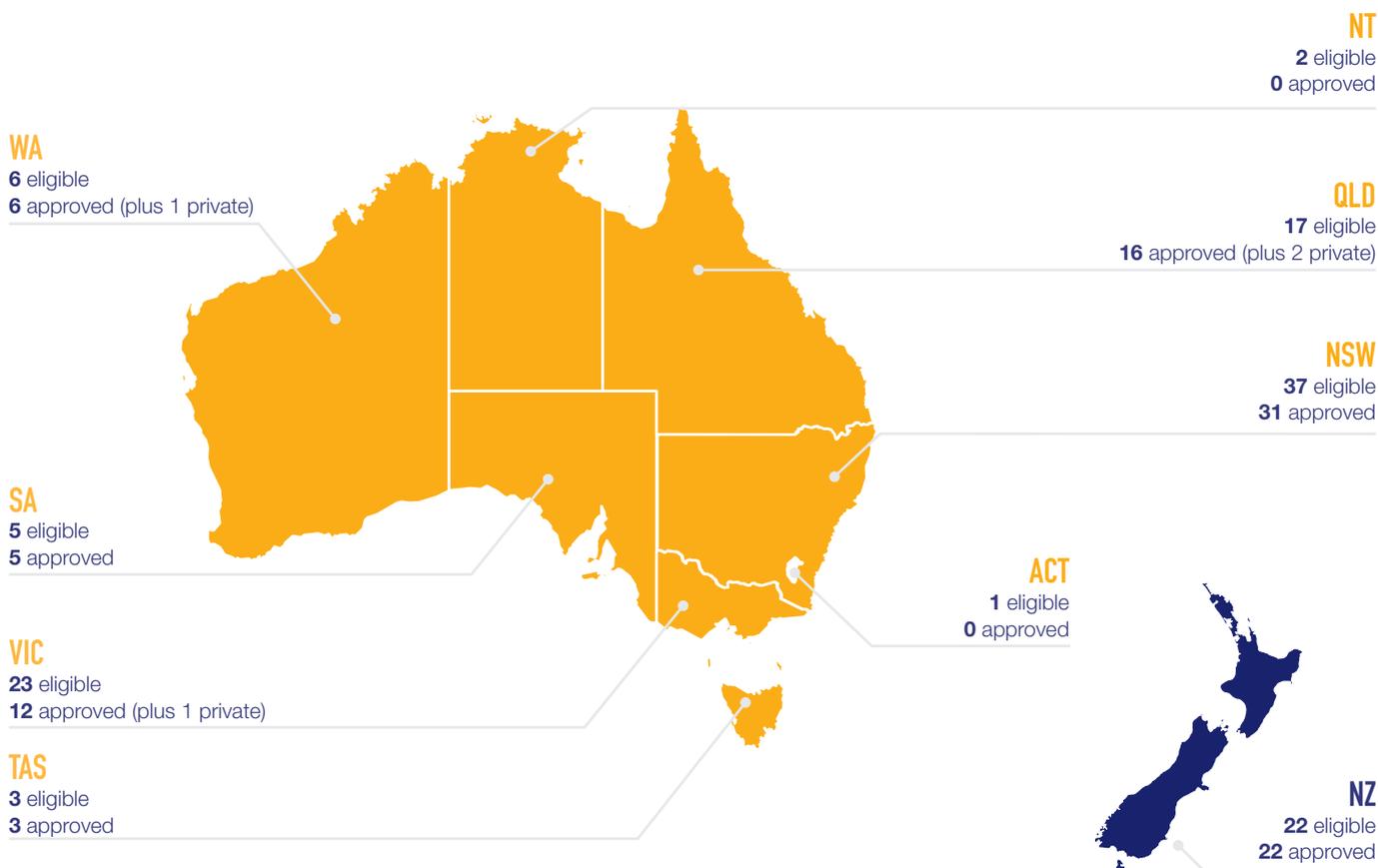


ANZHFR PARTICIPATION

Hospitals in Australia and New Zealand that provide surgical treatment to patients admitted with a fracture of the proximal femur are eligible to contribute data to the ANZHFR. The proportion of eligible public hospitals approved to participate in the ANZHFR and to be included in the annual report has increased from 21% of ANZ hospitals in 2016 to 87% in 2021. 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.

Not all approved hospitals have been able to contribute data to the ANZHFR and clinicians, health services, and our two health systems faced additional challenges due to the ongoing global COVID-19 pandemic. The ANZHFR will continue to work with approved sites who have been unable to contribute data to identify sustainable processes for participation. Image 1 shows eligible public hospital participation for Australia (by state and territory) and New Zealand. Four private hospitals contribute data to the ANZHFR; one in Western Australia, two in Queensland and one in Victoria.

Image 1: Public sector participation for Australia (by state and territory) and New Zealand



PARTICIPATION 2021

PATIENT LEVEL AUDIT

NEW ZEALAND HOSPITALS

	REPORT ID	2020		REPORT ID	2020
Auckland City Hospital	ACH	229	Southland Hospital	INV	76
Christchurch Hospital	CHC	457	Taranaki Base Hospital	TAR	65
Dunedin Hospital	DUN	183	Tauranga Hospital	TGA	214
Gisborne Hospital	GIS	34	Timaru Hospital	TIU	74
Hawkes Bay Hospital	HKB	153	Waikato Hospital	WKO	297
Hutt Valley Hospital	HUT	122	Wairarapa Hospital	MRO	15
Middlemore Hospital	MMH	258	Wairau Hospital	BHE	47
Nelson Hospital	NSN	124	Wellington Hospital	WLG	142
North Shore Hospital	NSH	399	Whakatane Hospital	WHK	28
Palmerston North Hospital	PMR	136	Whanganui Hospital	WAG	55
Rotorua Hospital	ROT	84	Whangarei Hospital	WRE	142

AUSTRALIAN HOSPITALS

	REPORT ID	2020		REPORT ID	2020
Albany Hospital	ABA	53	North West Regional Hospital	###	63
Armidale Hospital	ARM	49	Orange Health Service Hospital	OHS	147
Austin Hospital	###	222	Port Macquarie Base Hospital	PMB	148
Bankstown / Lidcombe Hospital	BKL	142	Prince Charles Hospital	PCH	358
Blacktown Hospital	###	166	Prince of Wales Hospital	POW	170
Box Hill Hospital	BOX	224	Princess Alexandra Hospital	PAH	217
Cairns Hospital	CNS	211	QEII Hospital	QII	85
Campbelltown Hospital	CAM	89	Queen Elizabeth Hospital	QEH	153
Coffs Harbour Base Hospital	CFS	78	Redcliffe Hospital	RED	130
Concord Hospital	CRG	122	Robina Hospital	ROB	280
Dandenong Hospital	DDH	344	Rockhampton Hospital	ROK	98
Dubbo Base Hospital	DBO	90	Royal Adelaide Hospital	RAH	278
Fiona Stanley Hospital	FSH	541	Royal Hobart Hospital	RHH	128
Flinders Medical Centre	FMC	253	Royal North Shore Hospital	RNS	187
Footscray Hospital	FOO	336	Royal Perth Hospital	RPH	343
Frankston Hospital	FRA	243	Royal Prince Alfred Hospital	RPA	161
Geelong Hospital	GUH	-	Ryde Hospital	RYD	-
Gold Coast University Hospital	GCH	29	Sir Charles Gairdner Hospital	SCG	260
Gosford Hospital	GOS	377	St George Hospital	STG	203
Grafton Hospital	###	48	St Vincent's Hospital Darlinghurst	SVD	142
Hornsby Ku-ring-gai Hospital	HKH	136	St Vincent's Hospital Melbourne [^]	HO2	110
Ipswich Hospital	IPS	123	Sunshine Coast	SCU	284
John Hunter Hospital	JHH	401	University Hospital		
Joondalup Hospital	JHC	174	Tamworth Hospital	TAM	101
Launceston Hospital	LGH	121	The Alfred	TAH	166
Lismore Base Hospital	LBH	151	The Northern Hospital	TNH	187
Liverpool Hospital	LIV	262	The Sutherland Hospital	TSH	172
Logan Hospital	LOG	92	The Wesley Hospital	###	17
Lyell McEwin Hospital	LMH	276	Toowoomba Hospital	TWB	147
Maitland Hospital	TMH	54	Townsville Hospital	TSV	182
Maroondah Hospital	MAR	211	Tweed Hospital	###	106
Mater Hospital	MSB	90	Wagga Wagga Base Hospital	WGG	70
Nambour Hospital	NBR	-	Westmead Hospital	WMD	195
Nepean Hospital	NEP	221	Wollongong Hospital	TWH	265

The patient level report includes data from 86 hospitals. In 2020, 14,816 records were contributed for the calendar year 1 January 2020 to 31 December 2020: 11,482 records from 64 Australian hospitals and 3,334 records from 22 New Zealand hospitals. Hospitals must have contributed at least 10 patient records during the relevant calendar year to be included in the patient level report. Contributing hospitals are listed on page 12 with their three-letter report identifier and the number of records contributed for the 2020 calendar year. All New Zealand hospitals and 58 Australian hospitals have elected to be identified.

117 hospitals completed the facility level audit for 2020.

FACILITY LEVEL AUDIT

New Zealand Hospitals

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

Australian Hospitals

NEW SOUTH WALES

Armidale Hospital
 Bankstown-Lidcombe Hospital
 Bathurst Base Hospital
 Bega – South East Regional Hospital
 Blacktown Hospital
 Bowral and 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 and District 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

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
 Royal Adelaide Hospital
 The Queen Elizabeth Hospital

TASMANIA

Launceston General Hospital
 North West Regional Hospital (Burnie)
 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. For the first time, the ANZHFR also reports on outliers against 14 indicators, 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.



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.



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.



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 within 48 hours, if no clinical contraindication exists and the patient prefers 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.



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.

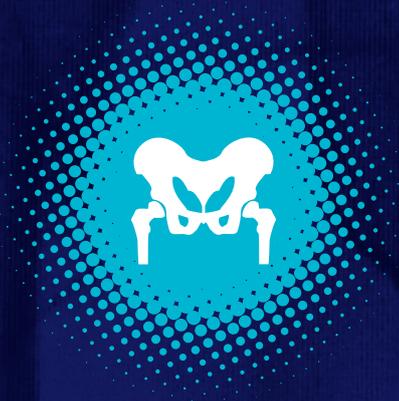


QUALITY STATEMENT 7:

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.





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.



TOWNSVILLE HOSPITAL

Townsville University Hospital Emergency Department (ED) provides service to many patients with neck of femur (NOF) fractures and we pride ourselves on their treatment. From arrival to ED, their diagnostics are expedited – leading to early treatment and transfer to specialty care. These patients have increased pain, especially on movement, so pain management is paramount.

Nerve blocks are administered in almost 100% of patients either in our department or at the referring centre prior to arrival. This is to ensure patient comfort and is guided by regular pain assessments. We understand that specialty care on our orthopaedic ward is desirable so once nerve blocks are administered and the NOF pathway has been actioned, it is important that the patient is transferred in a timely matter. In most cases, these patients will go directly to the orthopaedic ward to reduce movement and disorientation. Patients with NOF fractures have a high risk of deterioration - early diagnosis, early treatment and timely transfer to specialty care is imperative to positive patient outcomes.

Niki Taylor, A/Nurse Educator, Emergency Department



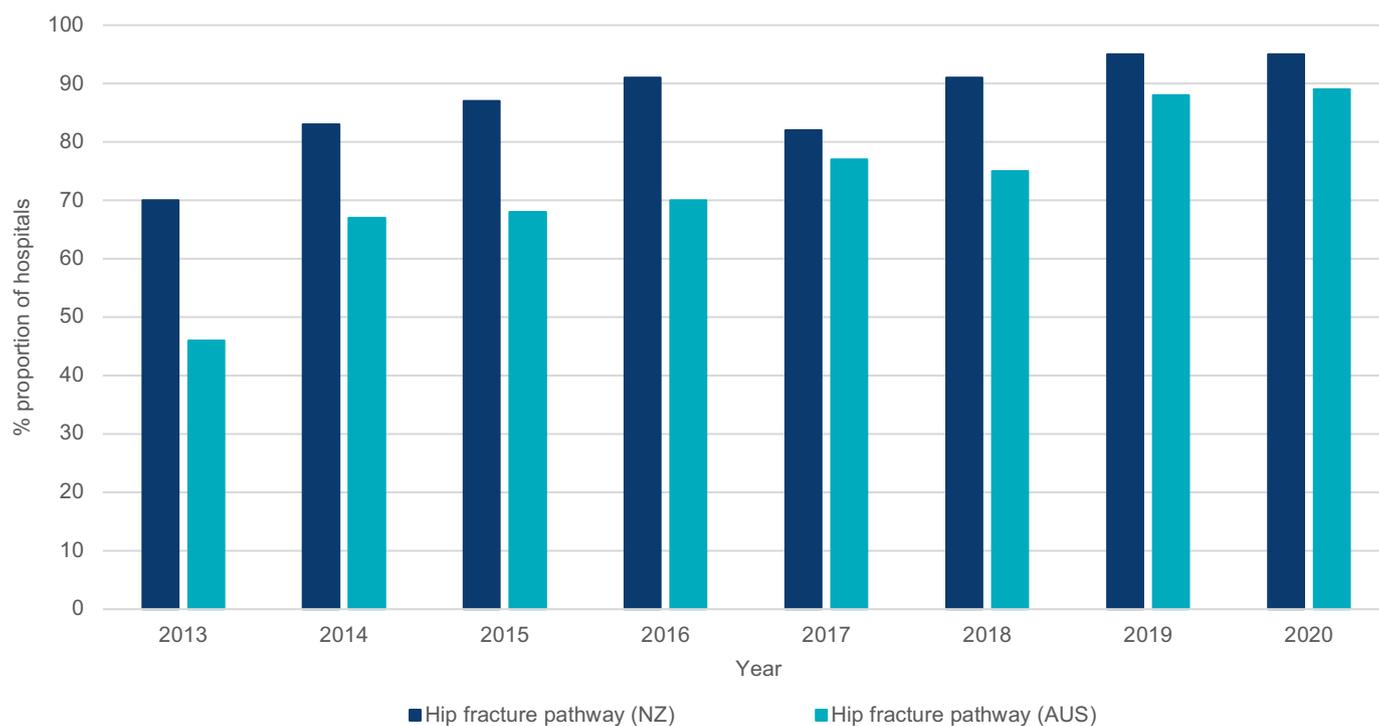
Indicator 1a: Evidence of local arrangements for the management of patients with hip fracture in the Emergency Department (ED)

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 therefore improve communication and collaboration between health care professionals. Figures 1 and 2 detail results from the 9th Facility Level Audit of Australian and New Zealand hospitals undertaking definitive management of older people with a hip fracture. The aim of the audit is to document the services, resources, policies, protocols and practices that exist across both countries over time. This year, 117 hospitals have completed the audit and the results are provided throughout the report against the relevant clinical care indicator. Where data is available, results have been reported from 2013-2020.

HIP FRACTURE PATHWAY

In 2020, 91% (106/117) of facilities reported having a hip fracture pathway. Figure 1 shows the proportion of hospitals in Australia and New Zealand with a hip fracture pathway over time. While the overall proportion of facilities is similar to last year, there has been an increase in hospitals reporting a hip fracture pathway for the whole acute journey from 60% in 2019 to 68% in 2020.

FIGURE 1 Hip fracture pathway as a reported element of hip fracture care in Australia and New Zealand 2013–2020

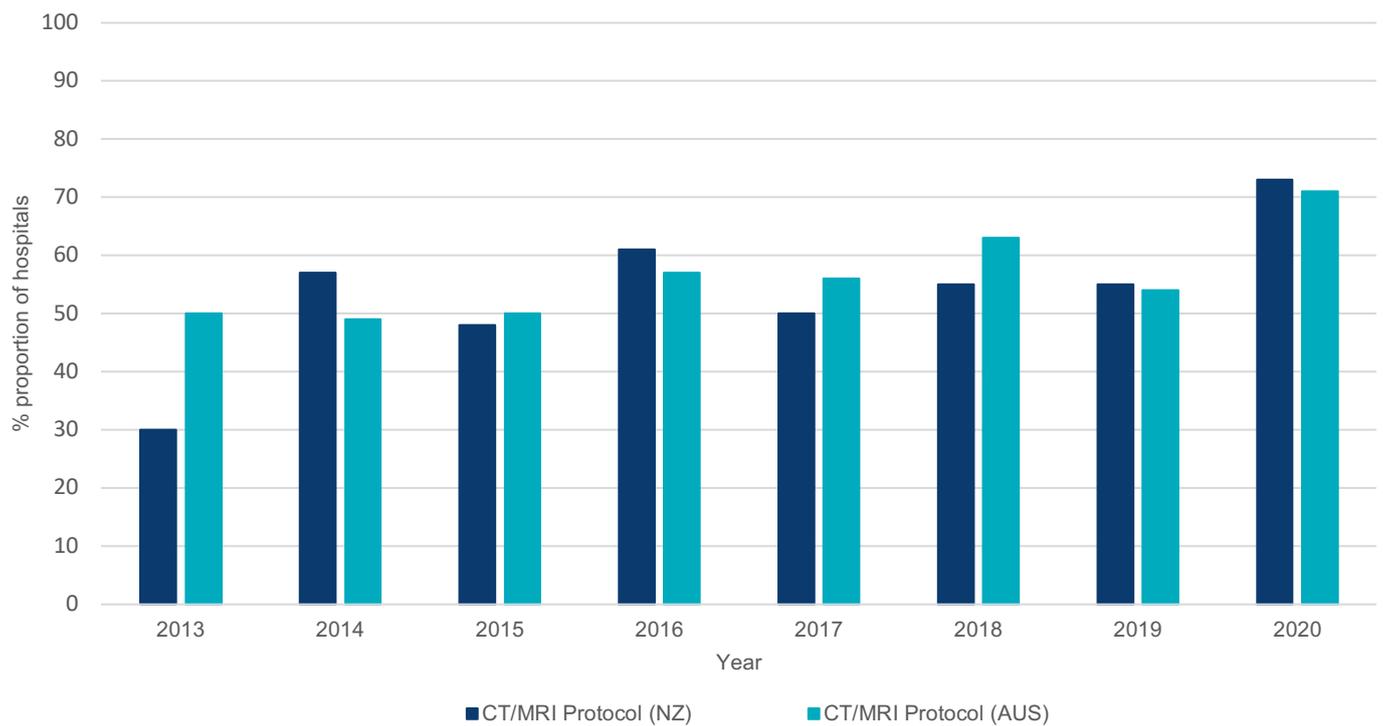




COMPUTED TOMOGRAPHY (CT) / MAGNETIC RESONANCE IMAGING (MRI)

In 2020, 71% (83/117) reported the availability of a protocol or pathway to access either CT or MRI if plain imaging of a suspected fracture was inconclusive. This compares with 54% in 2019, showing considerable improvement for the first time in the last five years. For some hospitals, the introduction of a protocol may be an opportunity to improve the diagnosis of clinically suspicious fractures. Figure 2 shows the proportion of hospitals in Australia and New Zealand with a CT/MRI protocol over time.

