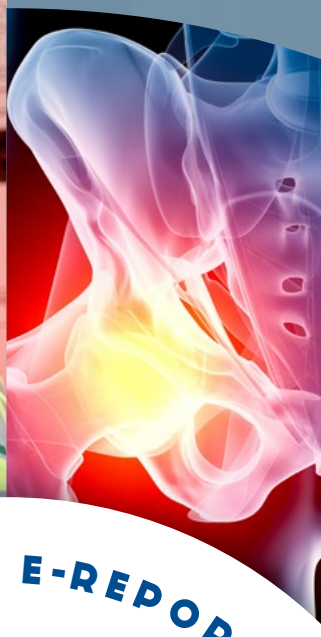
ANZHFR

Australian & New Zealand Hip Fracture Registry



SUPPLEMENTARY E-REPORT

ANNUAL REPORT 2024

ENHANCING OUTCOMES FOR OLDER PEOPLE

The Australian and New Zealand Hip Fracture Registry (ANZHFR) extends its sincere thanks to the multidisciplinary teams of the **100 hospitals** that contributed data in 2023 (79 hospitals in Australia and 21 hospitals in New Zealand).

The ANZHFR receives funding from the Australian Government Department of Health and Aged Care, New Zealand Accident Compensation Corporation, 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.

NeuRA Discover. Conquer. Cure.

NZOA New Zealand Orthopaedic Association

UNSW SYDNEY

ABBREVIATIONS

ACT	Australian Capital Territory
ANZ	Australia and New Zealand
ANZBMS	Australian and New Zealand Bone and Mineral Society
ANZHFR	Australian and New Zealand Hip Fracture Registry
ANZONA	Australian and New Zealand Orthopaedic Nurses Alliance
ANZSGM	Australian and New Zealand Society for Geriatric Medicine
ACSQHC	Australian Commission on Safety and Quality in Health Care
AOA	Australian Orthopaedic Association
AORA	Australian Orthopaedic Registrars' Association
ASA	American Society of Anesthesiologists
AUS	Australia
CCS	Clinical Care Standard
ED	Emergency Department
GP	General Practitioner
HDU	High Dependency Unit
ICU	Intensive Care Unit
LOS	Length of stay
NOF	Neck of femur
NSW	New South Wales
NT	Northern Territory
NZ	New Zealand
NZOA	New Zealand Orthopaedic Association
OT	Operating Theatre
PREM	Patient Reported Experience Measure
QLD	Queensland
SA	South Australia
TAS	Tasmania
VIC	Victoria
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

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.

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

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CO-CHAIRS' FOREWORD

We are delighted to welcome you to the 2024 ANZHFR Annual Report, which includes an additional 17,734 records from 100 hospitals. This report is possible because of the steadfast commitment of the multidisciplinary teams across Australia and New Zealand that care for people after hip fracture. We are grateful for the time and energy dedicated to Registry activities and improving the care provided to older people.

Whilst all eligible New Zealand hospitals are contributing to the Registry, with a case ascertainment of 89%, we continue to strive towards 100% of eligible Australian public hospitals providing patient-level data, and to increase the contribution of Australian private hospitals that manage hip fractures. Currently 84 out of 91 (92%) public hospitals have approval to contribute data in Australia, with most contributing data annually. This ninth Annual Report reflects an ongoing increase in participation. We are pleased to have welcomed several new hospitals over the last year, including Royal Darwin Hospital, The Canberra Hospital and Albury Wodonga Health.

The printed report focuses on performance against the Hip Fracture Care Clinical Care Standard (CCS). We have made changes to the quality indicator charts, introducing caterpillar charts to display performance for the first time. Detailed information on how to interpret these charts and view the charts online is included in this report. The supplementary e-Report covers additional domains relevant to clinicians, managers, and funders of healthcare services. We have again produced a summary video detailing the key report findings, as this was a well-received addition last year. Both reports, the summary video and the customisable PowerPoint slide pack are available on our website at https://anzhfr.org/registry-reports/.

In alignment with our priority of increasing the consumer voice, the ANZHFR is pleased to include a summary of patient-reported outcomes at 120-days post hip fracture and information about the newly available patient experience measure. We will be exploring the data in greater depth over the coming months and look forward to sharing insights into what patient reported measures can tell us about hip fracture care and recovery. The Registry remains committed to collecting and reporting on outcomes that matter to older people. We have welcomed Ms Narelle Payne into the role of Consumer Engagement Lead, a positive step in strengthening relationships with consumers and striving to ensure they are our partners in improving hip fracture care. If you know someone that might like to contribute to the ANZHFR as a consumer representative, please email Narelle in Australia: myhipmyvoice@anzhfr.org or Nicola in New Zealand: nicola@nzoa.org.nz.

Whilst the ANZHFR data is available in real-time to contributing sites, the Annual Report is an important opportunity to celebrate progress and reflect on areas that remain challenging. **Preoperative assessment of cognition** and **assessment of delirium** show sustained improvements over time, with notable improvement made in New Zealand this year. The **use of nerve blocks** has increased, with 83% of patients receiving a **nerve block prior to arrival in the operating theatre**. Whilst best described as improving at a glacial pace, **bone protection medication at discharge** has improved, and it is hoped that larger gains are made in the coming years as there is increased international consensus around osteoporosis treatment after hip fracture.

Quality indicators where performance has not improved include the proportion of patients who had **surgery within 48 hours** and **those who achieved first day walking.** Both prompt surgery and early mobility are important to patients and are associated with improved outcomes. With the change in the target time to surgery to 36 hours from January 2024, meeting this challenge will require collaboration between all stakeholders. Identifying ways to improve theatre access and reduce other modifiable delays, including anticoagulation, must be jointly tackled by health service managers and multidisciplinary teams.

We are pleased to have highlighted current fasting practices in our 2023 Sprint Audit on preoperative fasting. The audit showed a median solid fasting time of 12 hours (range 4-54 hours) and median fluid fasting time of 10 hours (range 1-50 hours). We highlight some of the improvement work later in the report, with the implementation of "Sip Til Send" at a growing number of hospitals across Australia and New Zealand.

To support quality improvement, the ANZHFR has completed its 2024 Sprint Audit, examining direct oral anticoagulants (DOACs). The Sprint Audit looks at current practice against recently established principles for management of hip fracture patients taking DOACs. The working group of the Fragility Fracture Network Hip Fracture Audit Special Interest Group that developed the principles was led by members of the ANZHFR Steering Group, Dr Hannah Seymour, Professor Rebecca Mitchell, and Dr Seth Tarrant. We congratulate them on their work, which will ultimately support more timely surgery for this group of patients and look forward to sharing the results of the Sprint Audit.

With data on more than 110,000 hip fractures, the ANZHFR continues to grow as a platform for clinical research, practice development and to support clinicians and researchers in using the data to explore aspects of hip fracture care. A full list of publications and more information about using ANZHFR data can be found at: https://anzhfr.org/research/.

Hip Festivals offer an important opportunity to come together and share the latest evidence and good practice initiatives in hip fracture care. In 2023, the New Zealand Hip Festival was held in Auckland and the Binational Hip Festival was held on the Sunshine Coast in Australia. We extend our sincere thanks to the Australian Commission on Safety and Quality in Health Care for joining us to launch the revised Hip Fracture CCS at the Binational Hip Festival. The Registry is grateful for the Commission's support and looks forward to ongoing collaboration in improving outcomes for older people after hip fracture. It should be noted that this year, we continue to report against the 2016 version of the Hip Fracture Care CCS. The ANZHFR dataset was updated on 1 January 2024, and we will report on the revised quality indicators for the first time in 2025.

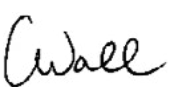
We would like to take this opportunity to acknowledge the invaluable contribution of members of the ANZHFR Steering Group who have stepped down over the past 12 months. We extended our heartfelt thanks to A/Professor Catherine McDougall for her leadership, expertise and commitment as the Orthopaedic Co-Chair. We also thank Ms Anita Taylor (ANZONA) and A/Professor Mellick Chehade (ANZBMS) who have been with us from the start of the Registry.

Renewal is critical to the success and longevity of a Registry, and we are delighted to have welcomed new members to the Steering Group, including Ms Melissa Davis (ANZONA), A/Professor Michael Wyatt (AOA), Dr Chrys Pulle (ANZSGM), Dr Raymond Kim (AORA), Dr Seth Tarrant (Orthopaedic Surgeon), Professor Charles Inderjeeth (ANZBMS) and Dr Hasanka Ratnayake (Geriatrician). We also extend a warm welcome to Carmelle Moses, who has commenced as a Project Manager for the Registry.

As always, we are indebted to our Registry managers – Jamie Hallen in Australia and Nicola Ward in New Zealand. Jamie, Nicola, and their support teams are the heartbeat of this Registry, and we look forward to another productive year in our quest to improve hip fracture care across Australia and New Zealand.

Professor Jacqueline Close AM
Geriatrician

Co-Chair
Australian and New Zealand Hip Fracture Registry



A/Professor Chris Wall
Orthopaedic Surgeon

Co-Chair
Australian and New Zealand Hip Fracture Registry

CONTRIBUTING HOSPITALS 2023

The patient-level report includes data from 100 hospitals.

IN 2023

17,734 hip fracture records were contributed for the calendar year.

14,066 records from 79 Australian hospitals and 3,668 records from 21 New Zealand hospitals.

Contributing hospitals are listed following with their three-letter report identifier and the number of records contributed for the 2023 calendar year. All New Zealand hospitals and 76 Australian hospitals have elected to be identified in this report.

PATIENT LEVEL AUDIT

NEW ZEALAND HOSPITALS

	REPORT ID	2023
Auckland City Hospital	ACH	338
Christchurch Hospital	CHC	479
Dunedin Hospital	DUN	177
Gisborne Hospital	GIS	41
Hawkes Bay Hospital	HKB	12
Hutt Valley Hospital	HUT	113
Middlemore Hospital	MMH	278
Nelson Hospital	NSN	106
North Shore Hospital	NSH	443
Palmerston North Hospital	PMR	175
Rotorua Hospital	ROT	72
Southland Hospital	INV	94
Taranaki Base Hospital	TAR	116
Tauranga Hospital	TGA	210
Timaru Hospital	TIU	69
Waikato Hospital	WKO	342
Wairau Hospital	BHE	52
Wellington Hospital	WLG	288
Whakatane Hospital	WHK	36
Whanganui Hospital	WAG	55
Whangarei Hospital	WRE	172

AUSTRALIAN HOSPITALS

	REPORT ID	2023
Albany Hospital	ABA	38
Armidale Hospital	ARM	20
Ballarat Base Hospital	BAL	144
Bankstown / Lidcombe Hospital	BKL	179
Bendigo Base Hospital	H12*	224
Blacktown Hospital	BMD	181
Box Hill Hospital	BOX	198
Bunbury Hospital	BRH	146
Cabrini Malvern Hospital	CHM	105
Cairns Hospital	CNS	237
Campbelltown Hospital	CAM	105
Canterbury Hospital	CAN	81
Coffs Harbour Base Hospital	CFS	103
Concord Hospital	CRG	135
Dandenong Hospital	DDH	324
Dubbo Base Hospital	DBO	107
Fiona Stanley Hospital	FSH	664
Flinders Medical Centre	FMC	153
Footscray Hospital	FOO	158
Frankston Hospital	FRA	268
Geelong Hospital	GUH	181
Geraldton Regional Hospital	GRH	31
Gold Coast University Hospital	GCH	24
Gosford Hospital	GOS	364
Goulburn Base Hospital	GLB	31
Grafton Hospital	GBH	60
Hornsby Ku-ring-gai Hospital	HKH	130
Ipswich Hospital	IPS	135
John Hunter Hospital	JHH	425
Joondalup Hospital	JHC	210
Launceston Hospital	LGH	154
Lismore Base Hospital	LBH	117
Liverpool Hospital	LIV	232
Logan Hospital	LOG	105
Lyell McEwin Hospital	LMH	274
Mackay Base Hospital	MKY	50
Manning Base Hospital	MBH	117
Maroondah Hospital	MAR	203
Mater Hospital	MSB	92
Nepean Hospital	NEP	285

	REPORT ID	2023
North West Regional Hospital	NWR	88
Northeast Health Wangaratta Hospital	NHW	90
Northern Beaches Hospital	NBH	184
Orange Health Service Hospital	OHS	137
Port Macquarie Base Hospital	PMB	132
Prince of Wales Hospital	POW	177
Princess Alexandra Hospital	PAH	161
QEII Hospital	QII	169
Queen Elizabeth Hospital	QEH	165
Redcliffe Hospital	RED	114
Robina Hospital	ROB	326
Rockhampton Hospital	ROK	112
Royal Adelaide Hospital	RAH	444
Royal Darwin Hospital	###	20
Royal Hobart Hospital	RHH	165
Royal Melbourne Hospital	RMH	156
Royal North Shore Hospital	RNS	178
Royal Perth Hospital	RPH	489
Royal Prince Alfred Hospital	RPA	167
Ryde Hospital	RYD	116
Shoalhaven District Memorial Hospital	###	118
Sir Charles Gairdner Hospital	SCG	327
St George Hospital	STG	248
St Vincent's Hospital Darlinghurst	SVD	119
St Vincent's Hospital Melbourne	SVM	133
Sunshine Coast University Hospital	SCU	202
Tamworth Hospital	TAM	120
The Alfred	TAH	234
The Northern Hospital	TNH	238
The Prince Charles Hospital	PCH	513
The Sutherland Hospital	TSH	162
The Wesley Hospital	###	10
Toowoomba Hospital	TWB	189
Townsville Hospital	TSV	208
Tweed Hospital	TWE	96
Wagga Wagga Base Hospital	WGG	187
Werribee Mercy Hospital	WMH	87
Westmead Hospital	WMD	238
Wollongong Hospital	TWH	257

* Approval to identify site was granted just prior to publication.

DATA QUALITY, CAVEATS AND LIMITATIONS

The patient-level report includes data from 100 hospitals. In 2023, 17,734 hip fracture records were contributed for the calendar year: 14,066 records from 79 Australian hospitals and 3,668 records from 21 New Zealand hospitals.

CAVEATS

- The figures in this report include data from Australia and New Zealand for all records with an ED arrival, in-hospital fracture, or transfer date, from midnight 1 January 2023 to midnight on 31 December 2023.
- Figures in the patient-level report only include records where data is available.
- Hospitals must have contributed at least 10 patient records during the relevant calendar year to be included in the patient-level report.
- All figures adhere strictly to a minimum 10 records required rule other than 120-day follow-up where a follow-up of 70% was required for inclusion in the caterpillar charts.
- Where the figure has featured in previous years, average bars from the previous four reports are included for comparison. If the variable has been reported for less than five years, all available average bars are reported.
- New Zealand has elected to identify all hospitals with a hospital specific code. Three Australian hospitals have chosen not to be identified and have been randomly assigned a number that has been used consistently throughout this report. The number has been provided to the principal investigator for each hospital. Where the hospital has never been identified, the number has been consistently used for all years.

COMPLETENESS

Completeness refers to the number of variables completed per record over the number of variables eligible to be completed for that patient. The Registry utilises automated and manual data completeness checks for each record. When logged into the Registry, users can view the percentage of variables completed per record and details of missing variables. In 2023, completeness was 99% for New Zealand hospitals and 97% for Australia.

CORRECTNESS

Correctness refers to the accuracy of the data entered into each data field. The ANZHFR utilises data validation rules and inbuilt date/time sequence checks to reduce the possibility of incorrect data being entered. Pop-up warnings alert users if the data falls outside any of the specified limits, which assists users to identify potentially incorrect data. Yearly validation checks built into the Registry database also allows users to review any outliers (values that appear too high or low).

The ANZHFR has also released a quality audit tool. The tool enables participating sites to check the quality of a random selection of 10% of records entered into the registry (up to a maximum of 25 records for high volume sites). Undertaking the audit is voluntary. The ANZHFR received valuable feedback around the benefits and challenges associated with completing the audit and will continue to work with sites to enhance the value of the quality audit tool, which will be made available again later in 2024.

CAPTURE/ASCERTAINMENT

Capture/ascertainment refers to the proportion of eligible patients that are captured by the Registry. High levels of capture allow the findings to be generalised to the whole population. If the capture rate is low, selection bias may be introduced where included or excluded patients are systematically different from each other. This may affect the generalisability of the findings.

In New Zealand, the number of hip fracture cases in the registry can be compared with the discharge coding from the National Minimum Data Set (NMDS). The numbers are extracted in March for the previous calendar year during which the data collection took place. There is minimal change in the numbers after this date and this provides a good comparator with which to judge ascertainment. Ascertainment has increased from 20% in 2016 to 89% in 2023.

In Australia, ascertainment is difficult to source due to jurisdictional differences in the collection and reporting of data. The ANZHFR hopes to be able to report this information for Australia in the future.

GUIDE TO CATERPILLAR CHARTS

This year for the first time, performance against the quality indicators is shown using ‘caterpillar charts’.

Each ‘caterpillar chart’ shows the key performance indicator (KPI) achievement for hospitals that have contributed at least 10 records for that indicator.

There is a separate chart for New Zealand and Australian hospitals.

Each chart shows:

1. The national average (red dotted line) and individual performance (dark blue dot) for participating hospitals.
2. The 95% confidence interval calculated for each hospital based on the variation of data they have submitted.

There is a labelled example below.

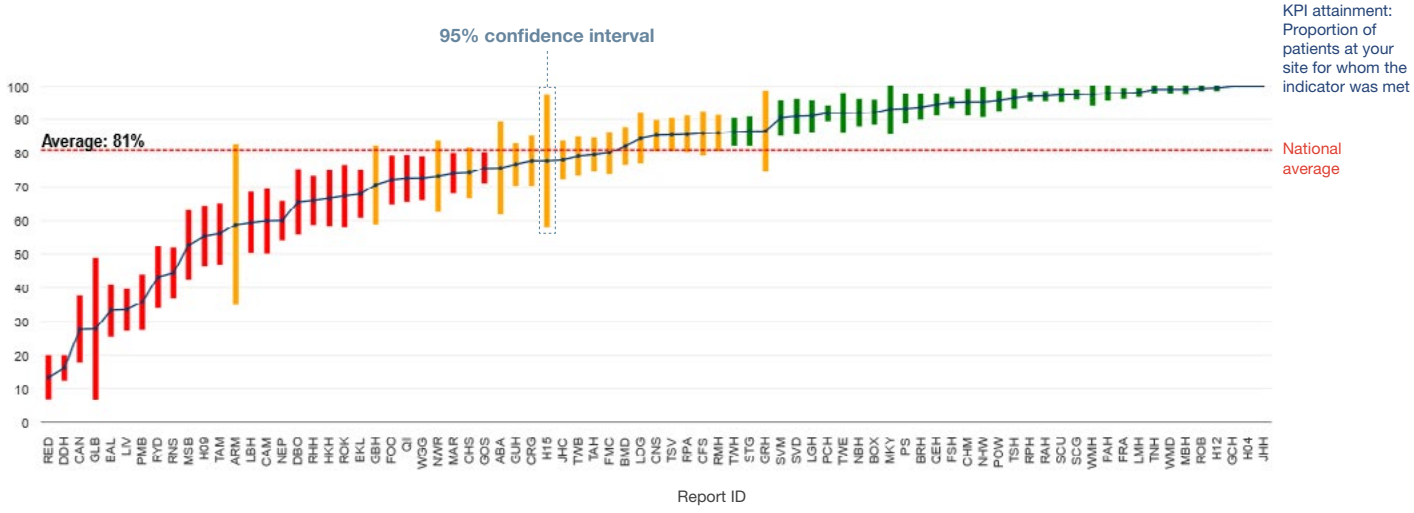
Each hospital is identified as:

Below average (Red) – if the KPI and 95% confidence interval values are lower than the national average, or

Average (Orange) – if the KPI and 95% confidence interval values include or cross the national average, or

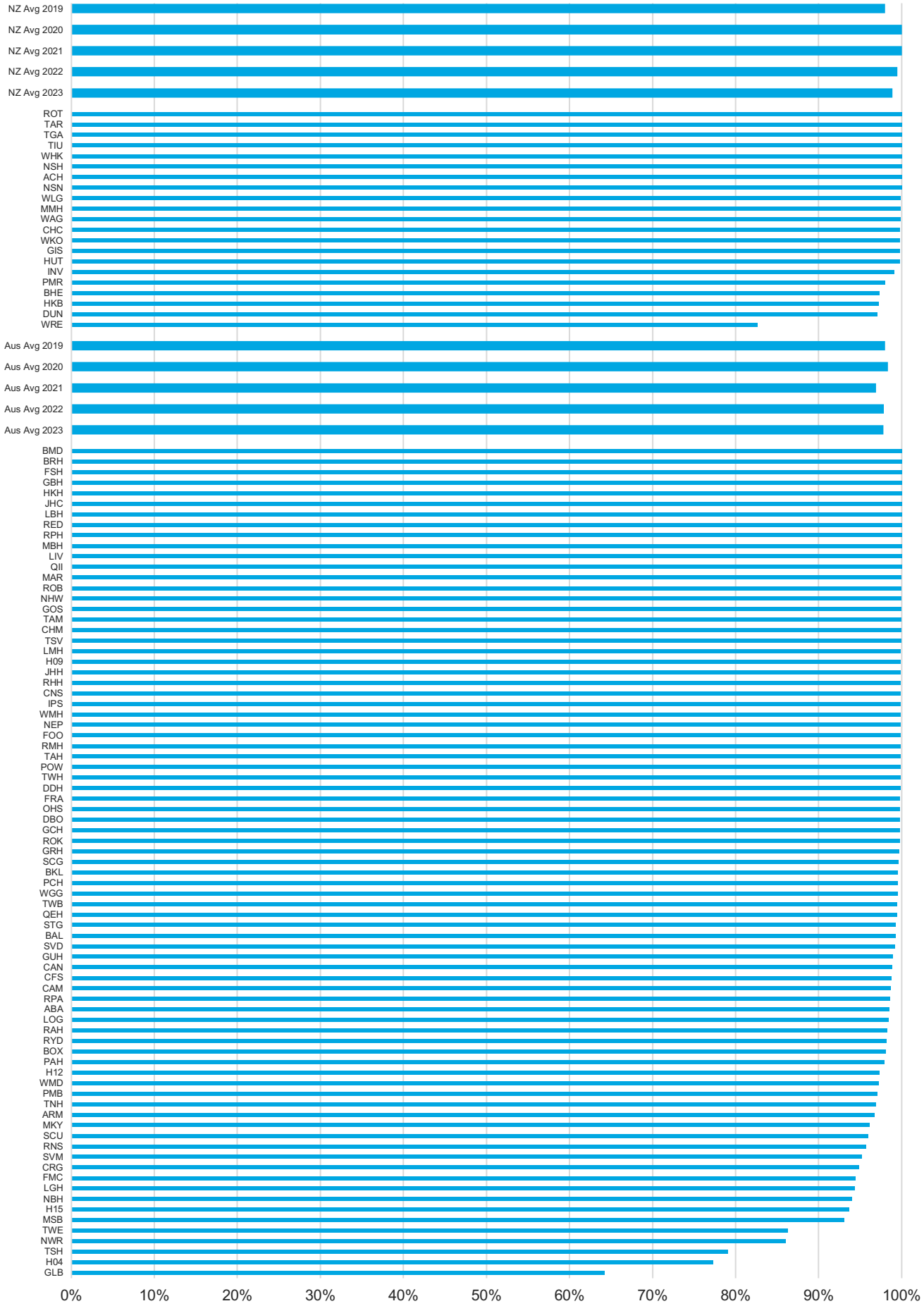
Above average (Green) – if the KPI and 95% confidence interval values are higher than the national average

Presenting the data this way should allow sites to more easily determine areas of high performance, and areas that need review.



The charts can be viewed online at https://www.hipfracture.com.au/home/reports
Select the year (2023), your hospital name and the caterpillar charts will be found under Report Type - Quality Statements.

FIGURE 1 Data completeness



SECTION 1: DEMOGRAPHIC INFORMATION

FIGURE 2 Sex

Females comprised 68% of New Zealand and 66% of Australian hip fracture patients, respectively.

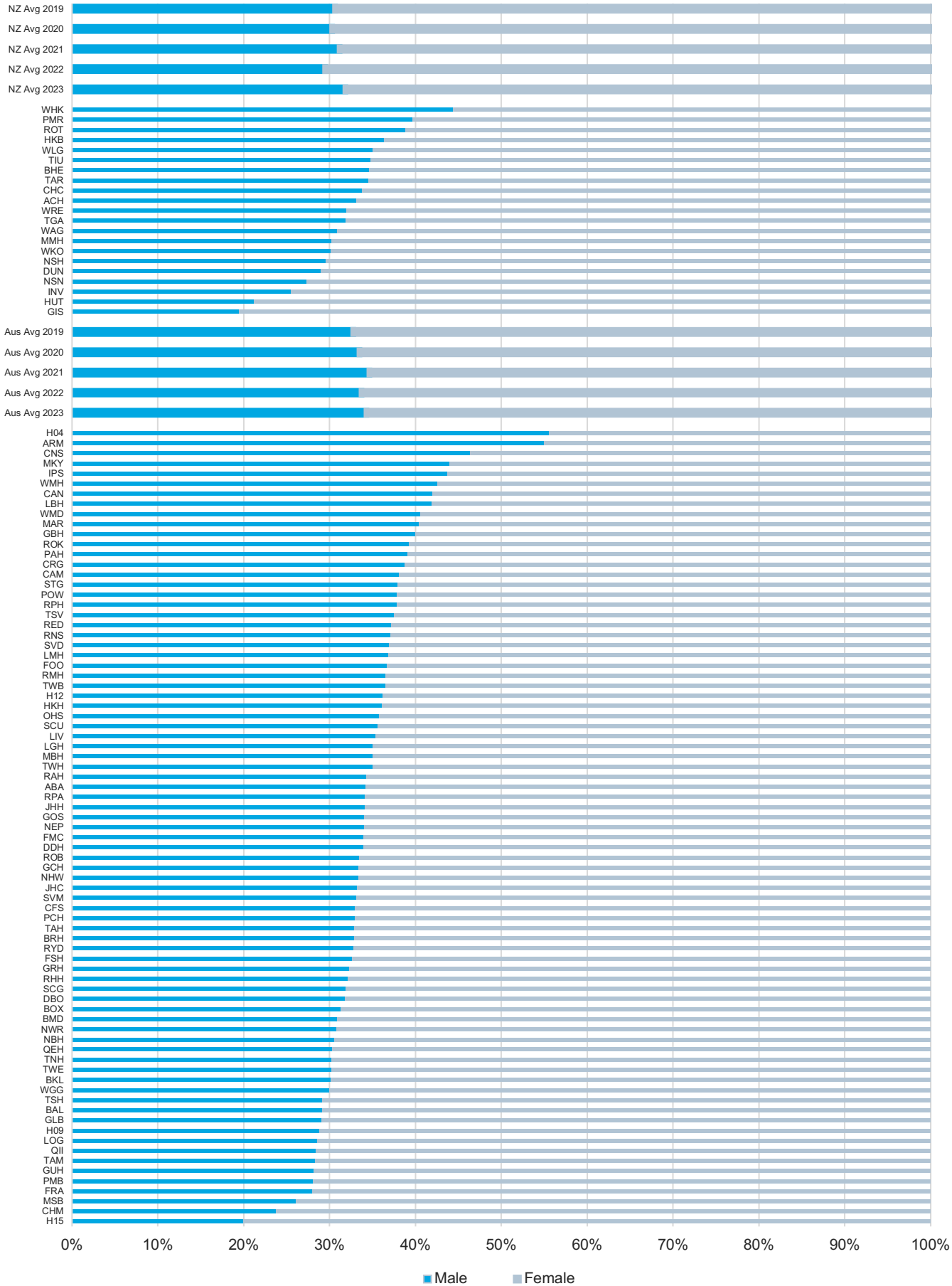


FIGURE 3 Age at admission

The average age of hip fracture patients was 82 years (SD = 9) and the median age was 83 years in New Zealand. In Australia, the average age was 81 years (SD = 10) and the median age was 84 years. People aged 90 years and older made up 26% of hip fracture patients in New Zealand and 24% in Australia.

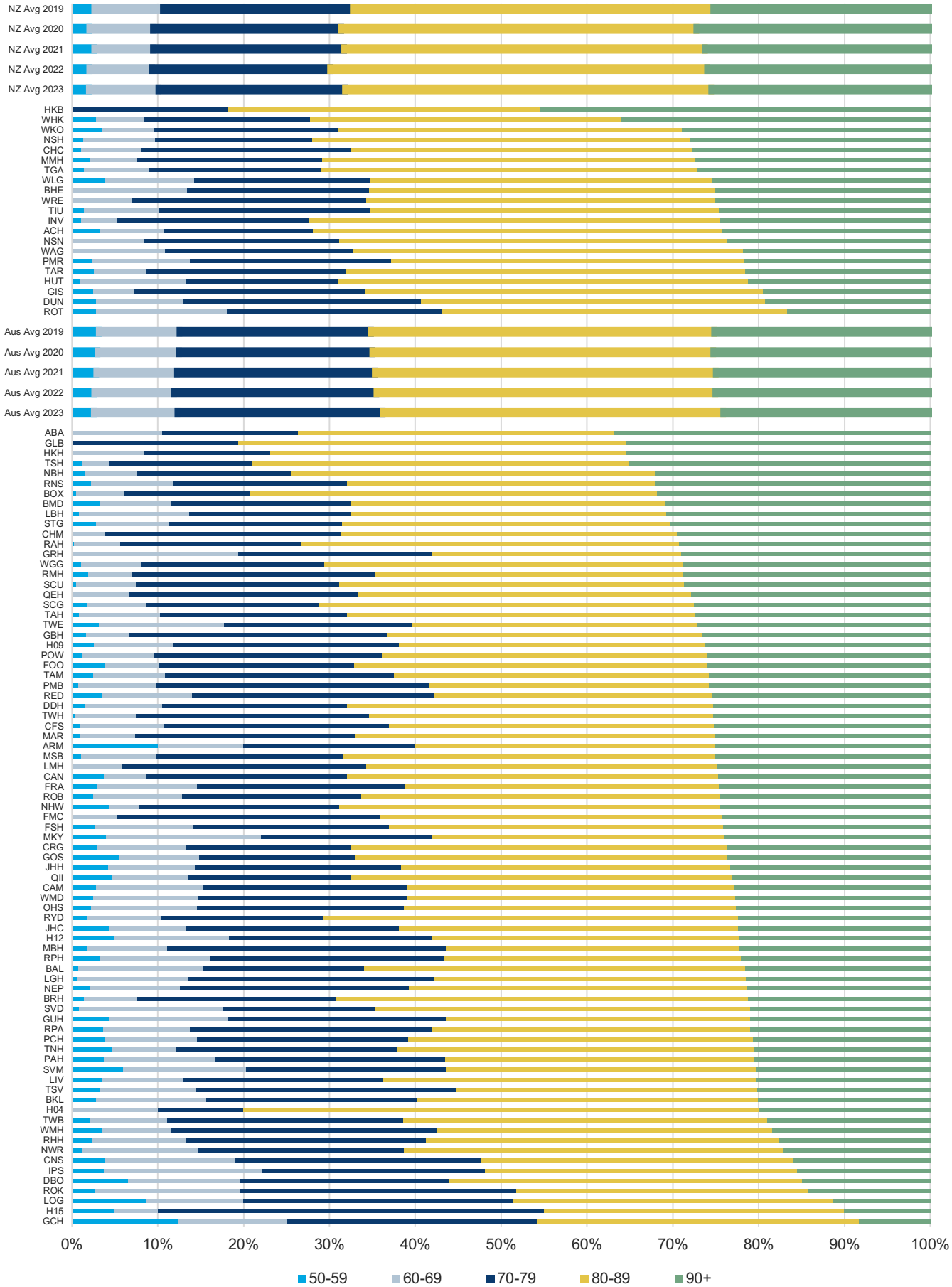


FIGURE 4 New Zealand ethnicity (Prioritised Māori)

New Zealand ethnicity has been reported using a prioritised ethnicity approach, which allocates each person to a single ethnic group using agreed prioritisation tables. The ANZHFR used the prioritisation for level 2 codes, which prioritises Māori where a person identifies with more than one ethnic group.

Maori and Pacific Peoples made up 4% of the New Zealand reported data. The majority of New Zealand hip fracture patients reported being of European origin.

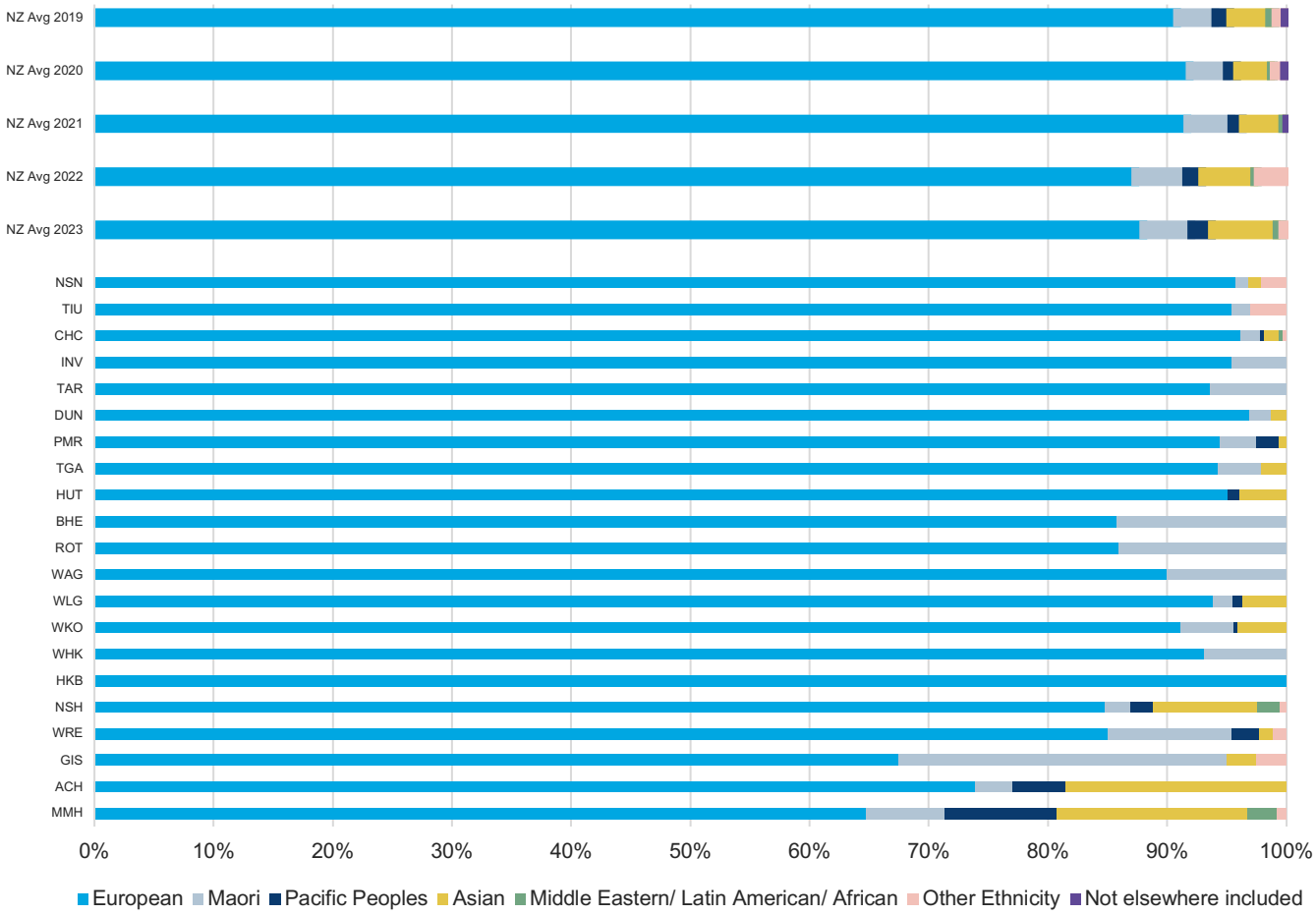


FIGURE 5 Usual place of residence

Seventy-two percent of people in New Zealand and 74% of people in Australia lived at a private residence prior to admission to hospital with a hip fracture.