FIGURE 2 CT/MRI protocol as a reported element of hip fracture care in Australia and New Zealand 2013–2020

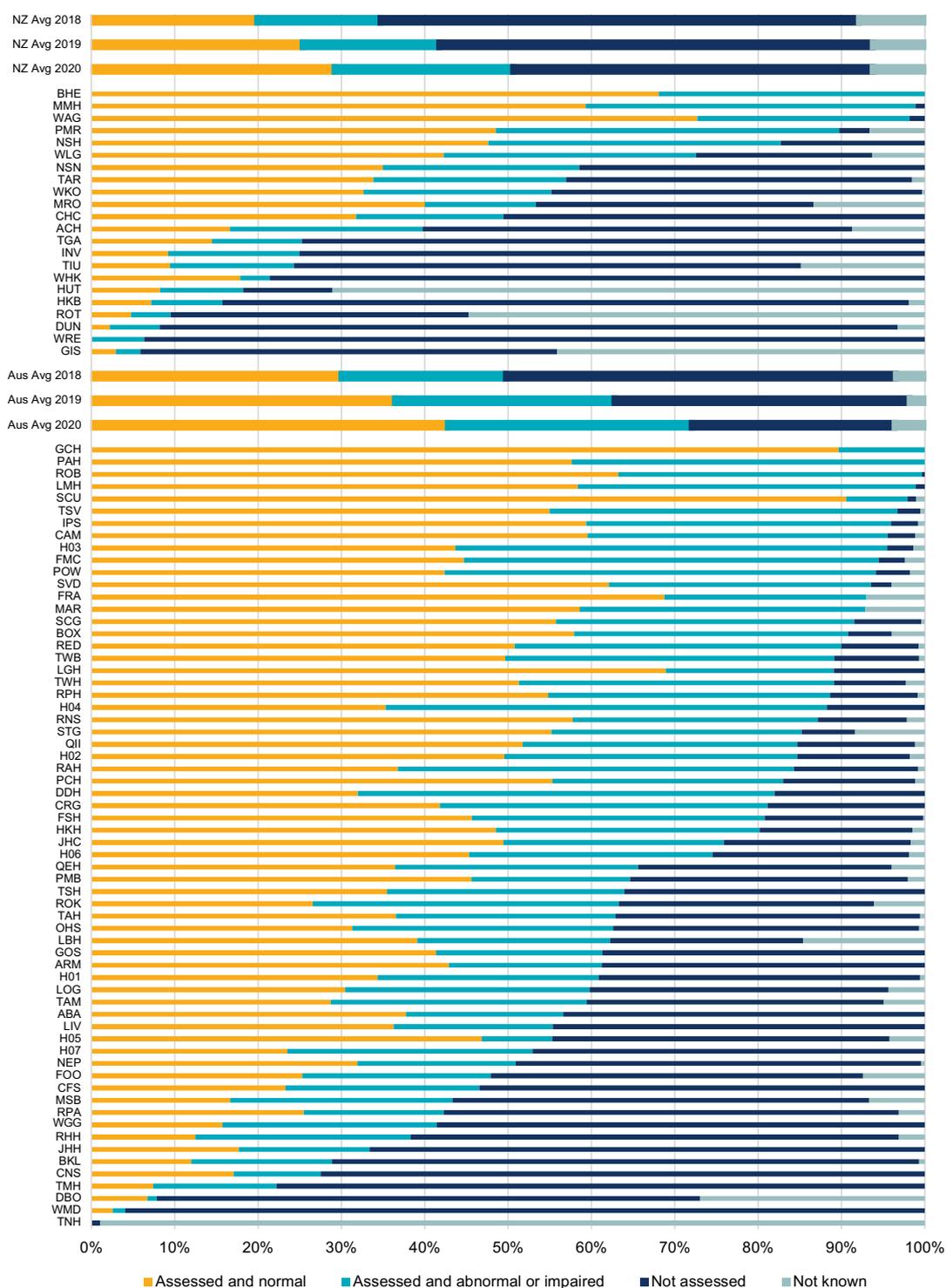




Indicator 1b: Proportion of patients with a hip fracture who have had their preoperative cognitive status assessed

Figure 3 shows the proportion of patients who had their preoperative cognition status assessed. In New Zealand, 51% of patients had their cognition assessed using a validated tool prior to surgery. Twenty one percent were recorded as having a cognitive impairment. In Australia, 72% of patients had their preoperative cognition assessed. Twenty nine percent were recorded as having a cognitive impairment. Both countries have shown an increase each year in preoperative assessment of cognition in hip fracture patients.

FIGURE 3 Preoperative cognitive assessment



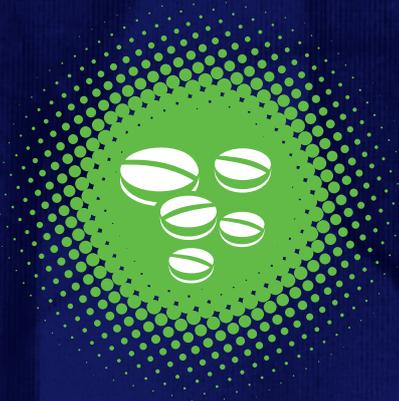


PALMERSTON NORTH MAKING GAINS IN PREOPERATIVE COGNITIVE ASSESSMENT

Originally the junior doctors were solely responsible for completing the preoperative cognitive assessment, but for a variety of reasons, this was not always done. The nursing team have now picked this up and support completion, with significant improvement. Hip fracture care is a team effort so when some members of the team aren't able to complete aspects of the assessment, there are systems and checks in place so the other members of the team will.

Erica Calvert, Charge Nurse, NZ

Overall, we feel at MidCentral we have made significant gains in improving the care, treatment and outcomes for hip fracture patients.



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

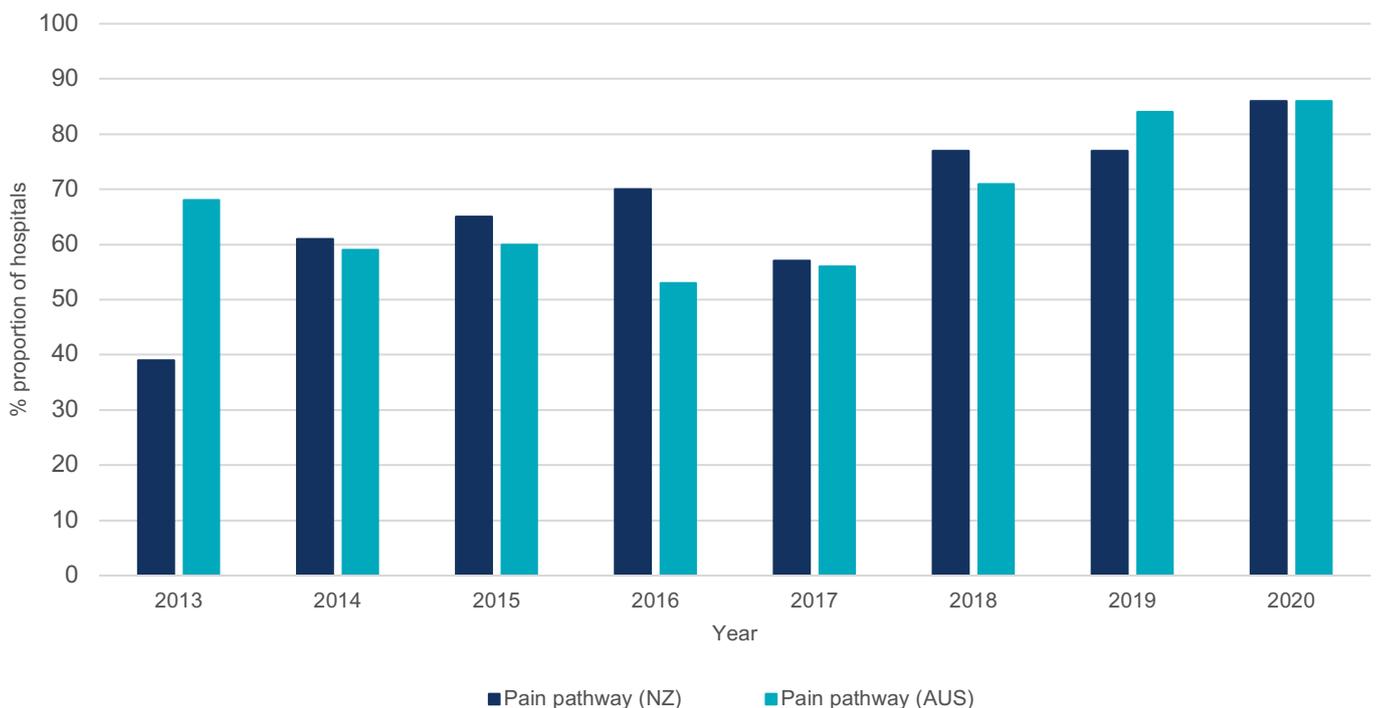
PAIN PATHWAY

In 2020, the facility level audit showed a protocol or pathway for pain was available at 86% (101/117) of hospitals: 64 hospitals for the whole acute journey and 37 hospitals in the Emergency Department (ED) only. These results demonstrate an increase in the overall proportion of hospitals using a pathway with the greatest change in the proportion of respondents reporting a pathway for the whole acute journey.

The facility level audit also asks respondents if patients are offered local nerve blocks as part of preoperative and postoperative pain management. This year, 98% (115/117) responded that patients were offered nerve blocks preoperatively and 86% (101/117) responded that patients were offered nerve blocks for postoperative pain relief 'always' or 'frequently', an increase from 78% in 2019.



FIGURE 4 Pain pathway reported as an element of care in Australia and New Zealand 2013–2020





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

On average, 62% of New Zealand hip fracture patients and 66% of Australian hip fracture patients, respectively, had a documented assessment of pain within 30 minutes of presentation (Figure 5). Pain assessment in the ED has increased each year in New Zealand, and overall in Australia since 2017.

FIGURE 5 Pain assessment in the Emergency Department (ED)

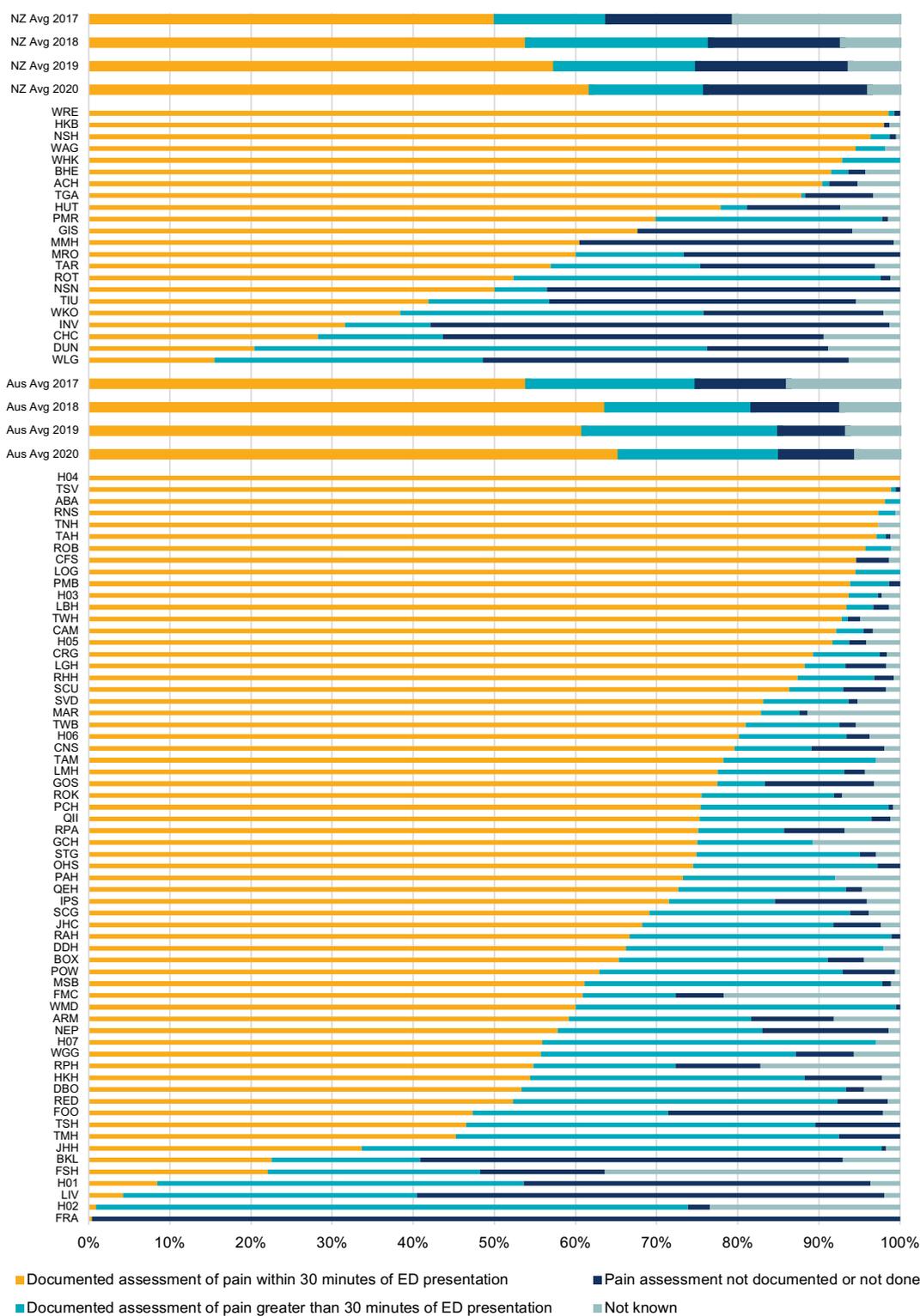
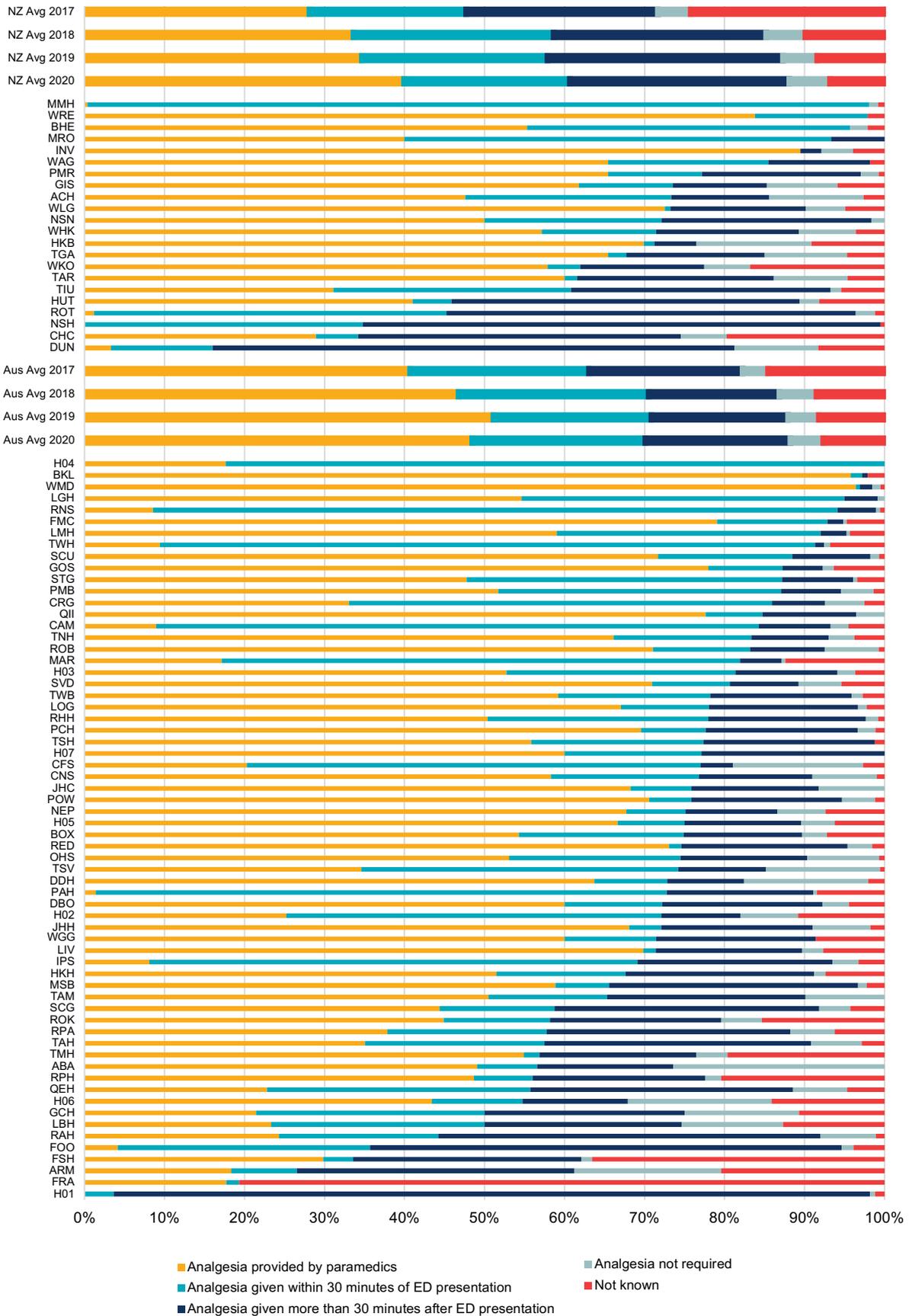




Figure 6 shows that 61% of New Zealand and 70% of Australian hip fracture patients receive analgesia either in transit (by paramedics) or within 30 minutes of arrival at the ED.

FIGURE 6: Pain management in the Emergency Department (ED)





COLLABORATING TO ENHANCE HIP FRACTURE CARE

The Agency for Clinical Innovation (ACI) from New South Wales (NSW) Health is continuing to collaborate with clinicians involved in the provision of hip fracture care. Recently, in partnership with Southern NSW and Hunter New England Local Health Districts, two pain management workshops were successfully delivered.

The ACI Pain Management Clinical Leads, Dr Jenny Stevens and Julie Gawthorne, discussed practical strategies on how to effectively translate knowledge into practice to meet the Australian Commission on Safety and Quality in Health Care Hip Fracture Care Clinical Care Standard. Local multidisciplinary teams met to reflect on current practice and network with others to share ideas on improving hip fracture care. Clinicians were given the opportunity to gain knowledge and skills in pain assessment and management of patients with a hip fracture, including the appropriate use of Fascia Iliaca Blocks (FIB).

Future plans include having FIB training resources and an accreditation pathway accessible to clinicians across NSW through the My Health Learning portal.

For more information on NSW Leading Better Value Care Hip Fracture Care initiative, please visit <https://aci.health.nsw.gov.au/statewide-programs/lbvc/hip-fracture-care>



This is part of our core business as an acute pain service. It's exciting that we can now administer these blocks to support our patients, anaesthetic registrars and junior doctors in the Emergency Department.

Clinical Nurse Consultant, NSW



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.



COVID'S IMPACT AT FRANKSTON HOSPITAL

We all appreciate that it takes a whole hospital approach to care for patients with a fractured hip. While we had many exciting ideas and plans to improve our hip fracture care at Frankston Hospital, the COVID-19 pandemic threw us a curveball in 2020. The COVID outbreak in the hospital led to more than 600 staff furloughed, including many in the orthogeriatric and orthopaedic team. There was a major re-structure of junior medical staffing, which included changing from unit/specialty-based allocation to location-based allocation. This resulted in junior doctors caring for patients outside of their specialty pathways. In addition, many staff were re-deployed to services of anticipated increased clinical needs, including our geriatric registrars and our associated investigator for the hip registry, which significantly increased the workload for the remaining staff hence impacting implementation of non-essential activities. The orthopaedic ward was converted to a COVID ward. As a result, patients with hip fracture were spread across multiple wards. Many staff were not experienced in caring for this vulnerable group of patients. We worked hard to provide education and resources to the different wards while adopting different ways to provide clinical care, such as virtual ward rounds, telehealth, and online meetings.

Apart from the impact on clinical staff, the COVID-19 pandemic also challenged how we have historically done things. For example, patients with hip fracture often needed COVID clearance before being brought to theatre, and this delay is reflected in the increased time to theatre from 25 hours previously to 38 hours in 2020. There were no visitors allowed, which was a challenge to every admitted patient but especially hard for those with cognitive impairment. Given that the priority was to provide safe and quality care with stretched resources while handling the operational inefficiencies brought on by the COVID measures, we were not able to manually collect many of the data for the hip registry as we relied on the JMOs from the orthogeriatric and orthopaedic teams to do data collection. This explains the many "unknowns" in this year's report. On a positive note, this is the first year that Frankston Hospital utilised routinely collected data from the electronic medical record such as basic demographics, length of stay and time to surgery to aid the population of the registry data leading to the reporting of 243 patient records (>95% of all cases), compared to 70-130 in the past few years.

I am very grateful for the dedication of all our team who persevered, adapted and rose to meet all the challenges of this unique year. We will continue to explore ways to improve our care for people with hip fractures.

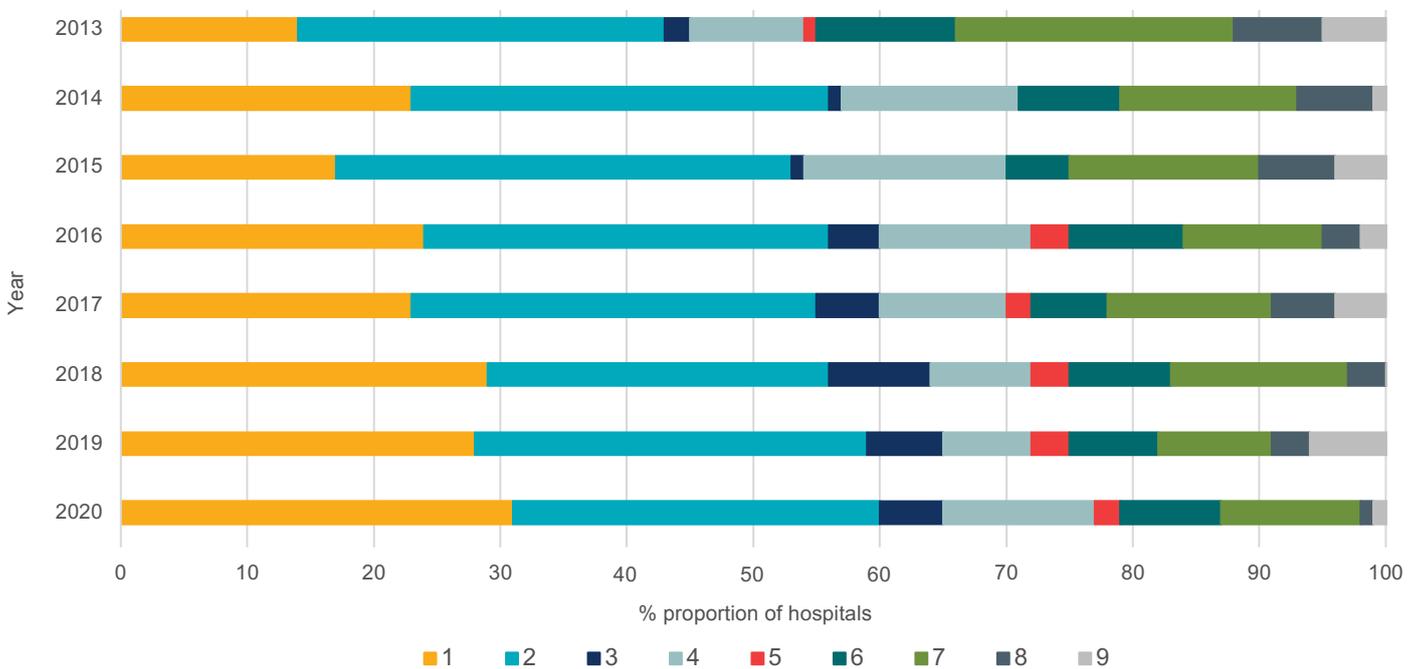
Dr Angel Lee, Geriatrician and Principal Investigator



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

Geriatricians continue to be increasingly involved in the management of older people who have fractured their hip, represented by the growing number of ANZ hospitals reporting shared care arrangements or regular input by an orthogeriatric liaison service, the two most common models of care reported. In 2020, shared care arrangements were reported in 31% of New Zealand and Australian hospitals (36/117). A weekday orthogeriatric liaison service was reported in 29% (34/117) of New Zealand and Australian hospitals. Fewer hospitals reported that no formal arrangements for review exist (Figure 7).

FIGURE 7 Orthogeriatric care service model by hospital (New Zealand and Australia combined) 2013–2020



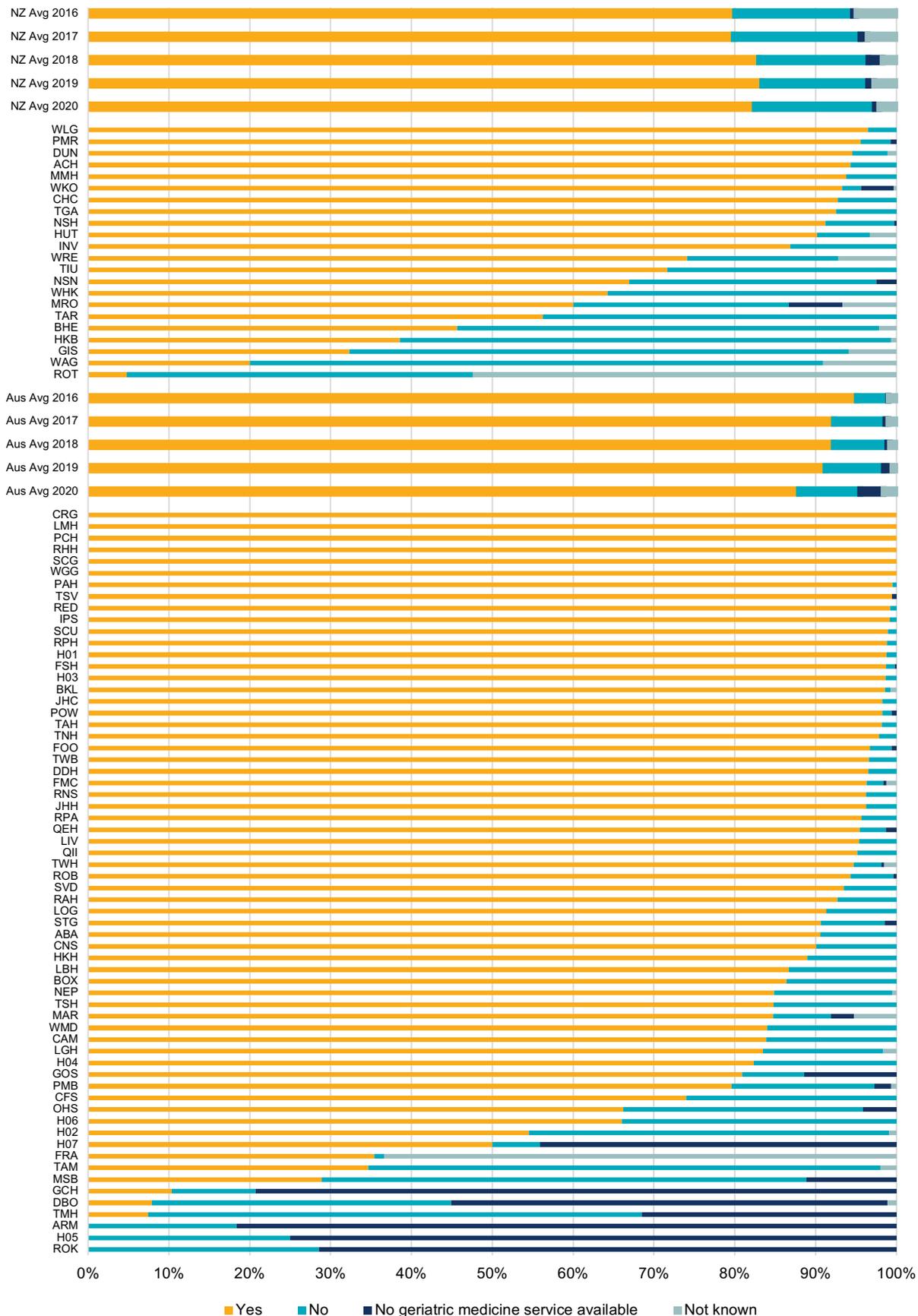
1. A shared care arrangement where there is joint responsibility for the patient from admission between orthopaedics and geriatric medicine for all older hip fracture patients.
2. An orthogeriatric liaison service where geriatric medicine provides regular review of all older hip fracture patients (daily 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. No formal service exists
9. Other





FIGURE 8 Assessed by geriatric medicine during acute admission

In New Zealand, 82% of hip fracture patients saw a geriatrician during their acute hospital stay compared with 87% in Australia.





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 has been demonstrated to reduce morbidity, hasten functional recovery and reduce length of stay. Figure 9 shows that 83% of patients in New Zealand and 80% of patients in Australia who underwent surgery were operated on within 48 hours of presentation to the first hospital. This is unchanged from 2019.

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

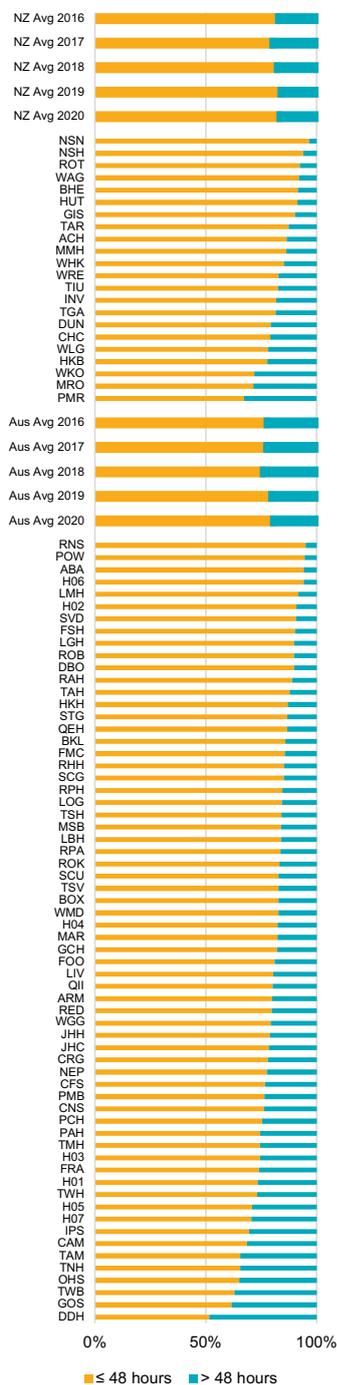
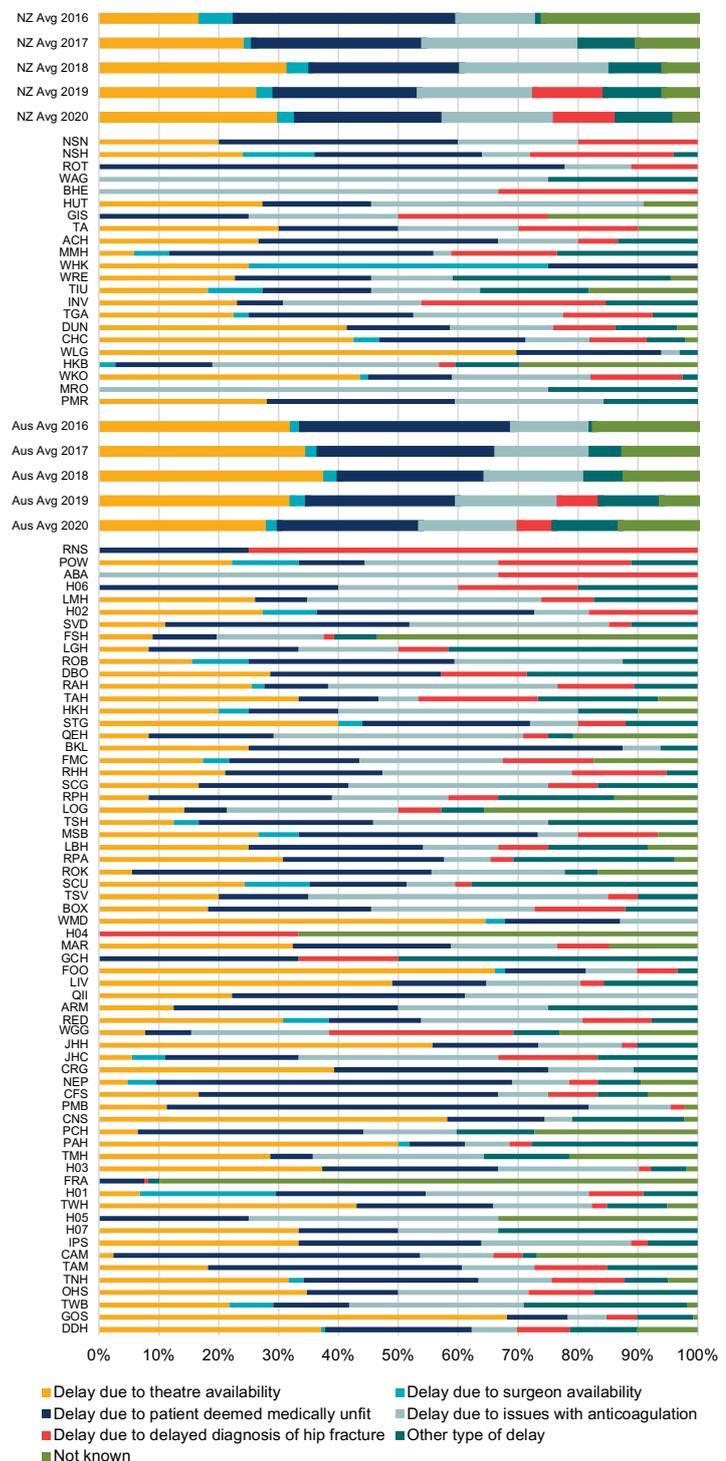


FIGURE 10 Reason for delay > 48 hours





CUTTING TIME TO SURGERY IN NELSON MARLBOROUGH DHB

We wanted to improve the way we delivered hip fracture care to older adults admitted to hospital - to get patients back on their feet by aiming for surgery the same or next day. Using the Hip Fracture Care Clinical Care Standard and ANZ Guideline for Hip Fracture Care, the teams at Wairau and Nelson hospitals have implemented a hip fracture pathway and pre-surgery optimisation guidelines. We involved the whole multidisciplinary team in both hospitals developing a hip fracture care pathway from the Emergency Department to rehabilitation, prioritising hip fracture surgery on the theatre lists and early frequent mobilisation. Median time to surgery is presently 19.4 hrs in Nelson and 20.7 hrs in Wairau.

Sharing the hip fracture data regularly with the wider team has helped to maintain momentum gradually increasing compliance with more of the Hip Fracture Clinical Care standards. The present focus is improving bone protection for all patients experiencing fragility fractures, having just received ACC funding for this service.

Margie Burt, (NMDHB Surgical Nurse Educator and Hip fracture Co-ordinator)

Sharing the hip fracture data regularly with the wider team has helped to maintain momentum gradually increasing compliance with more of the Hip Fracture Clinical Care standards.

GOSFORD – TIME TO SURGERY AND THEATRE ACCESS

For the year 2020/21, Central Coast Health has shown a significant improvement in acute length of stay, which is now down to 6.5 days, and pain management, with up to 88% of patients having early pain assessments and the administration of regional blocks. Although the Local Health District is made up of several hospitals, all of our fractured NOF patients are transferred and receive their procedure at Gosford Hospital.

Our Hip Fracture Steering Committee consists of orthopaedic surgeons and trainees, operating theatre staff, medical and nursing staff, senior clinical directors, allied health and our ortho-geriatricians, data managers and hospital improvement specialists, following the engagement of the Leading Better Value Care initiative (NSW Agency for Clinical Innovation). We have focused on areas such as: inter-hospital patient transfers to improve our time to surgery and consultant surgeon presence during surgery.

We found that our most useful change was to ensure patients with a fractured NOF are scheduled as either first or second case on our daily trauma list. This strategy was implemented over a 6-month period and has improved our time to surgery and significantly impacted the overall acute length of stay and outcome of our patient's rehabilitation.





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.

Figures 11 and 12 provide insight into service configurations that support early mobilisation by providing patients with the opportunity to stand up and sit out of bed, or walk, on the first day after surgery. Figure 11 shows that 89% of hip fracture patients in New Zealand and 90% in Australia are given the opportunity to mobilise the day after surgery.

A new variable was included in 2020 to capture the proportion of patients with a hip fracture who actually mobilise on day one post surgery. Mobilise means the patient managed to stand and step transfer out of bed onto a chair/commode and/or walk. This does not include only sitting over the edge of the bed or standing up from the bed without stepping/walking.

Despite 90% of patients being given the opportunity to mobilise on day one, 40% of patients in New Zealand and 49% of patients in Australia achieved first day mobilisation (Figure 12). Substantial variation exists between hospitals, which may partially reflect elements of care such as availability of weekend therapy.