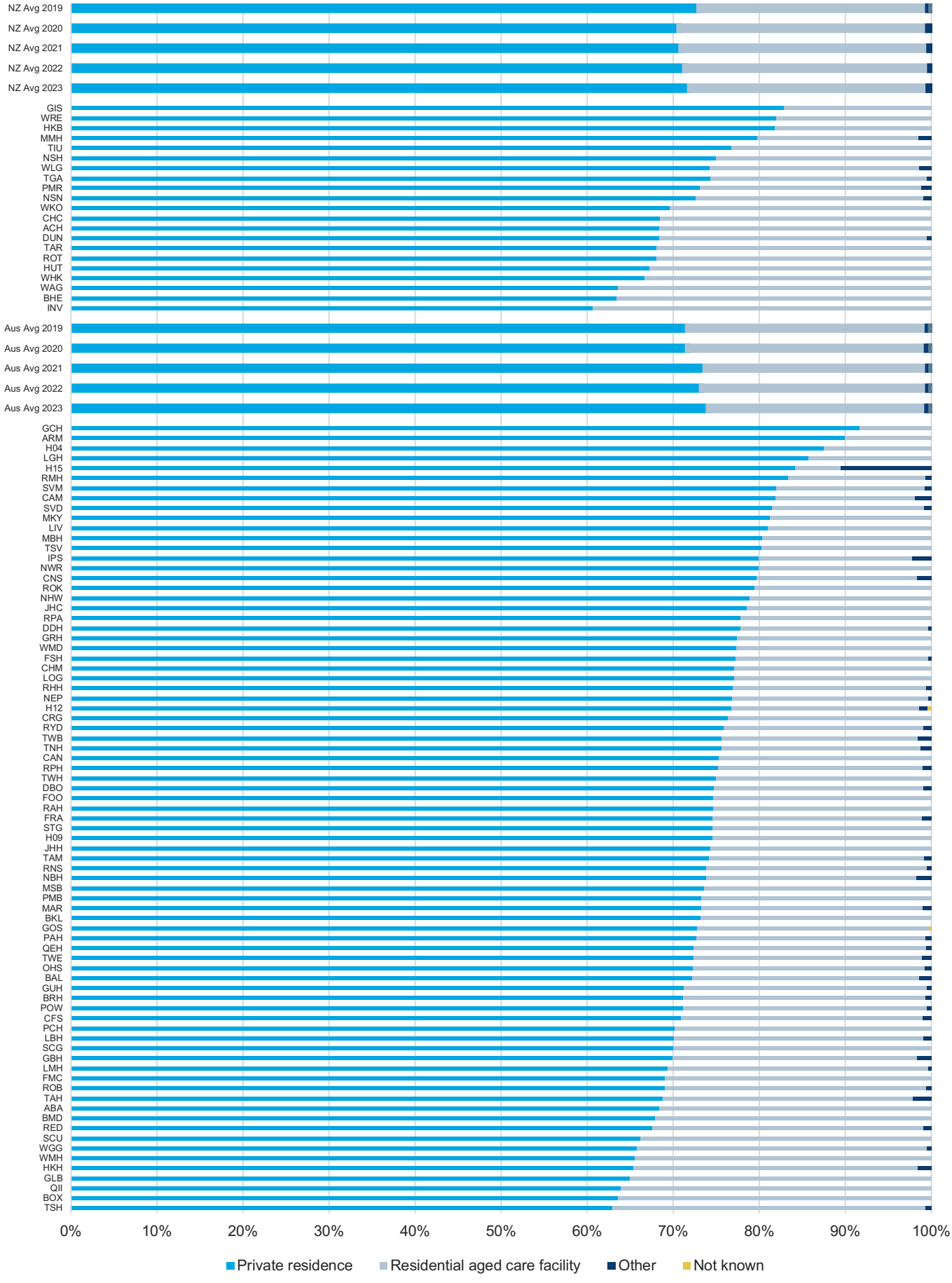


FIGURE 6 Preadmission cognitive status

Thirty-seven percent of patients in New Zealand and Australia had pre-existing impaired cognition or known dementia. The proportion of patients for whom preadmission cognitive status was unknown has decreased over time.

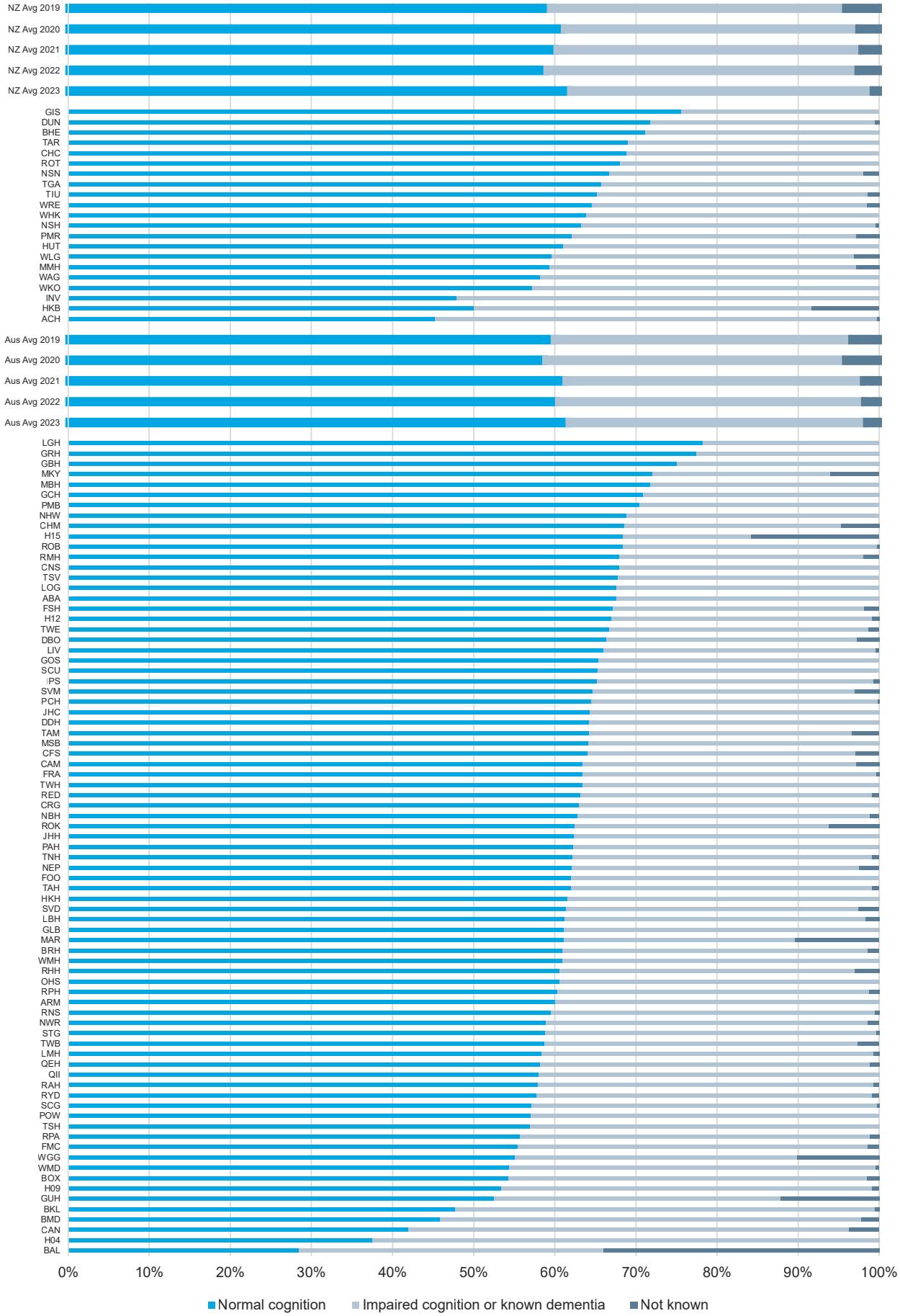
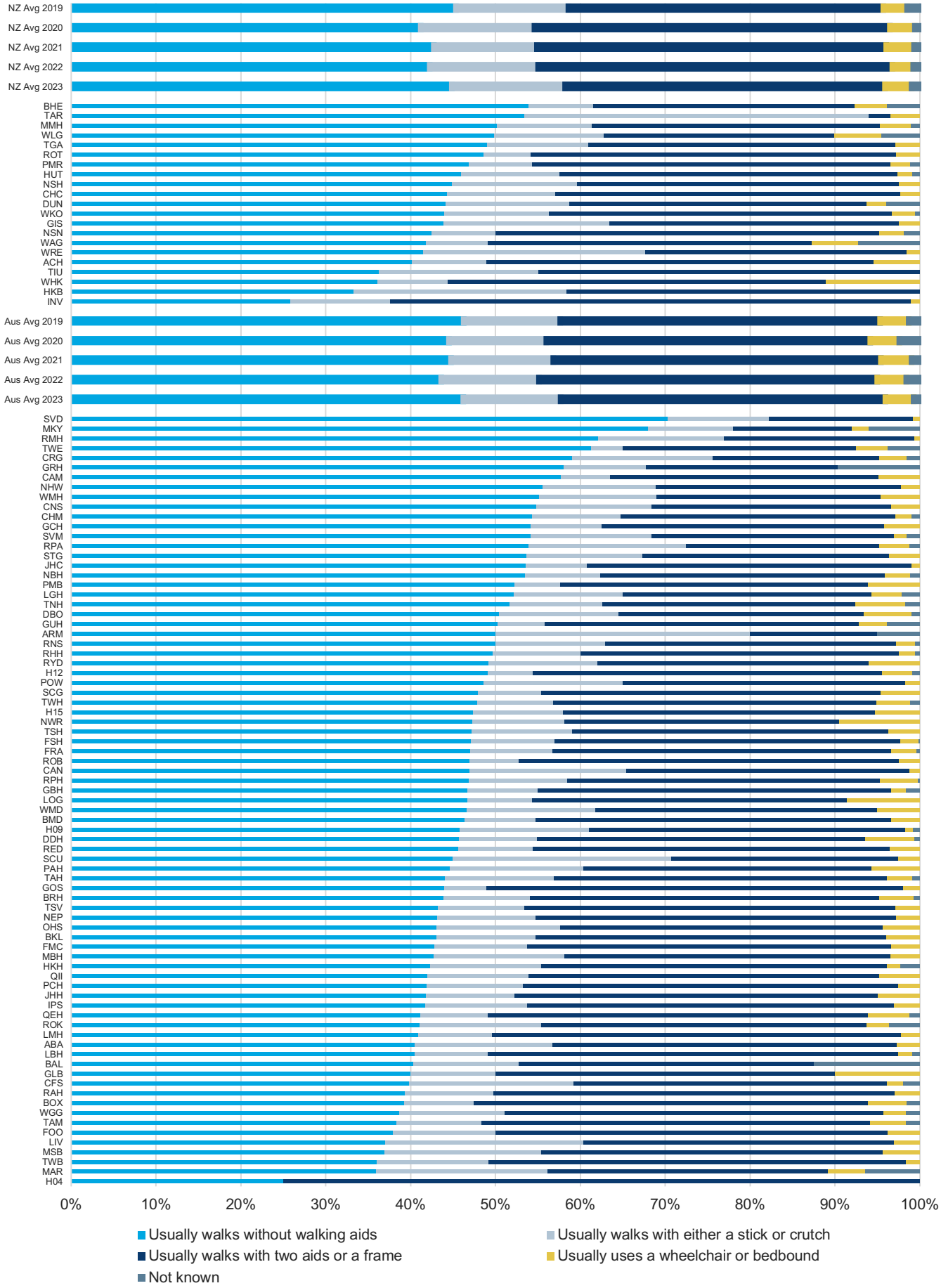


FIGURE 7 Preadmission walking ability

Prior to admission, 45% of hip fracture patients in New Zealand and 46% in Australia walked without a walking aid.



SECTION 2: CARE AT PRESENTATION

FIGURE 8
ASA known

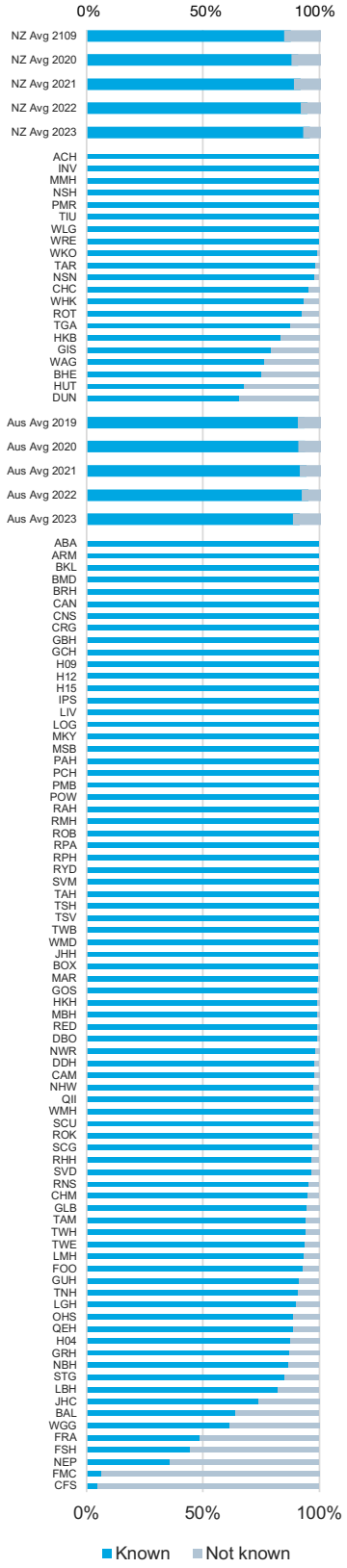
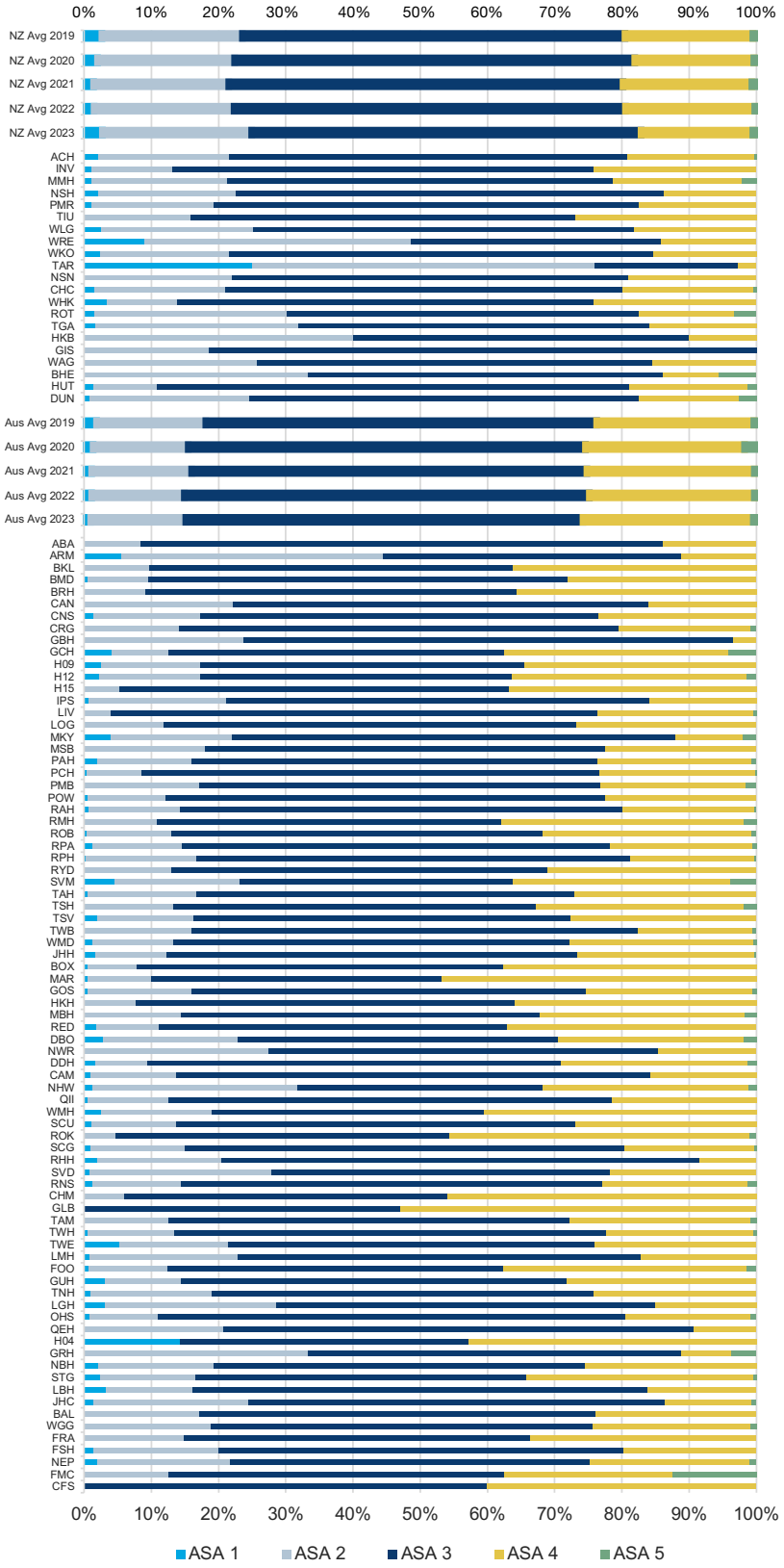


FIGURE 9
ASA grade where ASA is known



ASA grading is a measure of anaesthetic risk. Increasing ASA grade is associated with a person's morbidity and mortality risk. It is used to risk-adjust mortality rates for hip fracture. Figure 8 shows ASA grade was known for 95% of hip fracture patients in New Zealand and 90% of hip fracture patients in Australia. Figure 9 shows the grading of anaesthetic risk for patients at each hospital where the ASA grade is known. Reviewing and where needed, increasing, the proportion of patients for whom an ASA grade is recorded as part of the data should be an area of focus for hospitals.

FIGURE 10 Transferred from another hospital

Six percent of hip fracture patients in New Zealand and 10% in Australia were transferred from another hospital for surgical management of their fracture.

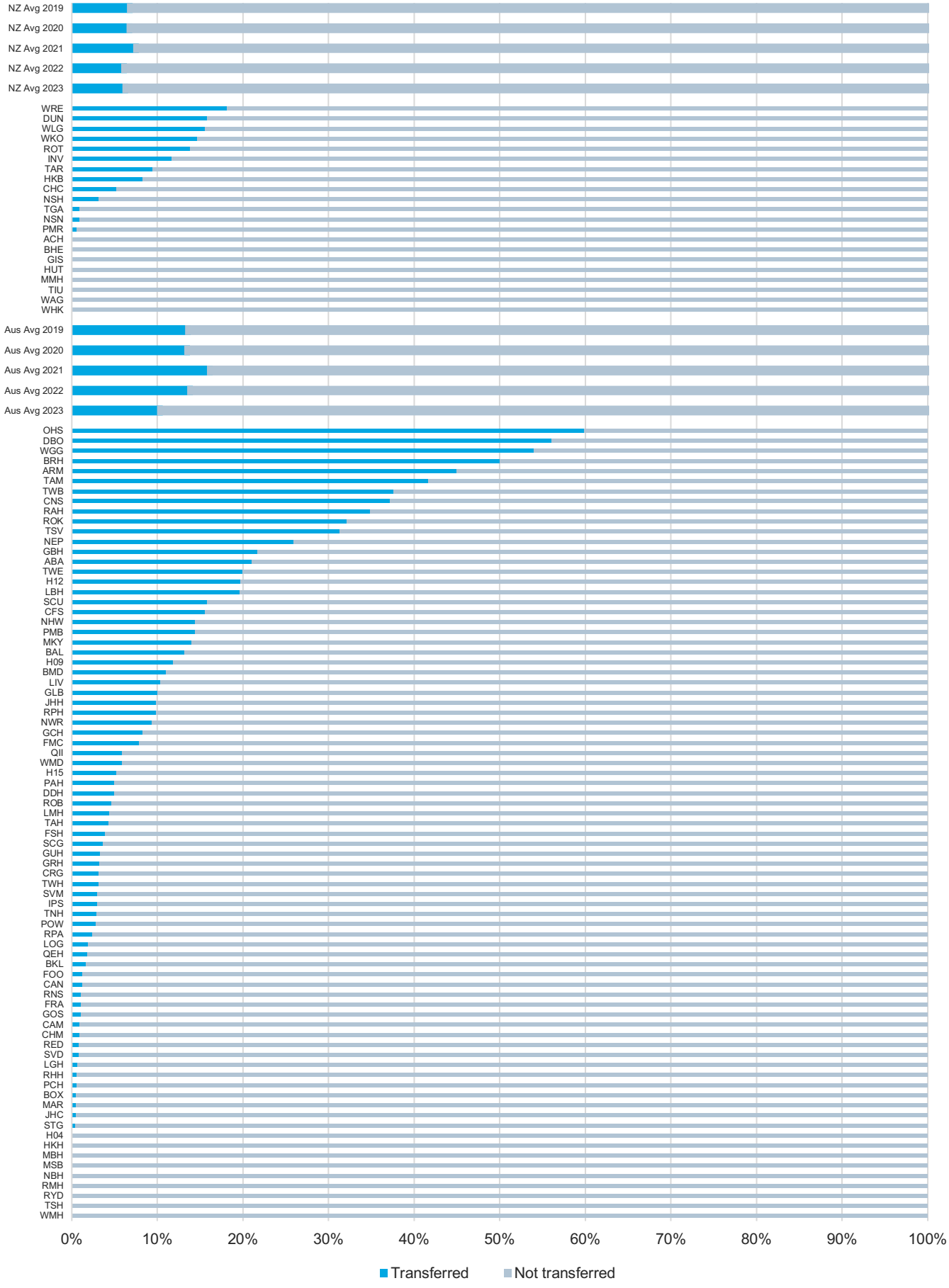
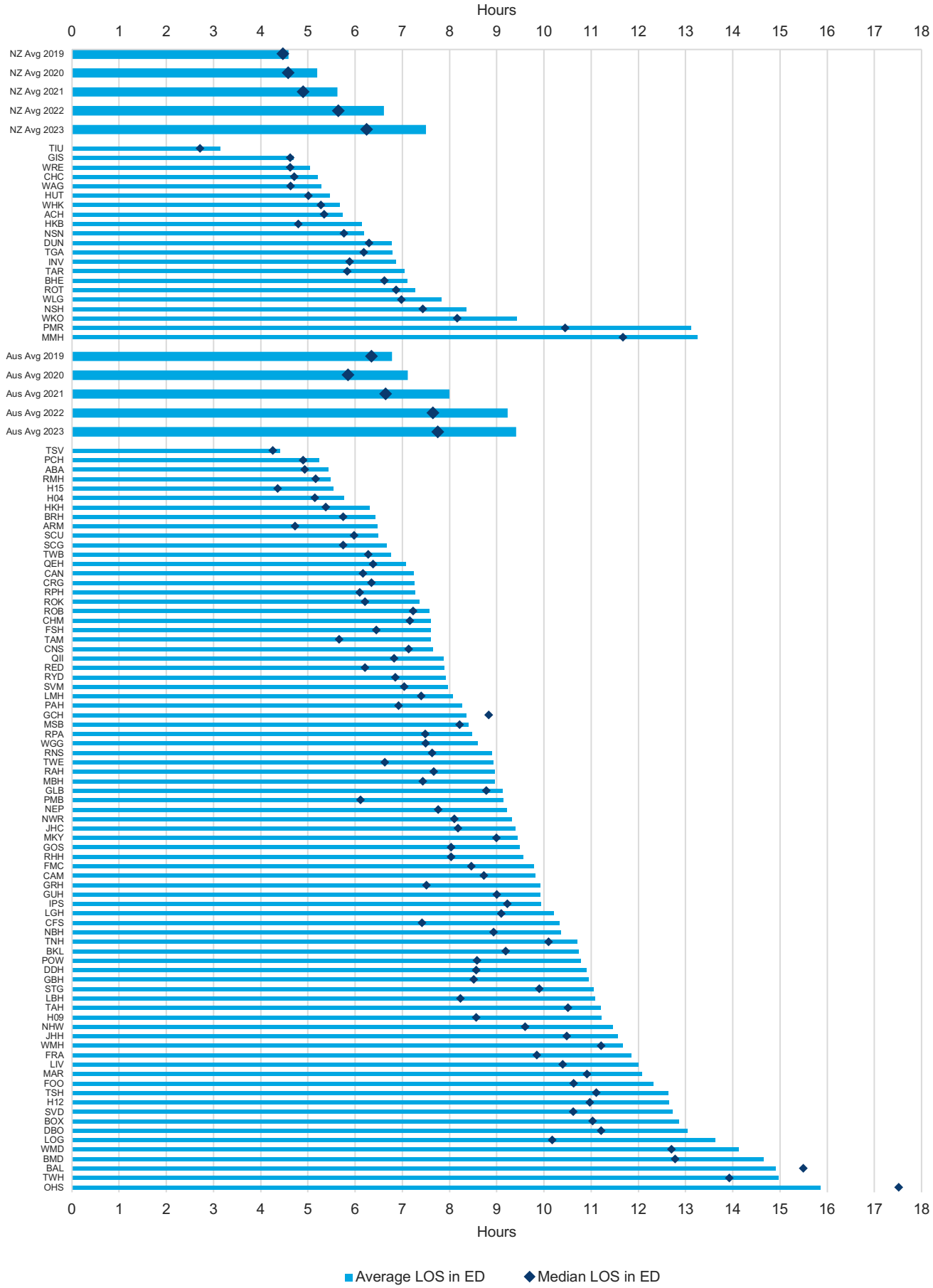


FIGURE 11 Emergency department (ED) length of stay (LOS)

The average ED LOS and median ED LOS have increased each year since 2018 in both countries. In 2023, average LOS in New Zealand was 7.4 hours and average LOS in Australia was 9.4 hours. The median LOS in the ED was 6.3 hours in New Zealand and 7.8 hours in Australia.



ED LOS BY AUSTRALIAN STATE

FIGURE 12 New South Wales

FIGURE 13 Queensland

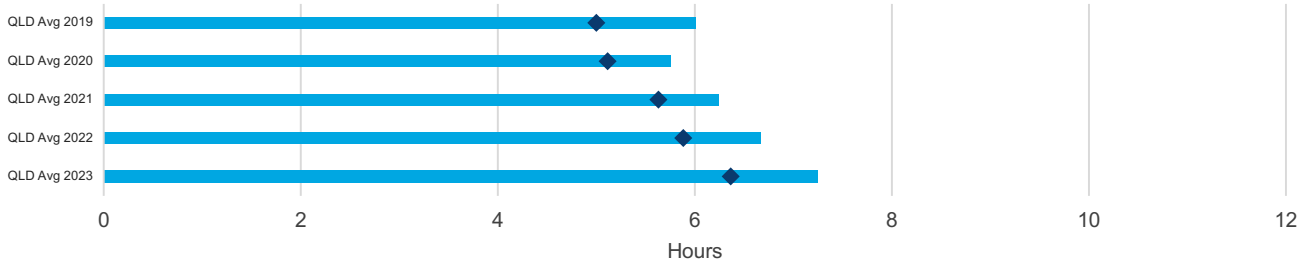


FIGURE 14 South Australia

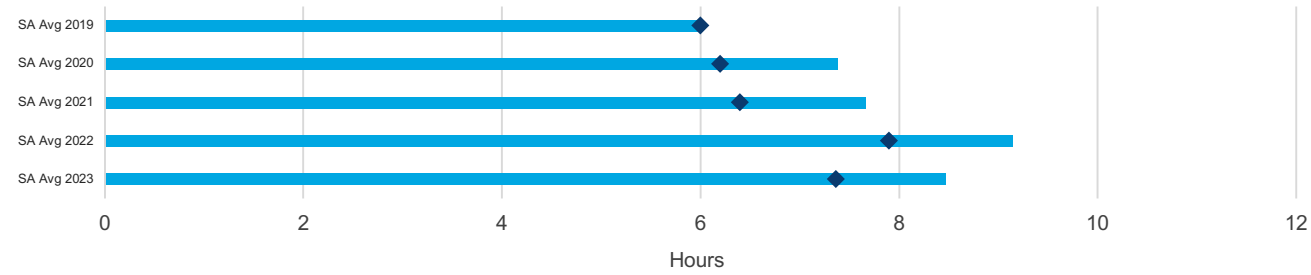


FIGURE 15 Tasmania

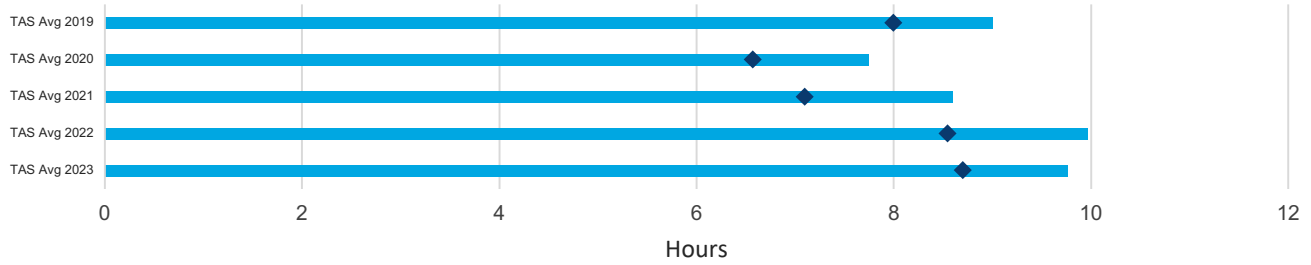


FIGURE 16 Victoria

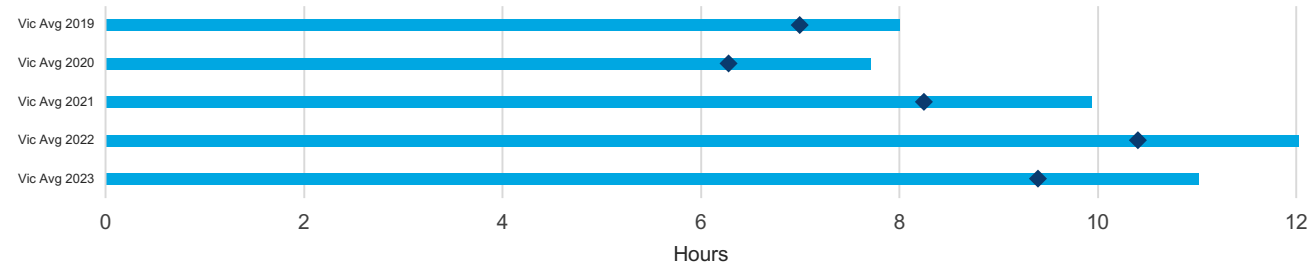


FIGURE 17 Western Australia

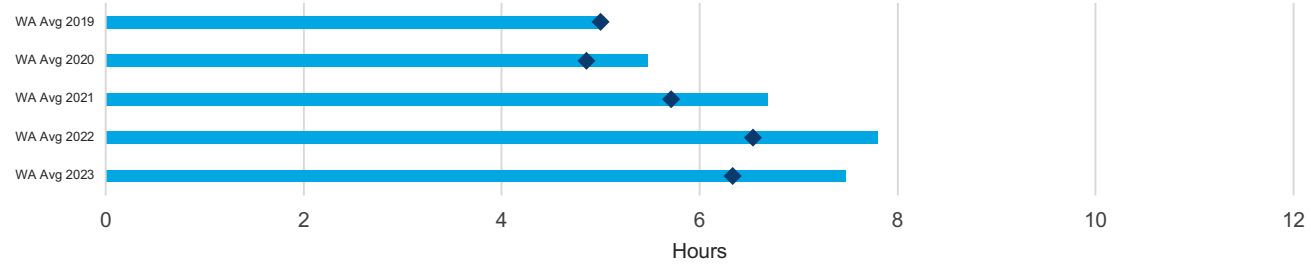


FIGURE 18 Admission ward type

The proportion of patients admitted to a specific hip fracture or orthopaedic ward was 92% in New Zealand and 90% in Australia.