84% of hospitals in Australia and **72%** of hospitals in New Zealand can access weekend therapy services



FIGURE II Opportunity for first day mobilisation

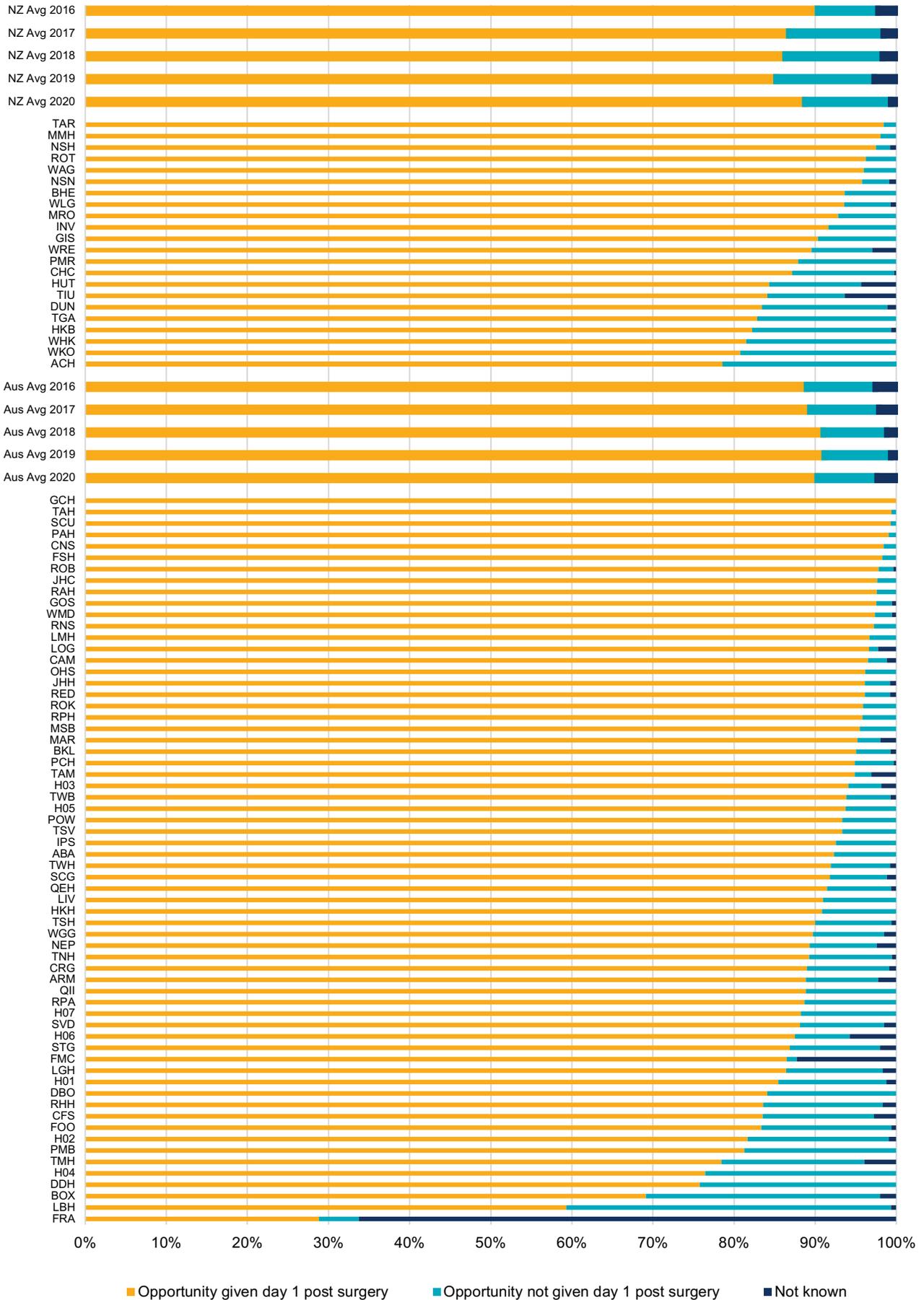
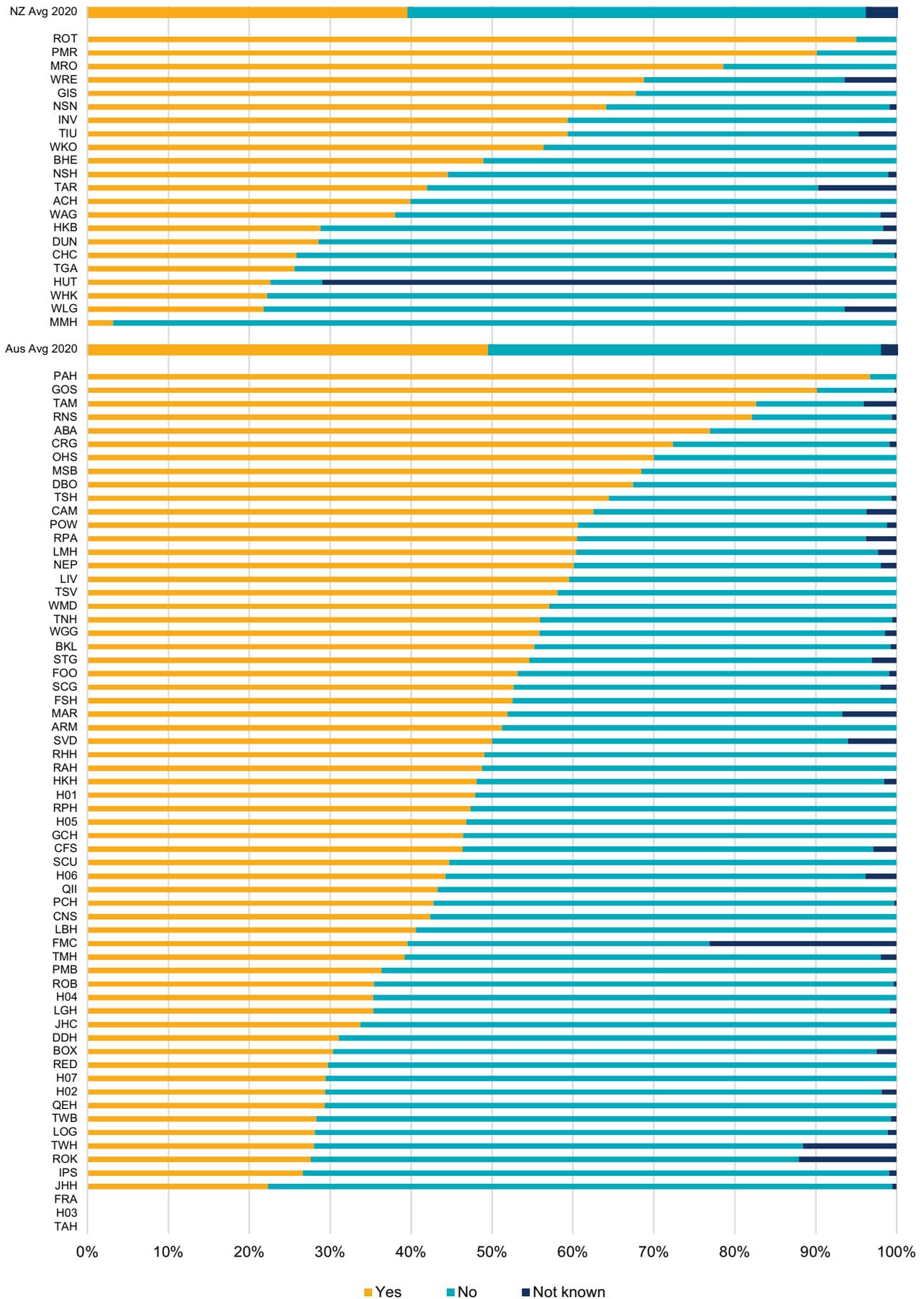




FIGURE 12 Actual first day mobilisation





While we are proud of our successes, our team is committed to using the ANZHFR data to guide ongoing service improvements.



PRINCESS ALEXANDRA HOSPITAL (PAH)

The Princess Alexandra Hospital (PAH) in Brisbane operates under an Orthogeriatric shared care model for patients with a hip fracture. The multidisciplinary team is very pleased with the results of this year's report, particularly:

- › 98% of our patients received a femoral nerve block in ED
- › 100% of our patients had unrestricted weight bearing
- › 98% of our patients had the opportunity to mobilise day 1 post-op
- › 97% of our patients achieved first day walking
- › A pressure injury rate half that of the Australian average
- › An acute length of stay almost half of the Australian average

The team attributes our results to strong leadership in key positions such as the hip fracture Clinical Nurse Consultant (CNC) and the Orthogeriatric Consultant and Registrar, as well as respect from all staff of the important role played by each and every team member.

Patients receive regional analgesia on arrival to ED. A protocol for the insertion of femoral nerve catheters with a continuous regional infusion was developed 12 months ago in conjunction with the emergency and anaesthetic departments and highlights the continual drive for service delivery improvement in our team.

Our multidisciplinary team is committed to optimising patient well-being and reducing post-operative complications. Nursing staff and physiotherapists work closely to ensure mobilisation is incorporated into all aspects of post-operative care, such as sitting out for mealtimes, attending to regular toileting, and participating in hygiene cares. We feel this team approach has contributed to excellent outcomes in early mobility and reduced pressure injuries in our patients.

The short length of acute stay reflects multiple factors. However, key points of difference in our service includes:

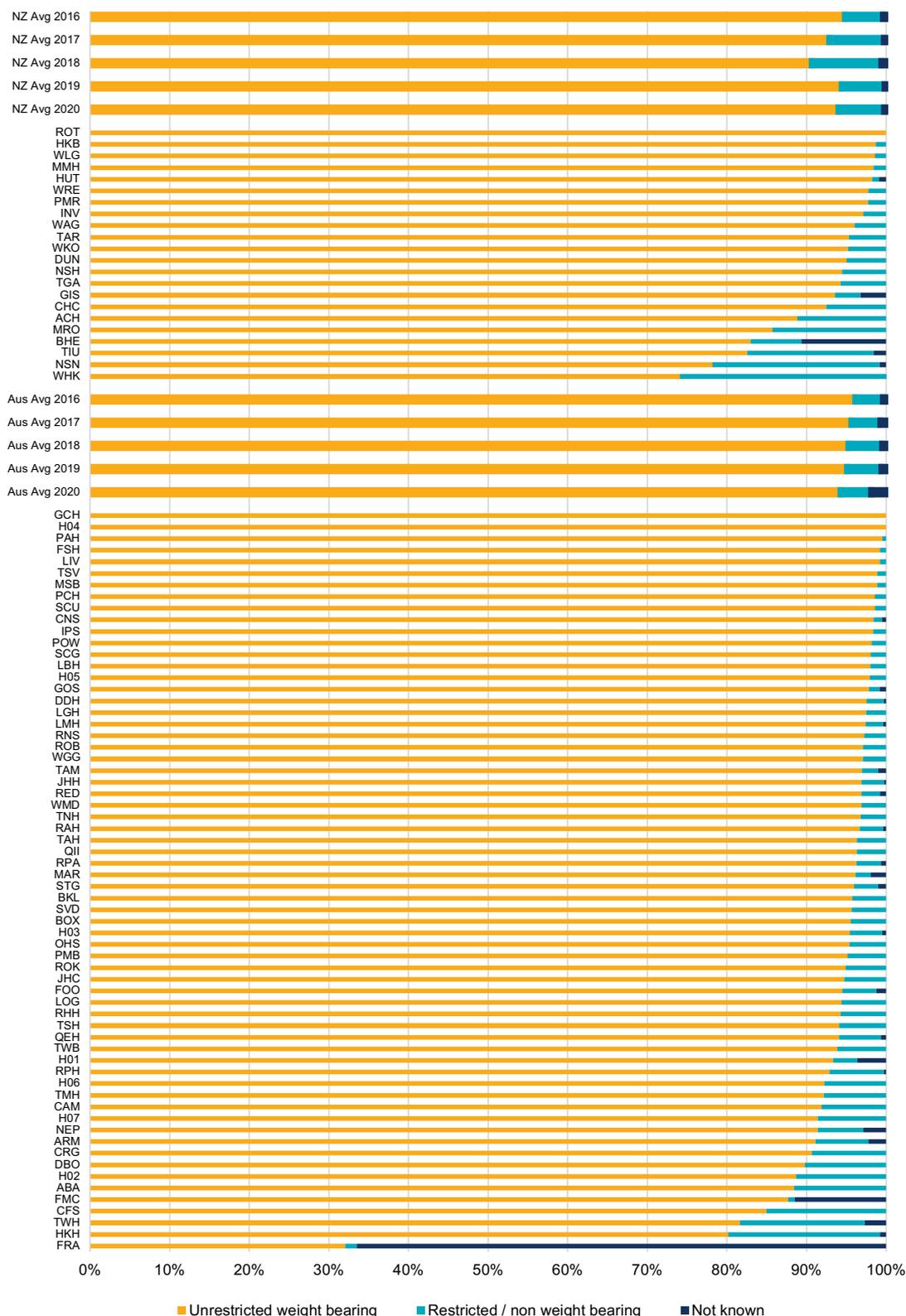
- › Our hip fracture CNC is the first point of contact of patient arrival to ED and plays a critical role supporting the patients' perioperative journey. She facilitates communication between health professionals, patients, and families, and supports interventions aimed at reducing both medical and surgical post-operative complications.
- › The hip fracture CNC and orthopaedic NOF medical officer work together to ensure timely access to the daily hip fracture operating theatre list.
- › The orthogeriatric team, including medical and allied health staff, assess and optimise patients preoperatively and commence early discharge planning to ensure efficient, safe transitions home or to subacute care.



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 94% of patients in New Zealand and Australia are allowed full weight bearing after surgery.

FIGURE 13 Weight bearing status after surgery

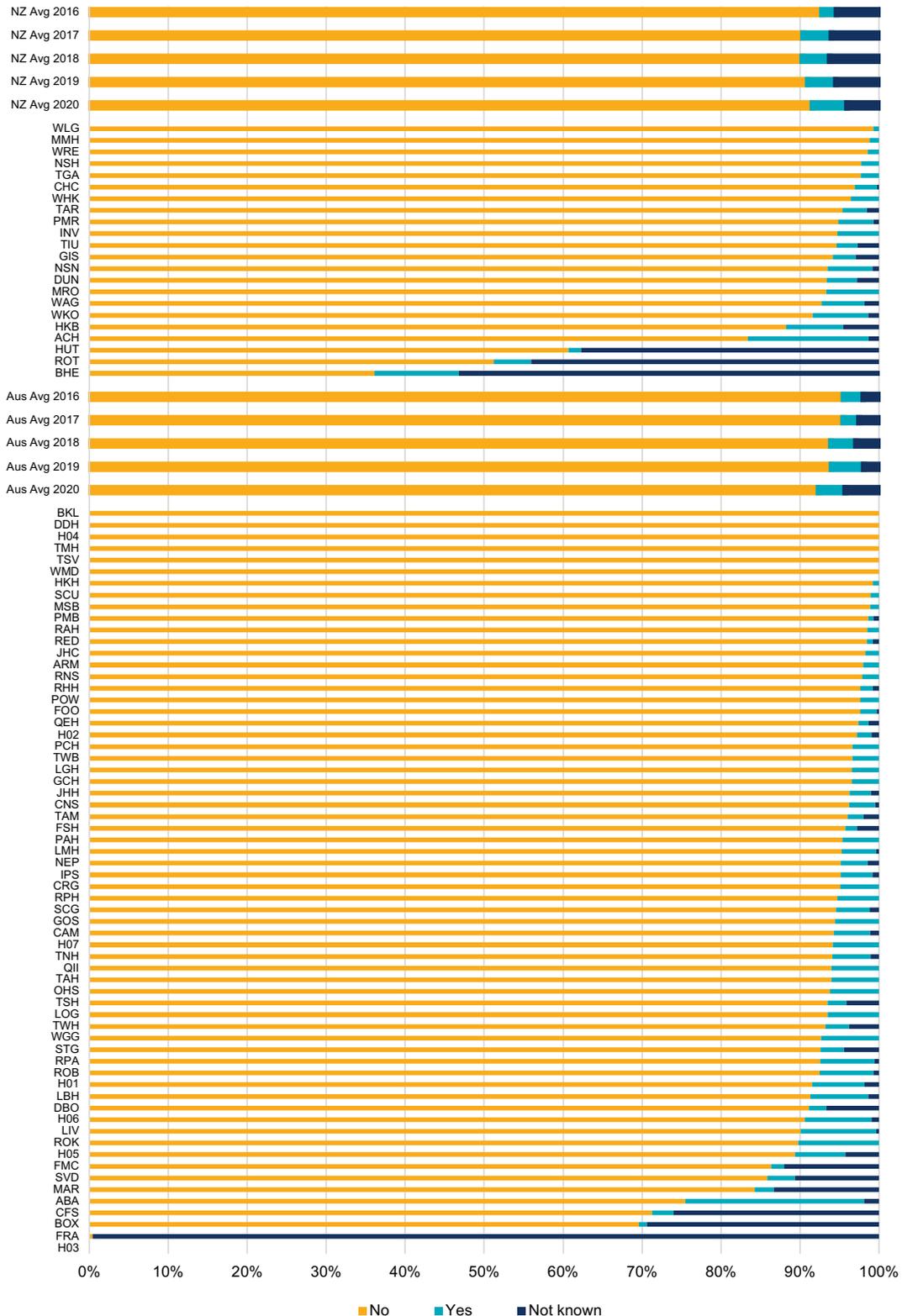




Indicator 5c: Proportion of patients with a hip fracture experiencing a new Stage II or higher pressure injury during their hospital stay

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

FIGURE 14 Hospital acquired pressure injuries of the skin

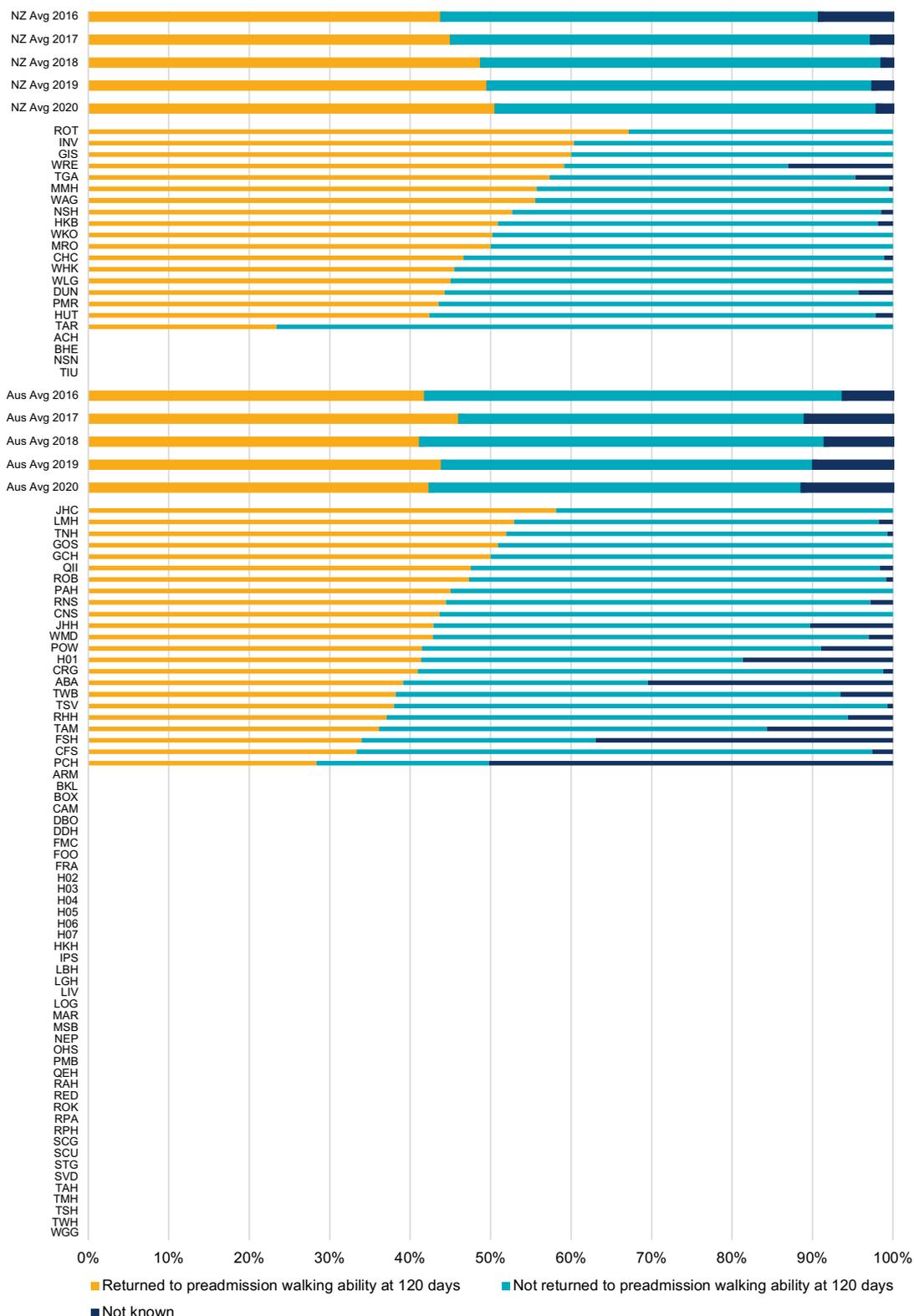




Indicator 5d: Proportion of patients with a hip fracture returning to pre-fracture mobility

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 only hospitals with > 80% follow-up completed. In New Zealand, 51% of patients reported to have returned to their pre-fracture mobility, compared with 43% in Australia. Low rates of follow-up in Australia suggest caution with interpretation of results.

FIGURE 15 Return to pre-fracture mobility at 120 days





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.

The Hip Fracture Care Clinical Care Standard requires an assessment and management plan for future fracture prevention, including initiation of treatment for osteoporosis in hospital where appropriate. The Registry is able to capture this in 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, 29% of hip fracture patients left hospital on a bisphosphonate, denosumab or teriparatide, compared with 9% on admission. In Australia, 26% of patients left hospital on a bisphosphonate, denosumab or teriparatide, compared with 10% 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 a significant missed opportunity to contribute towards preventing another fracture. The ANZHFR will conduct a Sprint Audit later in 2021 to examine some of the issues around bone protection medication in more detail.