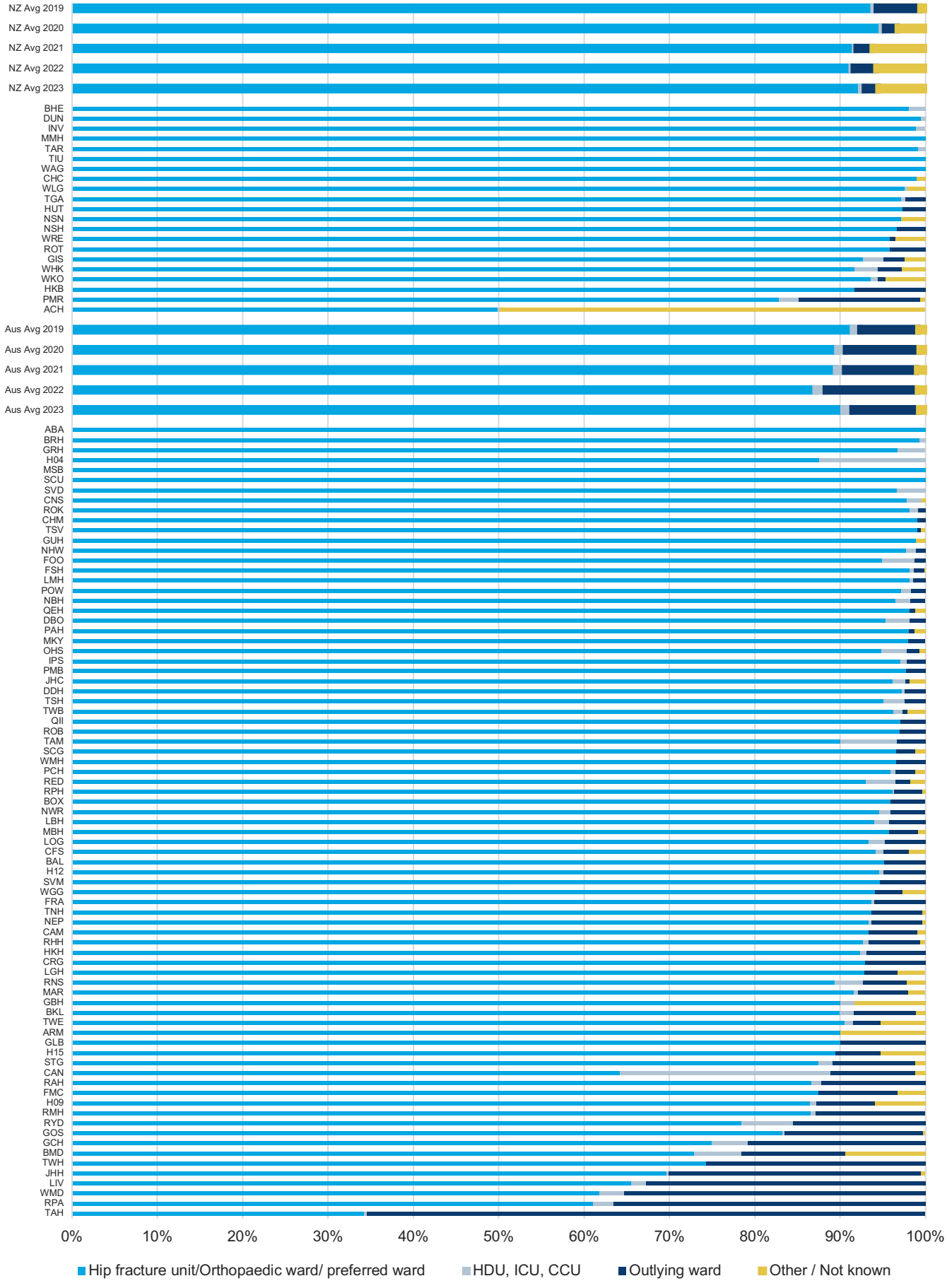
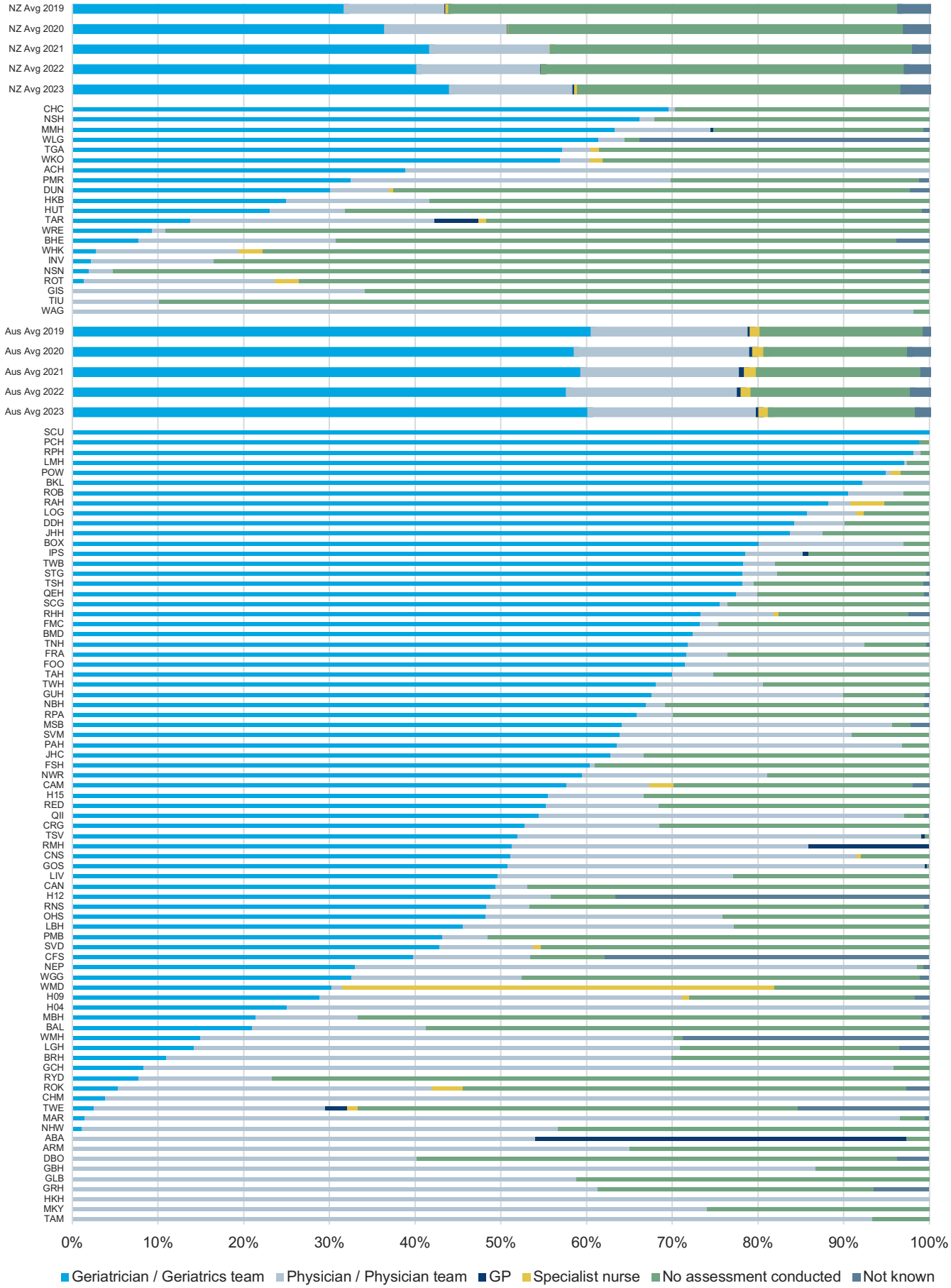


FIGURE 19 Preoperative medical assessment

Forty-four percent of patients in New Zealand and 60% of patients in Australia were seen by a geriatrician prior to surgery. General physicians, general practitioners or specialist nurses may undertake the preoperative medical assessment where a geriatric medicine service is not available.

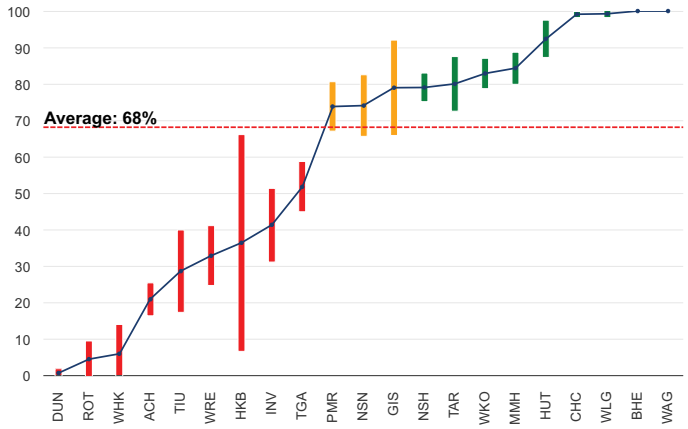


INDICATOR 1B:

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

FIGURE 20

Preoperative cognitive assessment for people aged ≥ 65 years in New Zealand



Since 2018, Australia and New Zealand have shown year-on-year increases in preoperative assessment of cognition in hip fracture patients.

Sixty-eight percent of hip fracture patients ≥ 65 years in New Zealand (Figure 20) and 81% in Australia (Figure 21) had their cognition assessed using a validated tool prior to surgery.

FIGURE 21

Preoperative cognitive assessment for people aged ≥ 65 years in Australia

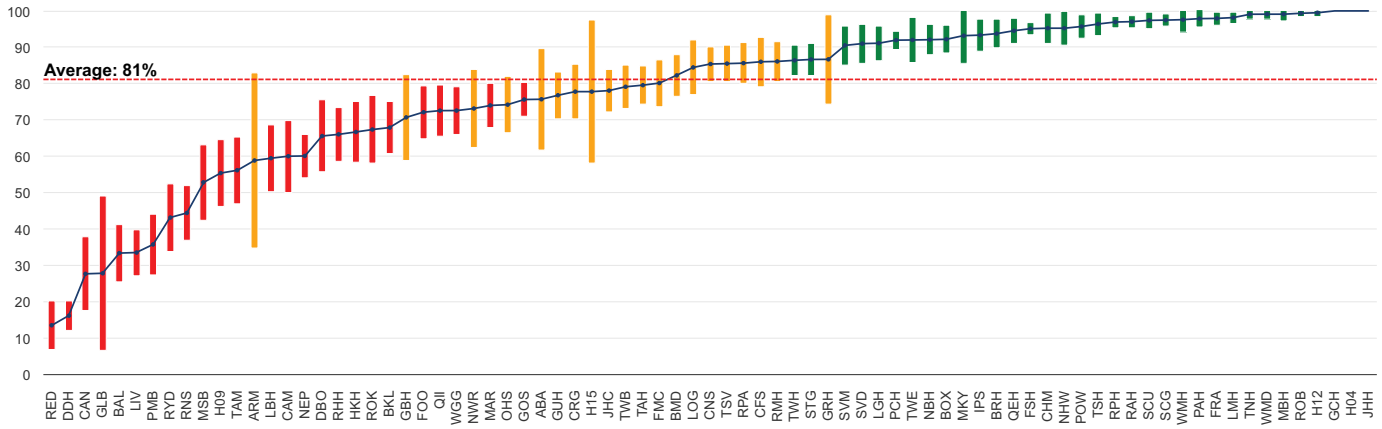
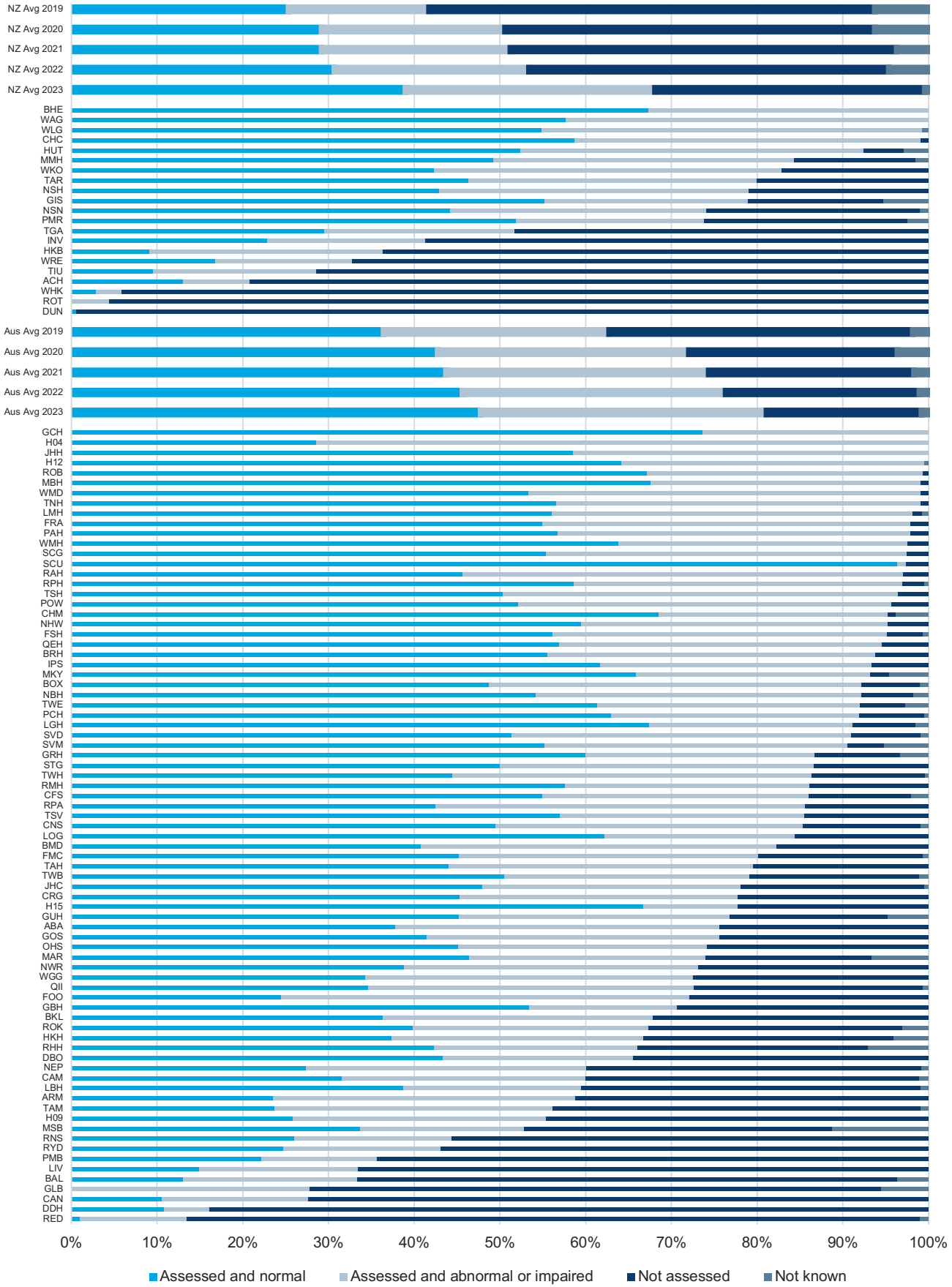


FIGURE 22 Preoperative cognitive assessment for people aged ≥ 65 years

In New Zealand, 68% of patients aged ≥65 years had their cognition assessed using a validated tool prior to surgery. Forty-three percent of those assessed had impaired or abnormal cognition. In Australia, 81% of patients ≥65 years had their preoperative cognition assessed. Forty-one percent of those assessed had impaired or abnormal cognition.



PREOPERATIVE COGNITIVE ASSESSMENT BY AUSTRALIAN STATE FOR PEOPLE AGED ≥ 65 YEARS

FIGURE 23 New South Wales

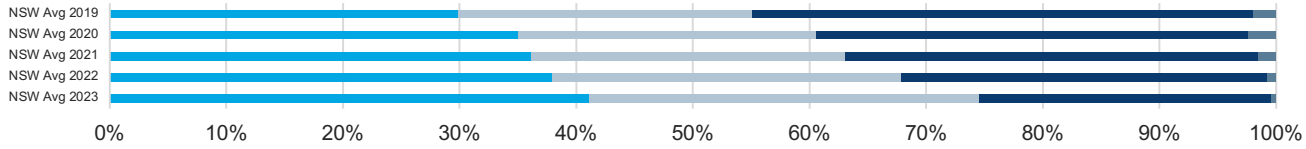


FIGURE 24 Queensland

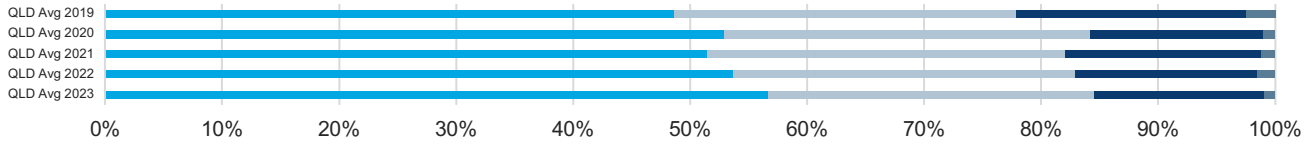


FIGURE 25 South Australia

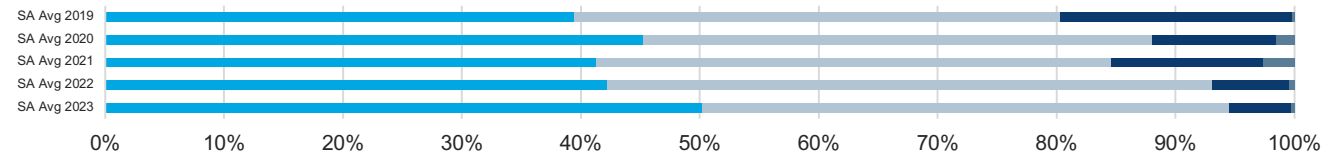


FIGURE 26 Tasmania

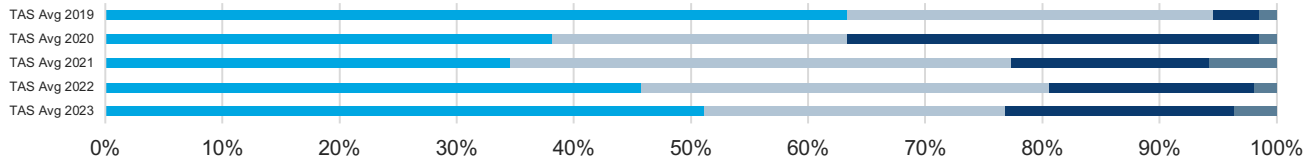


FIGURE 27 Victoria

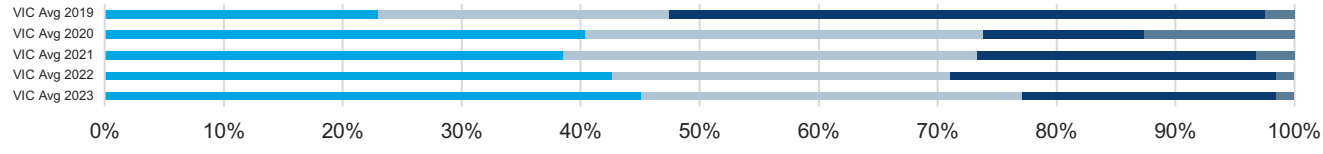


FIGURE 28 Western Australia

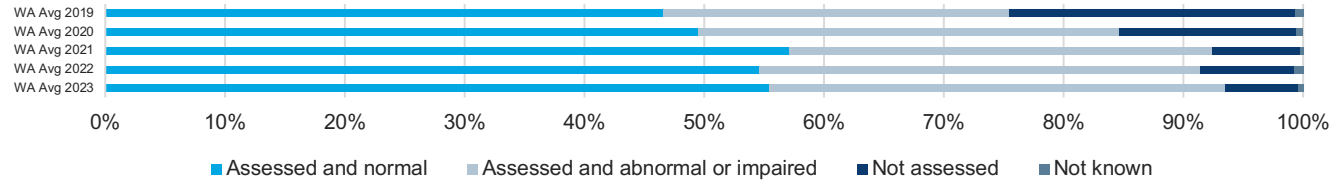


FIGURE 29
Clinical frailty known

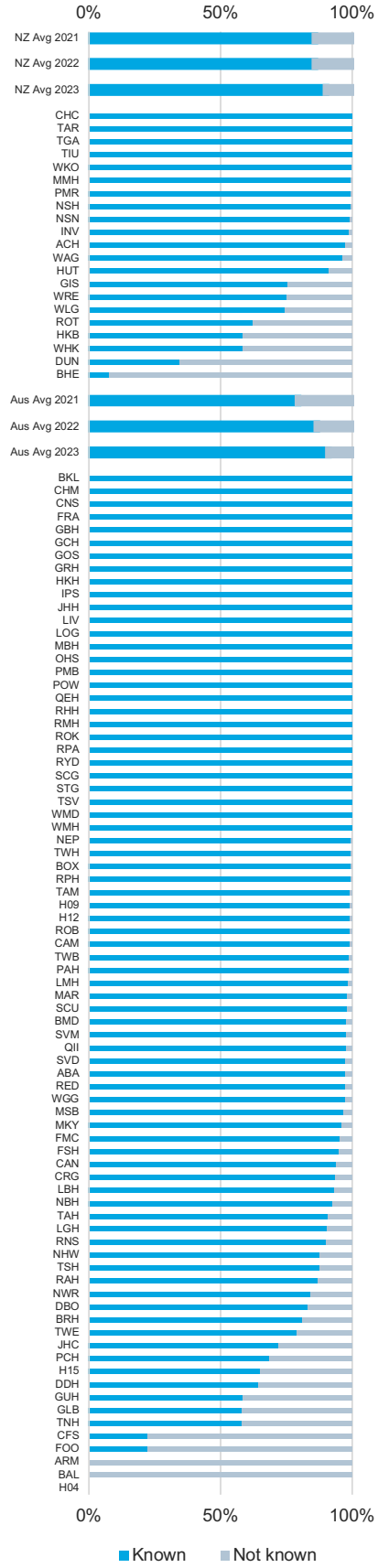
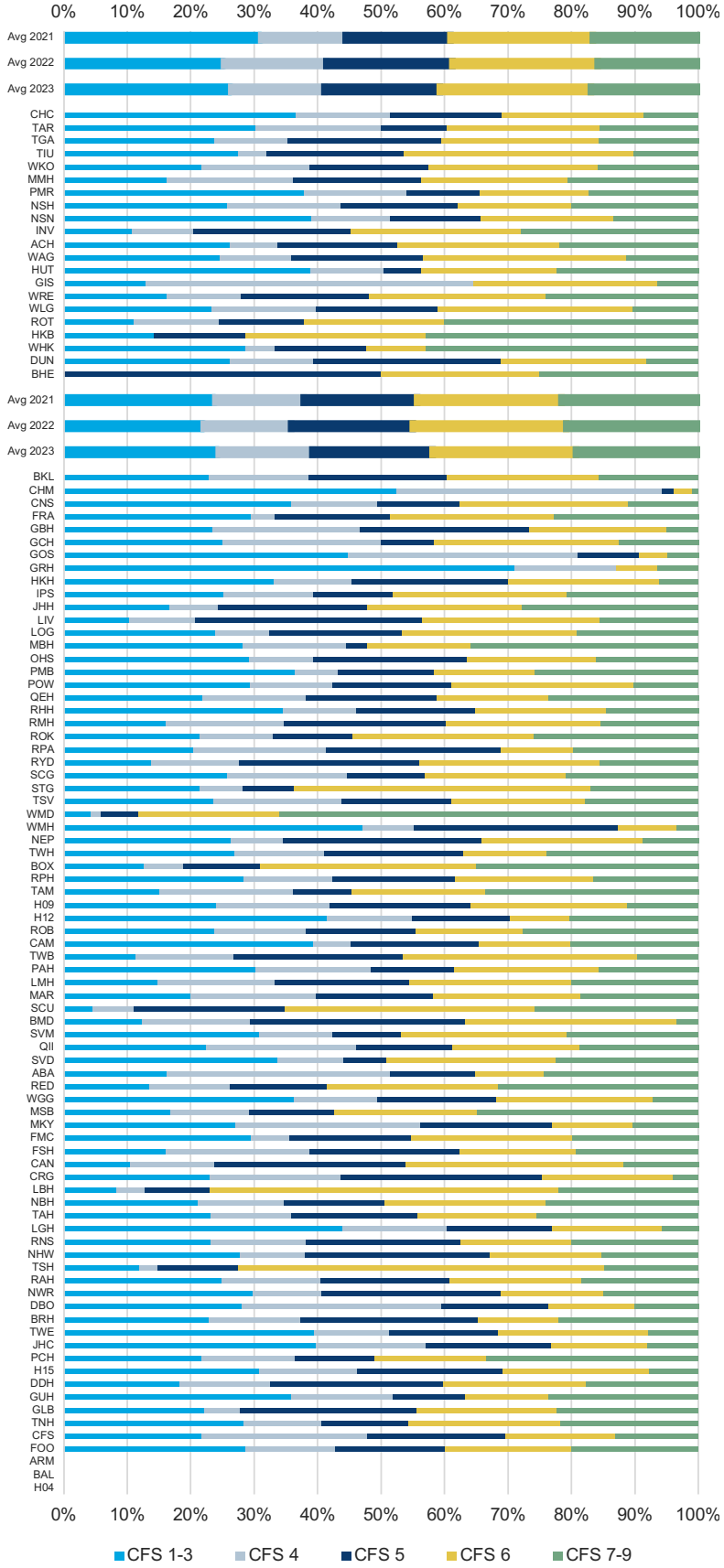


FIGURE 30
Clinical frailty scale



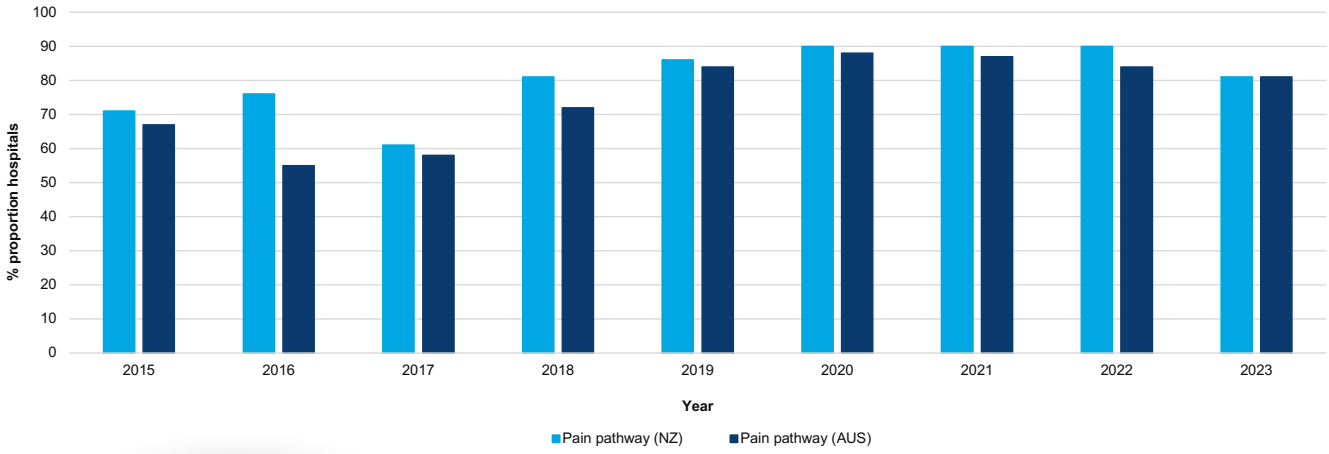
The Clinical Frailty Scale (CFS) was known in 90% of hip fracture patients in New Zealand, and 91% in Australia (Figure 29). This represents a year-on year increase since 2021 in both countries. Figure 30 summarises the CFS results where CFS was known. The CFS is grouped into five categories: Robust (CFS 1-3), Vulnerable (CFS 4), Mildly frail (CFS 5), Moderately frail (CFS 6) and Severely frail (CFS 7-9).

INDICATOR 2A:
Evidence of local arrangements for timely and effective pain management for hip fracture

Figure 31 shows results from facility level audit of hospitals contributing data to the ANZHFR. This is a change from previous years, when we asked all hospitals that operated on people after hip fracture to complete the audit. The results have been updated to reflect this change.

In 2023, a protocol or pathway for pain was available at 81% of participating Australian and New Zealand hospitals.

FIGURE 31 Pain pathway reported as an element of care in Australia and New Zealand 2015–2023



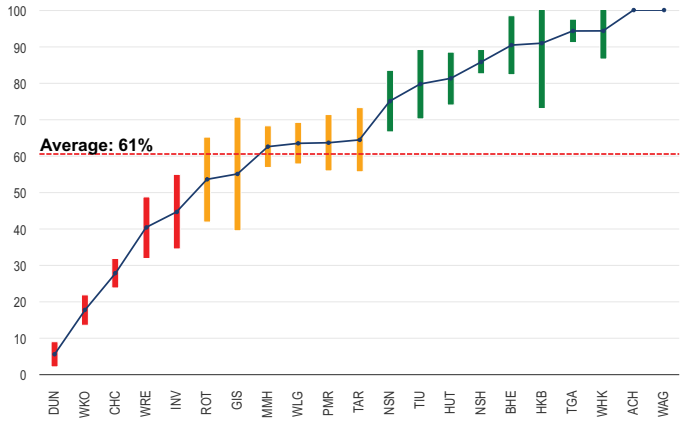
> "You have to find mechanisms that move the person in a way that doesn't cause stress. . . it happened about eight times – transferred from one bed to another and then the adjusting that needs to happen. It was agony."
>
> Hans, Consumer

INDICATOR 2B:

Proportion of patients with a hip fracture who have a 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

FIGURE 32

Pain assessment within 30 minutes of ED presentation in New Zealand



On average, 61% of New Zealand hip fracture patients (Figure 32) and 69% of Australian hip fracture patients (Figure 33) had a documented assessment of pain within 30 minutes of presentation.

FIGURE 33

Pain assessment within 30 minutes of ED presentation in Australia

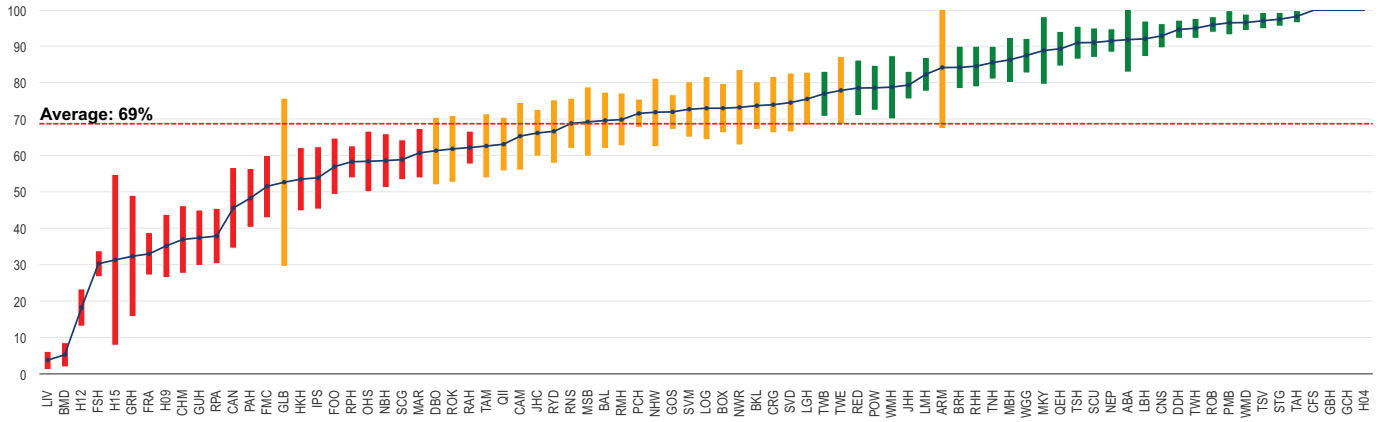
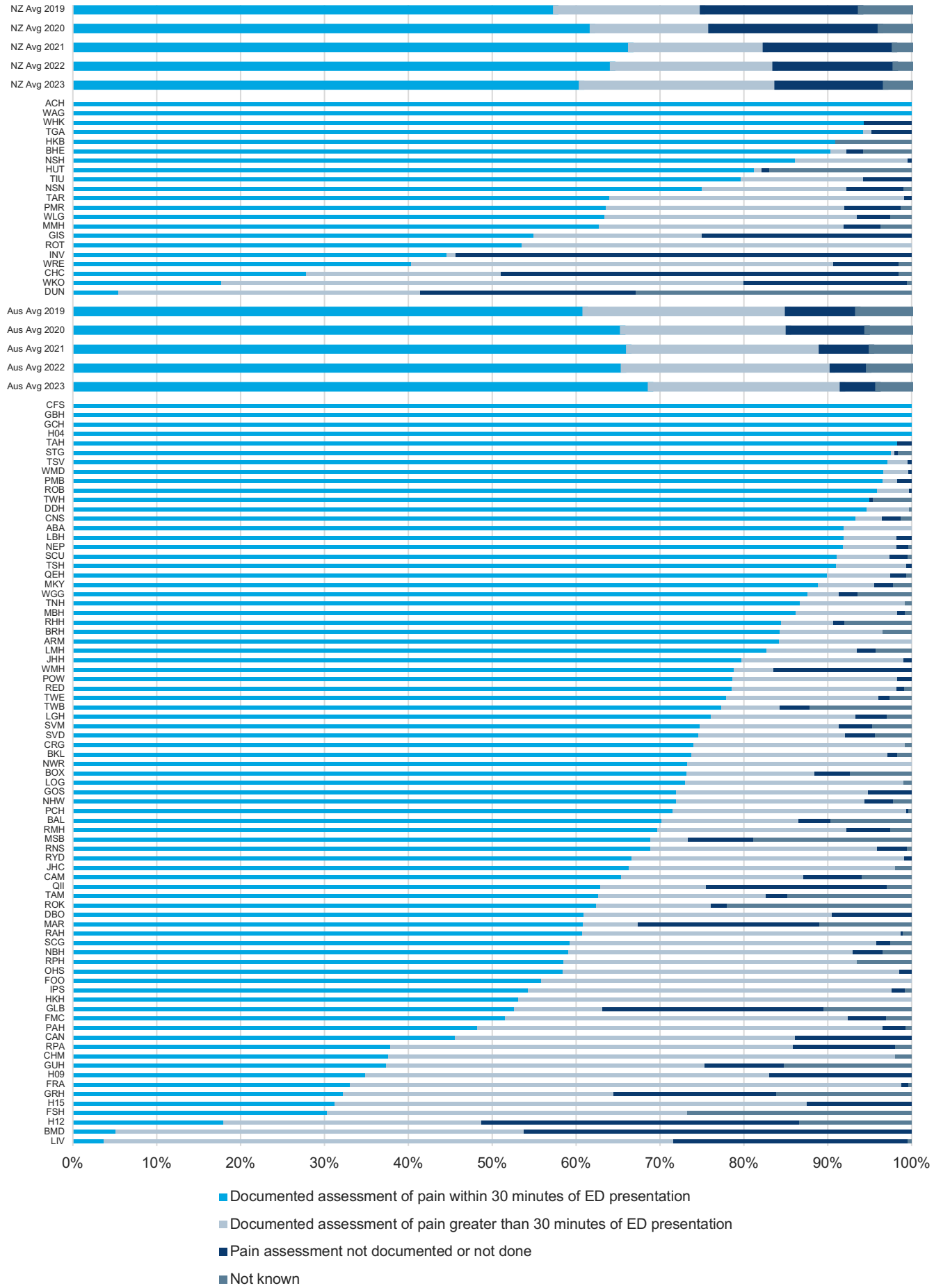


FIGURE 34 Pain assessment within 30 minutes of ED presentation



PAIN ASSESSMENT WITHIN 30 MINUTES OF ED PRESENTATION BY AUSTRALIAN STATE

FIGURE 35 New South Wales

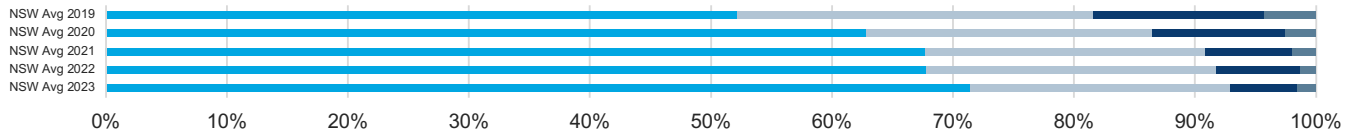


FIGURE 36 Queensland

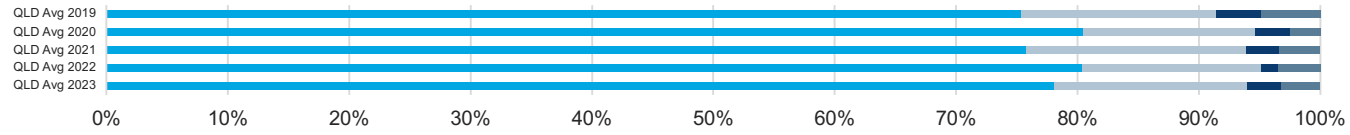


FIGURE 37 South Australia

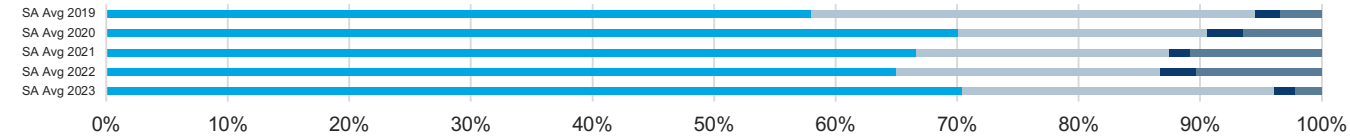


FIGURE 38 Tasmania

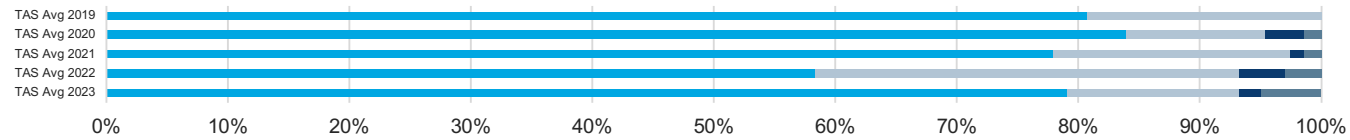


FIGURE 39 Victoria

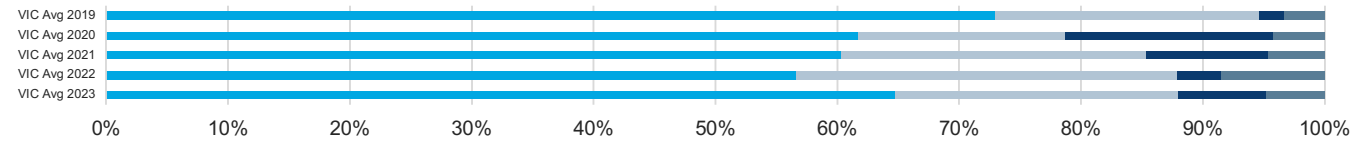
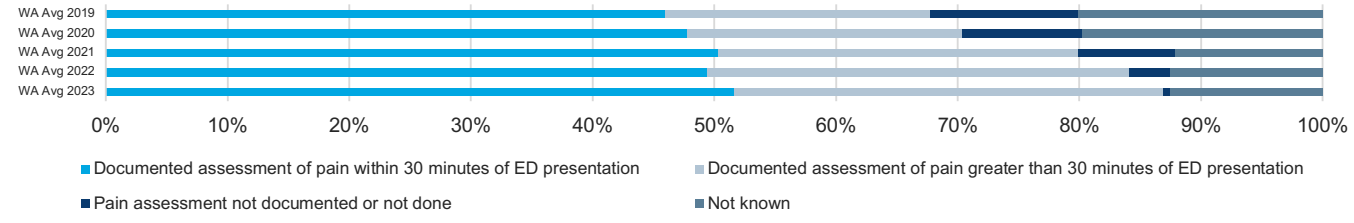
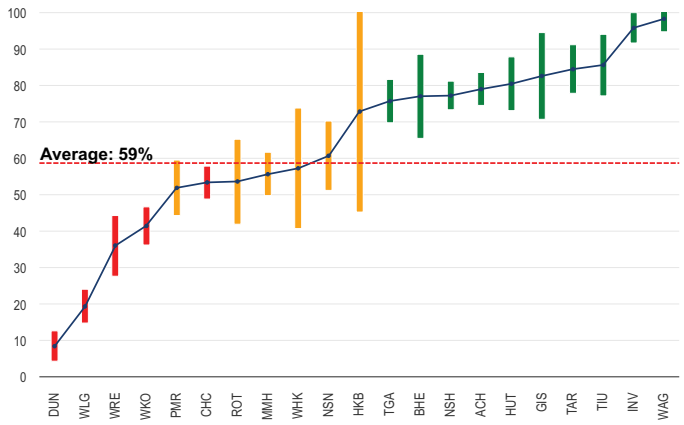


FIGURE 40 Western Australia



PAIN MANAGEMENT IN THE ED

FIGURE 41 Pain management in the ED: New Zealand



Fifty-nine percent of hip fracture patients in New Zealand (Figure 41) and 66% in Australia (Figure 42) received analgesia either in transit (by paramedics) or within 30 minutes of arrival at the ED.

FIGURE 42 Pain management in the ED: Australia

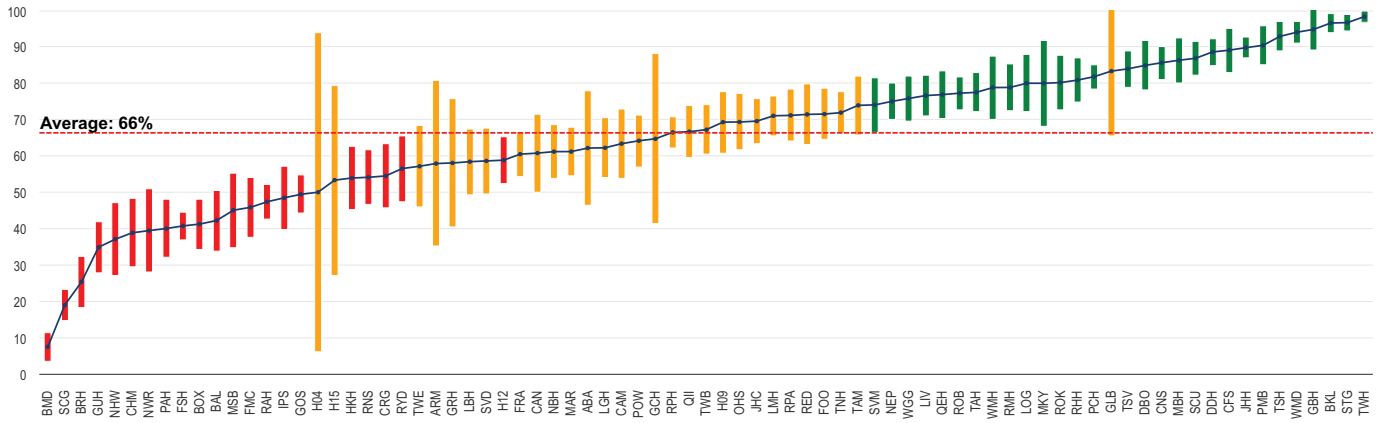
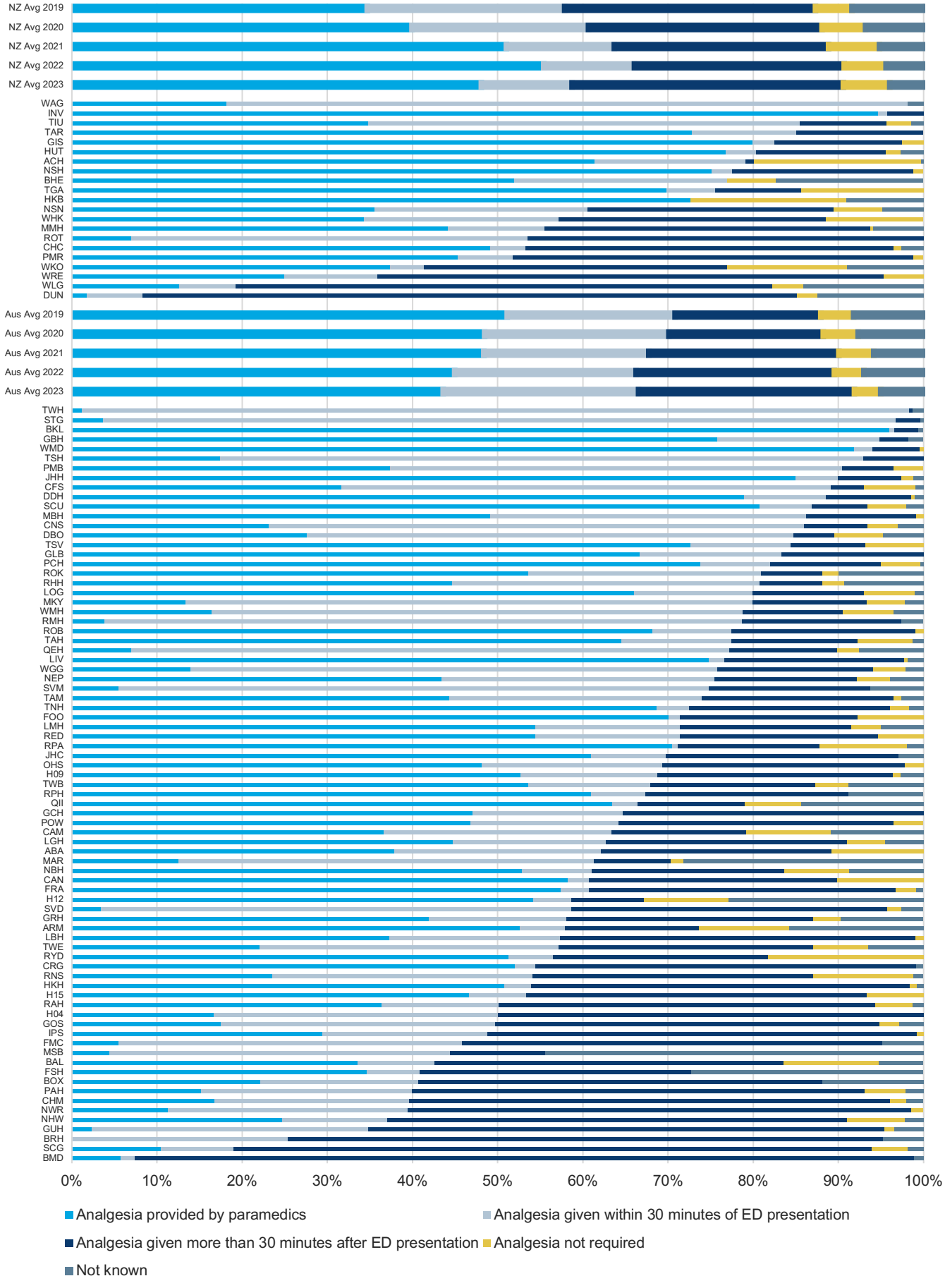
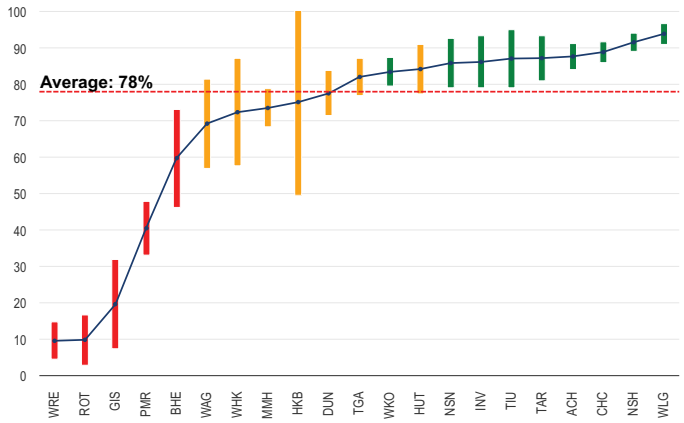


FIGURE 43 Pain management in the ED



USE OF NERVE BLOCKS

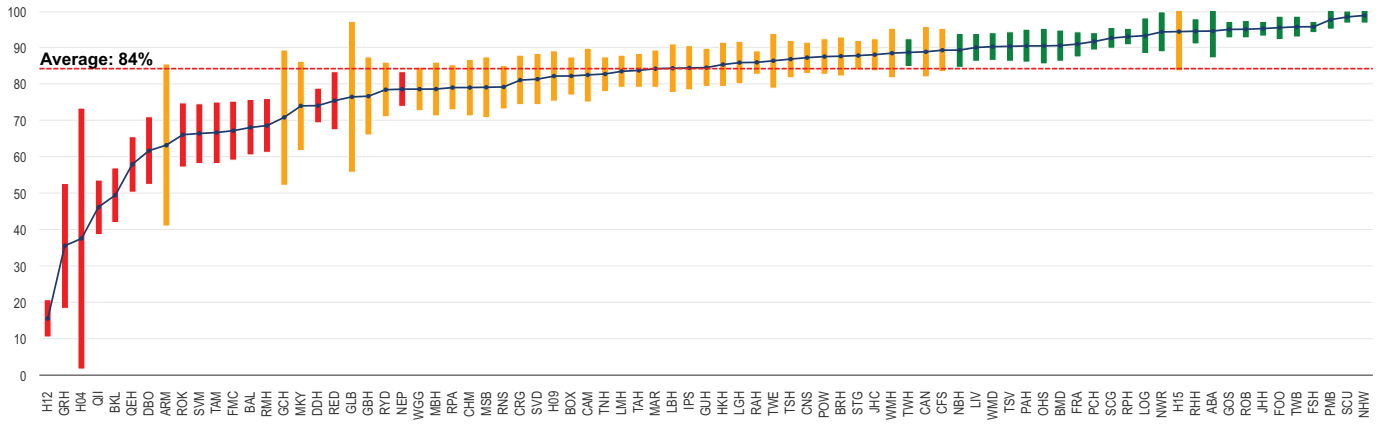
FIGURE 44 Use of nerve blocks: New Zealand



Seventy-eight percent of patients in New Zealand (Figure 44), and 84% of patients in Australia (Figure 45) received a nerve block before arriving in the operating theatre.

This represents a steady increase in both countries since 2015.

FIGURE 45 Use of nerve blocks: Australia



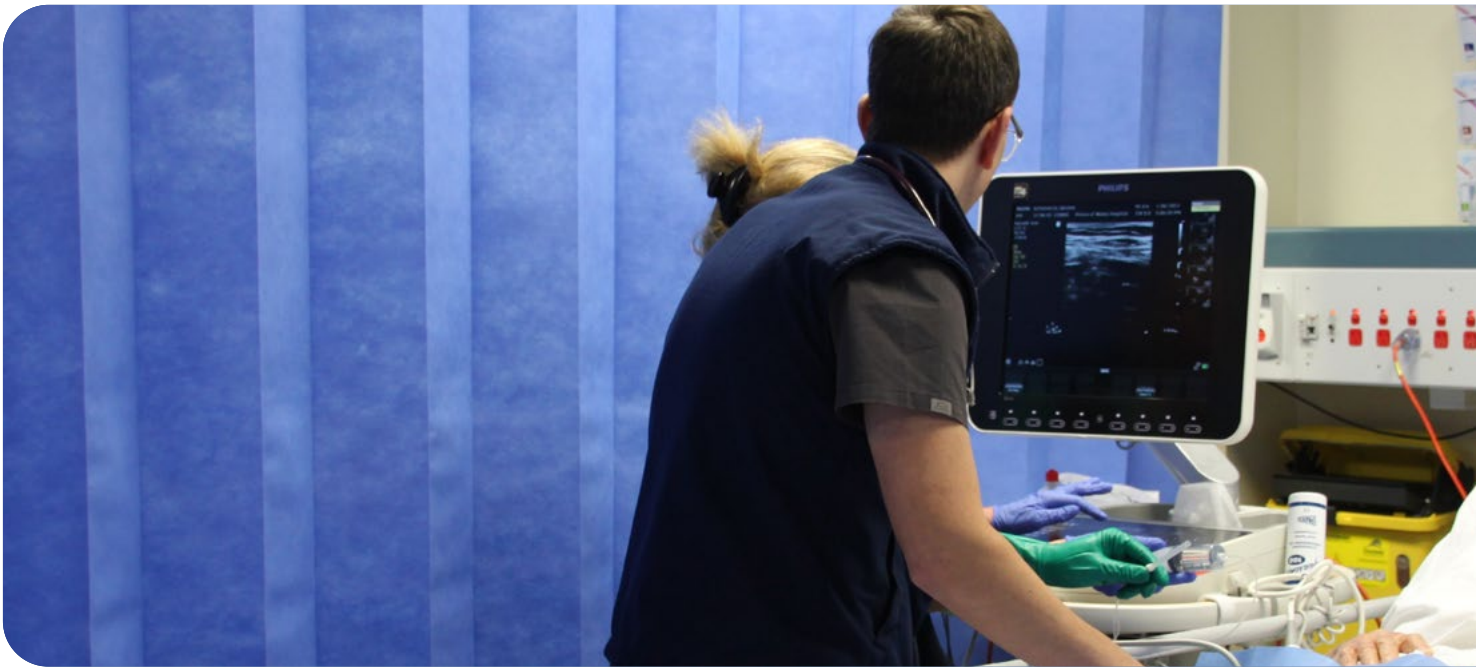
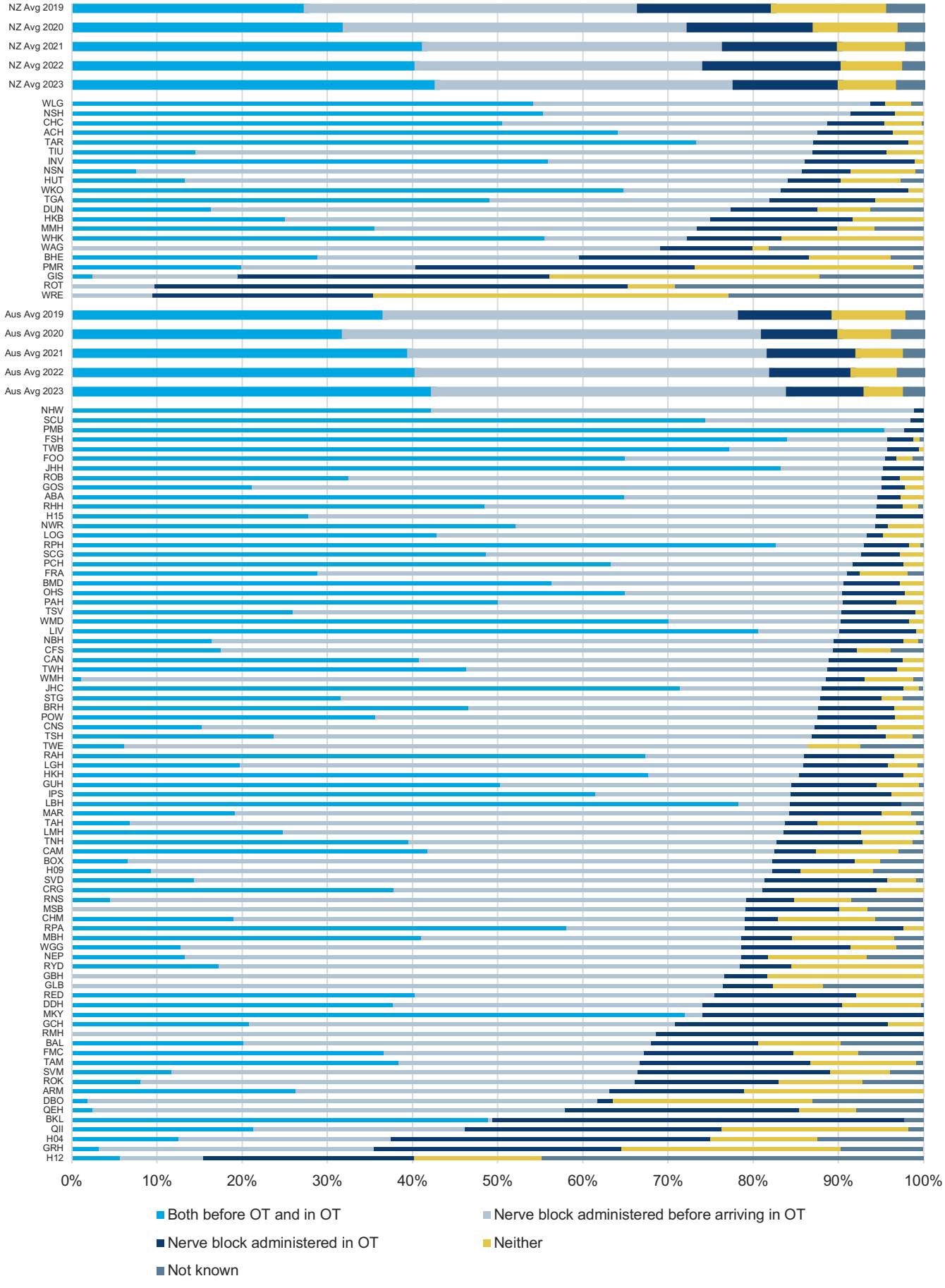


FIGURE 46 Use of nerve blocks



USE OF NERVE BLOCKS BY AUSTRALIAN STATE

FIGURE 47 New South Wales

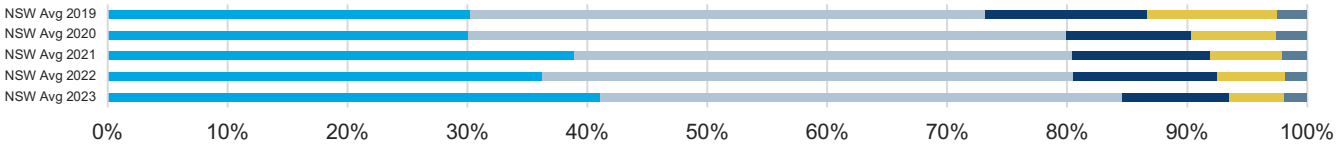


FIGURE 48 Queensland

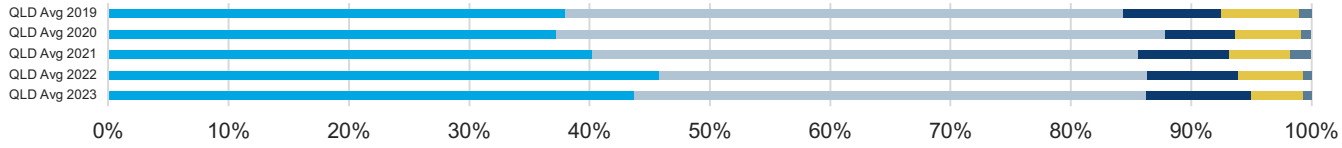


FIGURE 49 South Australia

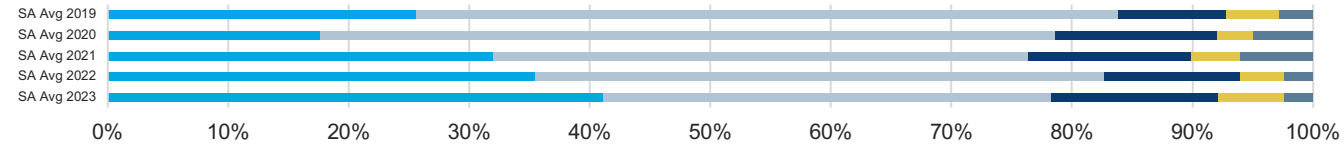


FIGURE 50 Tasmania

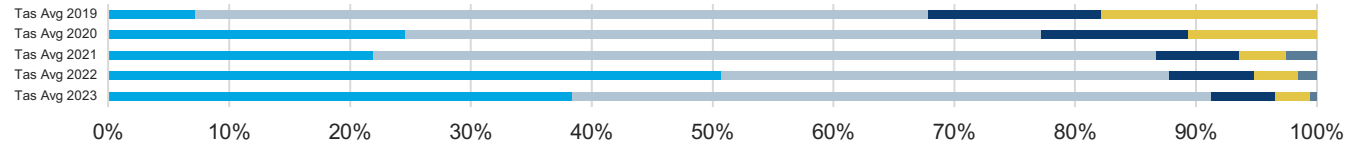


FIGURE 51 Victoria

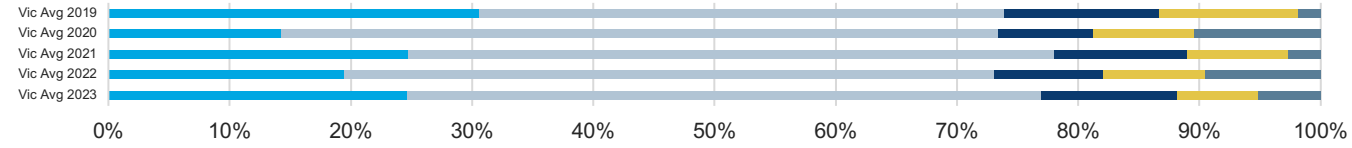
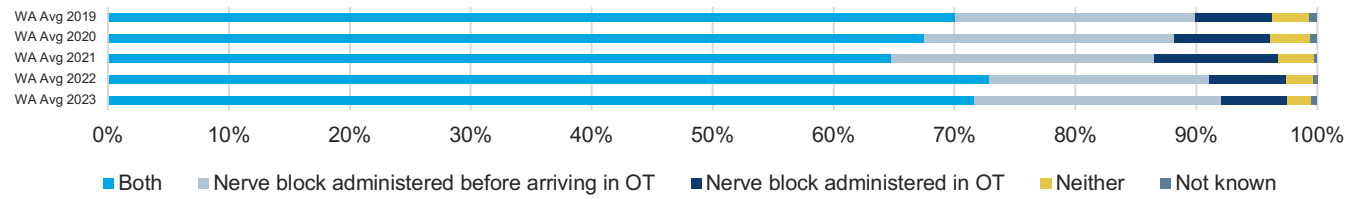


FIGURE 52 Western Australia



SECTION 3: SURGERY AND OPERATIVE CARE

FIGURE 53 Treatment with surgery

FIGURE 54 Reason for no surgery

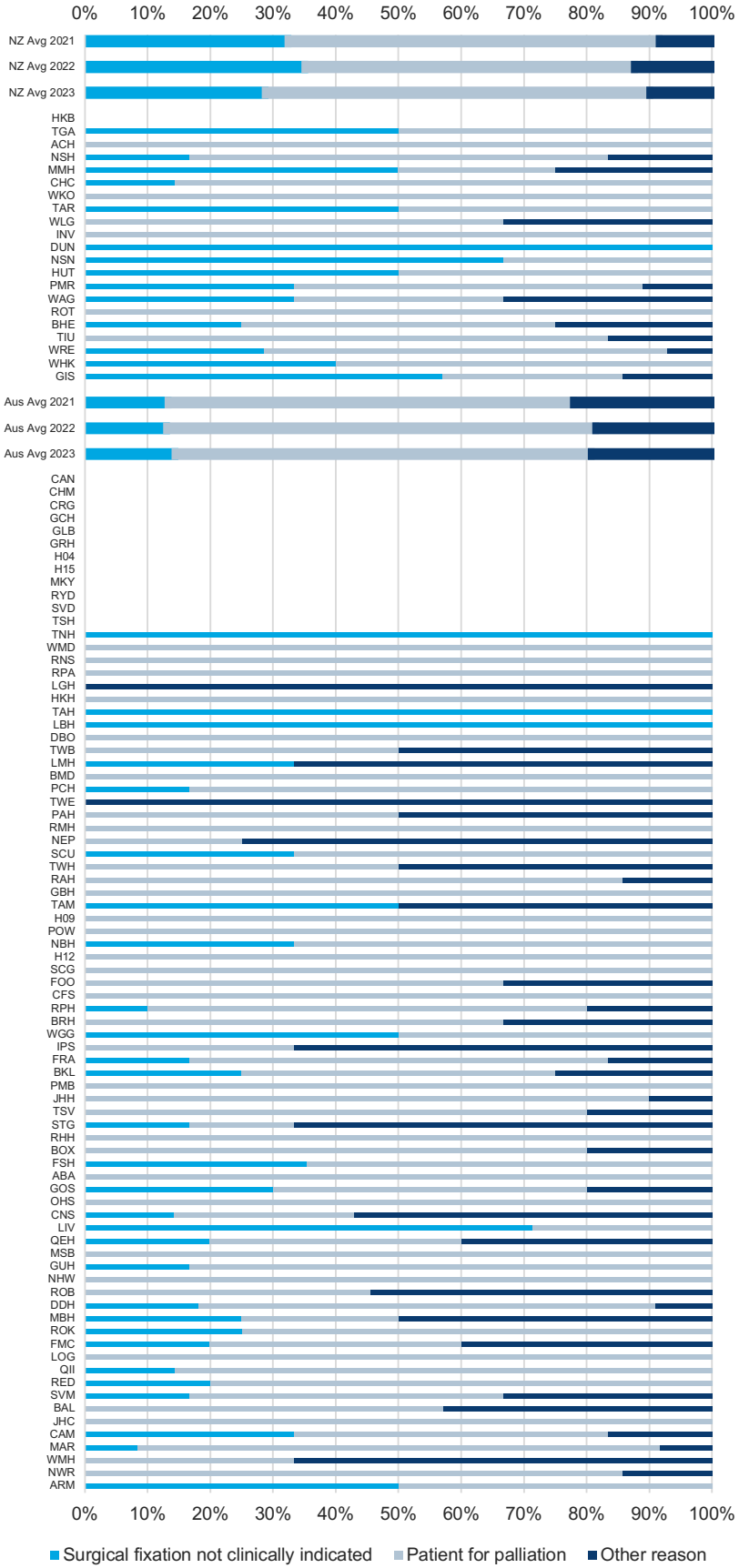


FIGURE 55 Reason for no surgery: New Zealand 2023

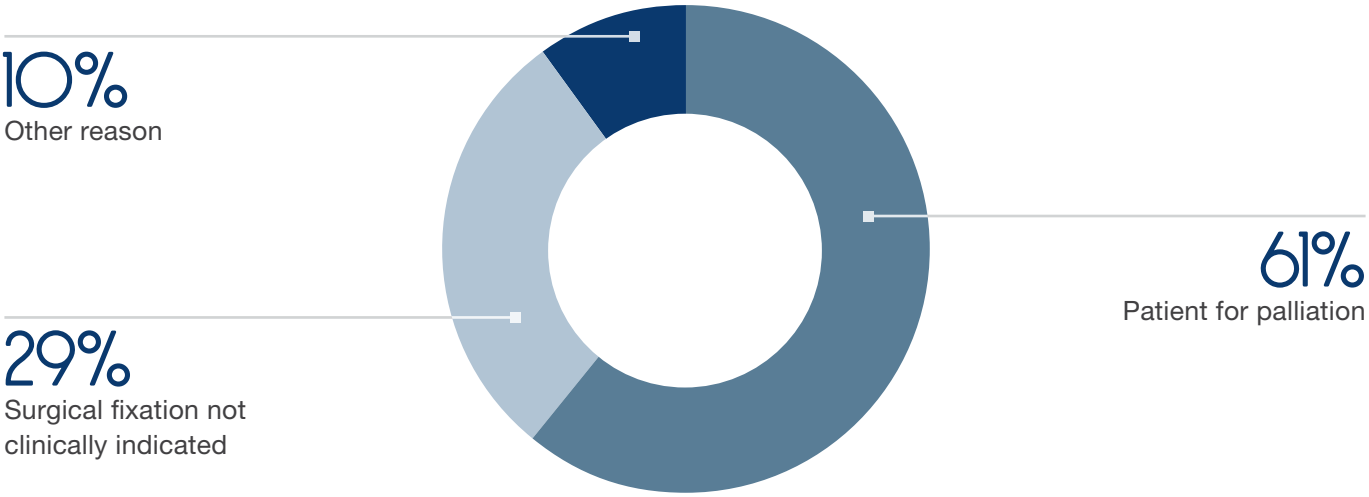


FIGURE 56 Reason for no surgery: Australia 2023

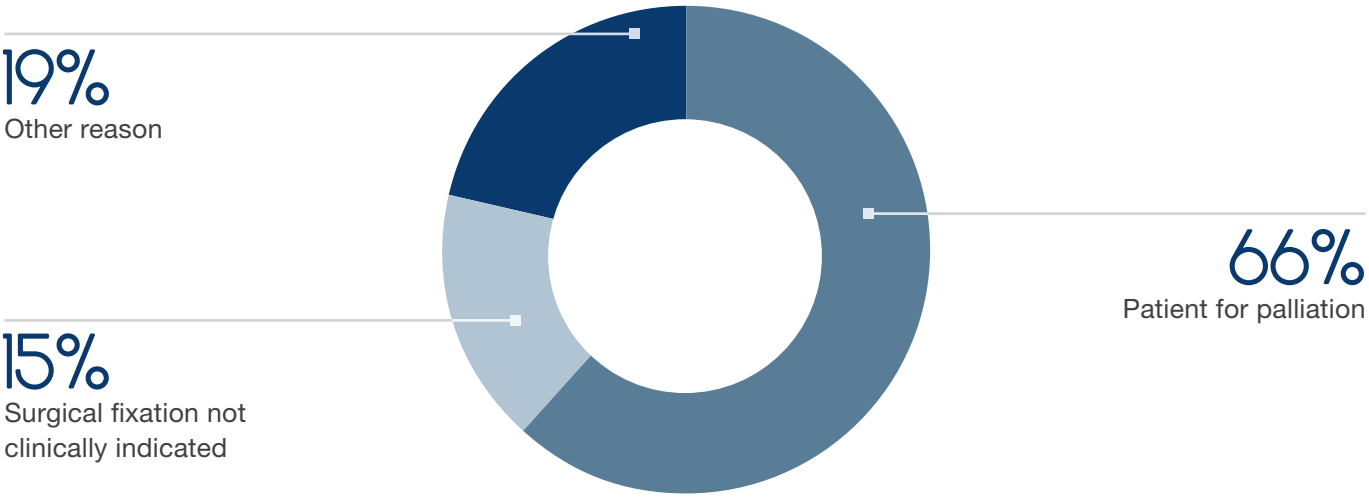


FIGURE 57 Consultant surgeon present and scrubbed during surgery

A consultant surgeon was present and scrubbed during surgery for 33% of cases in New Zealand and 69% of cases in Australia.