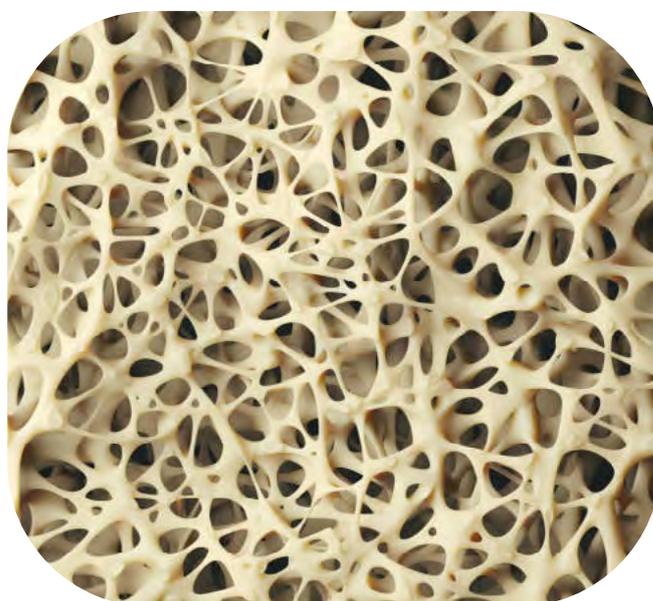
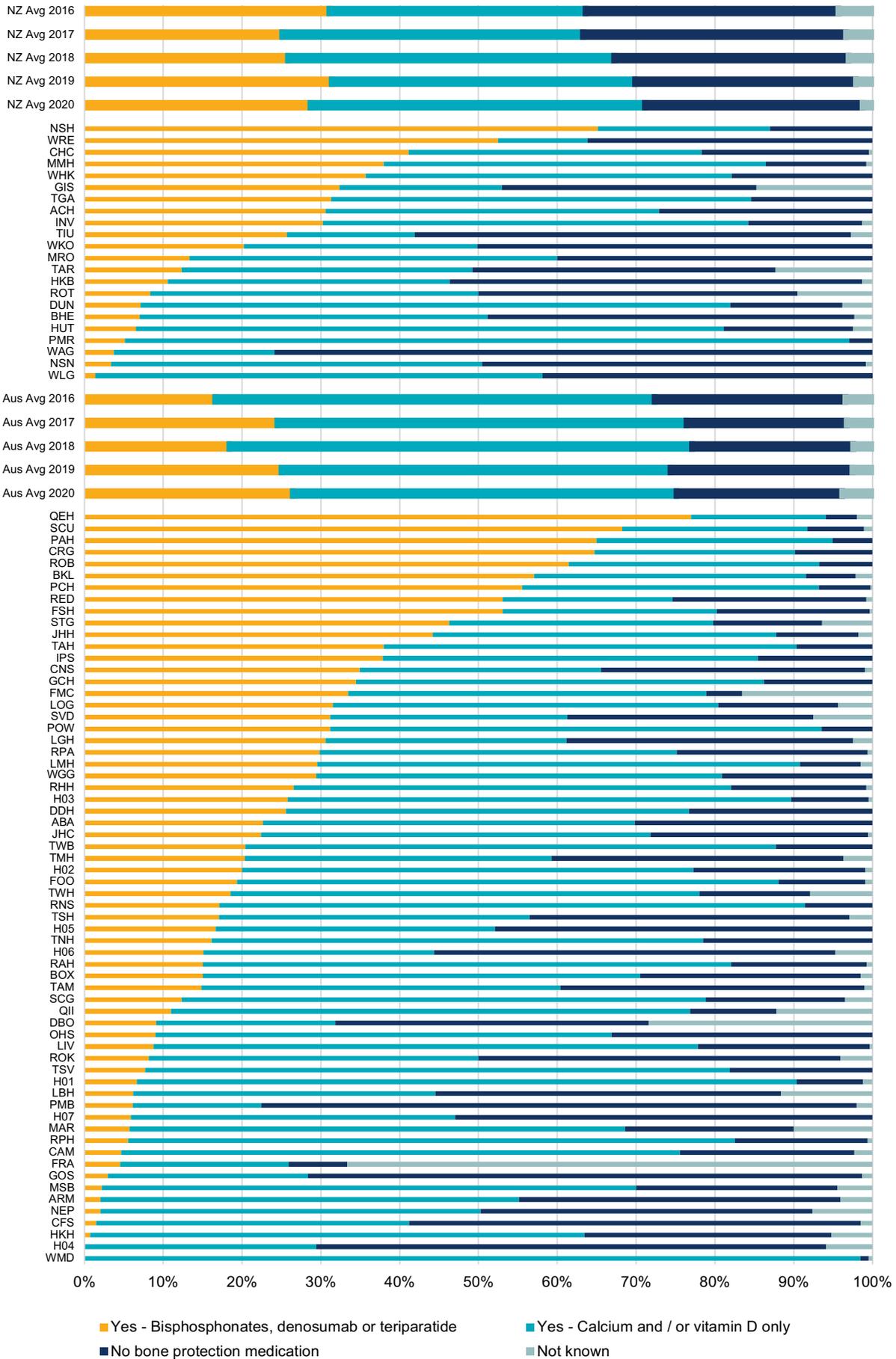




FIGURE 16 Bone protection medication on discharge





Our hospital's story demonstrates the value afforded by the registry in knowing your data and the benefit of collaborating across disciplines to care for our hip fracture patients to the highest standard.

THE ALFRED

Our hospital began contributing patient level data to the ANZHFR in 2019. Joining the registry provided us with the opportunity to look at our hip fracture data closely and highlight areas for improvement. One of the first things we noted was our low numbers of anti-resorptive prescription on discharge from the acute hospital. Looking through this in further detail, one of the barriers frequently documented was that of poor dentition.

Often our older patients, especially those from residential aged care, had not seen a dentist in many years and there was reluctance from clinicians to prescribe anti-resorptive therapy if patients had poor dentition in this setting. So, prescription was often deferred to their general practitioner to commence after patients were seen by a dentist, but we did not know if this was actually occurring.

Noting this, we spoke with our own hospital dental service and enlisted their help. From these discussions, our dental service began reviewing hip fracture patients with poor dentition during their inpatient stay and clearing those eligible to start anti-resorptive therapy. Patients requiring dental work prior to anti-resorptive commencement were given the option to return to our dental clinic after recovery from their hip fracture.

This collaboration between our departments, alongside an improved focus on bone health, has seen our health service increase anti-resorptive prescription on discharge for our hip fracture patients from 7% in 2019 to 30% last year. Even more importantly, our dentists provide a valuable service to many vulnerable residential aged care patients, who for a variety of reasons can find it difficult to access a dentist in the community.



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 and refer patients to the relevant services as required. A steady increase in the provision of written information on treatment and care after hip fracture continues to be seen over the years of the facility level audit. This year, 62% (73/117) reported providing this at their hospital, compared to 56% in 2019. The provision of individualised written information on the prevention of future falls and fractures has also increased for the first time this year, with 33% (39/117) of hospitals reporting that they routinely provide individualised falls prevention information to hip fracture patients (Figure 18).

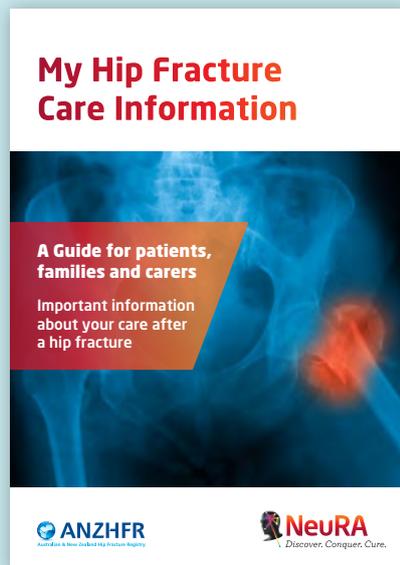
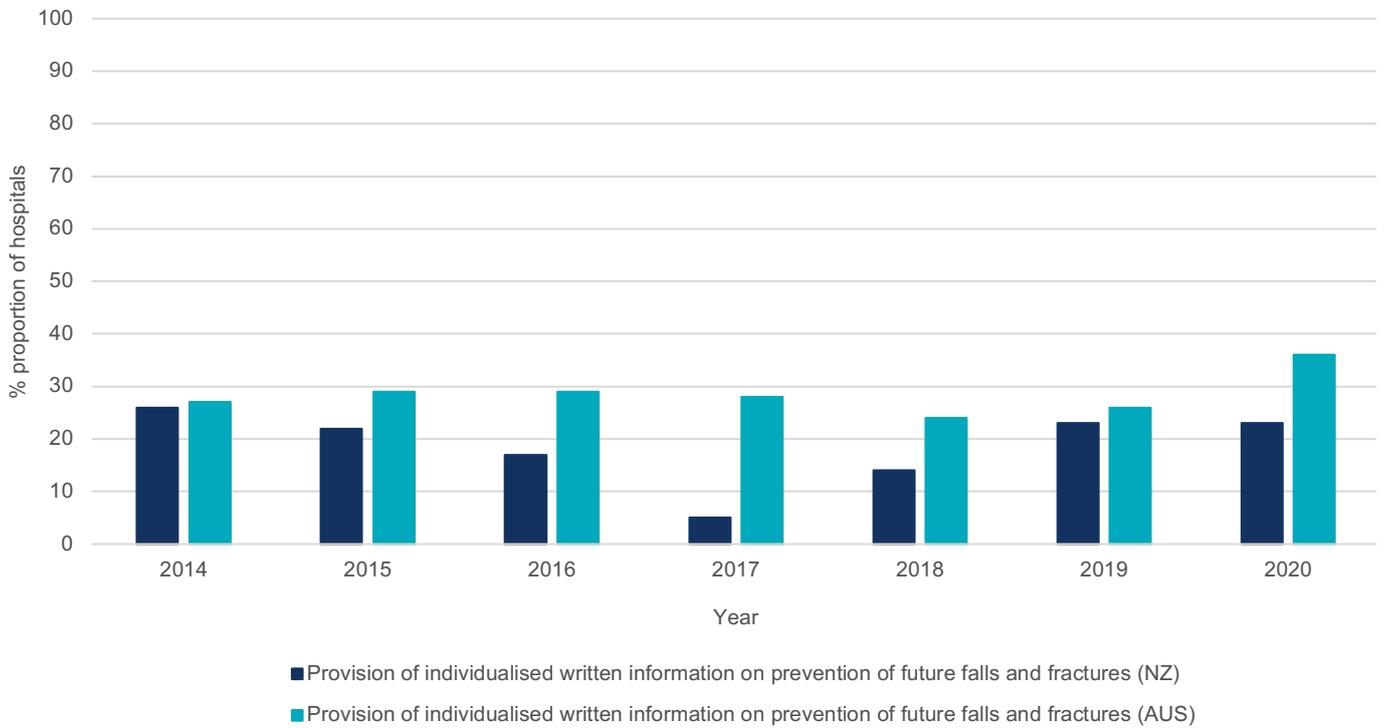


FIGURE 17 Proportion of New Zealand and Australian hospitals reporting routine provision of written information on treatment and care after hip fracture 2013–2020





FIGURE 18 Proportion of New Zealand and Australian hospitals reporting routine provision of individualised written information on prevention of future falls and fractures 2014–2020



THE ANZHFR 'MY HIP FRACTURE CARE INFORMATION' IS AVAILABLE IN HARD COPY AND ONLINE IN 15 LANGUAGES.



Being able to access the booklet in Italian for the patient and his family was empowering for all involved in his care.

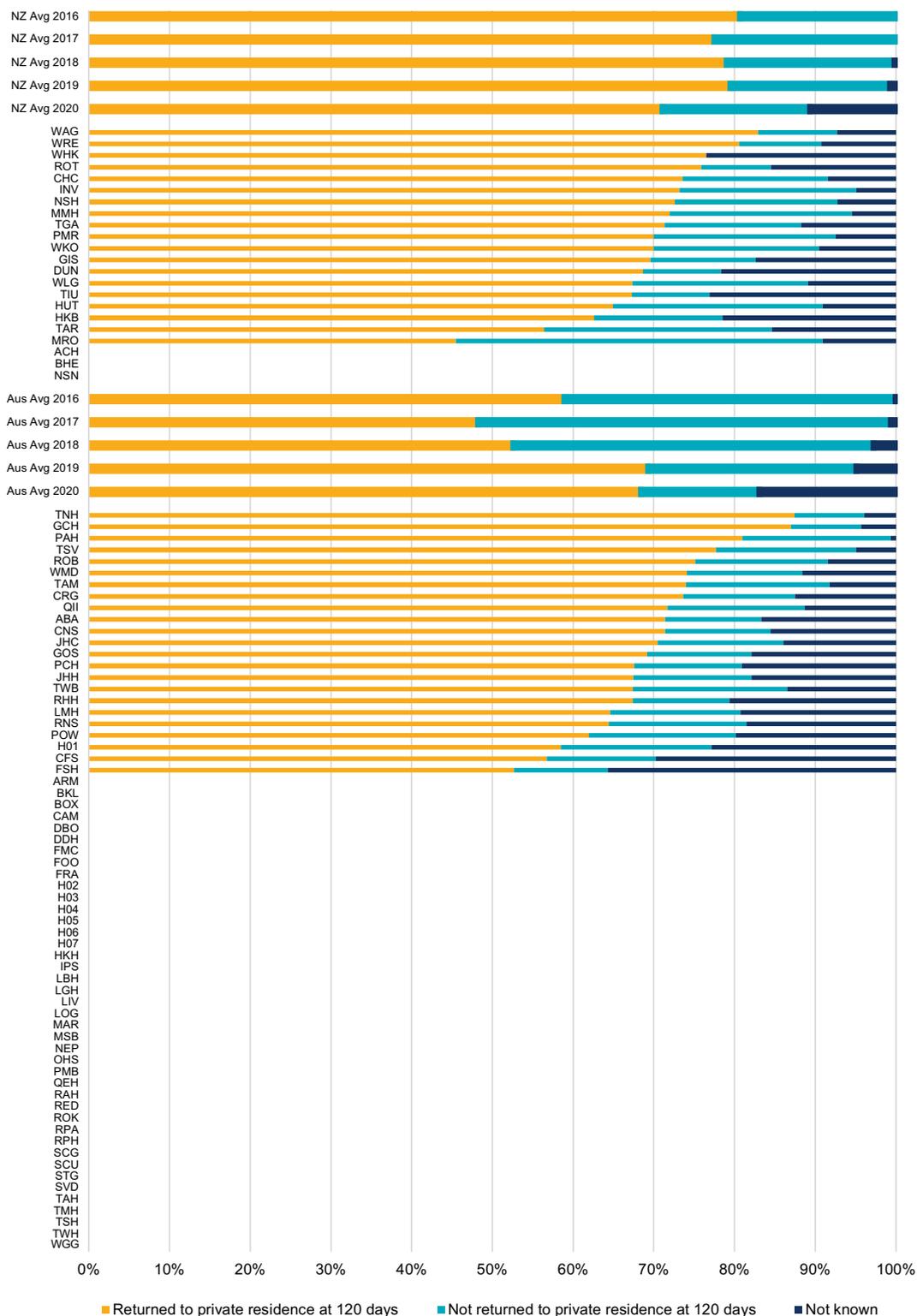
CNC, NSW



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 2020, 71% of patients in New Zealand and 68% of patients in Australia returned to private residence after their hip fracture. Data is also presented for patients who did not return to private residence or where the outcome is not known.

FIGURE 19 Return to private residence at 120 days



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

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 www.anzhfr.org

FIGURE 20 New Zealand hospital data indicators

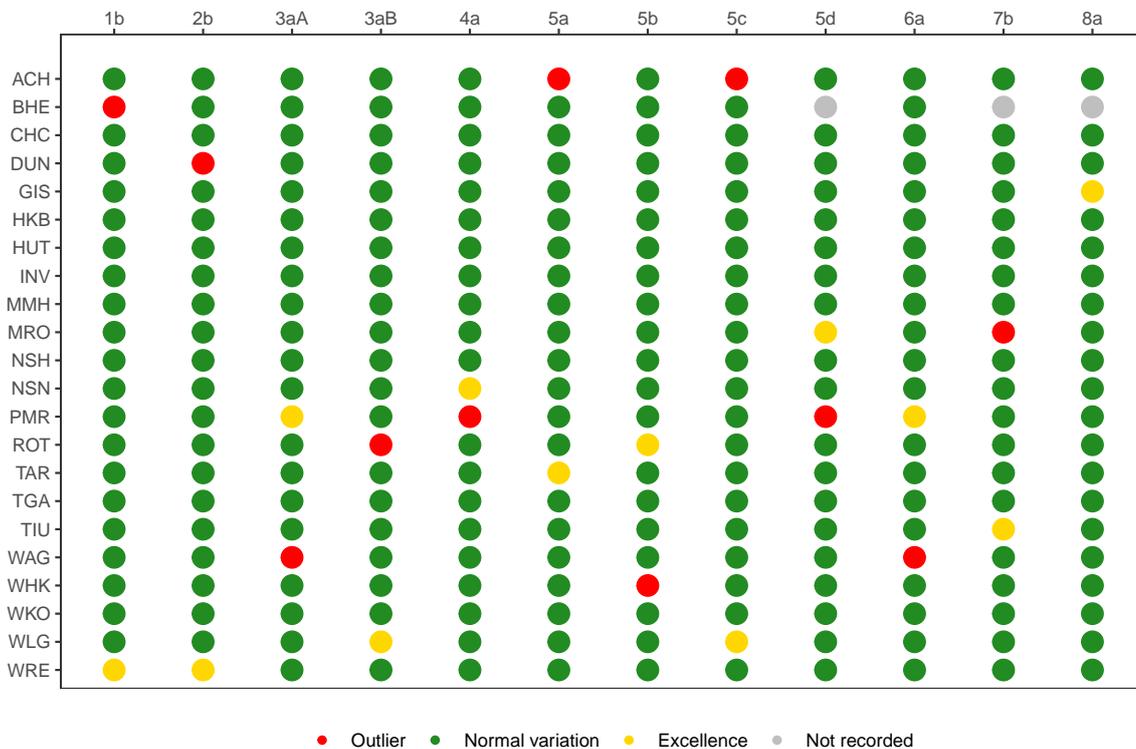
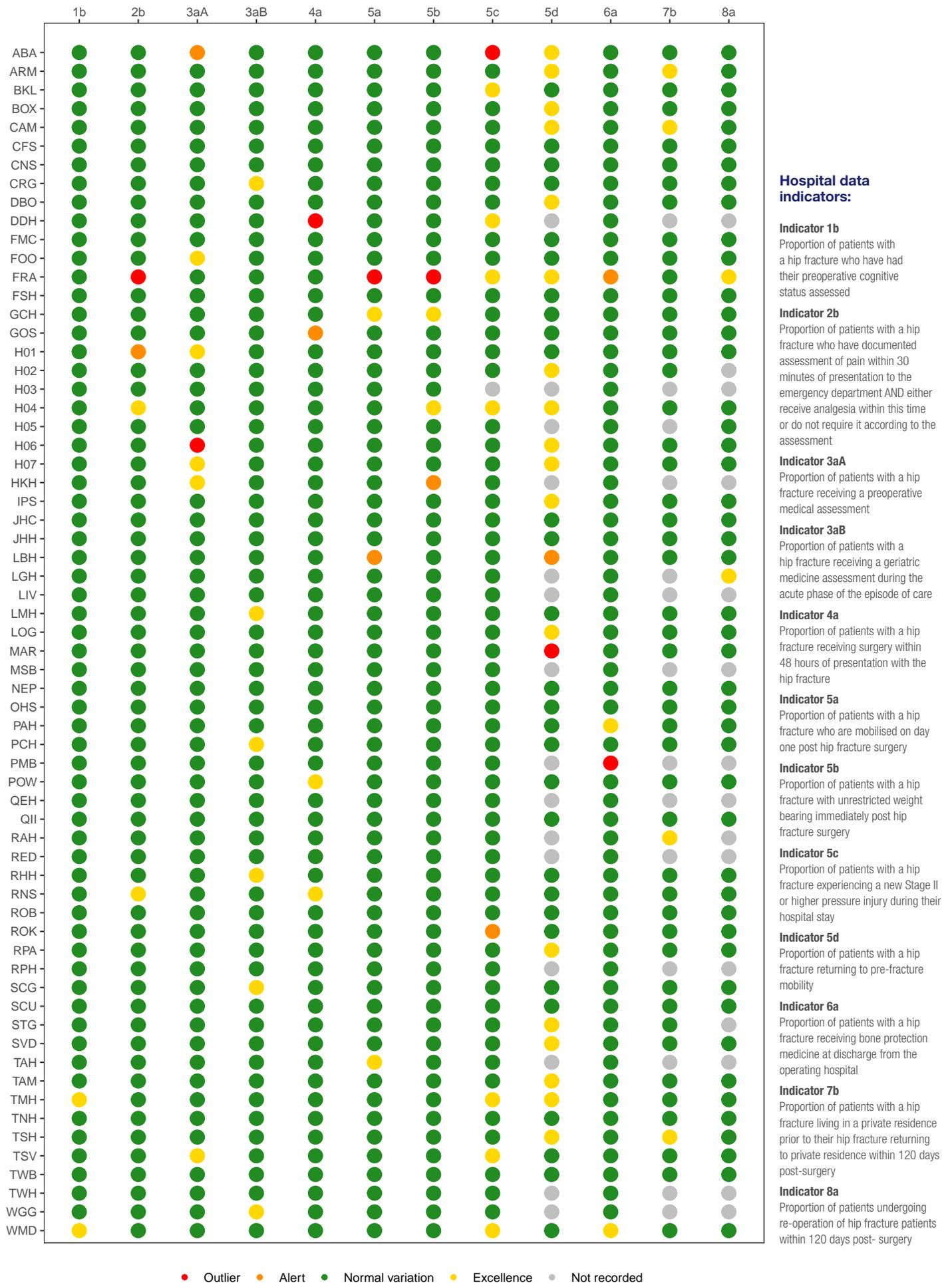