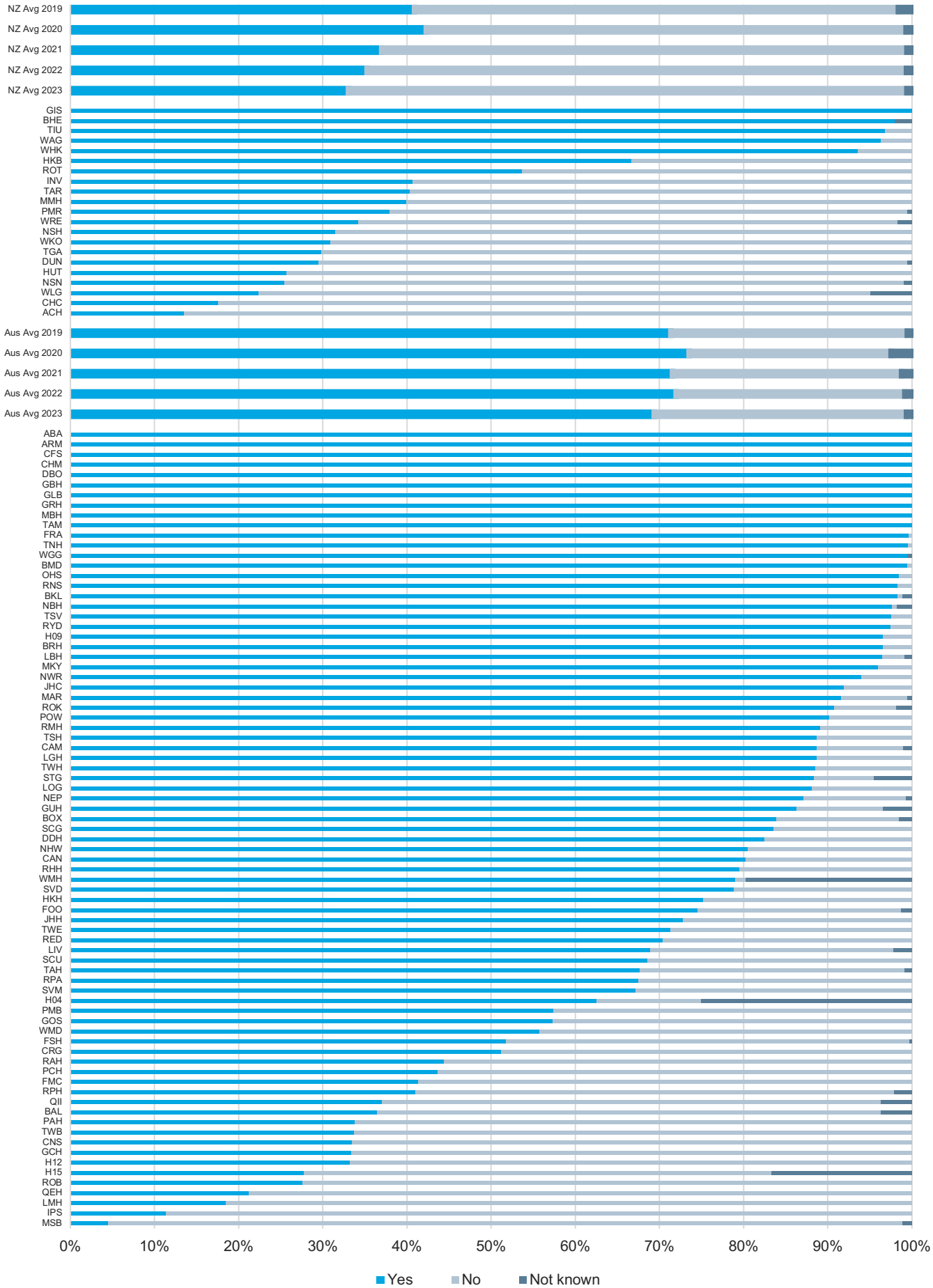


FIGURE 58 Average time to surgery excluding transferred patients

Calculation of time to surgery is the difference between the date and time of initial presentation and anaesthetic start time. Figure 58 excludes patients transferred from another hospital to the operating hospital. In New Zealand, when compared with 2022, the average time between presentation and surgery increased to 37 hours (median time to surgery 28 hours). In Australia, when compared with 2022, the average time to surgery increased to 39 hours (median time to surgery 30 hours).

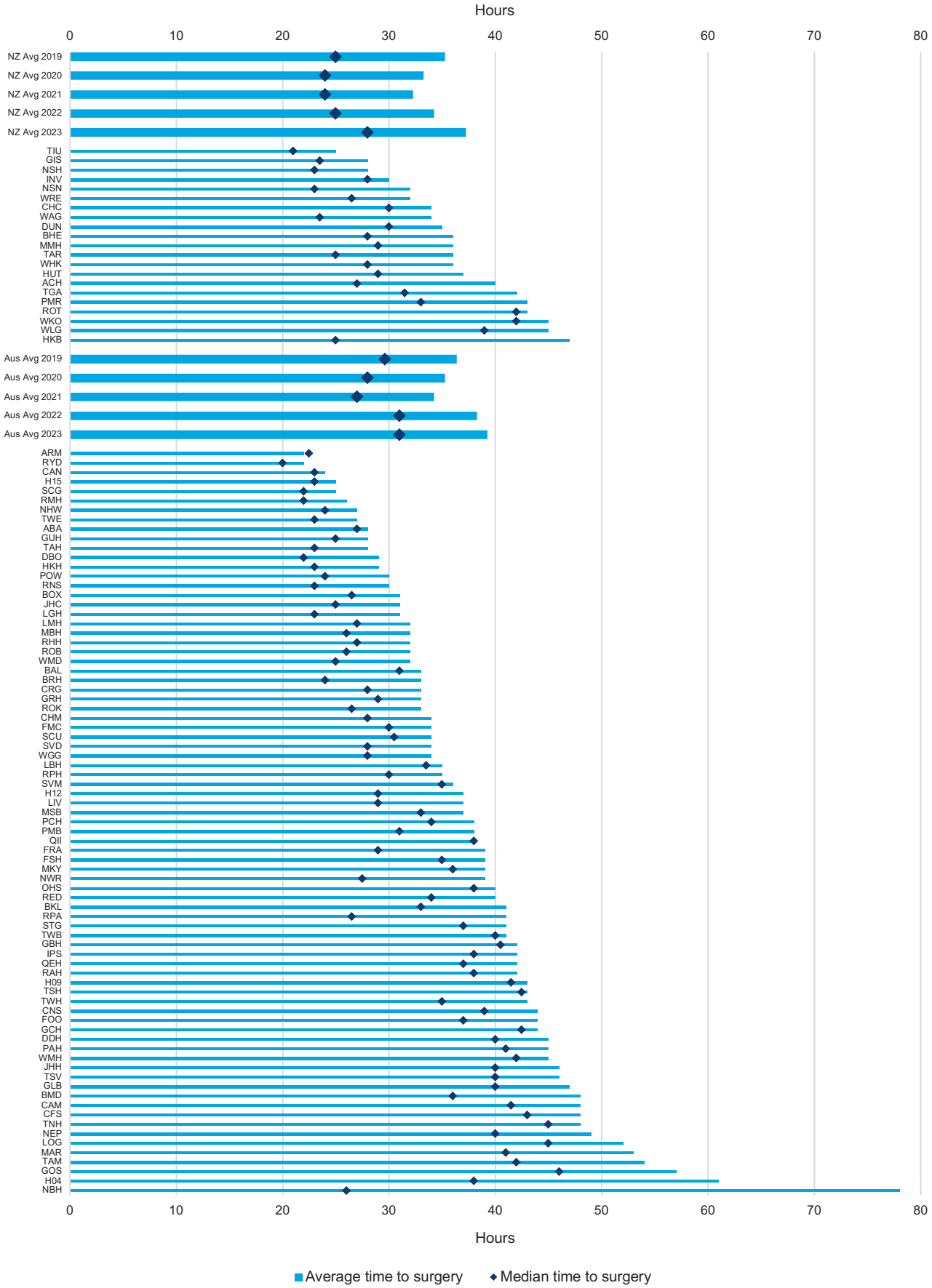
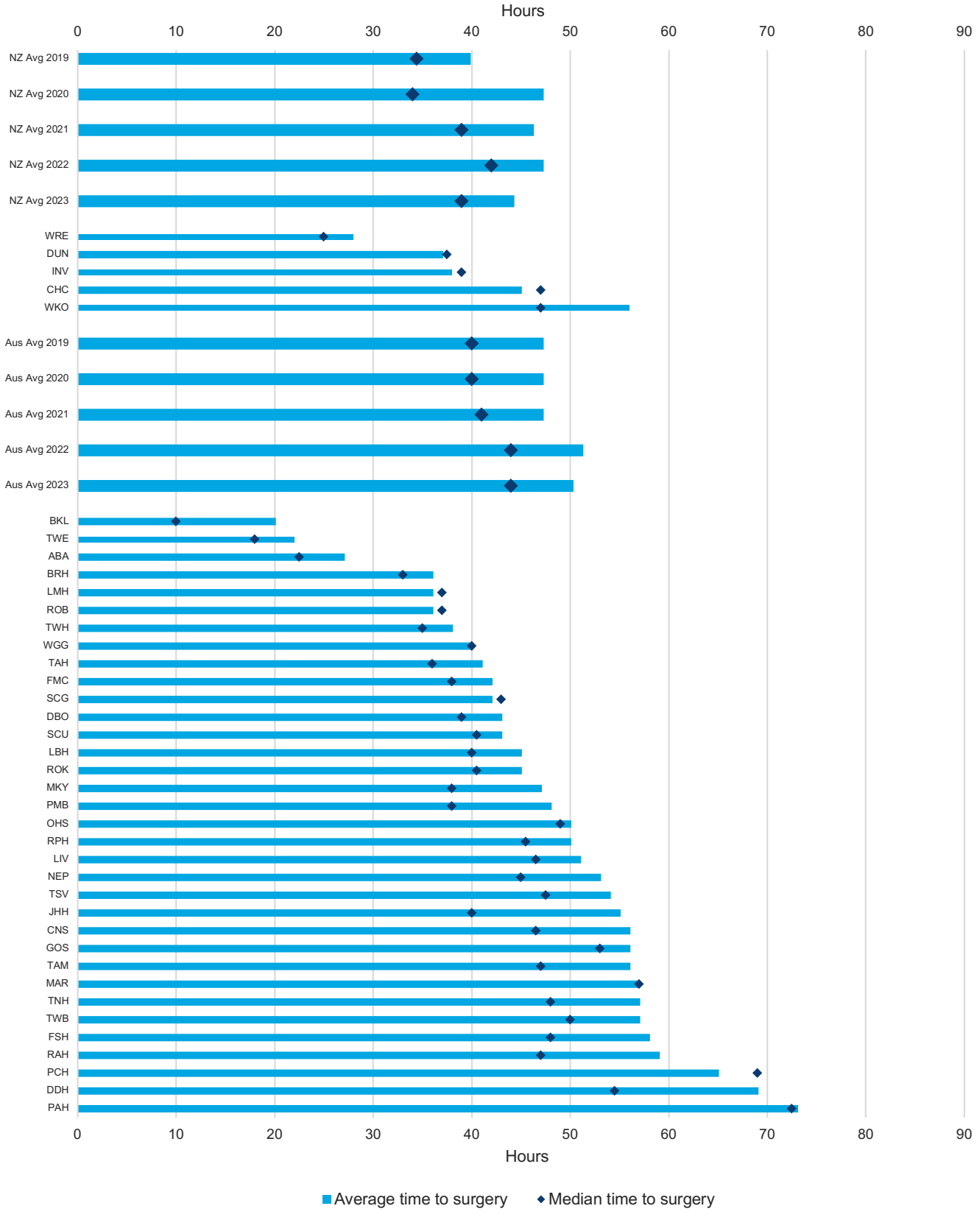


FIGURE 59 Average time to surgery for transferred patients only

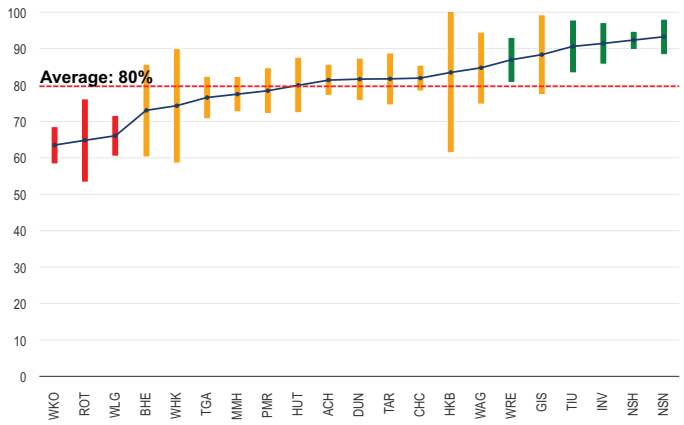
Reporting time to surgery for transferred patients includes the time spent at the initial / presenting hospital. The average time to surgery for transferred patients was 44 hours in New Zealand (median time to surgery 41 hours). In Australia, the average time to surgery for transferred patients was 50 hours (median time to surgery 44 hours).



INDICATOR 4A:

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

FIGURE 60 Surgery within 48 hours: New Zealand



Prompt hip fracture surgery reduces morbidity, aids functional recovery, and reduces length of stay.

Eighty percent of patients in New Zealand (Figure 60) and 76% of patients in Australia (Figure 61) who underwent surgery were operated on within 48 hours of presentation to the first hospital. There has been little change in performance since 2015 and considerable variation between sites remains.

FIGURE 61 Surgery within 48 hours: Australia

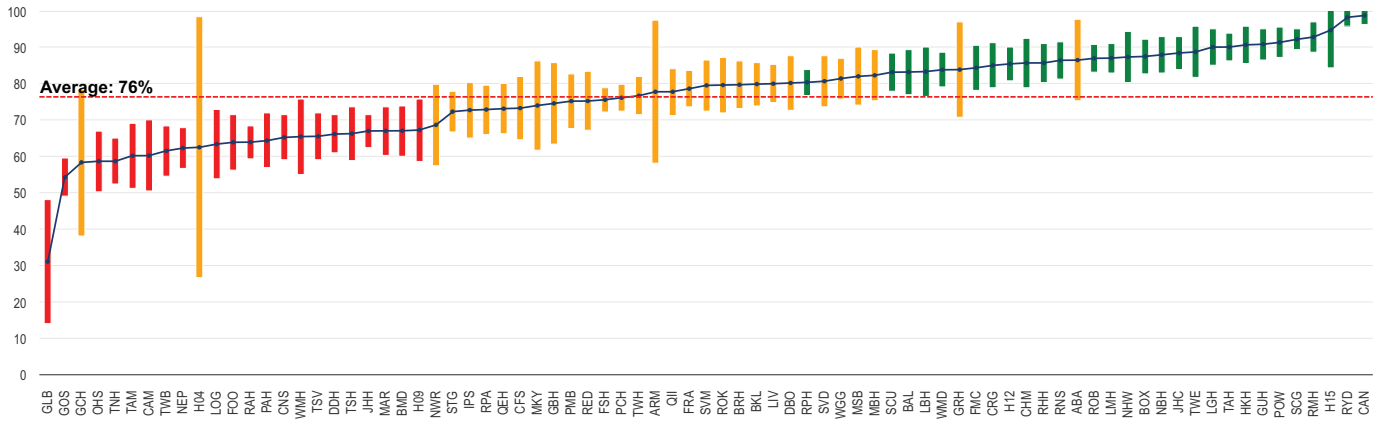


FIGURE 62
Surgery within 48 hours

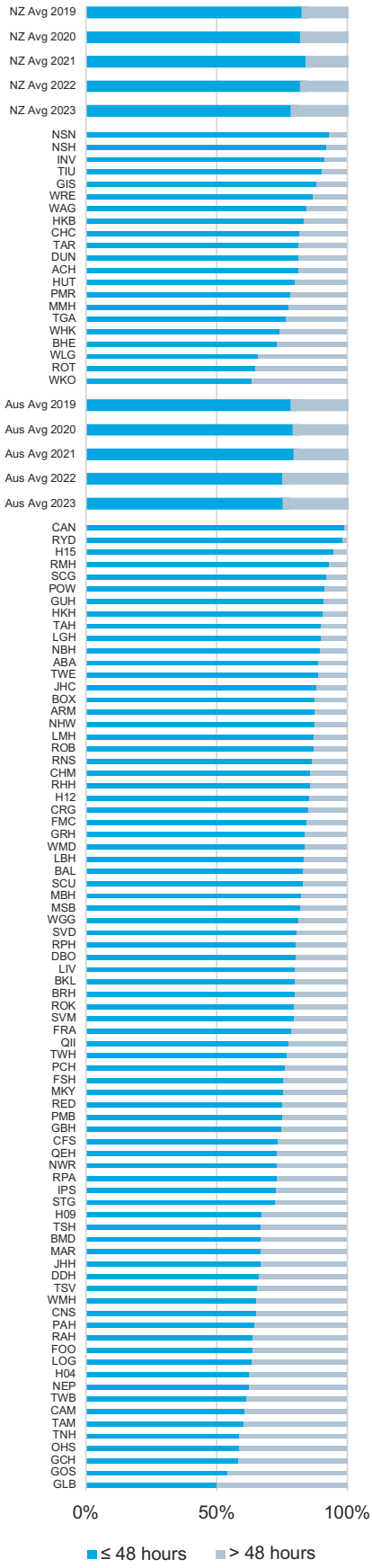
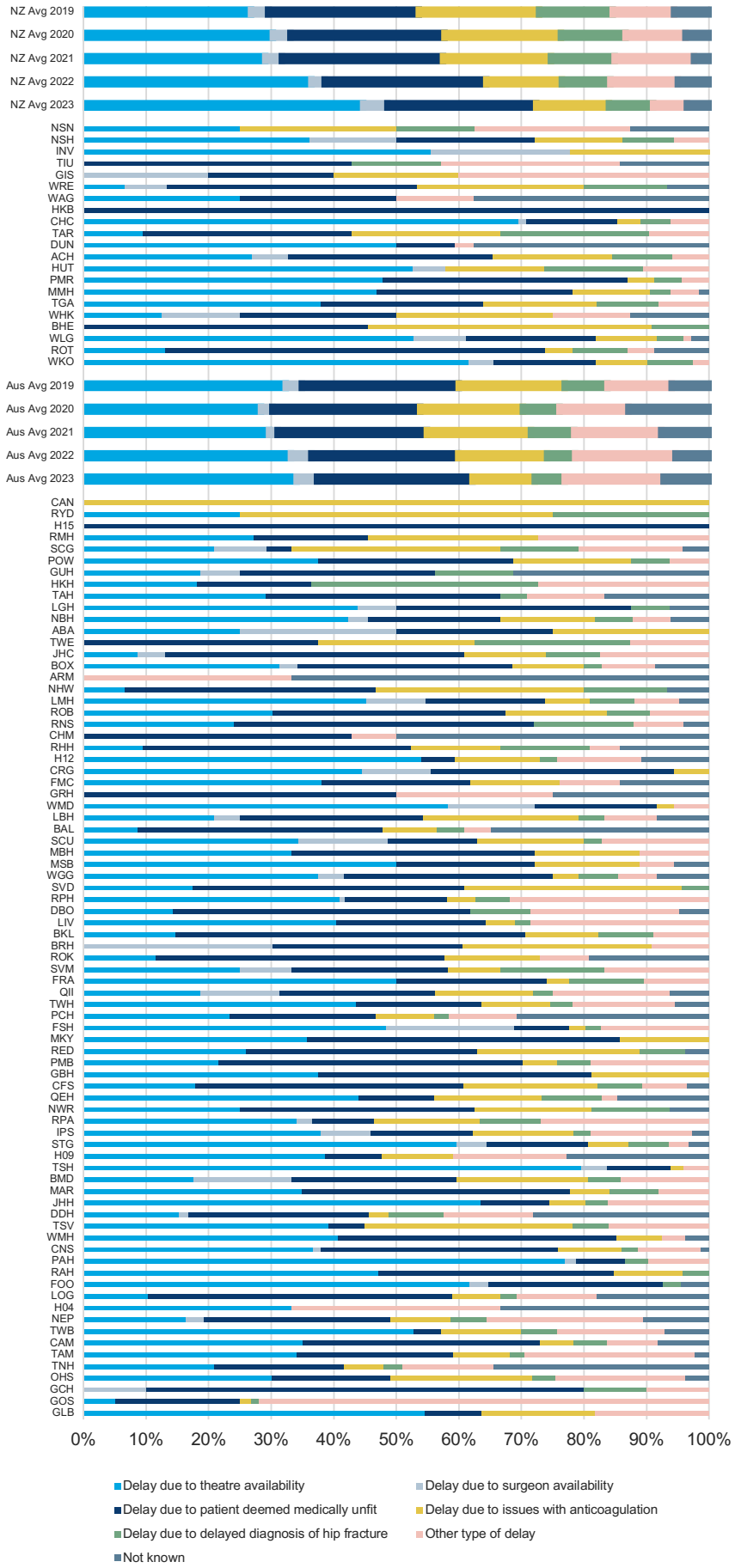


FIGURE 63
Reason for delay longer than 48 hours



SURGERY WITHIN 48 HOURS BY AUSTRALIAN STATE

FIGURE 64 New South Wales

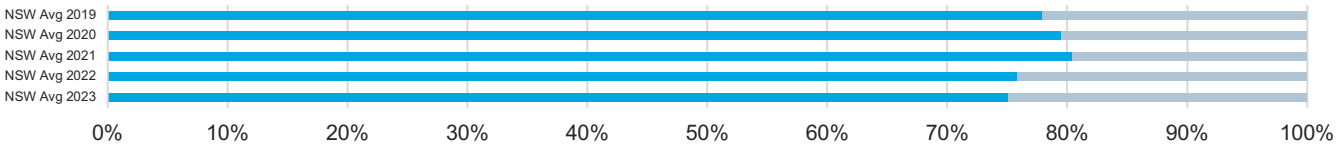


FIGURE 65 Queensland

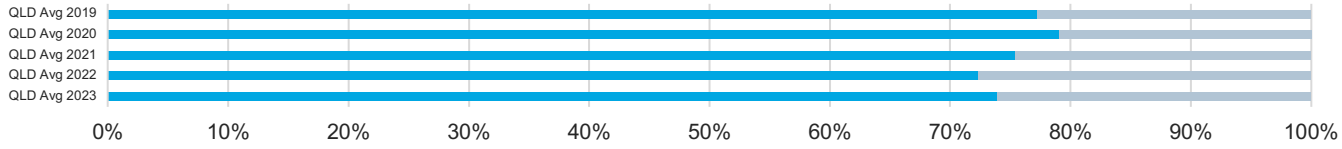


FIGURE 66 South Australia

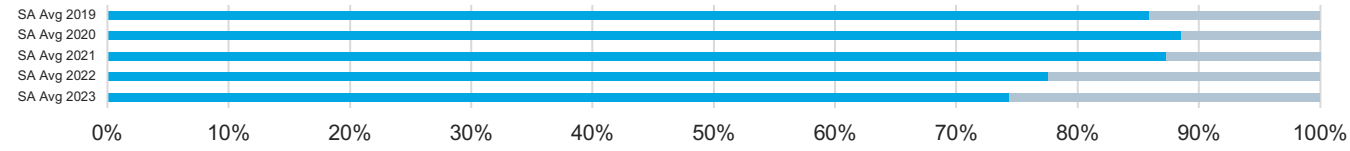


FIGURE 67 Tasmania

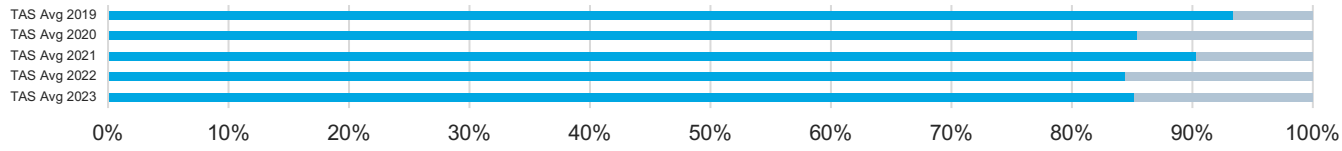


FIGURE 68 Victoria

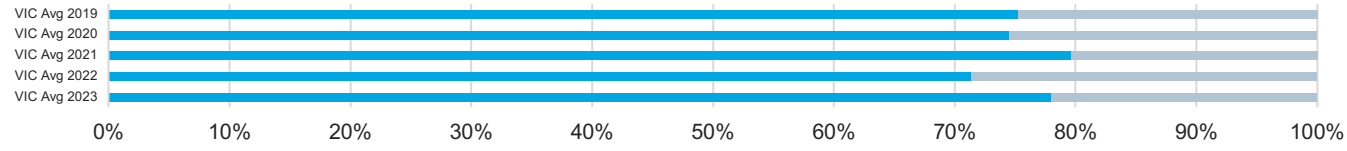


FIGURE 69 Western Australia

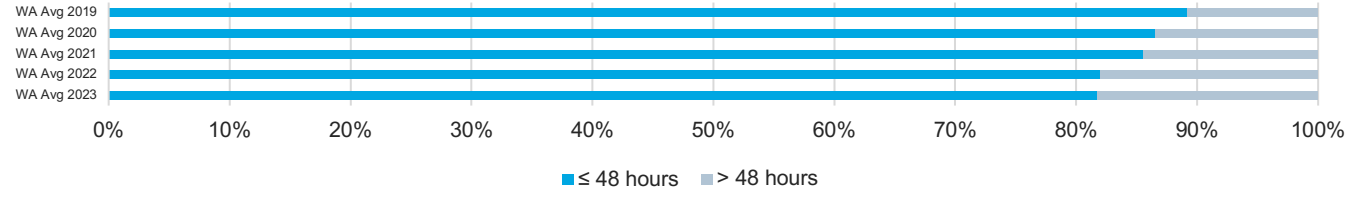


FIGURE 70 Reason for delay > 48 hours for New Zealand

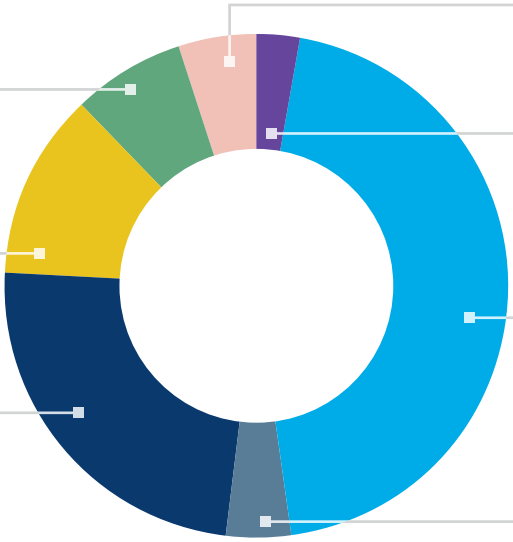


FIGURE 71 Reason for delay > 48 hours for Australia

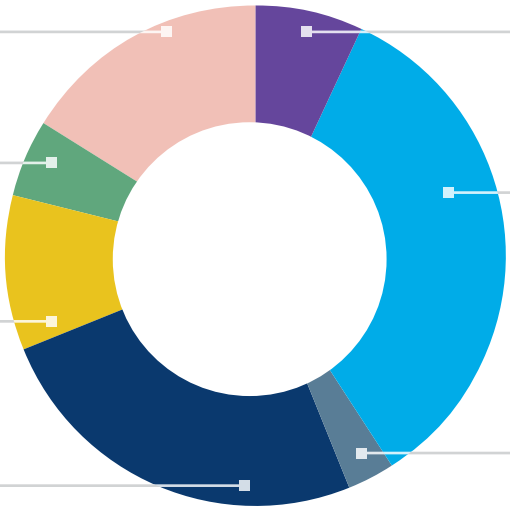


FIGURE 72 Type of anaesthesia

Patient outcomes are the same for spinal anaesthetic and general anaesthetic. The majority of people are undergoing general anaesthesia - 83% of hip fracture patients in New Zealand and 78% of hip fracture patients in Australia.

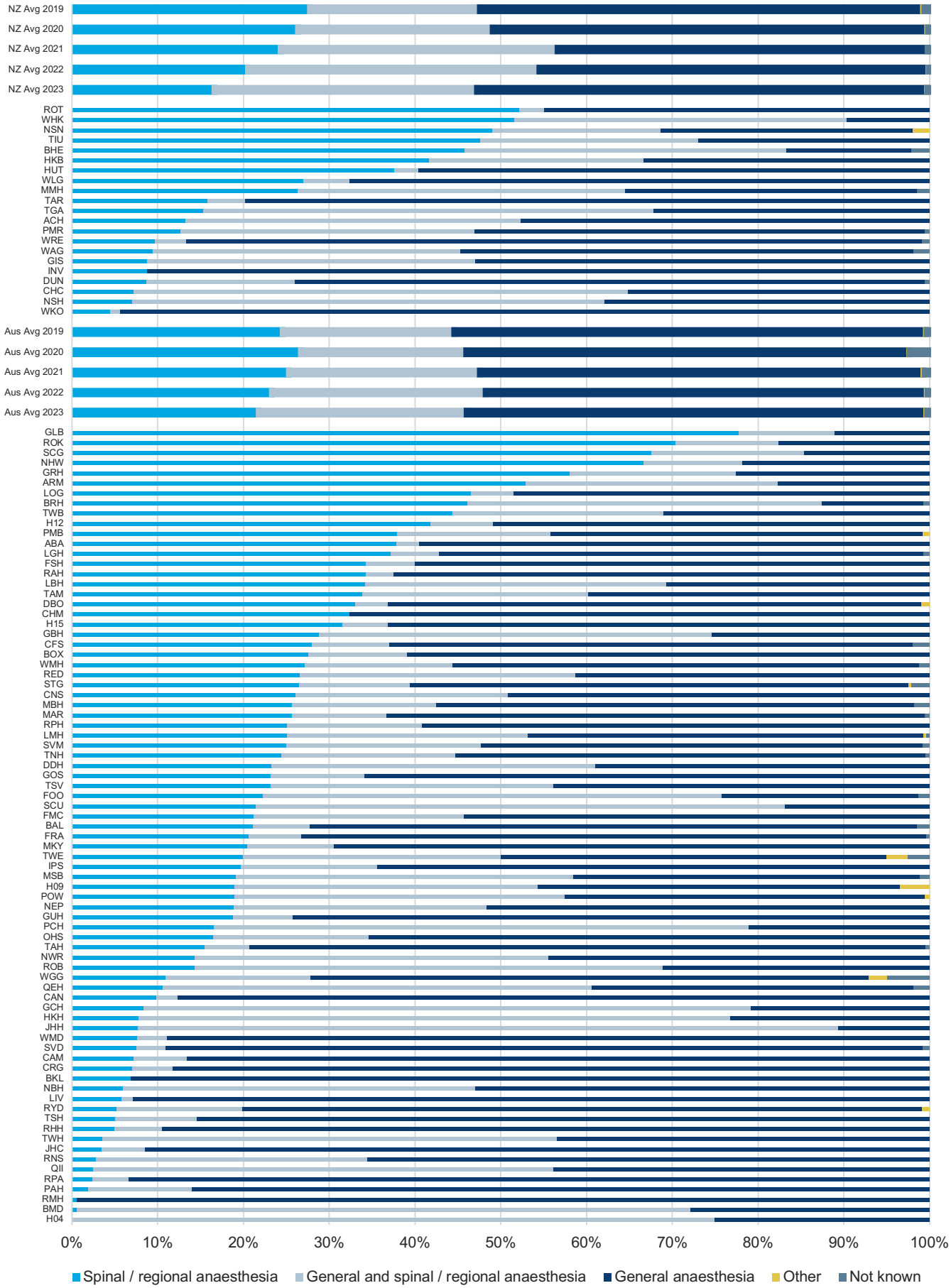


FIGURE 73 Fracture type

Involving a member of the surgical team is encouraged to ensure that both classification of the fracture type and surgical procedure are accurate. Wide variation from the average may reflect low numbers of hip fracture cases or issues with the classification of the type of fracture.

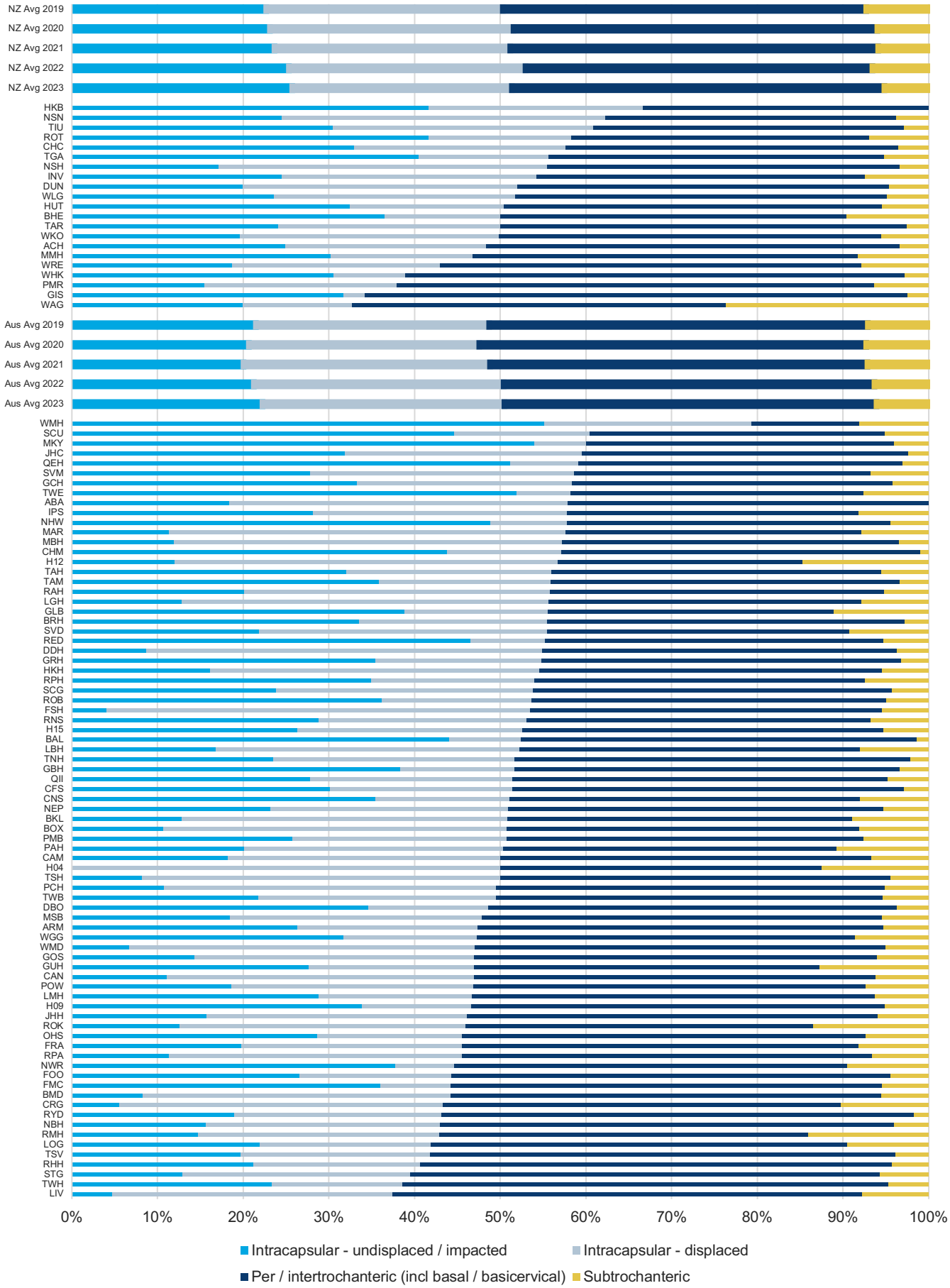


FIGURE 74 Procedure type for intracapsular undisplaced/impacted femoral neck fractures

Figures 74 and 75 show the proportion of intracapsular fractures (femoral neck or subcapital fractures) treated with various techniques, reported separately for undisplaced and displaced fractures.

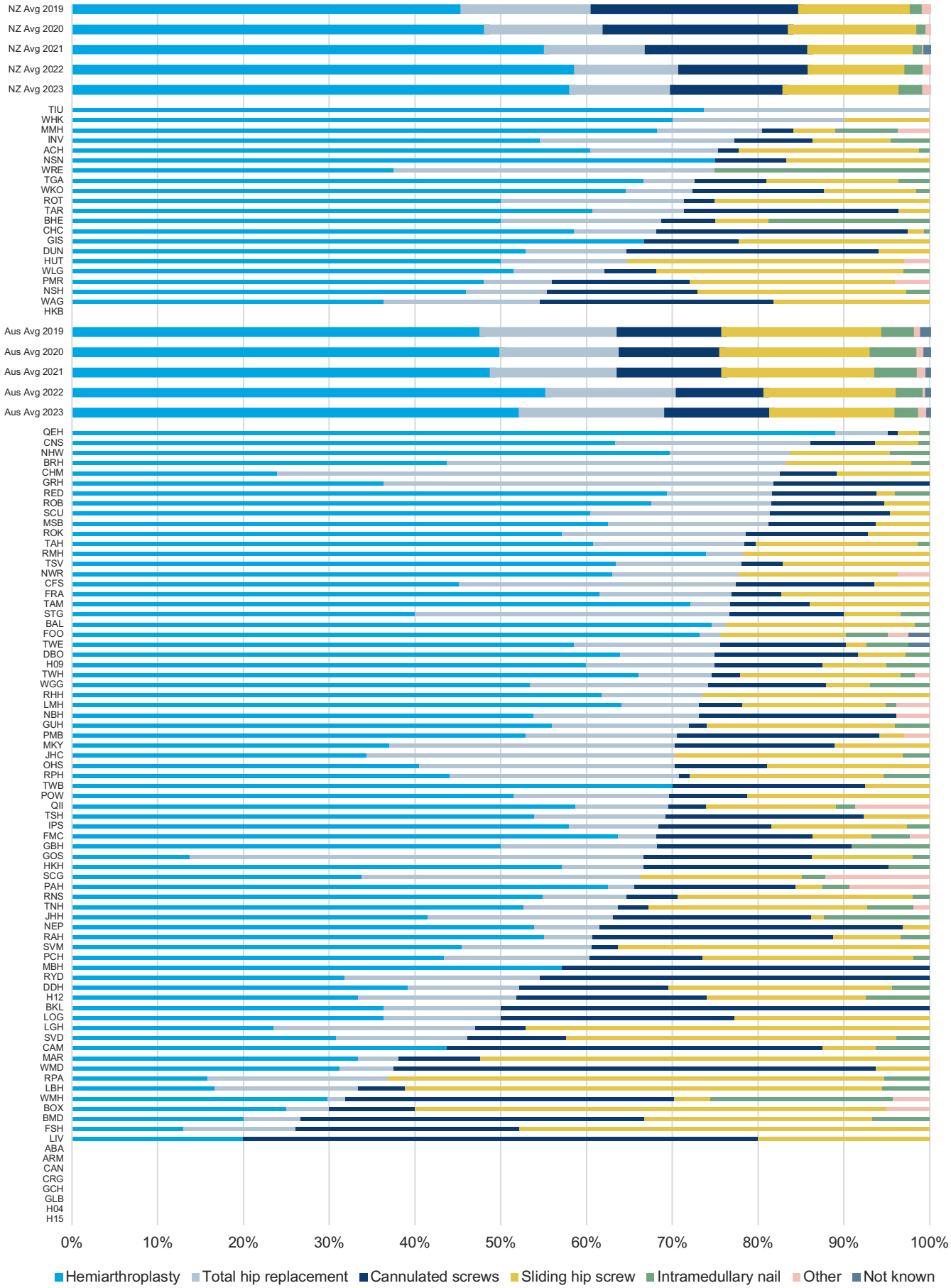


FIGURE 75 Procedure type for intracapsular displaced femoral neck fractures

Hemiarthroplasty remains the most common treatment for displaced femoral neck fractures.

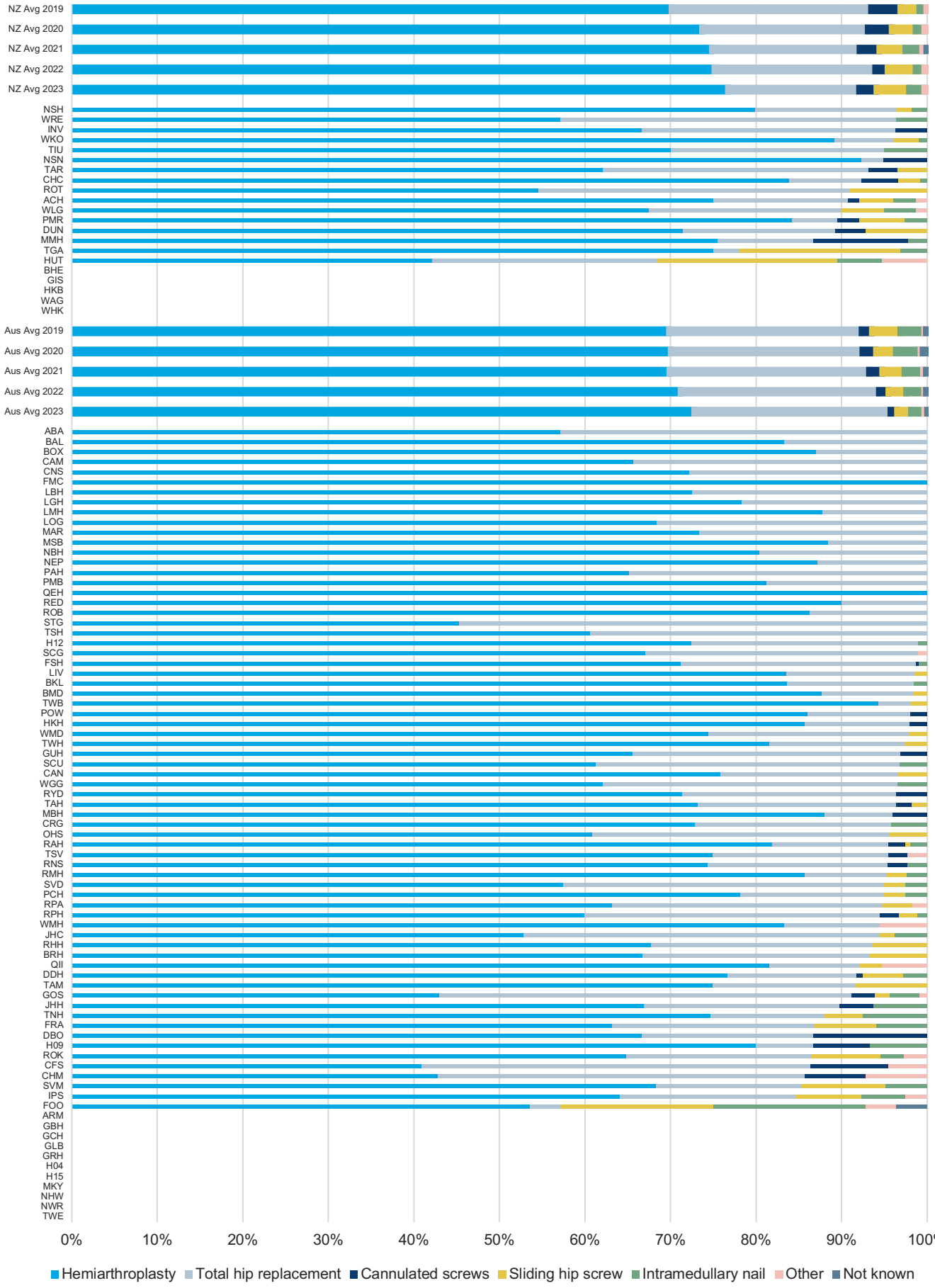


FIGURE 76 Procedure type for intertrochanteric fractures (including basal/basicervical)

Since 2019, the trend towards increasing use of intramedullary devices has continued in both Australia and New Zealand.

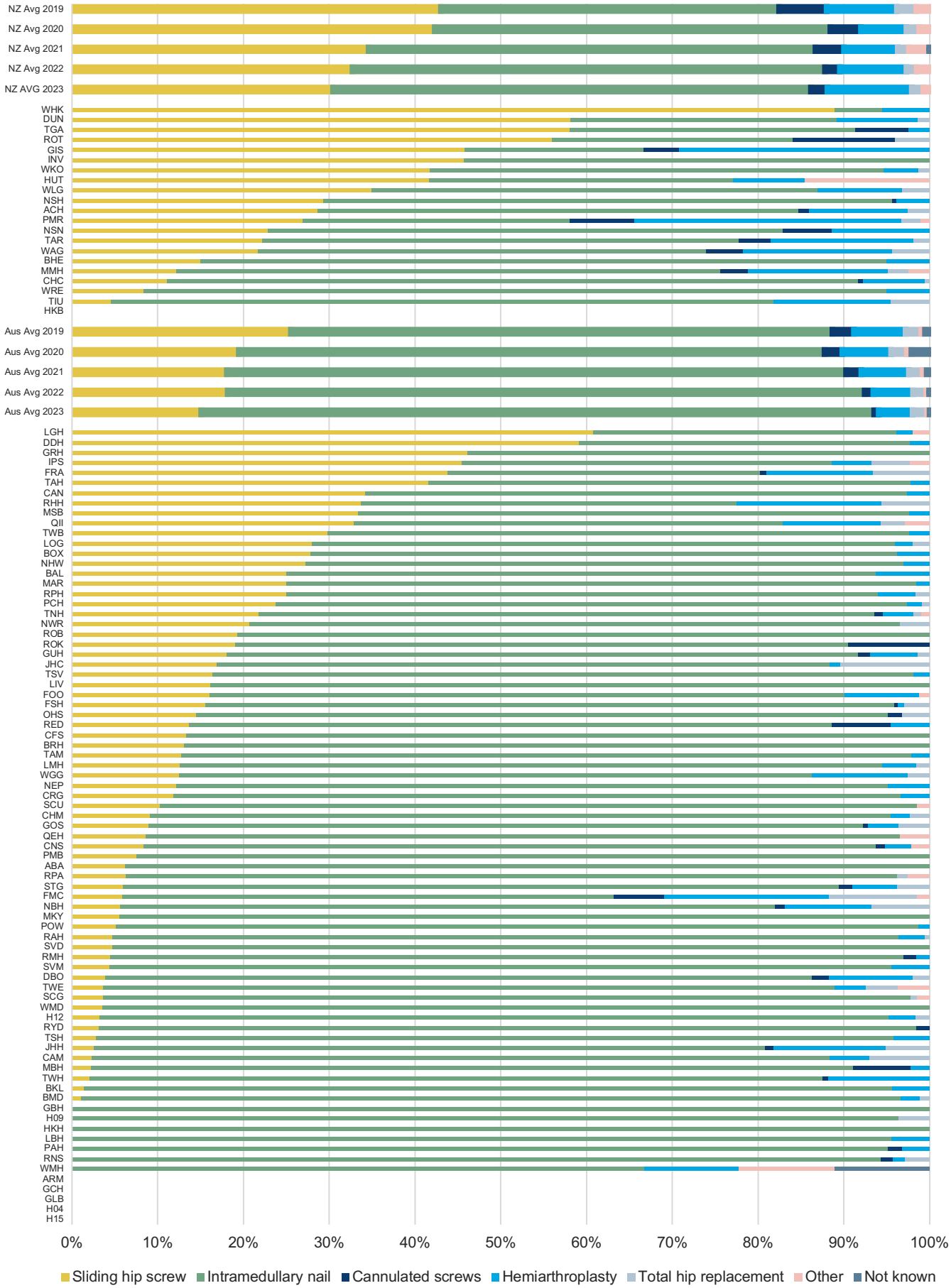


FIGURE 77 Procedure type for subtrochanteric fractures

Fixation with an intramedullary nail is recommended for subtrochanteric fractures.

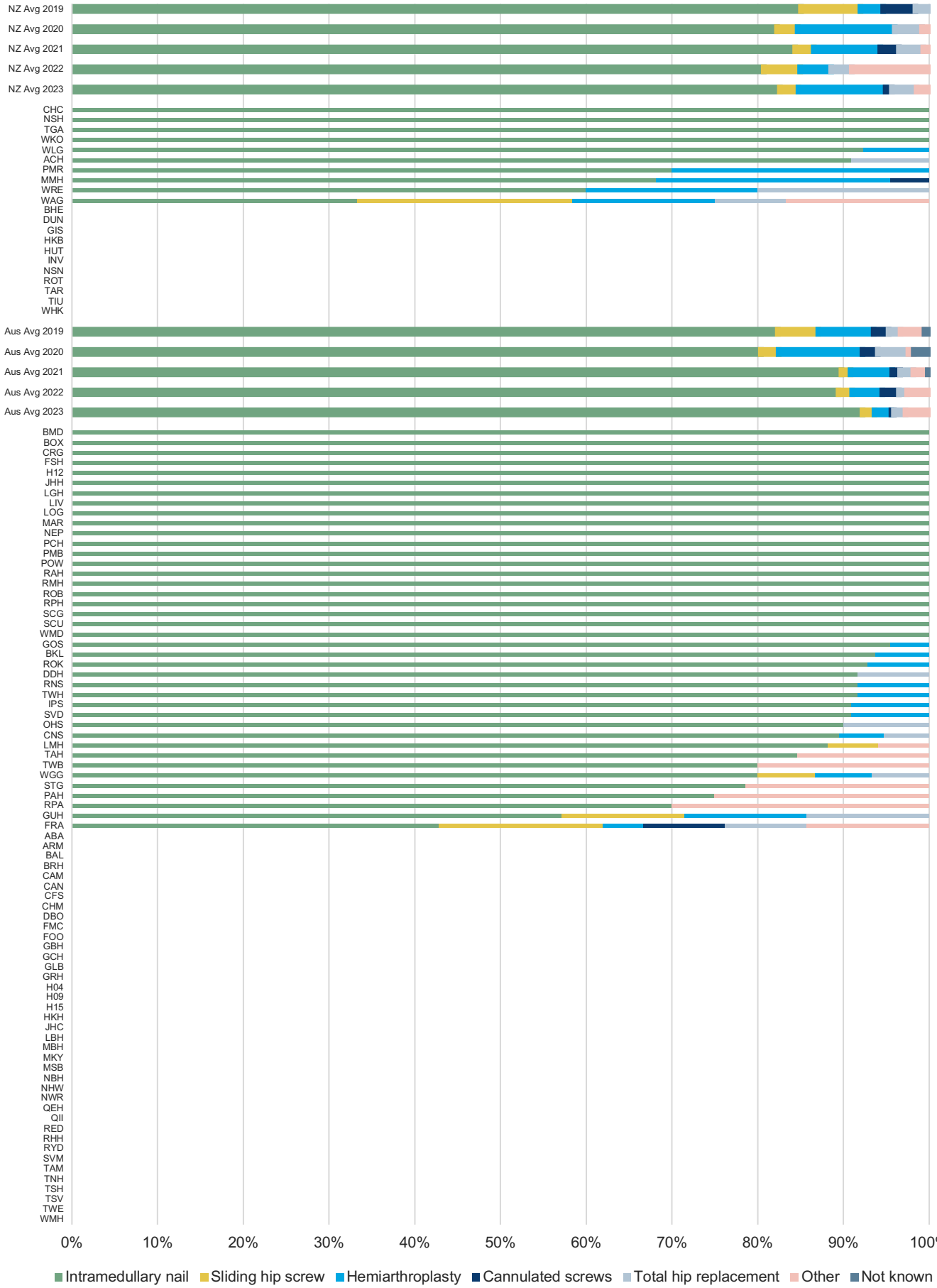


FIGURE 78 Hemiarthroplasty: use of cemented stem

The ANZ Guideline for Hip Fracture Care recommends the use of cemented stems for hip arthroplasty. Figures 78 and 79 show the proportion of cemented stem use reported by sites for both hemiarthroplasty and total hip arthroplasty.

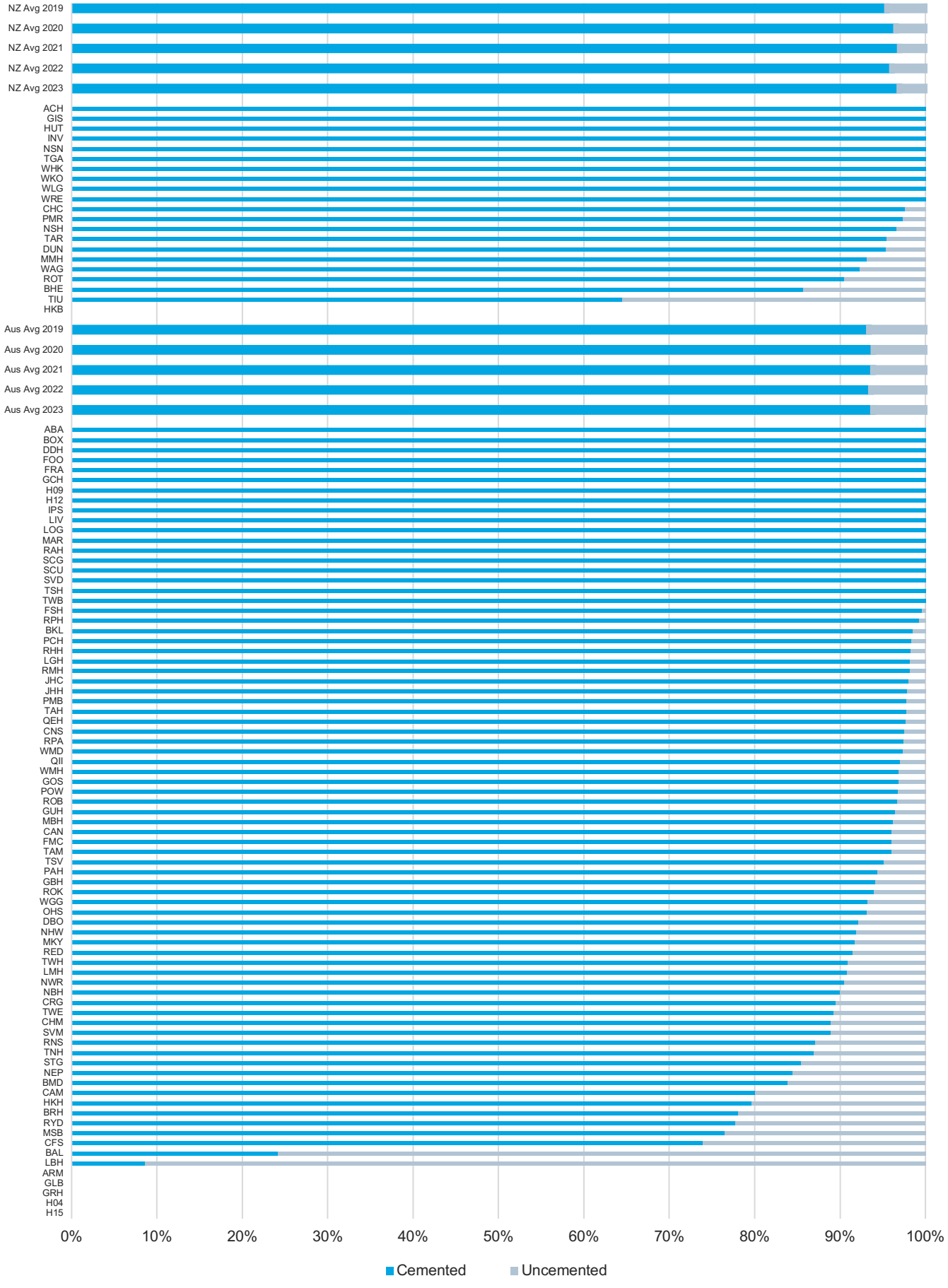
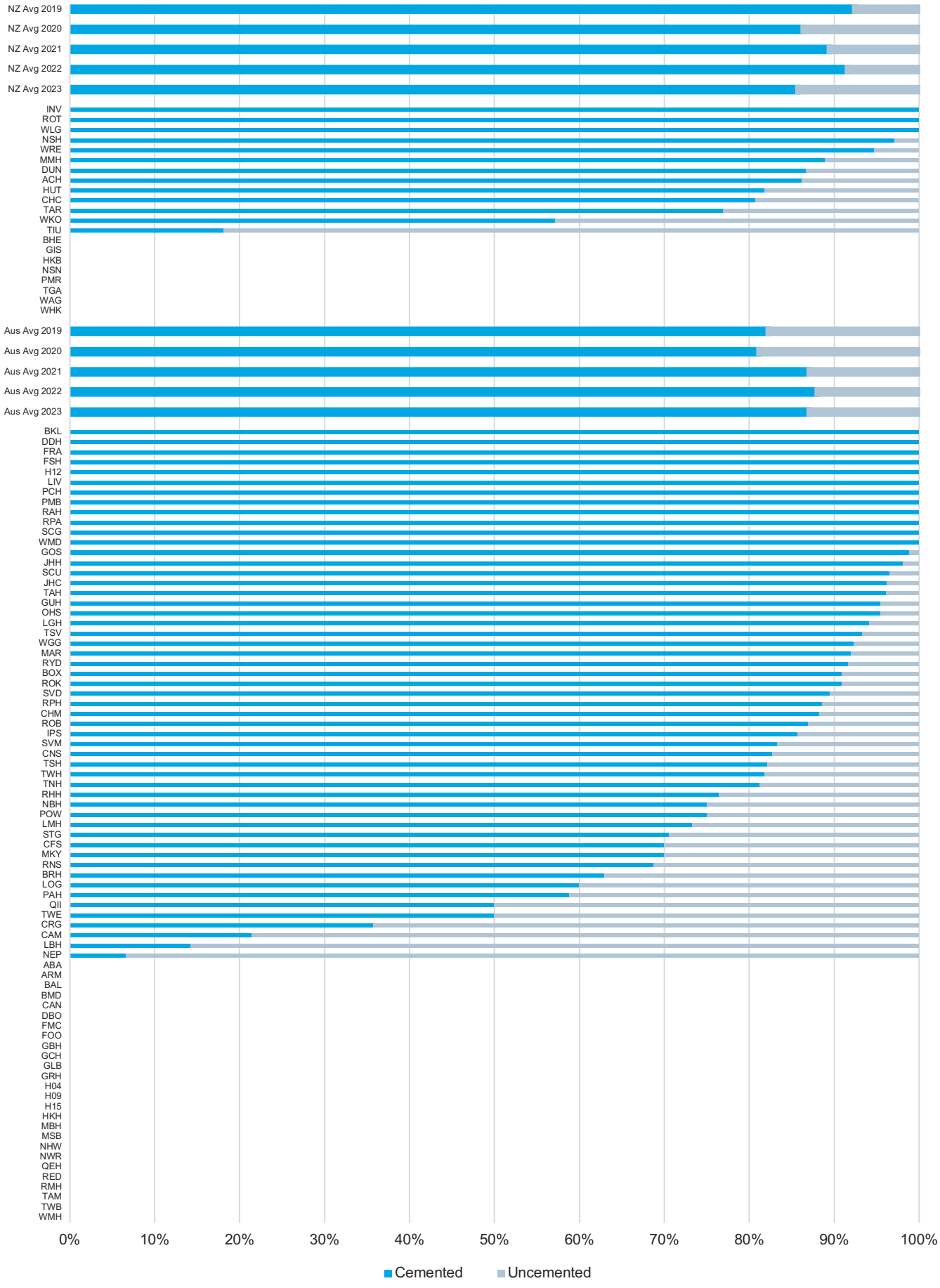


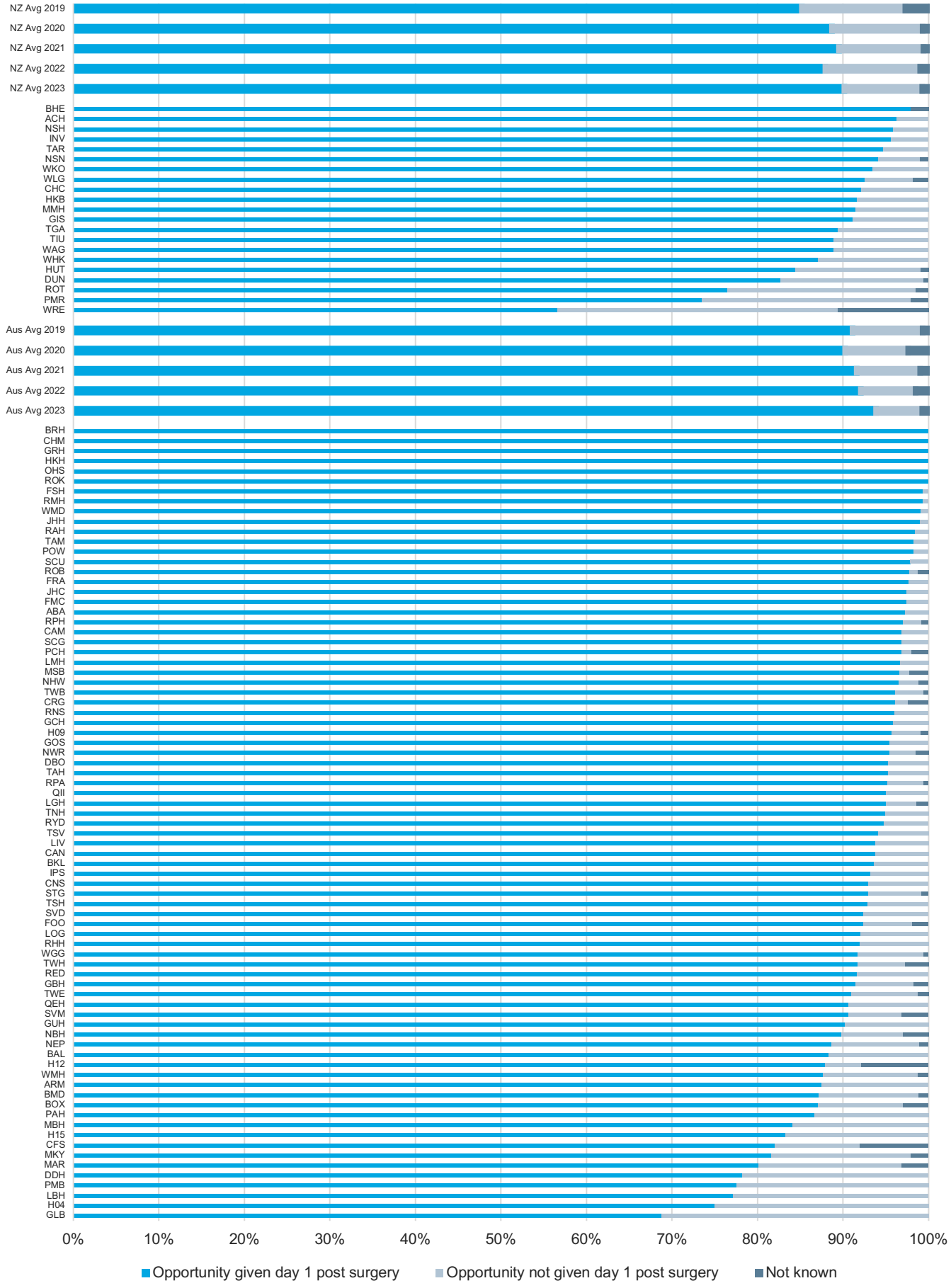
FIGURE 79 Total hip arthroplasty: use of cemented stems



SECTION 4: POSTOPERATIVE CARE

FIGURE 80 Opportunity for first day mobilisation

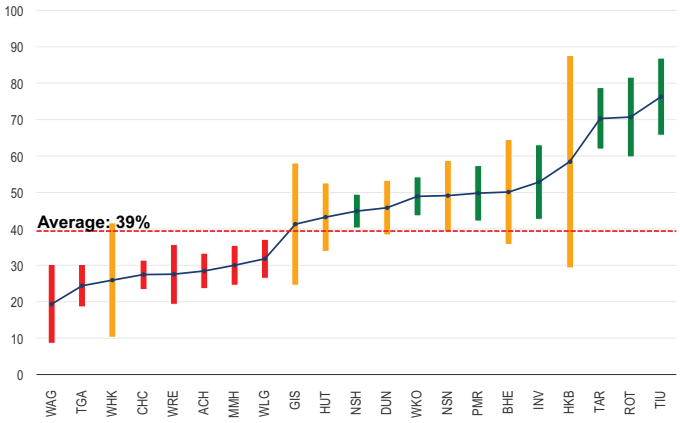
Ninety percent of hip fracture patients in New Zealand and 94% in Australia were given the opportunity to mobilise the day after surgery, reflecting an increase since 2015 in both countries.



INDICATOR 5A:

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

FIGURE 81 First day walking: New Zealand



Thirty-nine percent of patients in New Zealand (Figure 81) and 48% of patients in Australia (Figure 82) achieved first day walking.

This means they managed to stand and step transfer out of bed onto a chair/commode or walk. It does not include sitting over the edge of the bed or standing up from the bed without stepping/walking.