FIGURE 21 Australian hospital data indicators

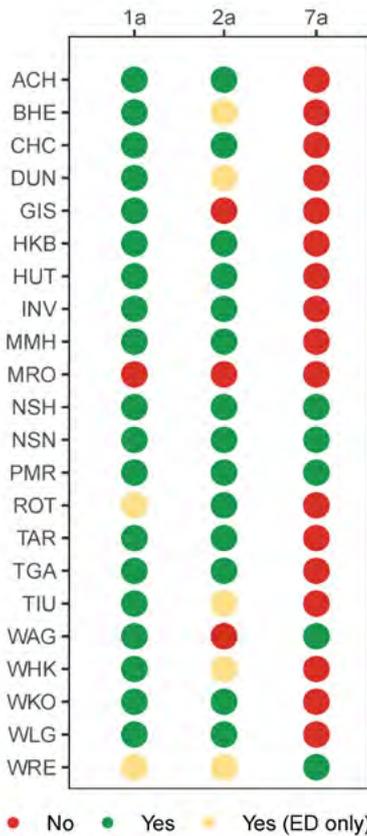


Hospital data indicators:

- 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 who are mobilised 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 re-operation of hip fracture patients within 120 days post- surgery

● Outlier ● Alert ● Normal variation ● Excellence ● Not recorded

FIGURE 22 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

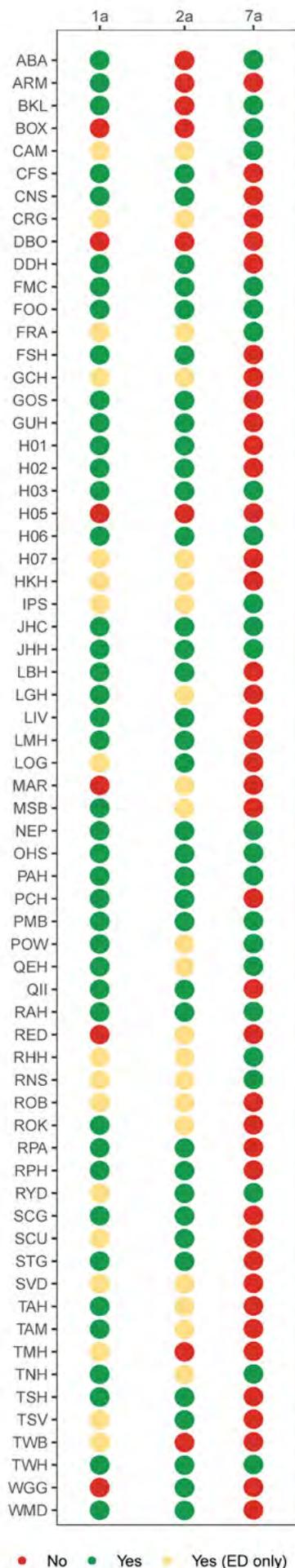
Indicator 2a

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 23 Australian survey data indicators



A healthcare professional in light blue scrubs is assisting an elderly woman in a blue t-shirt as she uses a silver walker. The woman is smiling and looking towards the professional. The background shows a clinical setting with a window and some equipment. There are several decorative circles in yellow, blue, and teal scattered around the image.

The outlier report monitors hospital performance against 14 quality indicators set out in the Hip Fracture Care Clinical Care Standard and enables sites to easily see areas of high-quality care or those that require review.

MORTALITY

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

Mortality has been adjusted for age, sex, pre-morbid level of function (mobility), fracture type, residence type and ASA grade and data is presented for two follow-up periods and in two ways. The follow-up periods are 30 and 365 days. 30-day mortality is a common benchmark for hip fracture care. 365-day mortality 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 literature¹. It is important to note that ASA grade was recorded as unknown in 2,418 (10.9%) of patient records in 2018-2020 and 2,995 (13.7%) of patient records in 2017-2019. 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 and 365 days is presented by year for Australian states for the period 2016 to 2020, and New Zealand for the period 2017 to 2020 (Figure 24). South Australia was not able to be reported separately in Figures 24 and 25 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. Tasmania was also not reported separately due to small numbers. Both South Australia and Tasmania were included in the rates calculation for Australia (combined states).

Pooled data is used for all patients included in the Registry from each site, from the start of 2018 to the end of 2020 for 30-day mortality and from the start of 2017 to the end of 2019 for 365-day mortality (as the 12-month follow up period was not complete to enable inclusion of 2020 data at the time of publication). Results have been aggregated over a 3-year period to limit the effect of yearly fluctuations at hospital level. Hospitals that have not been contributing patient level data for the specified 3-year period have not been included for this reason.

Data are presented in funnel plots, where each dot represents a hospital, and the x-axis represents hospital volume. Because of the higher precision from the 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. In this report, outlier hospitals, or those that sit outside the funnel and above the line, have a mortality rate greater than 3 standard deviations above the national rate.

Figures 27, 29, 31 and 33 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.

¹ 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 24 Adjusted mortality rate at 30 days by year for Australian states and New Zealand (2016–2020)

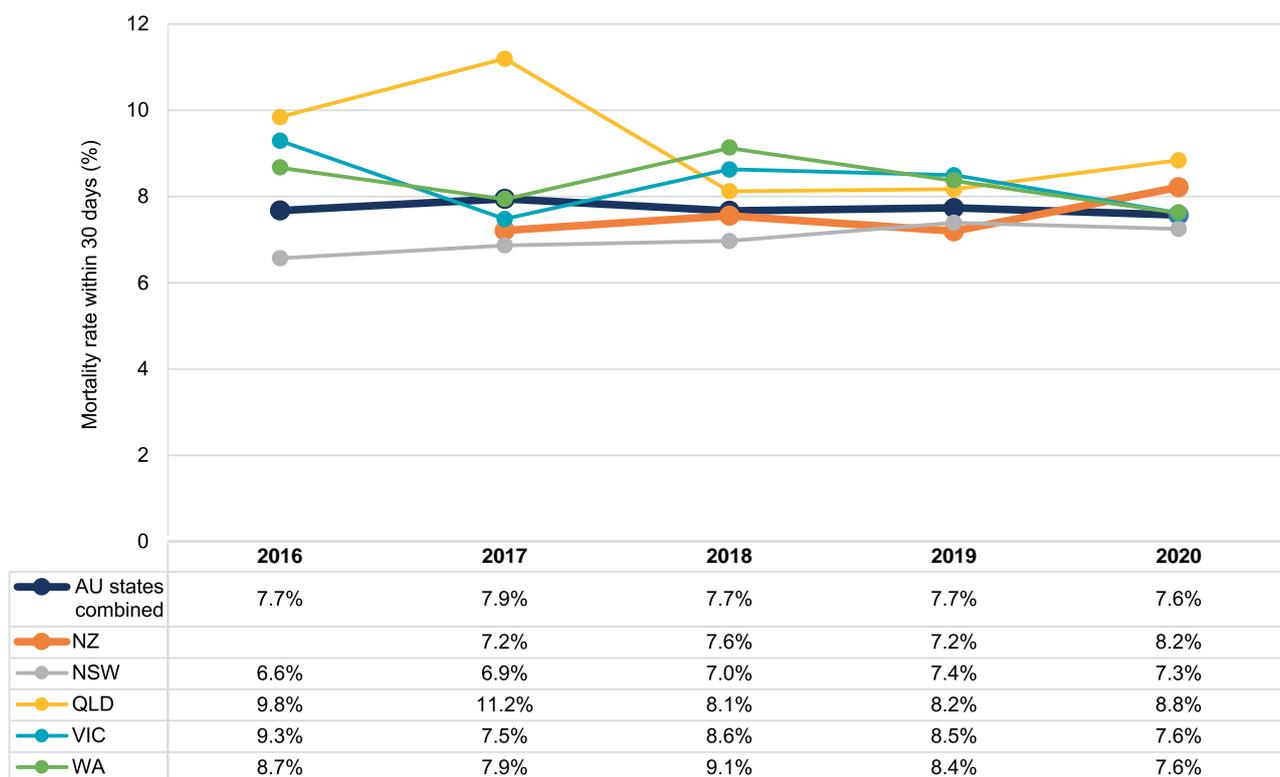


FIGURE 25 Adjusted mortality rate at 365 days by year for Australian states and New Zealand (2016–2019)

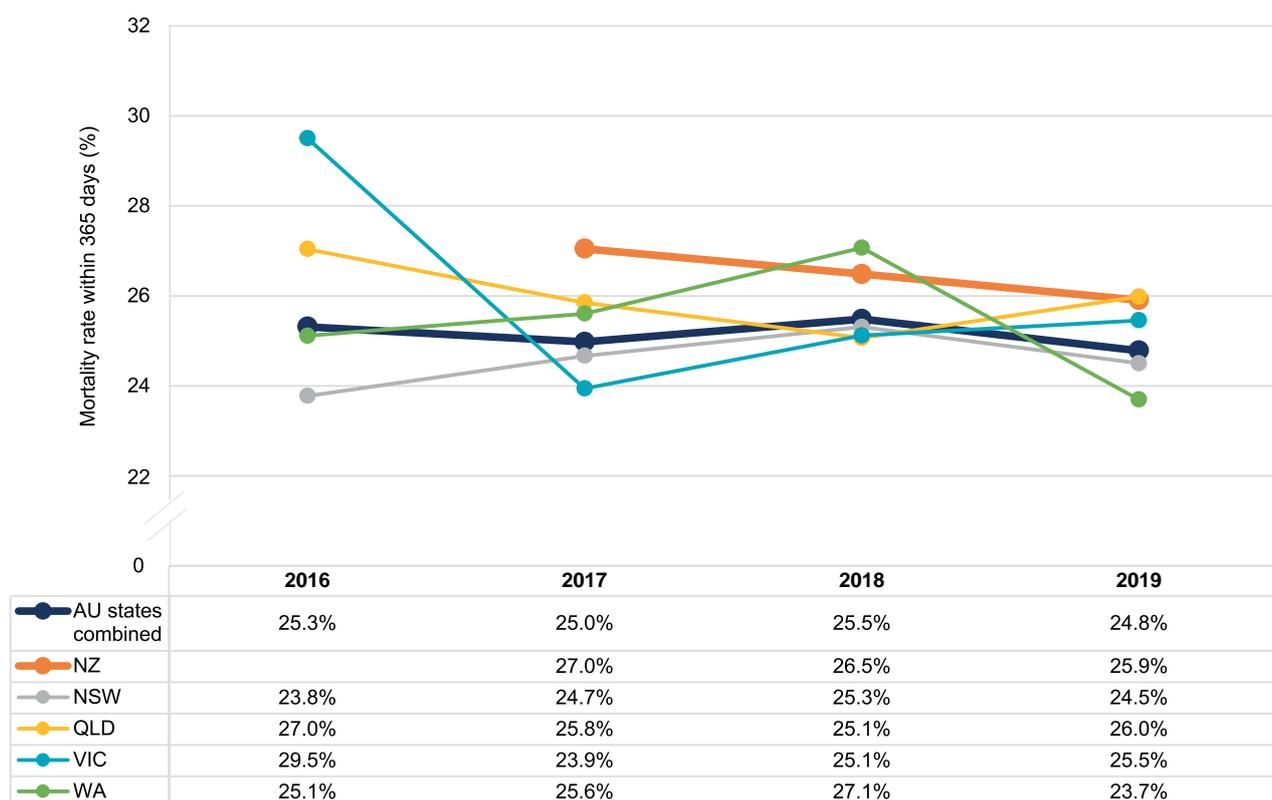


FIGURE 26 Funnel plot of adjusted mortality rate at 30 days
 – New Zealand hospitals (2018–2020)

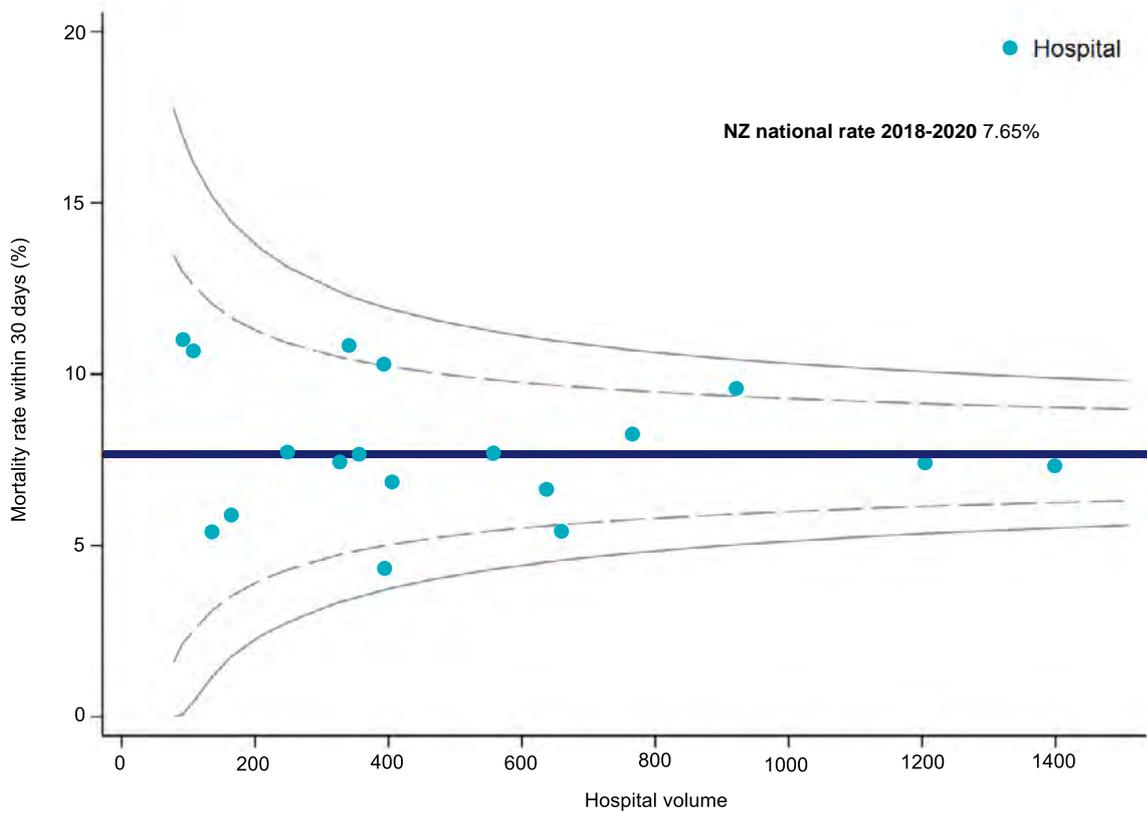


FIGURE 27 Caterpillar plot of adjusted mortality rate at 30 days
 – New Zealand hospitals (2018–2020)

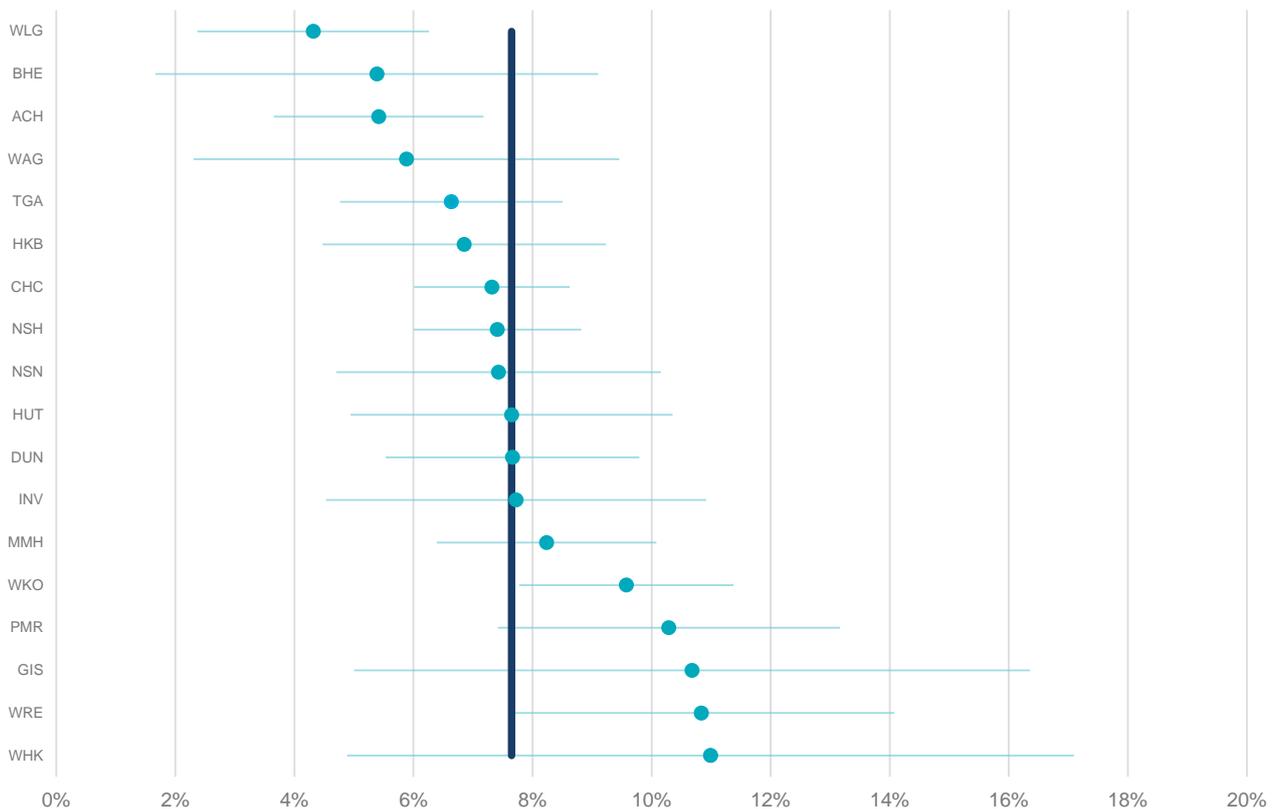


FIGURE 28 Funnel plot of adjusted mortality rate at 365 days
 – New Zealand hospitals (2017–2019)