FIGURE 82 First day walking: Australia

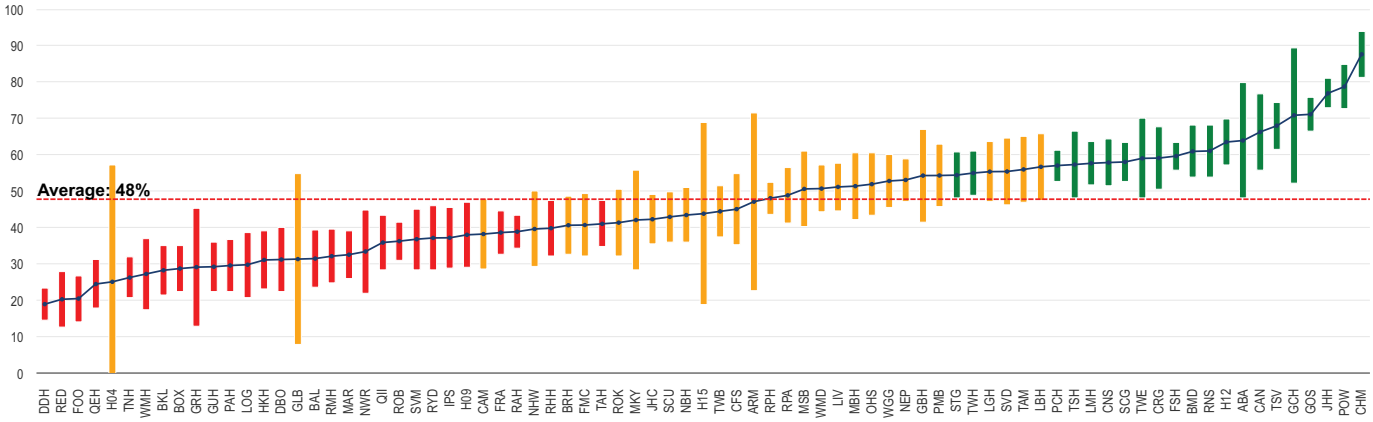
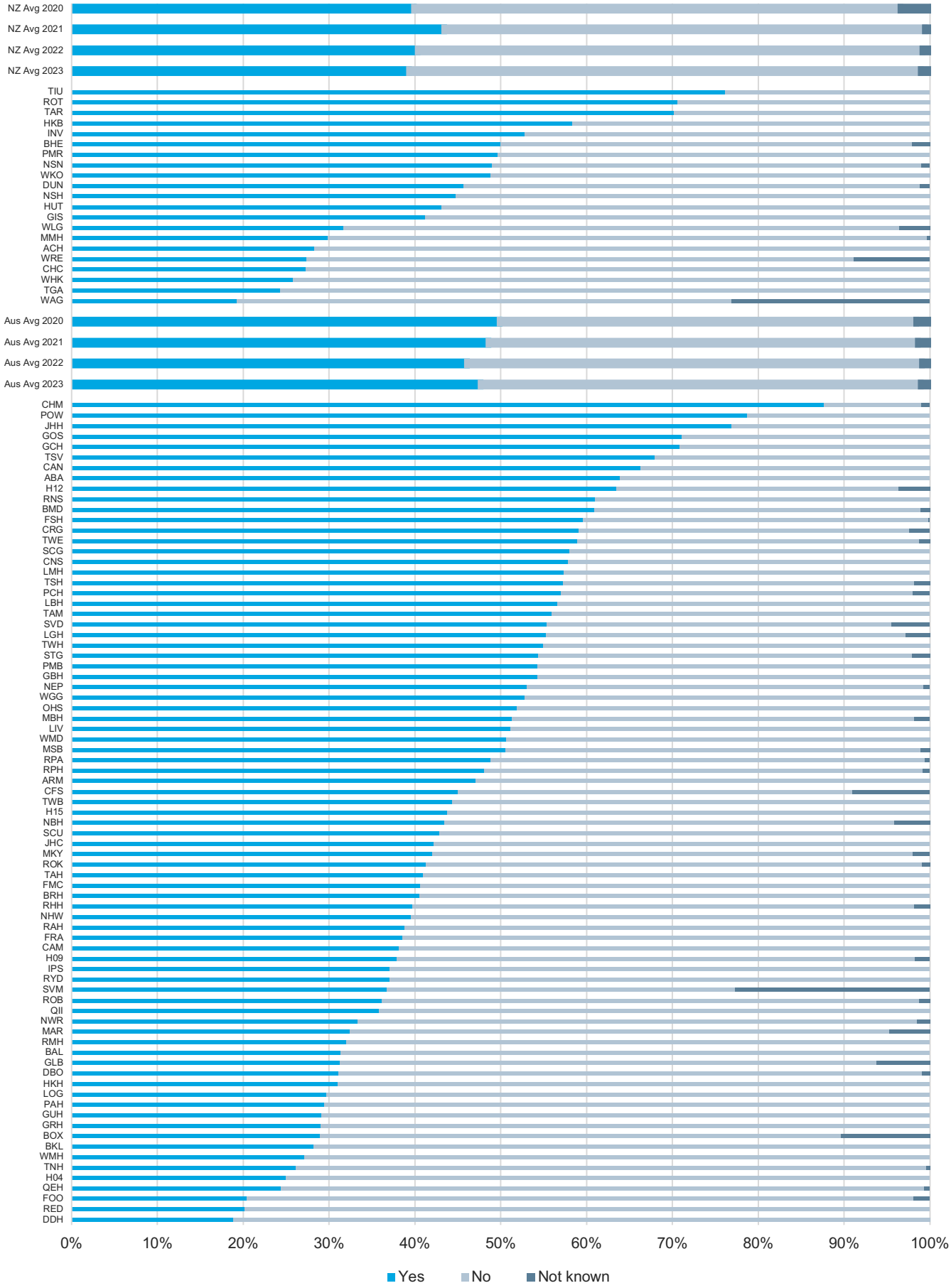


FIGURE 83 First day walking



FIRST DAY WALKING BY AUSTRALIAN STATE

FIGURE 84 New South Wales

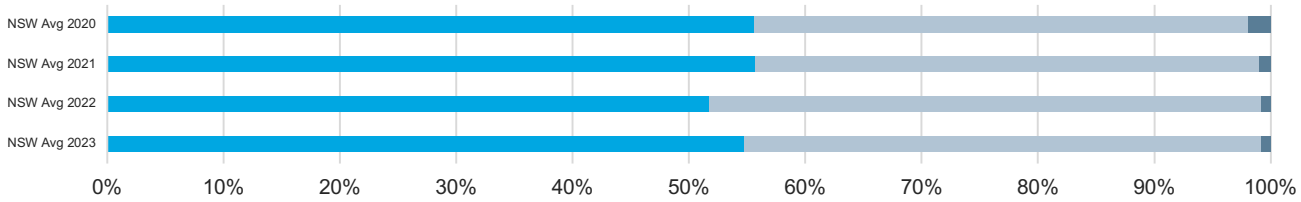


FIGURE 85 Queensland

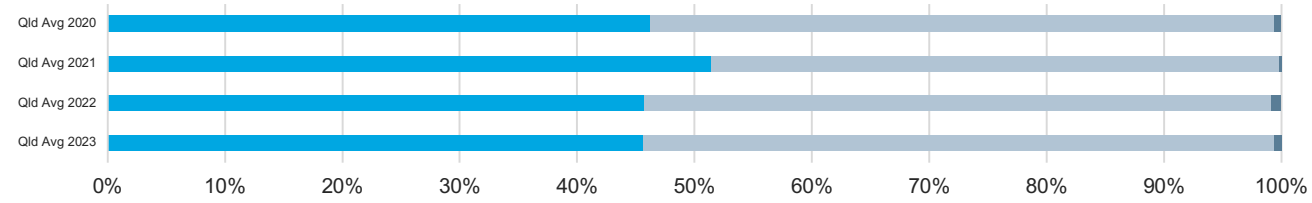


FIGURE 86 South Australia

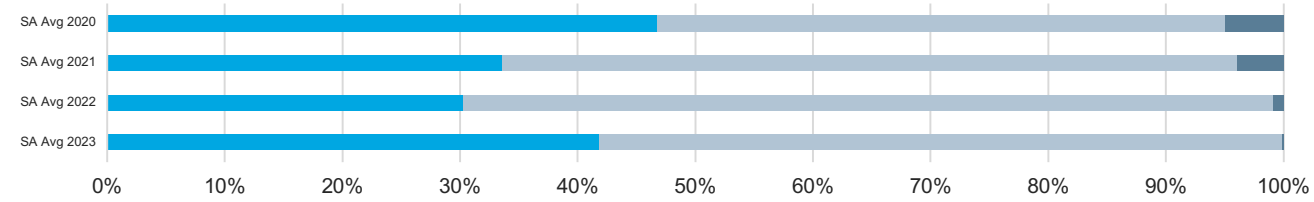


FIGURE 87 Tasmania

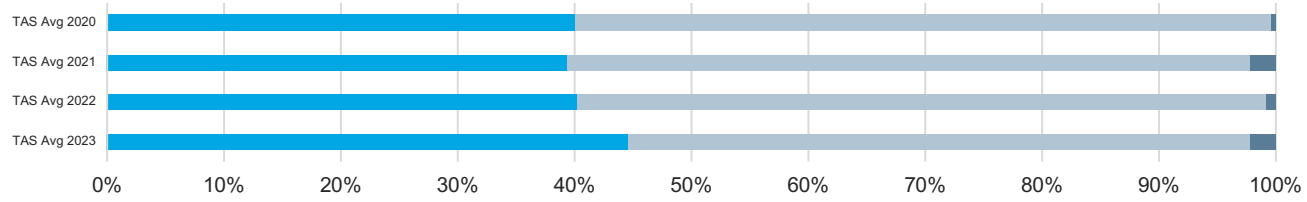


FIGURE 88 Victoria

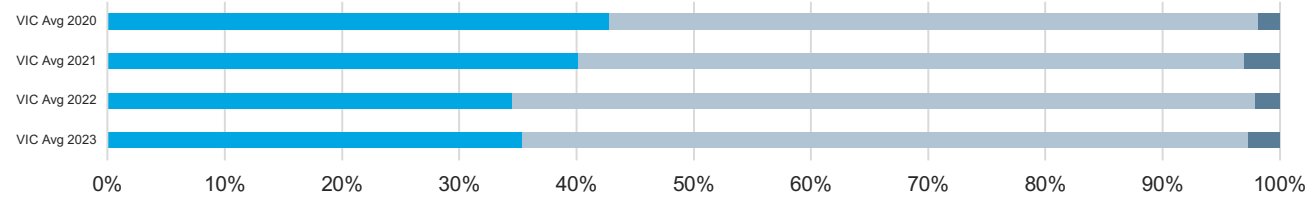
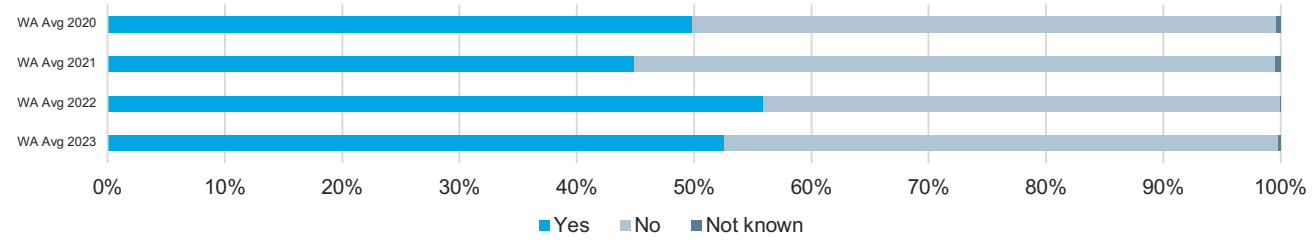


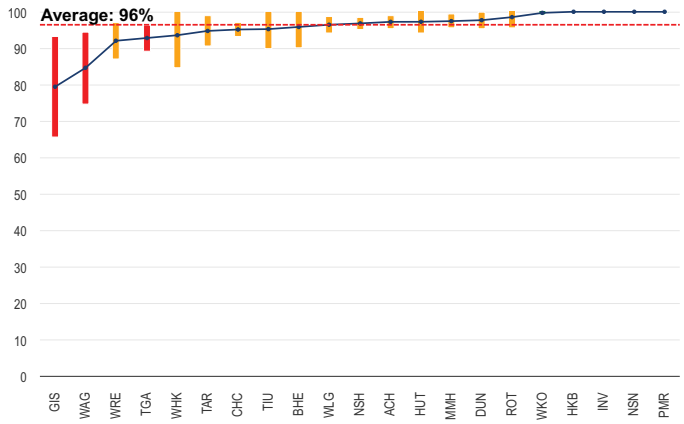
FIGURE 89 Western Australia



INDICATOR 5B:

Proportion of patients with a hip fracture with unrestricted weight bearing status immediately post hip fracture surgery

FIGURE 90 Weight bearing status after surgery: New Zealand



Allowing immediate unrestricted weight bearing after surgery supports early rehabilitation and functional recovery. Figures 90 and 91 show that 96% of patients in New Zealand and Australia were permitted to weight bear without restriction after surgery. Some variation between hospitals remains evident.

FIGURE 91 Weight bearing status after surgery: Australia

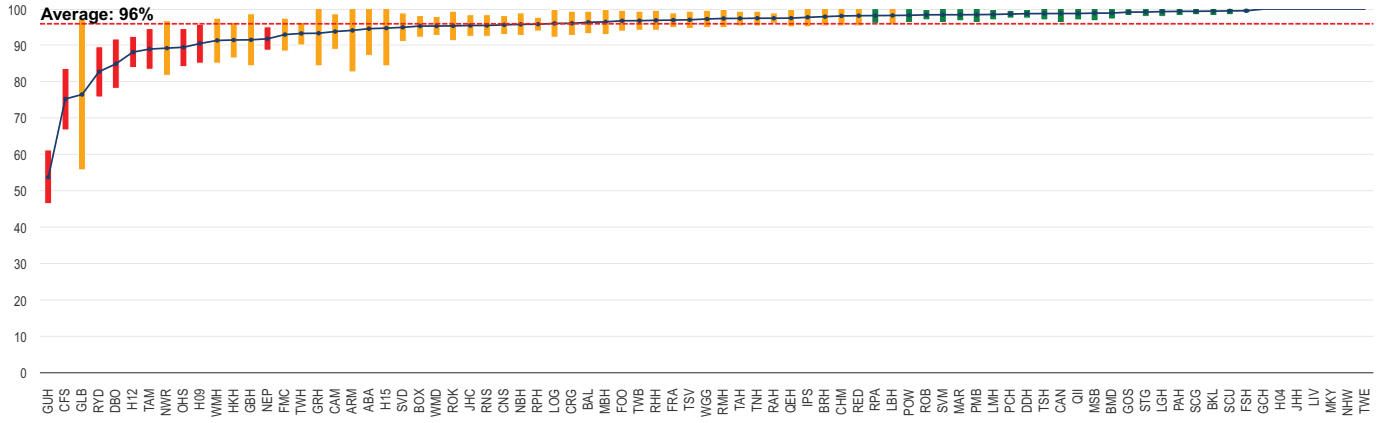
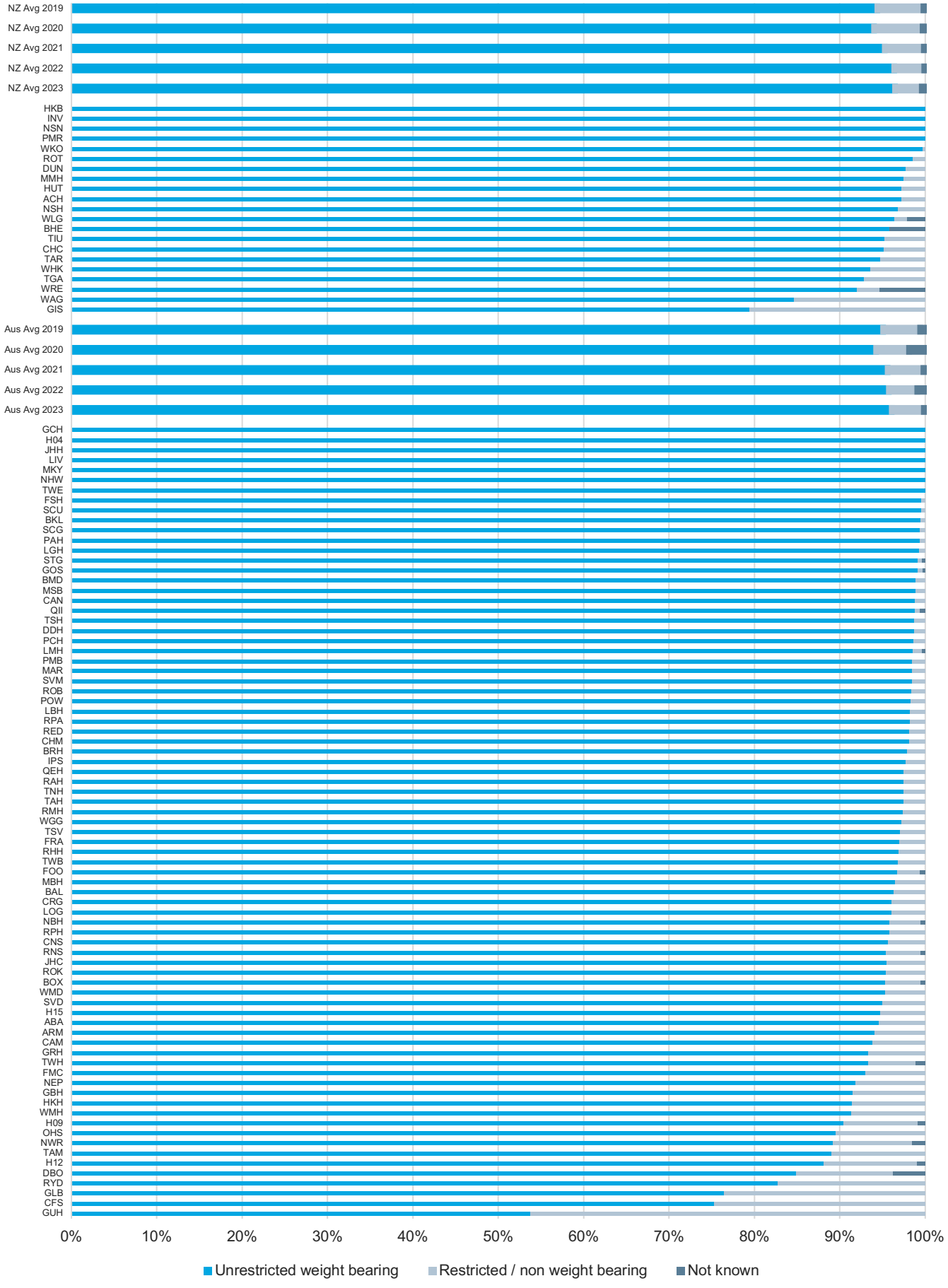


FIGURE 92 Weight bearing status after surgery

Allowing immediate unrestricted weight bearing after surgery supports early rehabilitation and functional recovery. Ninety-six percent of patients in both New Zealand and Australia were permitted to weight bear without restriction after surgery.

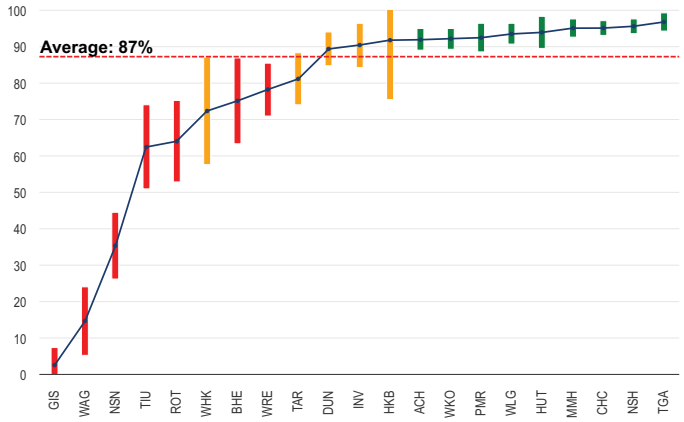


INDICATOR 3A:

Evidence of orthogeriatric management during an admitted patient's hip fracture episode of care

FIGURE 93

Assessed by geriatric medicine during acute admission in New Zealand



Early and ongoing orthogeriatric assessment is key to high-quality hip fracture care.

In New Zealand, 87% of hip fracture patients saw a geriatrician during their acute hospital stay (Figure 93).

Eight-six percent of patients in Australia saw a geriatrician during their acute hospital stay (Figure 94).

FIGURE 94

Assessed by geriatric medicine during acute admission in Australia

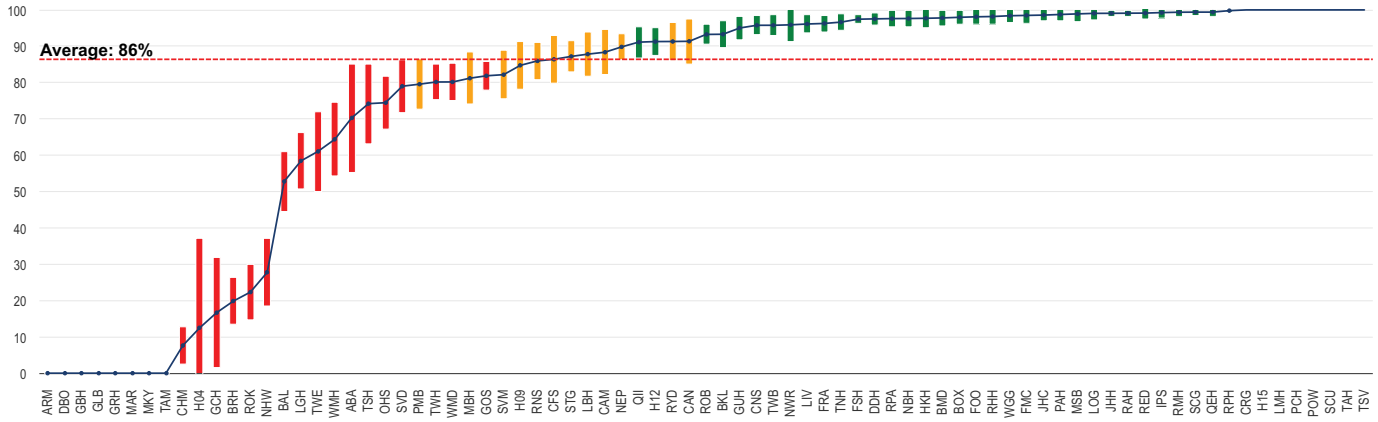
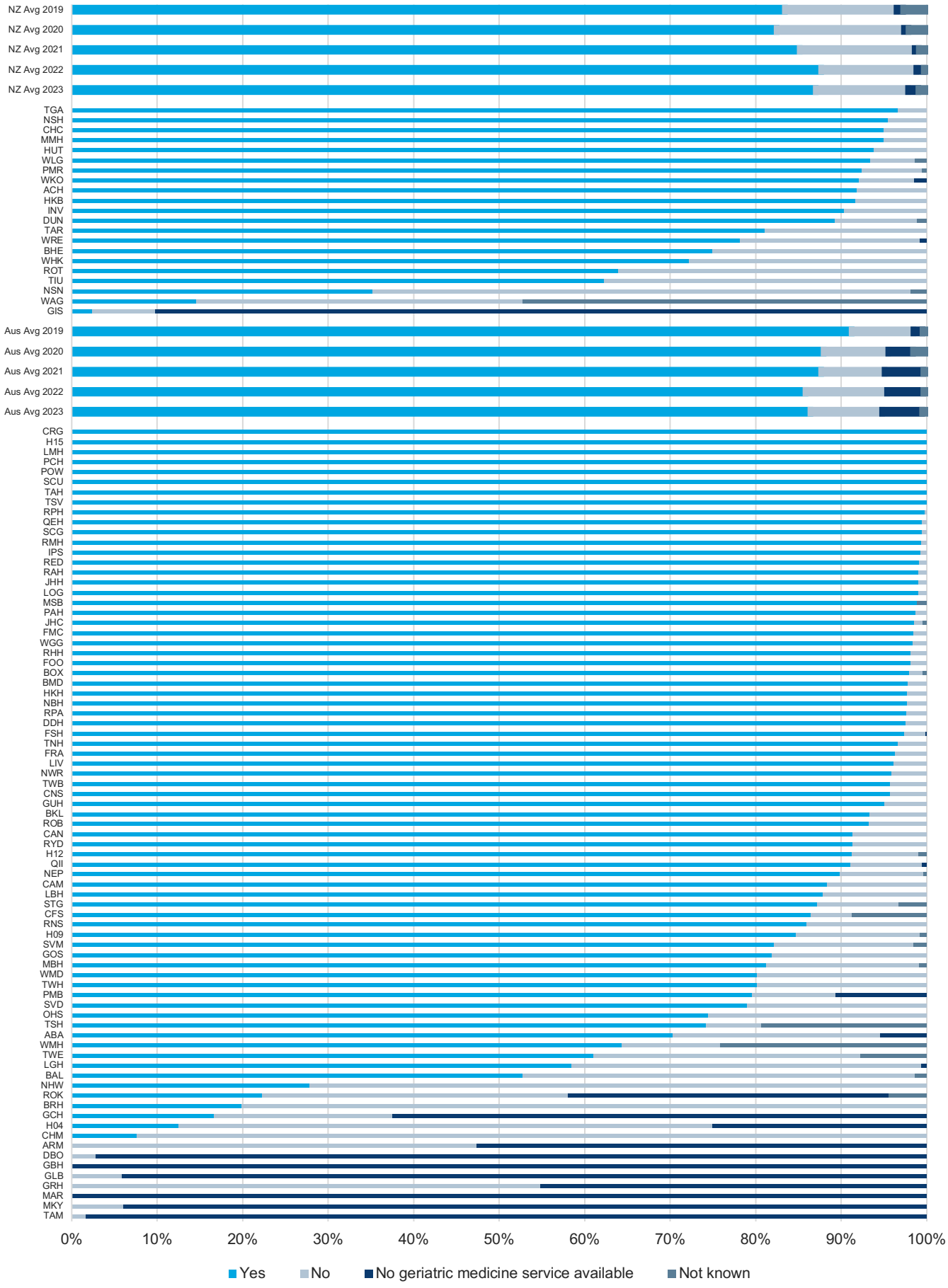


FIGURE 95 Assessed by geriatric medicine during acute admission



ASSESSED BY GERIATRIC MEDICINE DURING ACUTE ADMISSION BY AUSTRALIAN STATE

FIGURE 96 New South Wales

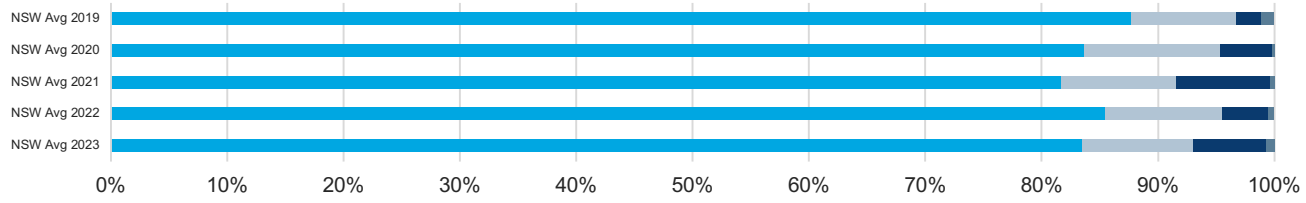


FIGURE 97 Queensland

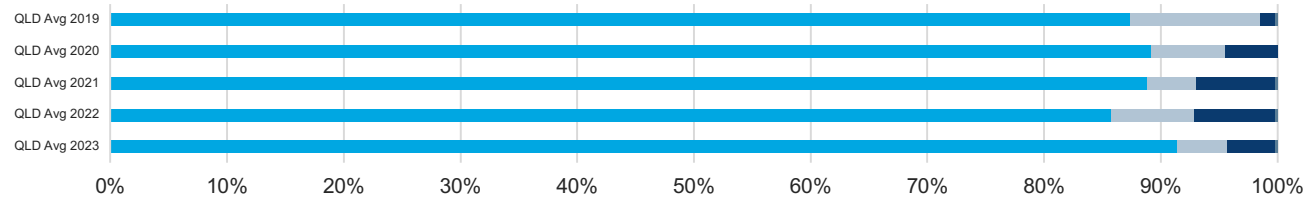


FIGURE 98 South Australia

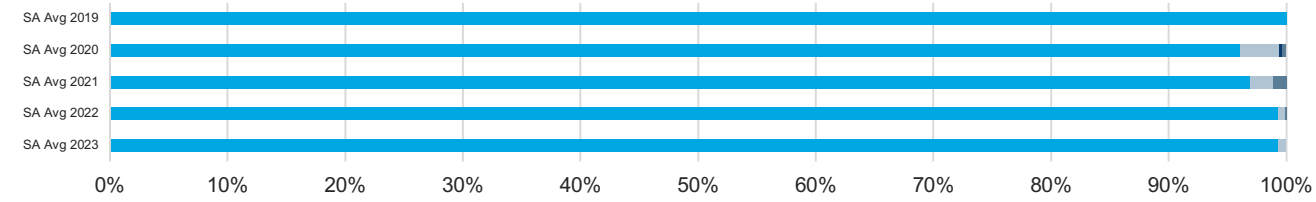


FIGURE 99 Tasmania

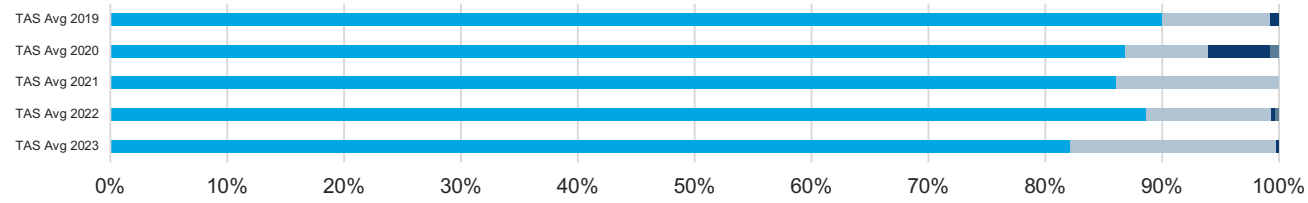


FIGURE 100 Victoria

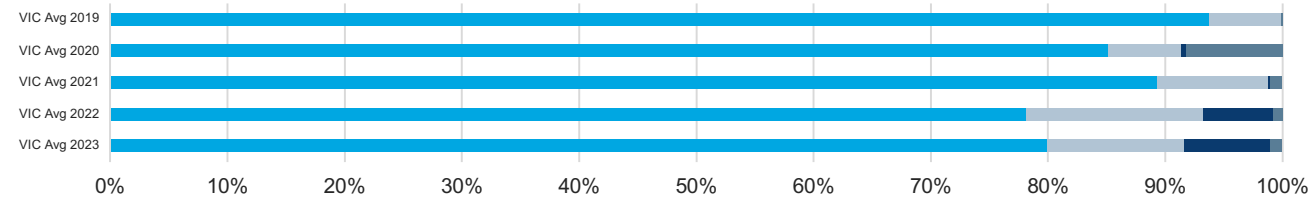


FIGURE 101 Western Australia

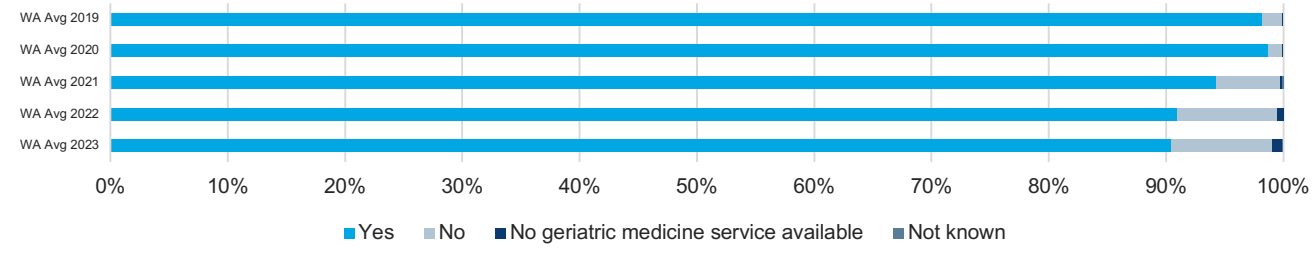
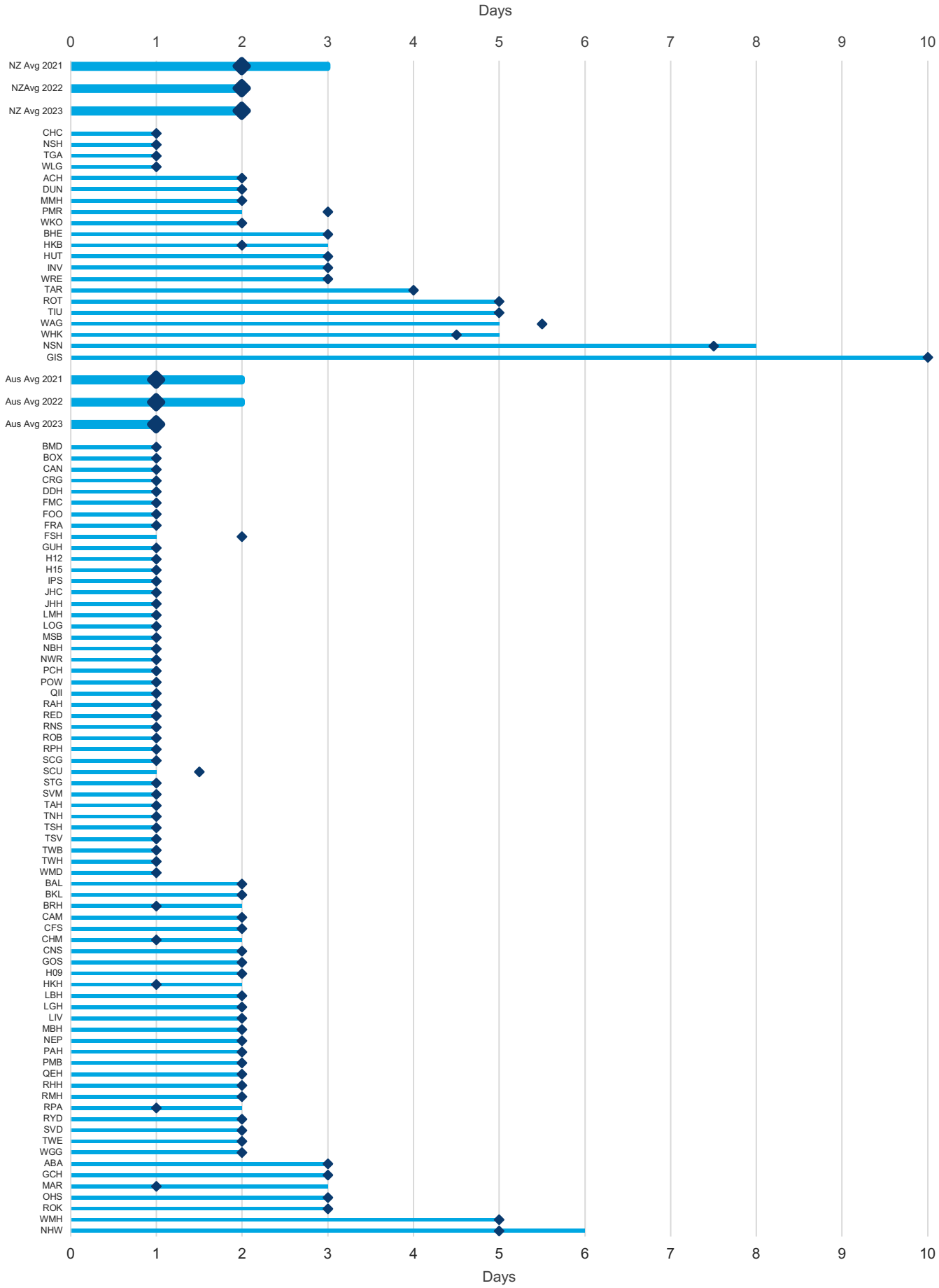


FIGURE 102 Time to geriatric assessment

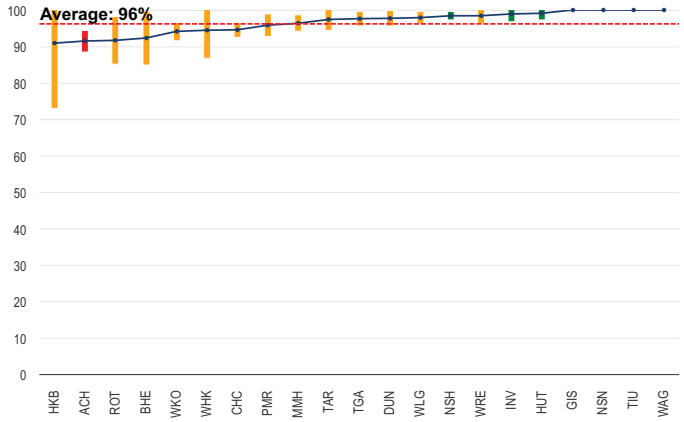


INDICATOR 5C:

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

FIGURE 103

No hospital acquired pressure injuries of the skin: New Zealand



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.