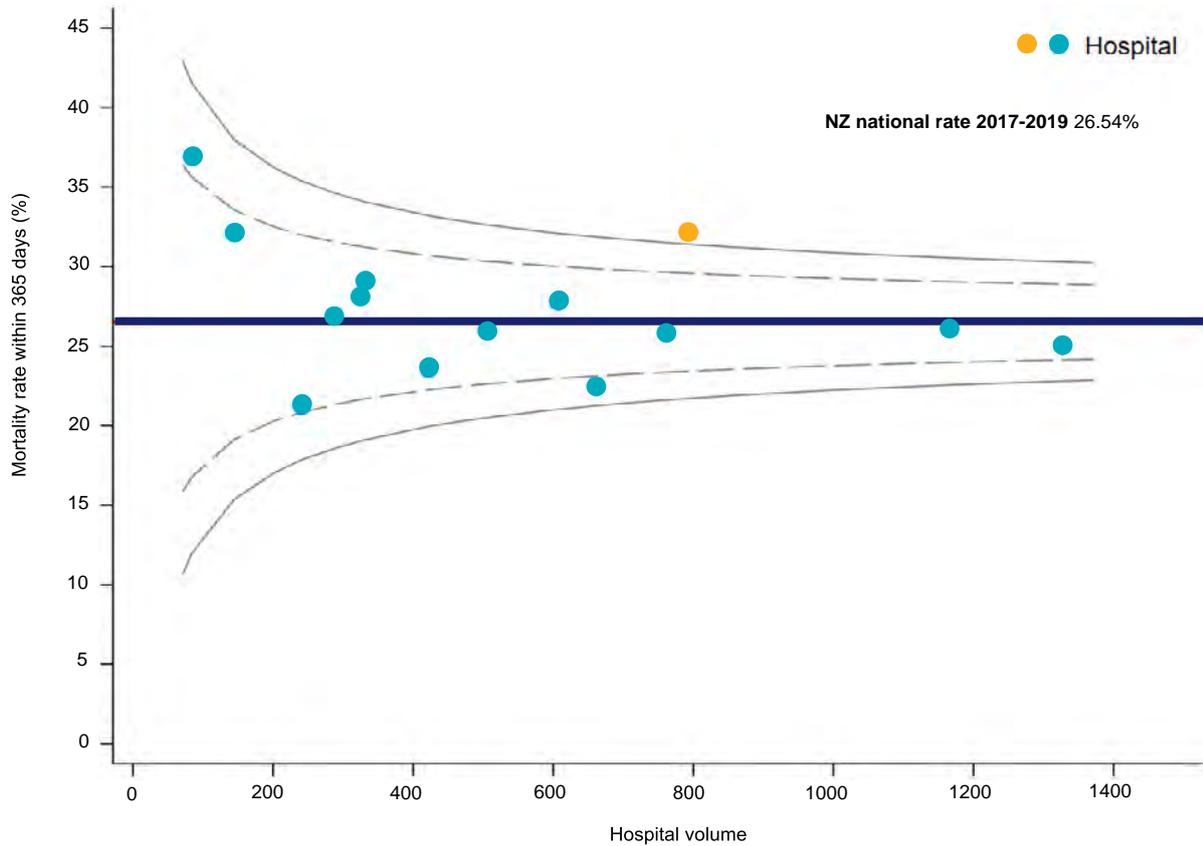


FIGURE 29 Caterpillar plot of adjusted mortality rate at 365 days
 – New Zealand hospitals (2017–2019)

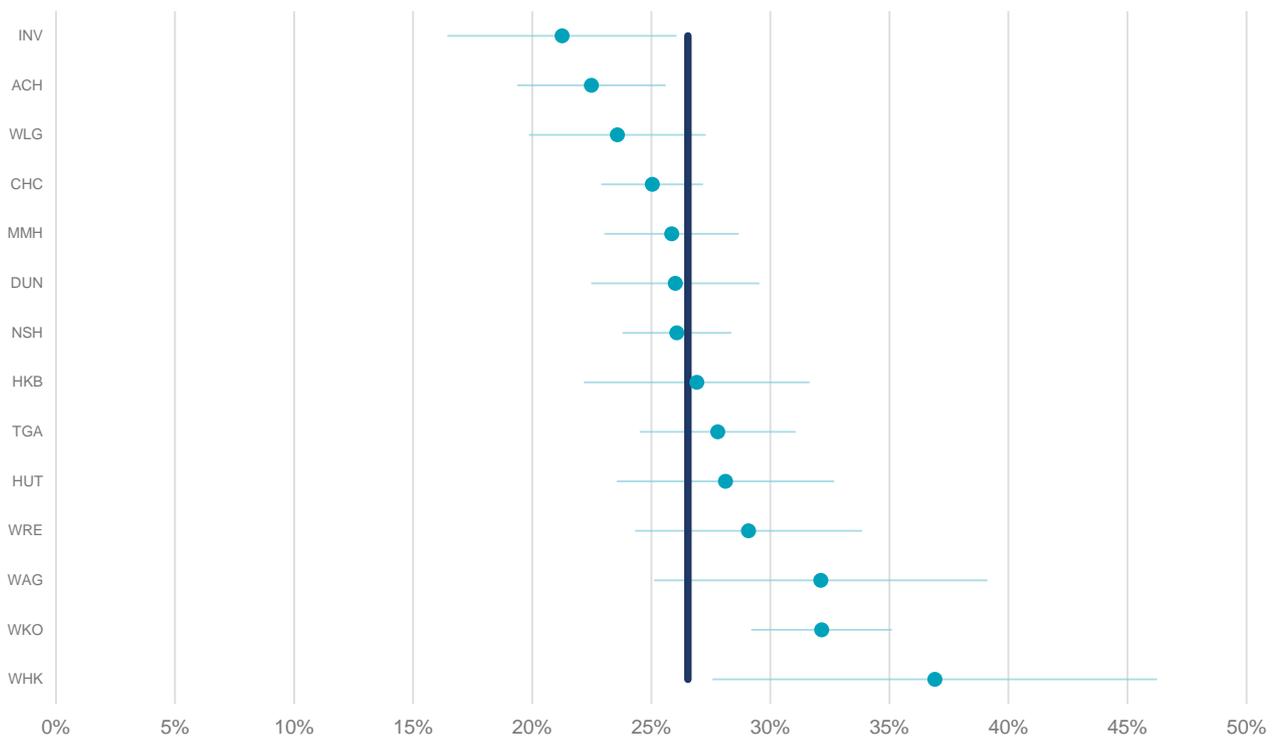


FIGURE 30 Funnel plot of adjusted mortality rate at 30 days
 – Australian hospitals (2018–2020)

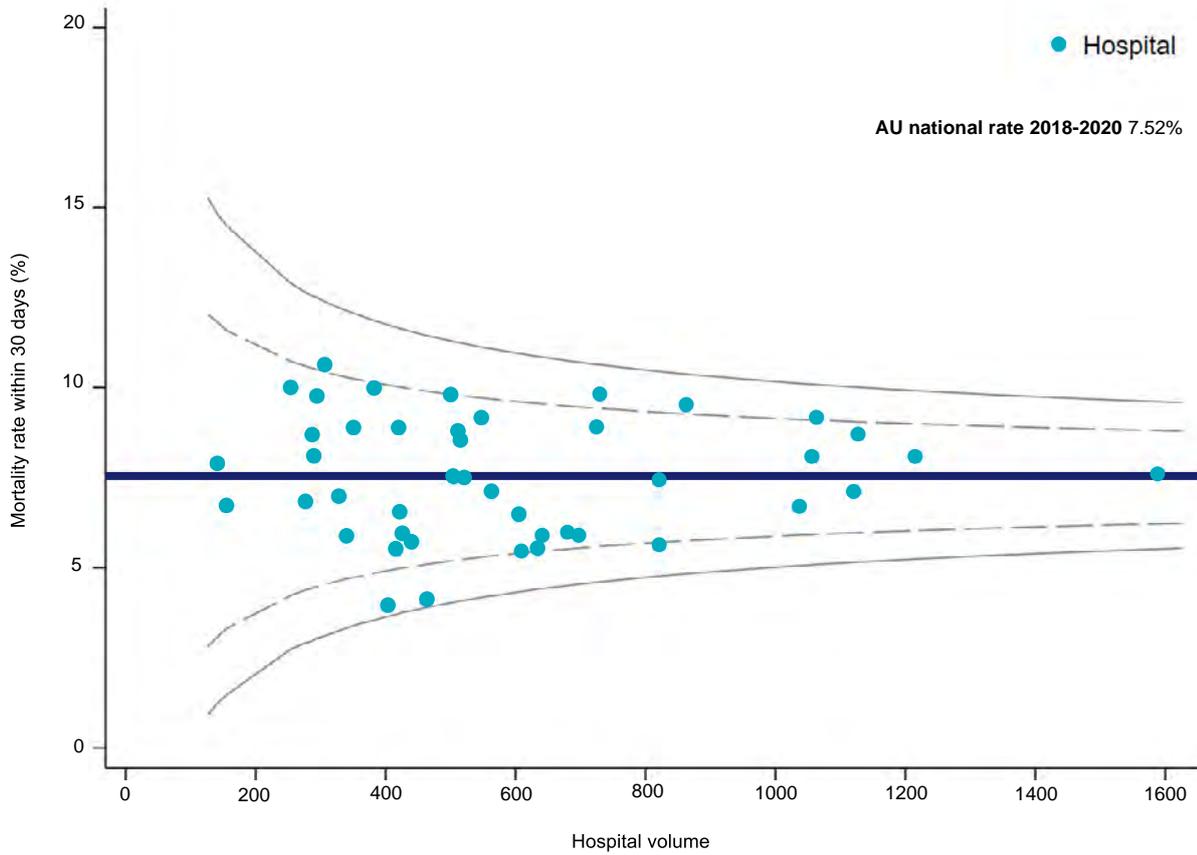


FIGURE 31 Caterpillar plot of adjusted mortality rate at 30 days
 – Australian hospitals (2018–2020)

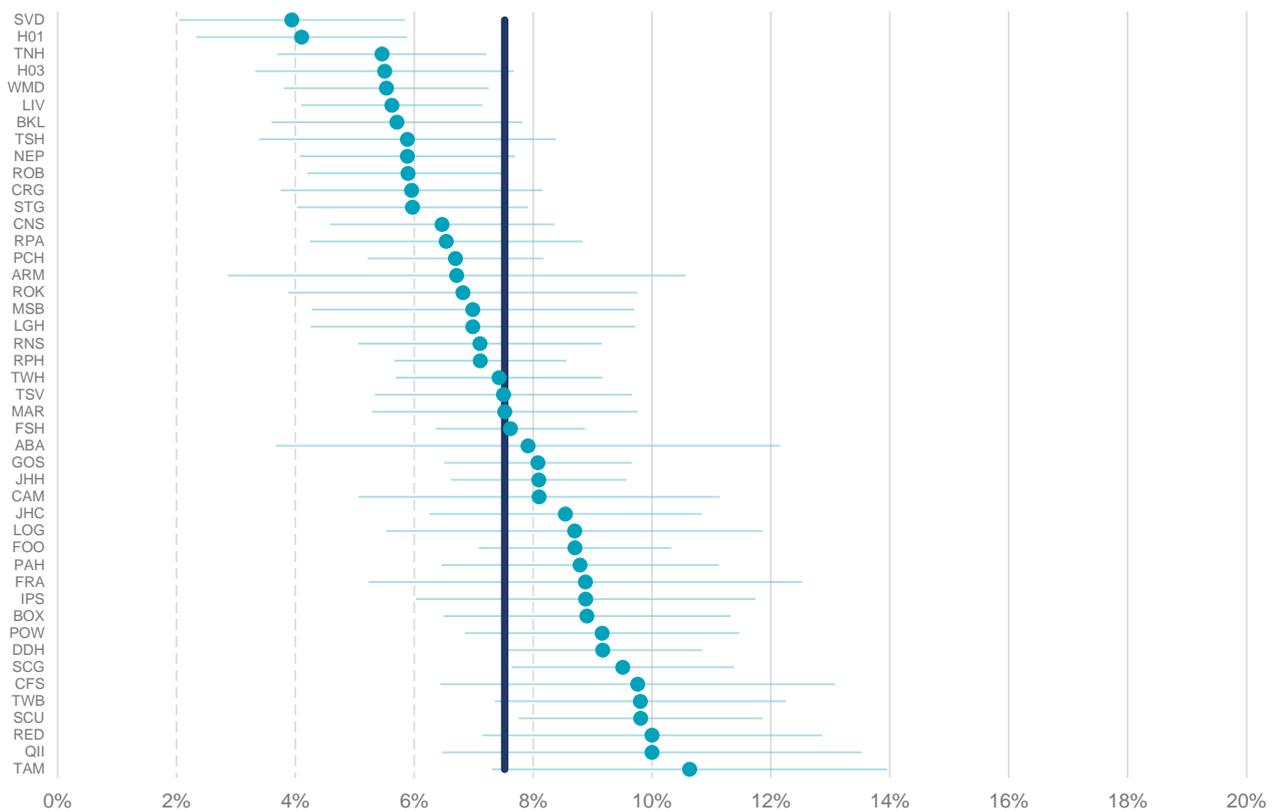


FIGURE 32 Funnel plot of adjusted mortality rate at 365 days
 – Australian hospitals (2017–2019)

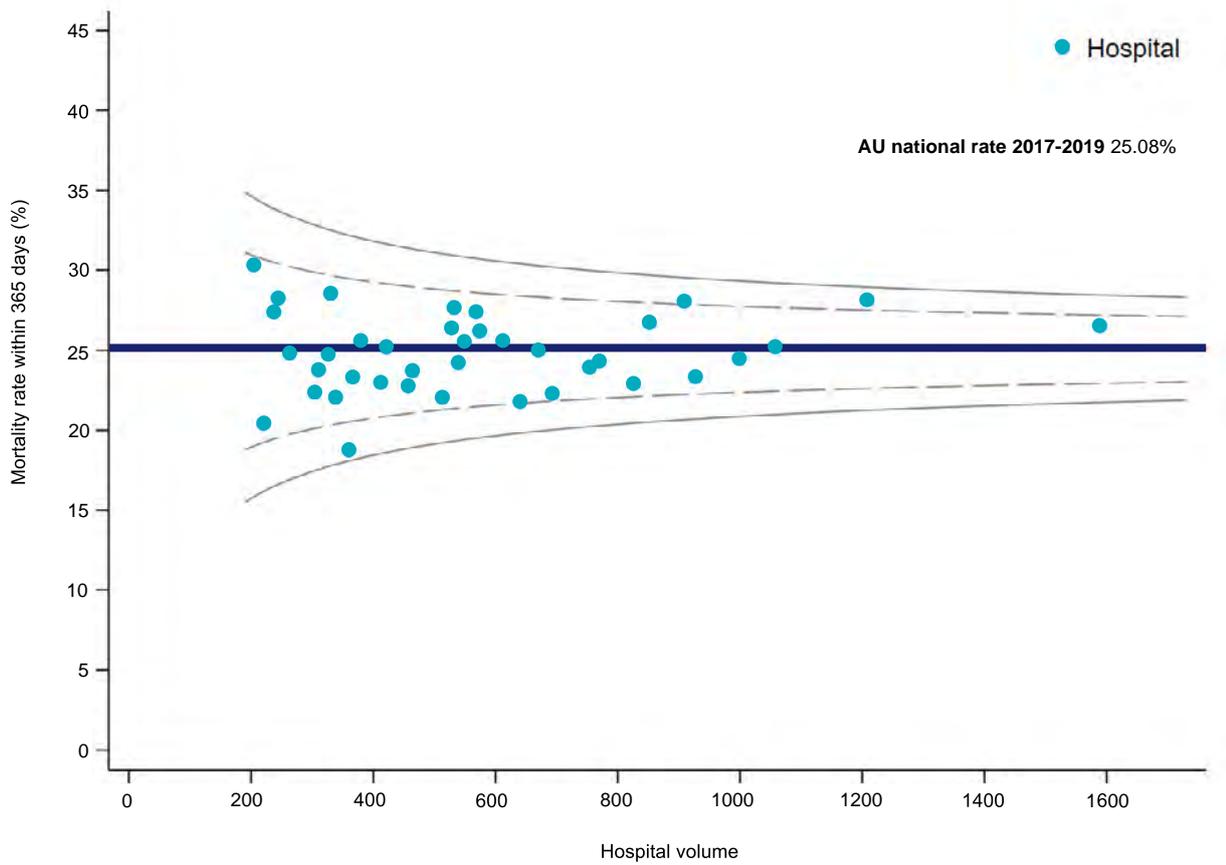
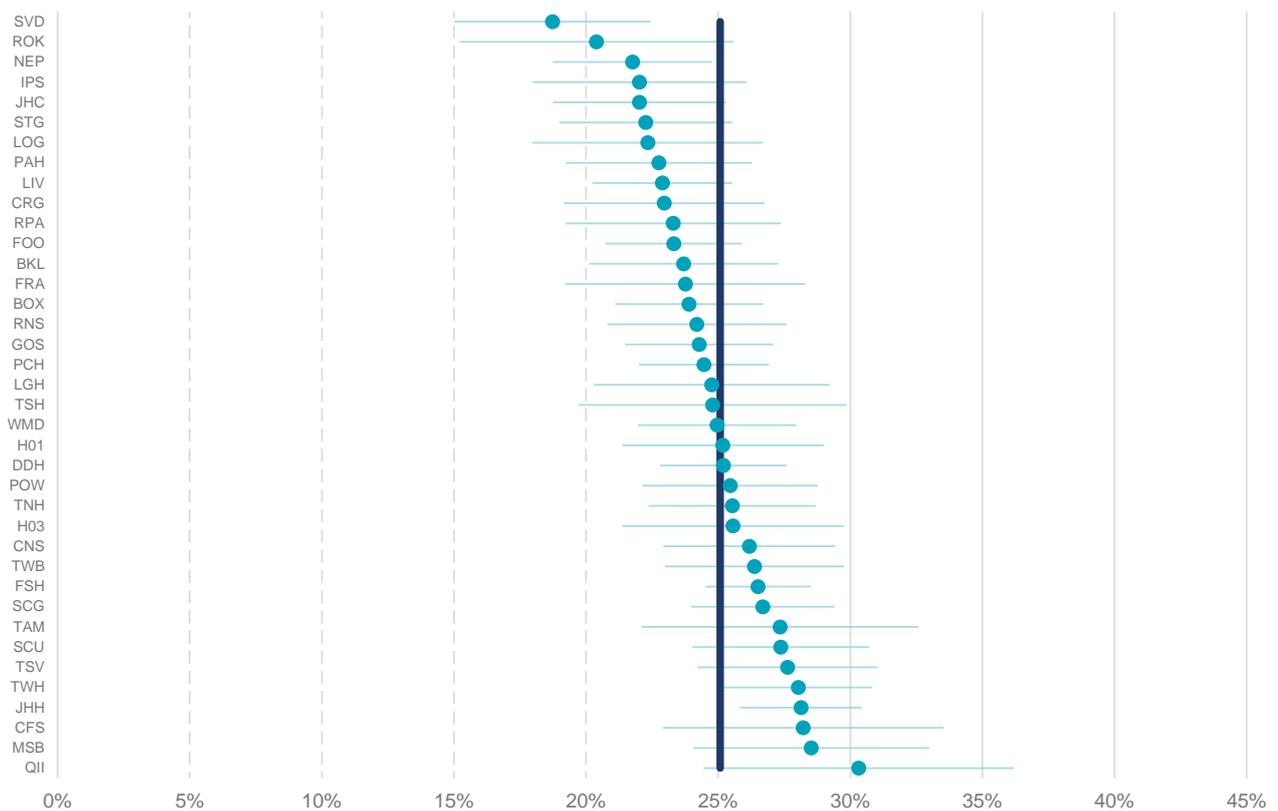


FIGURE 33 Caterpillar plot of adjusted mortality rate at 365 days
 – Australian hospitals (2017–2019)



AUSTRALIAN STATE REPORT

Unlike the previous sections of the report, which provide information broken down by hospital, this section 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 data comparisons use data from the 2020 calendar year, including records from 11,482 patients treated in 64 hospitals in Australia.

FIGURE 34 Cognitive assessment by state

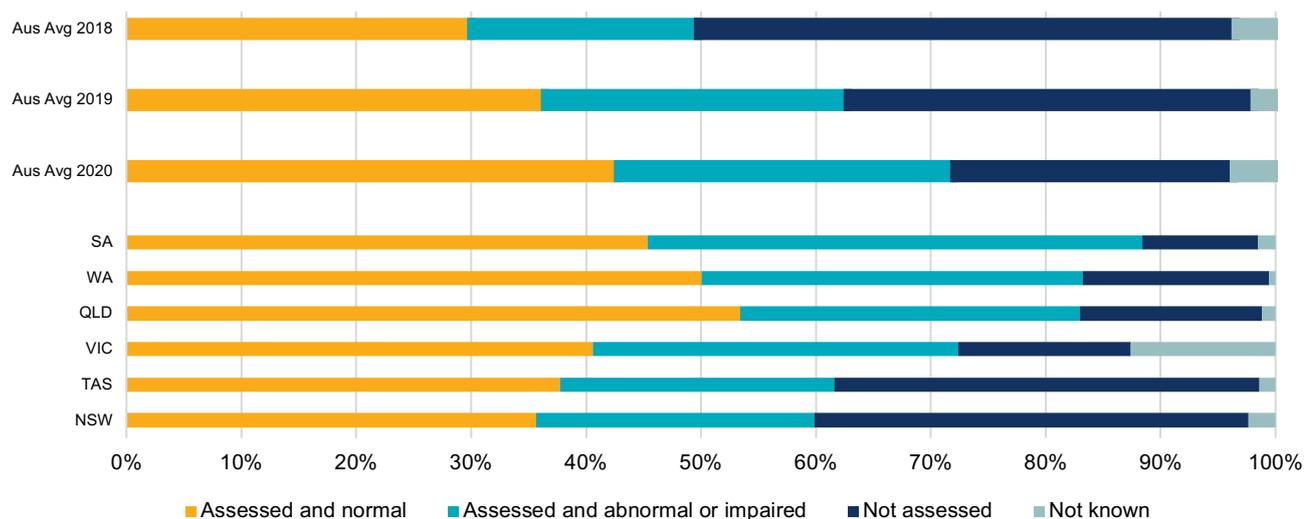


FIGURE 35 Nerve blocks by state

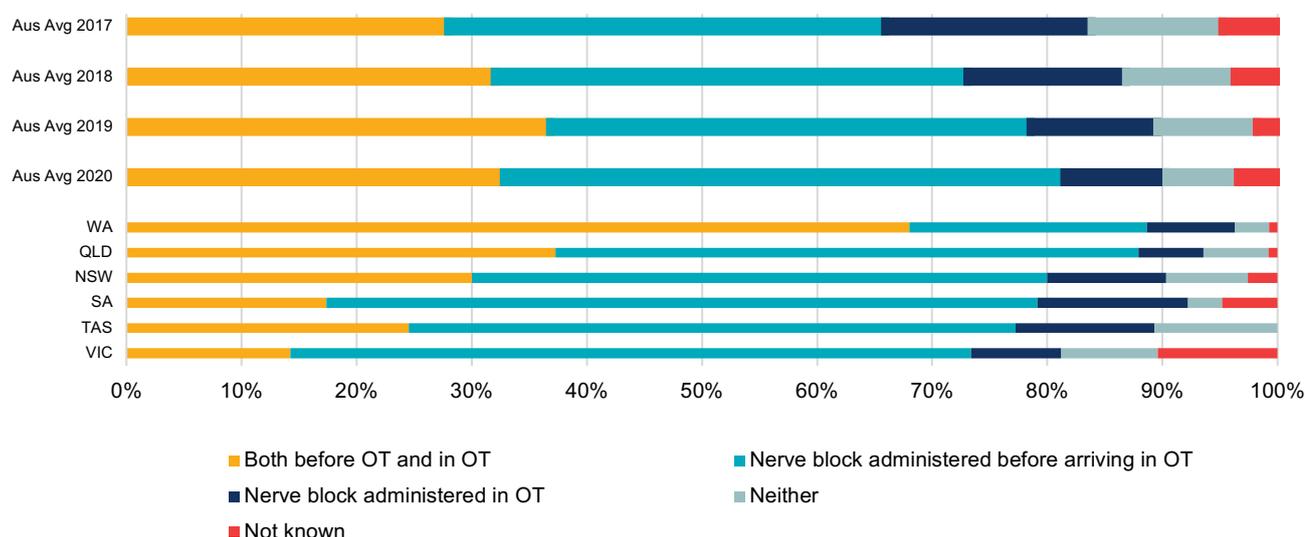


FIGURE 36 Average length of stay (LOS) in the Emergency Department (ED) by state

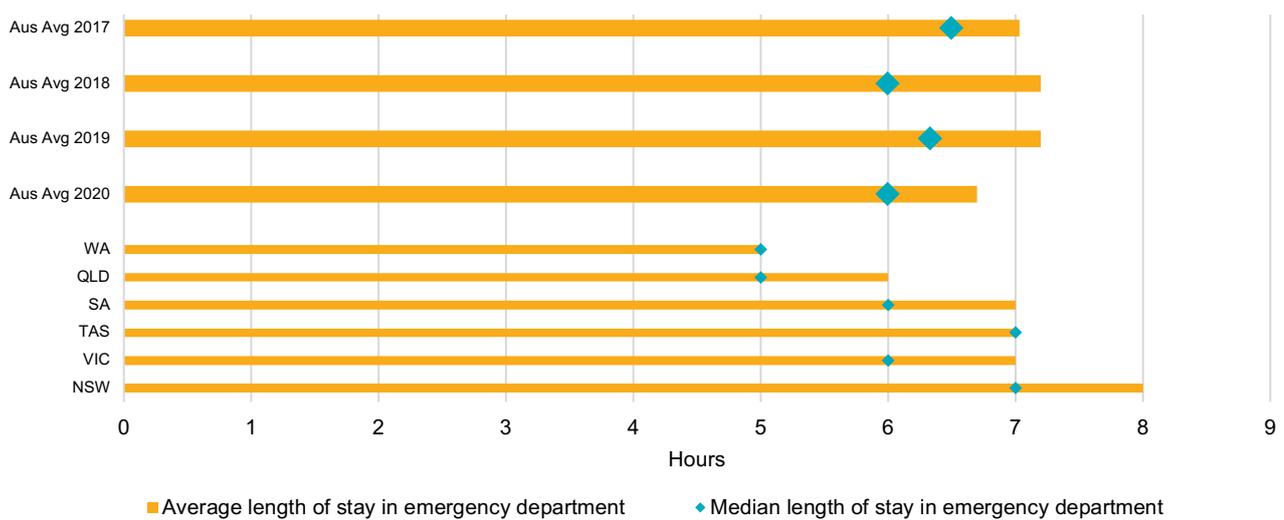


FIGURE 37 Average time to surgery (all patients) by state

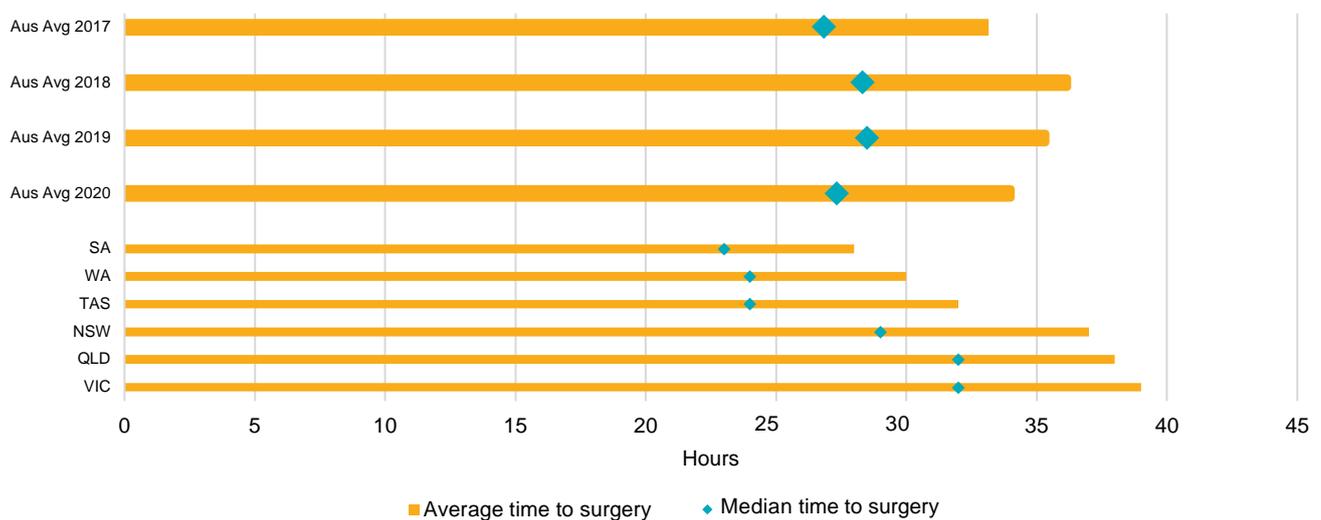


FIGURE 38 Surgery within 48 hours by state



FIGURE 39 Reason for delay > 48 hours by state

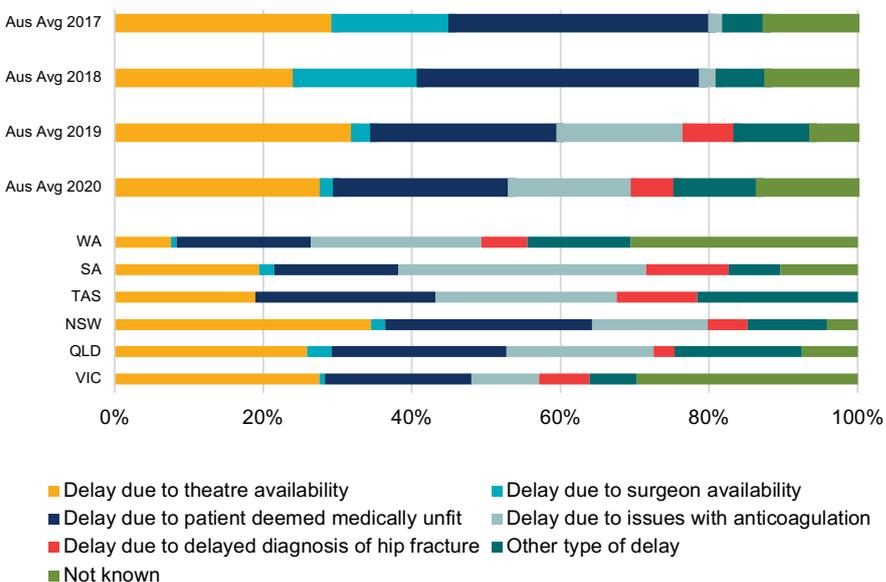


FIGURE 40 Opportunity for first day mobilisation by state

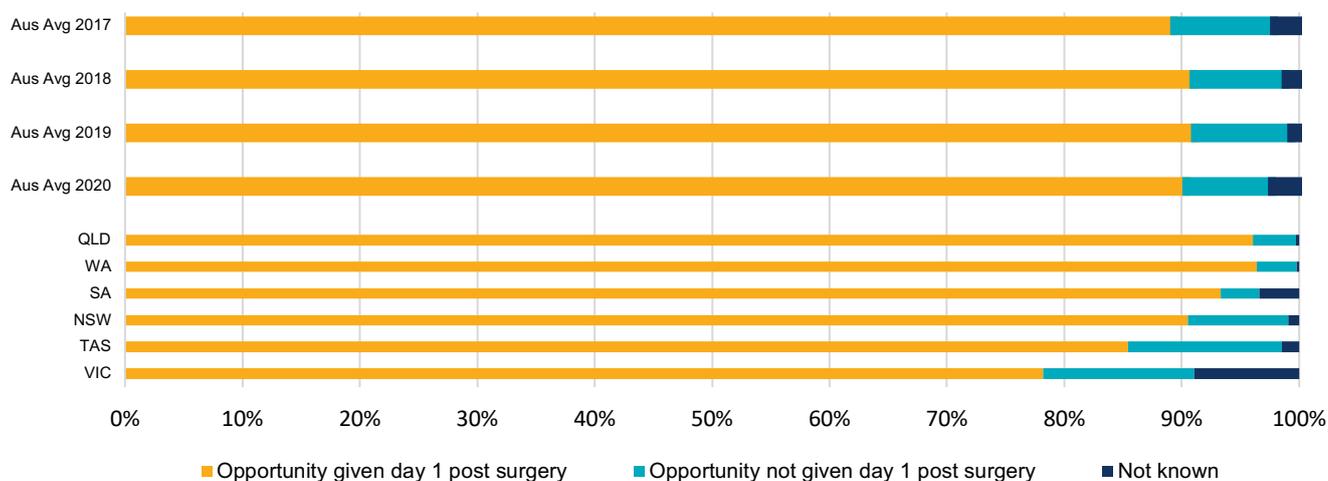


FIGURE 41 Actual first day mobilisation by state

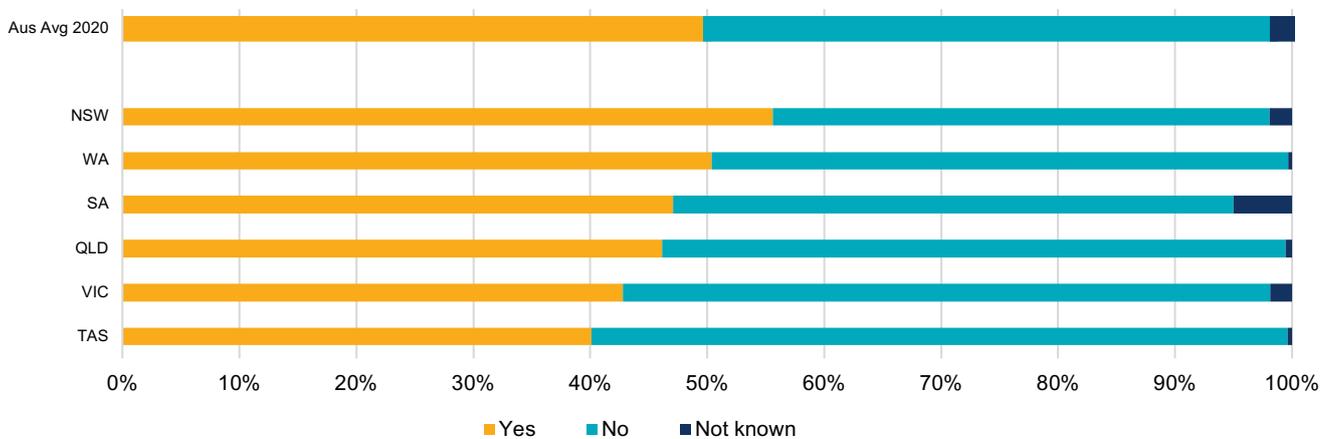
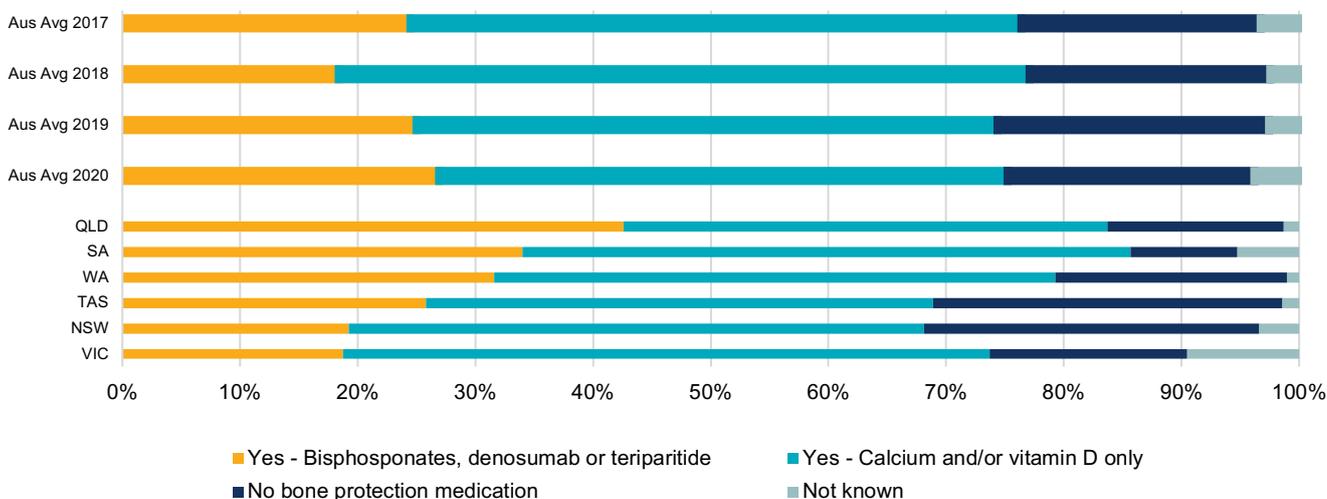


FIGURE 42 Bone protection medication on discharge by state



APPENDIX I

ANZHFR STEERING GROUP MEMBERSHIP

MEMBERS OF THE ANZHFR STEERING GROUP ARE:

Professor Jacqueline Close, Geriatrician Co-Chair

Professor Ian Harris, Orthopaedic Surgeon Co-Chair

Ms Elizabeth Armstrong, Australian Registry Manager

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

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

Mr Stewart Fleming, Webmaster

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 Catherine McDougall, Orthopaedic Surgeon, Australian Orthopaedic Association

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

Ms Nicola Ward, New Zealand National Coordinator

Mr Mark Wright, Orthopaedic Surgeon, New Zealand

ANZHFR TEAM

Ms Jamie Hallen, Projects Manager

Ms Narelle Payne, Project Officer

Ms Niamh Ramsay, Research Assistant

Ms Linda Roylance, Executive Assistant



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



ANZHF

Australian & New Zealand Hip Fracture Registry