Four percent of patients in New Zealand (Figure 103) and 3% of patients in Australia (Figure 104) were documented as acquiring a pressure injury of the skin during their acute hospital stay.

FIGURE 104

No hospital acquired pressure injuries of the skin: Australia

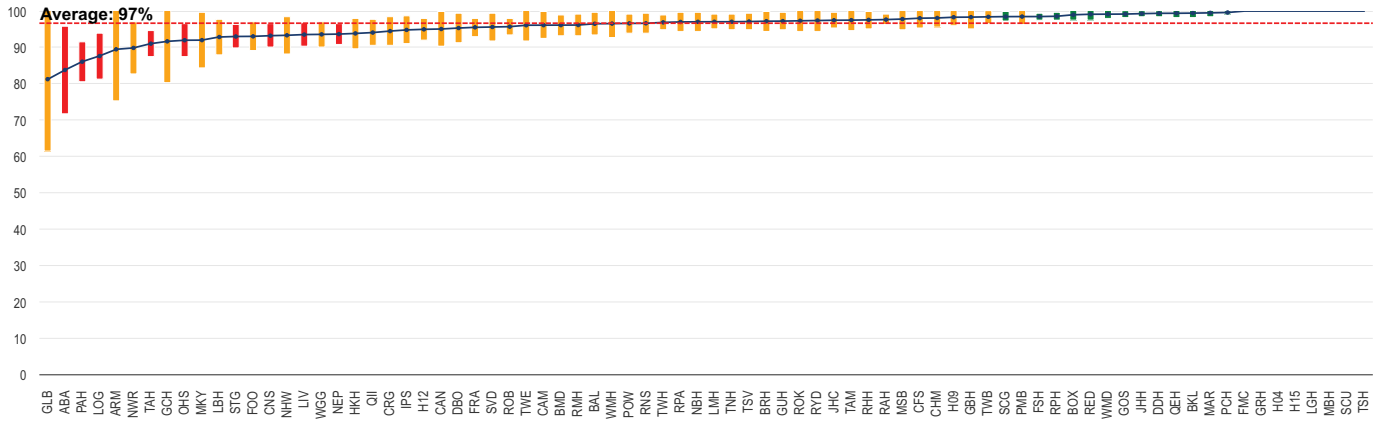


FIGURE 105 Hospital acquired pressure injuries of the skin

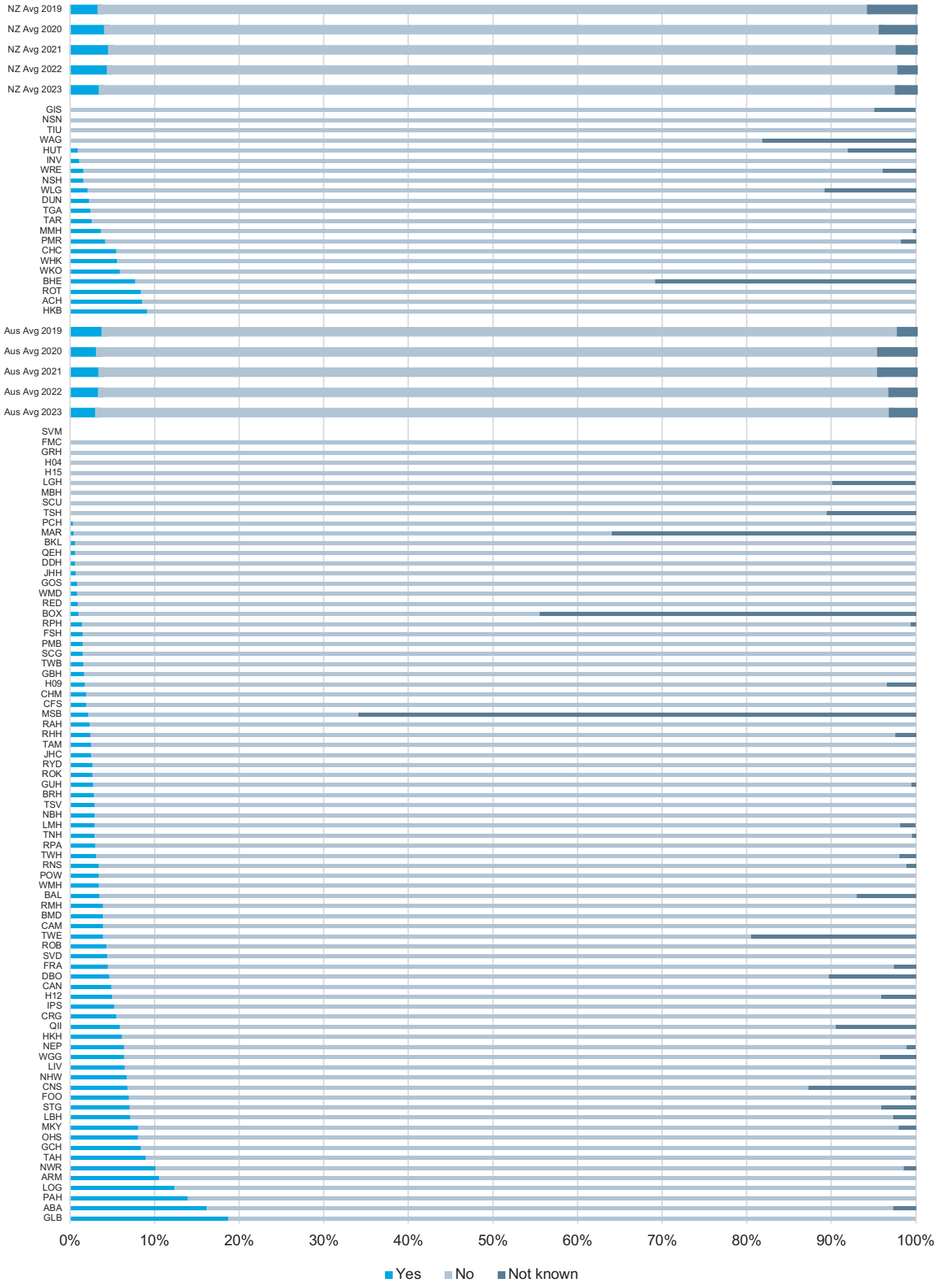


FIGURE 106 Specialist falls assessment

In 2023, 78% of patients in New Zealand and 69% of patients in Australia were reported to have undergone a specialist falls assessment during their hospital admission.

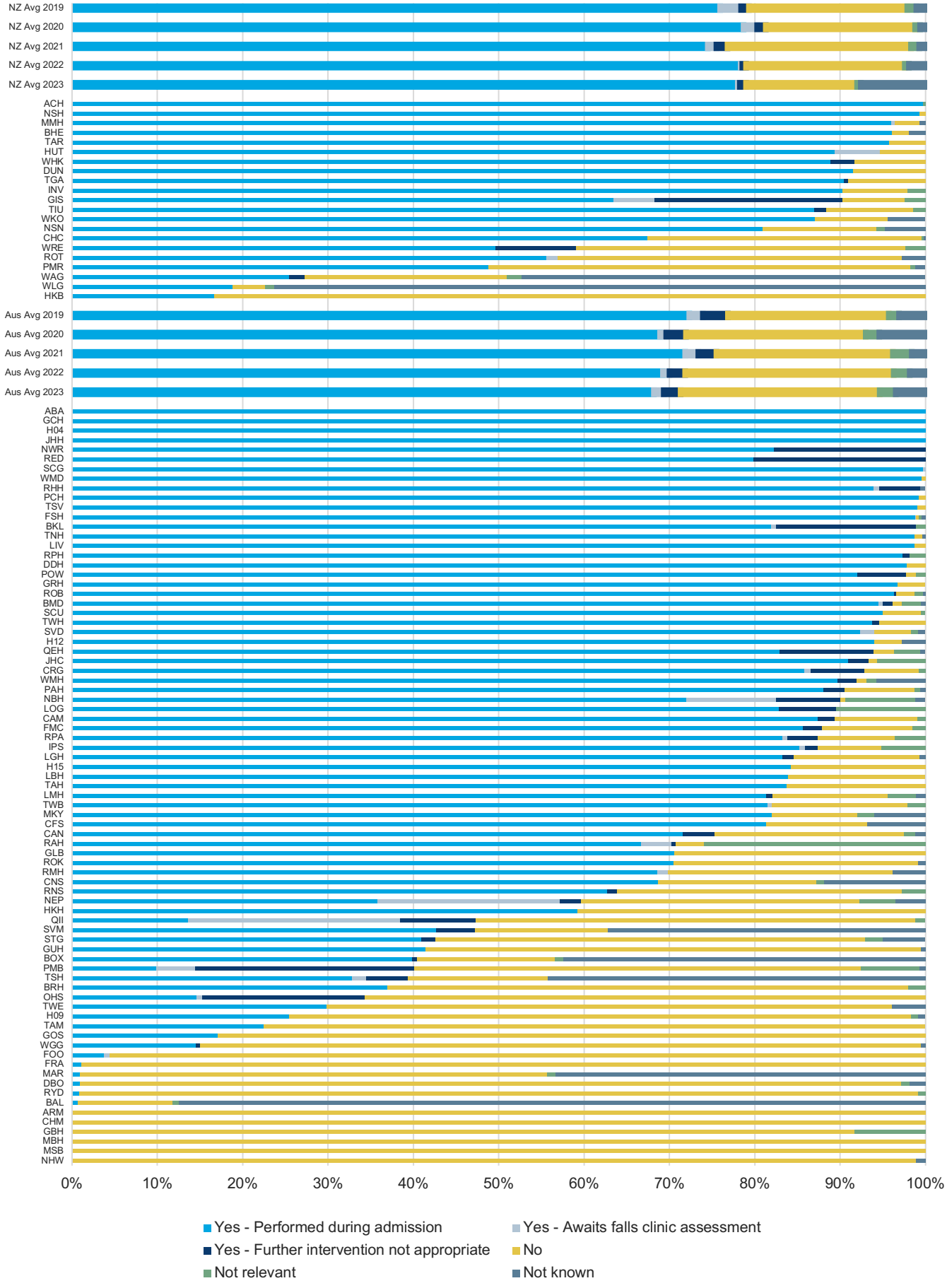


FIGURE 107 Assessment of postoperative delirium

The assessment of postoperative delirium has improved each year since 2019. In New Zealand, 78% of patients had an assessment for delirium and 43% of those assessed were identified as experiencing delirium during the acute hospital stay. In Australia, 81% of patients had an assessment for delirium and 41% of those assessed were identified as experiencing delirium.

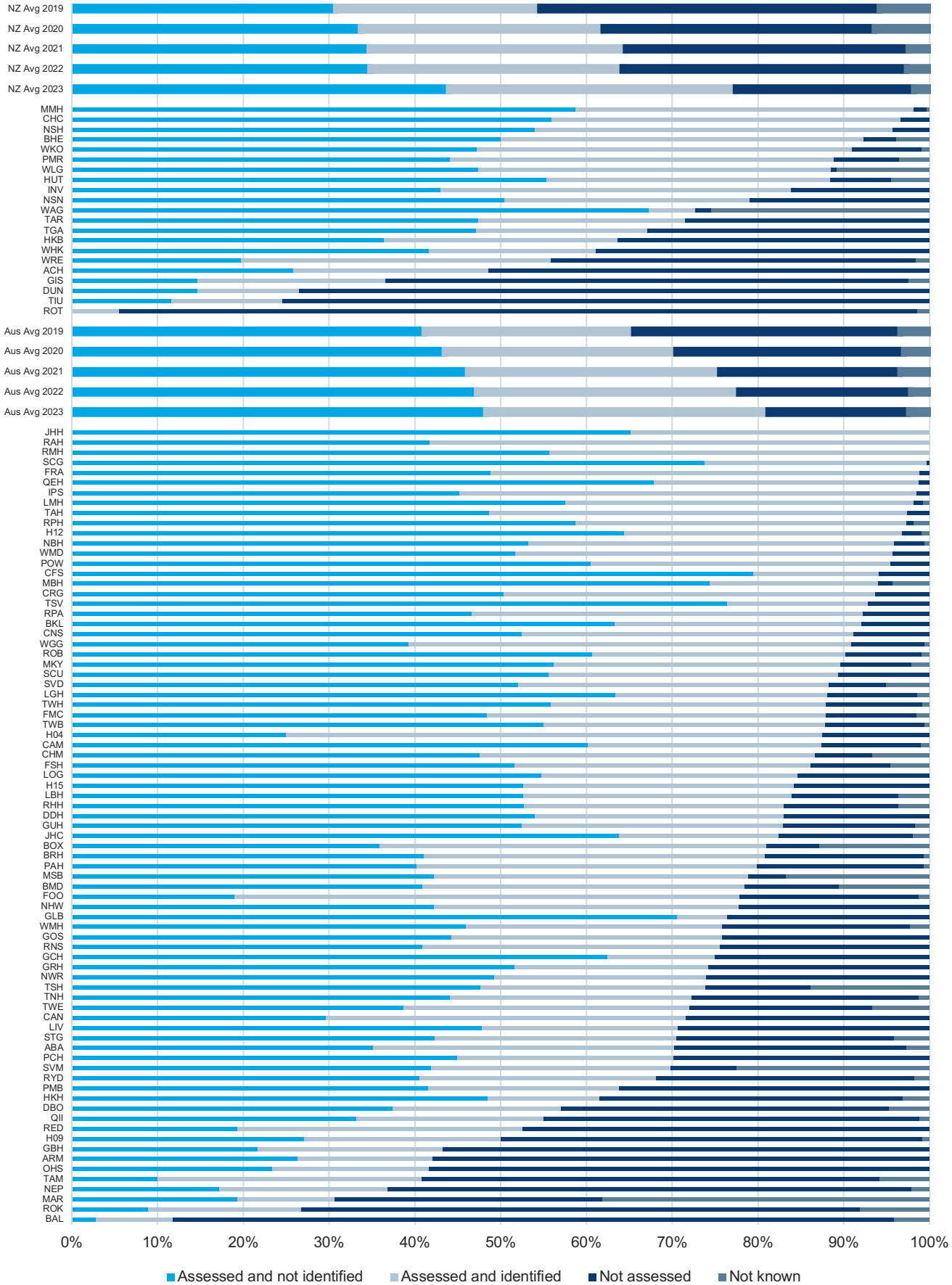
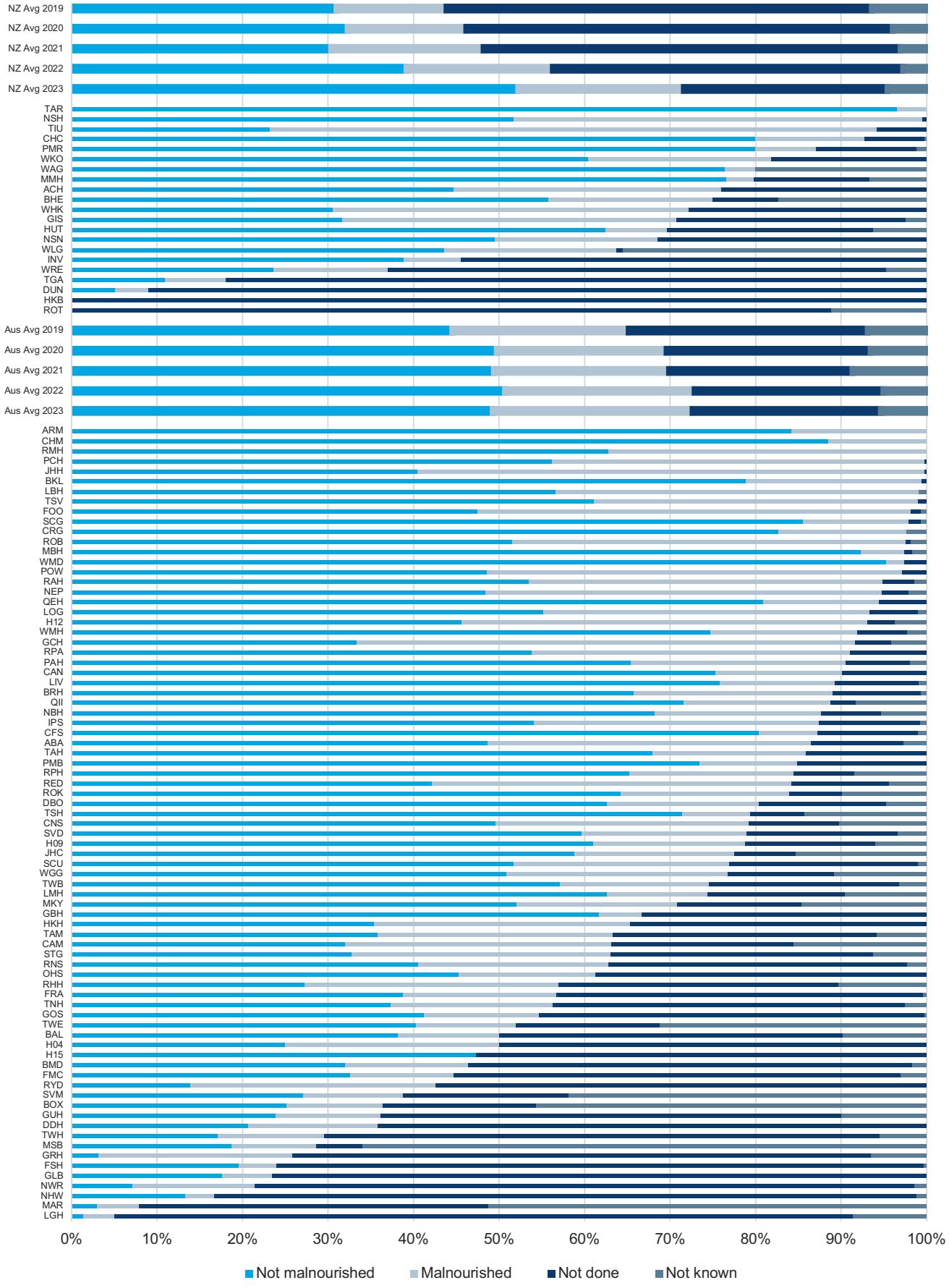


FIGURE 108 Clinical malnutrition assessment

Seventy-two percent of patients in both New Zealand and Australia received a clinical malnutrition assessment after hip fracture.



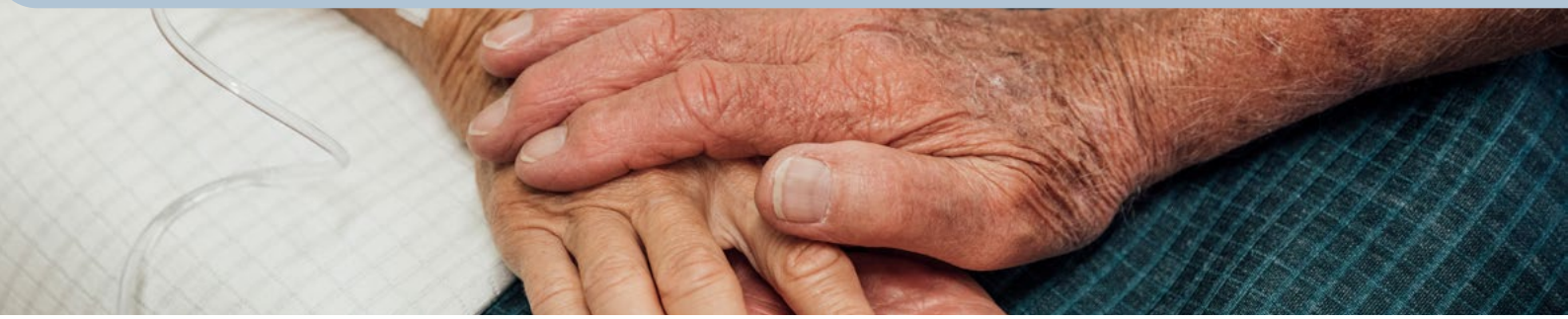


FIGURE 109
Average LOS in acute ward

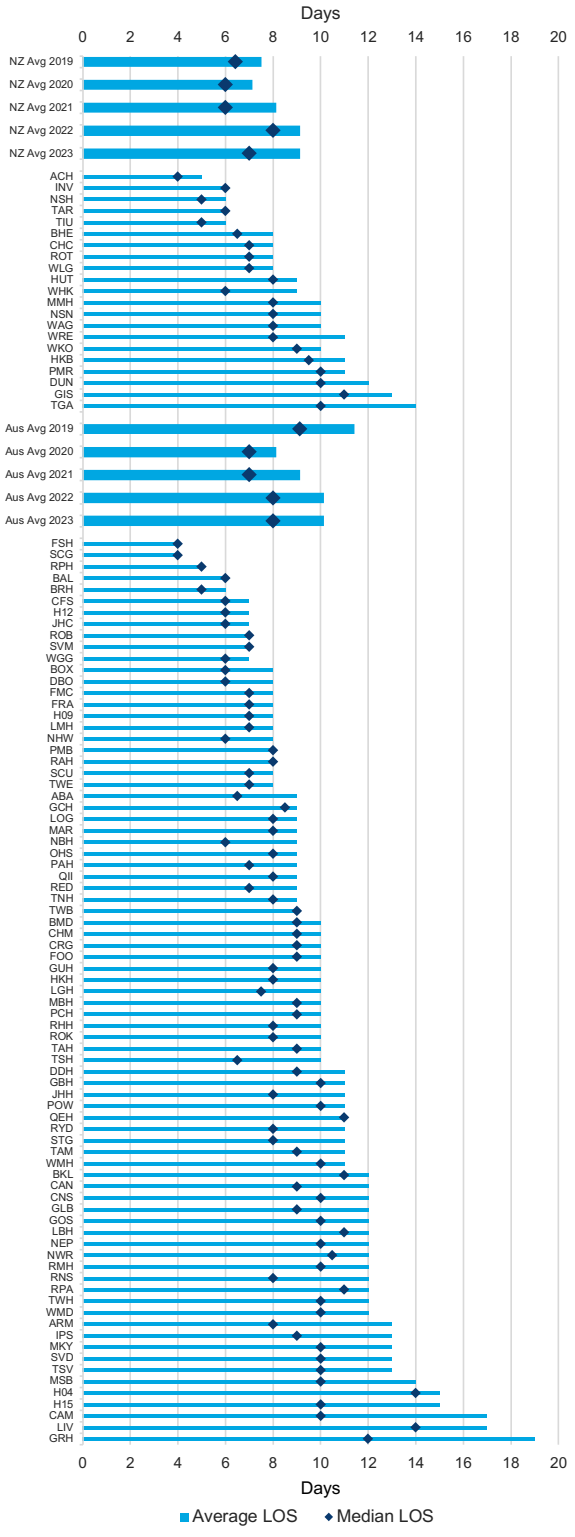
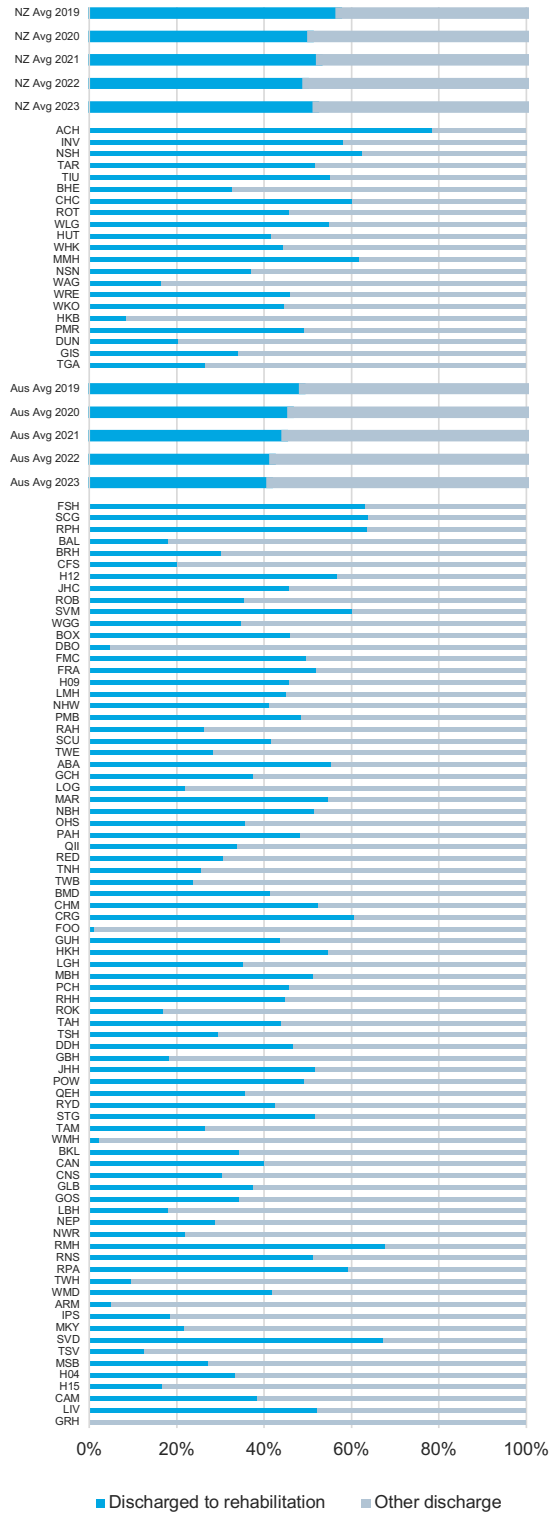


FIGURE 110
Discharge to rehabilitation



The median LOS in the acute ward was 7 days in New Zealand and 8 days in Australia. Around half of all patients in New Zealand, and 2 in 5 patients in Australia were transferred to rehabilitation Since 2021, there has been a decrease in the proportion of patients transferred to rehabilitation.

FIGURE 111 Average LOS in hospital system

The average LOS in hospital reflects a person's total inpatient stay. The average LOS in hospital was 21 days in both New Zealand and Australia. The median LOS in hospital was 17 days in New Zealand and 14 days in Australia. Variation between hospitals is evident and may reflect availability of rehabilitation services and the ability to collect final hospital system discharge date.

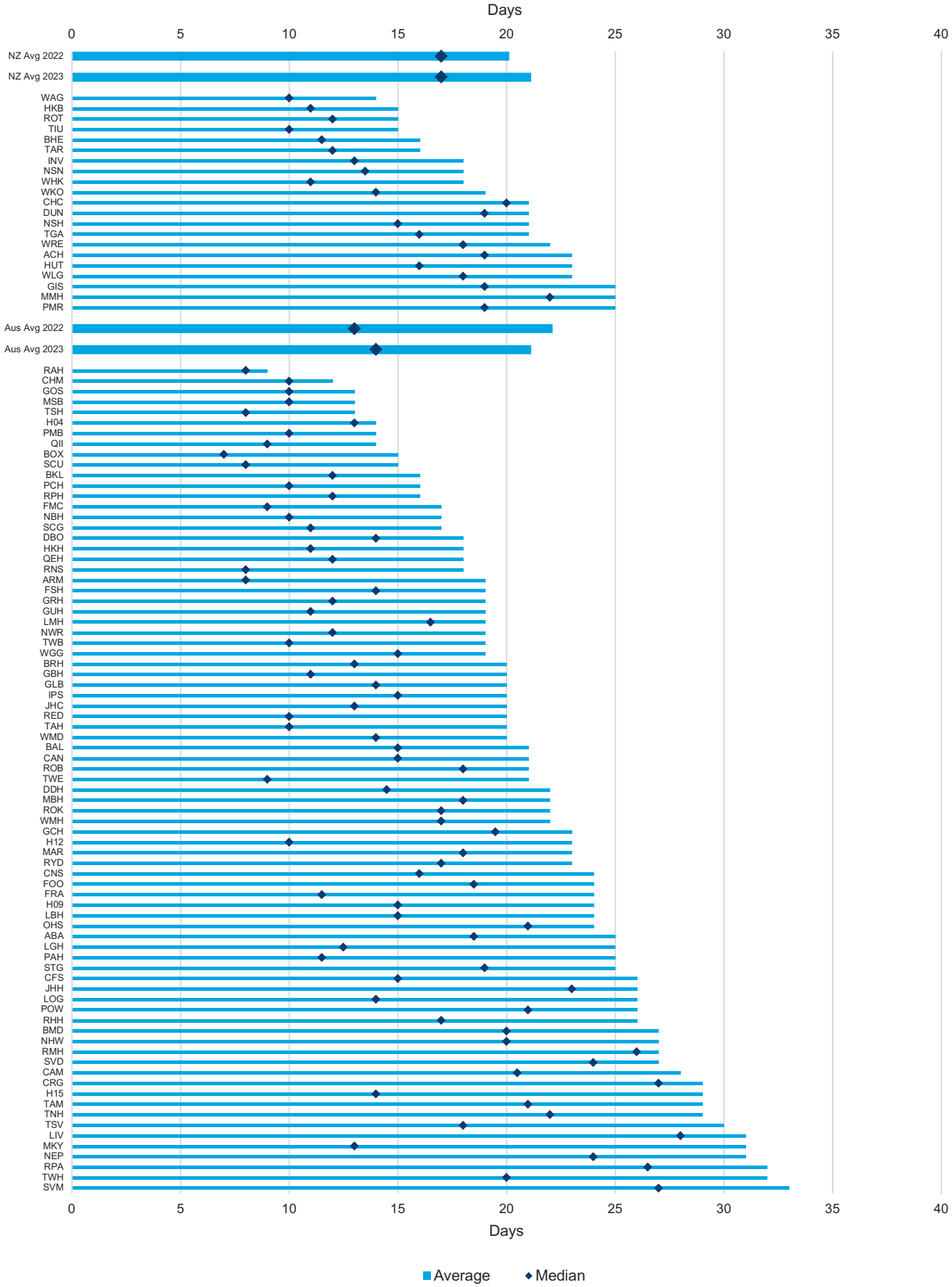


FIGURE 112 Discharge destination from acute ward

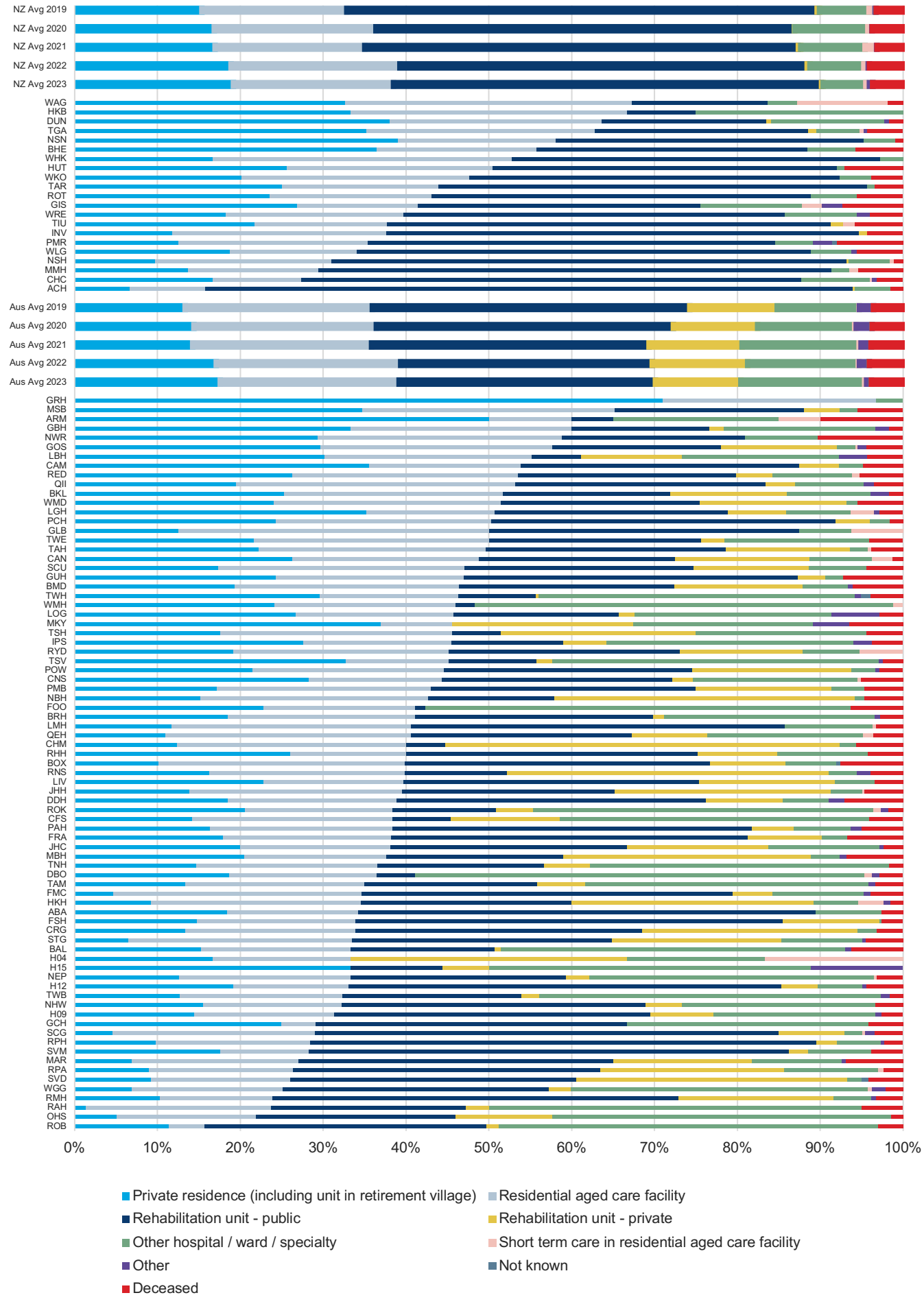


FIGURE 113 Residents of aged care facilities discharged to rehabilitation (public or private)

In New Zealand, 32% of people from residential care were transferred to rehabilitation after their acute episode of care. This contrasts to 8% in Australia.

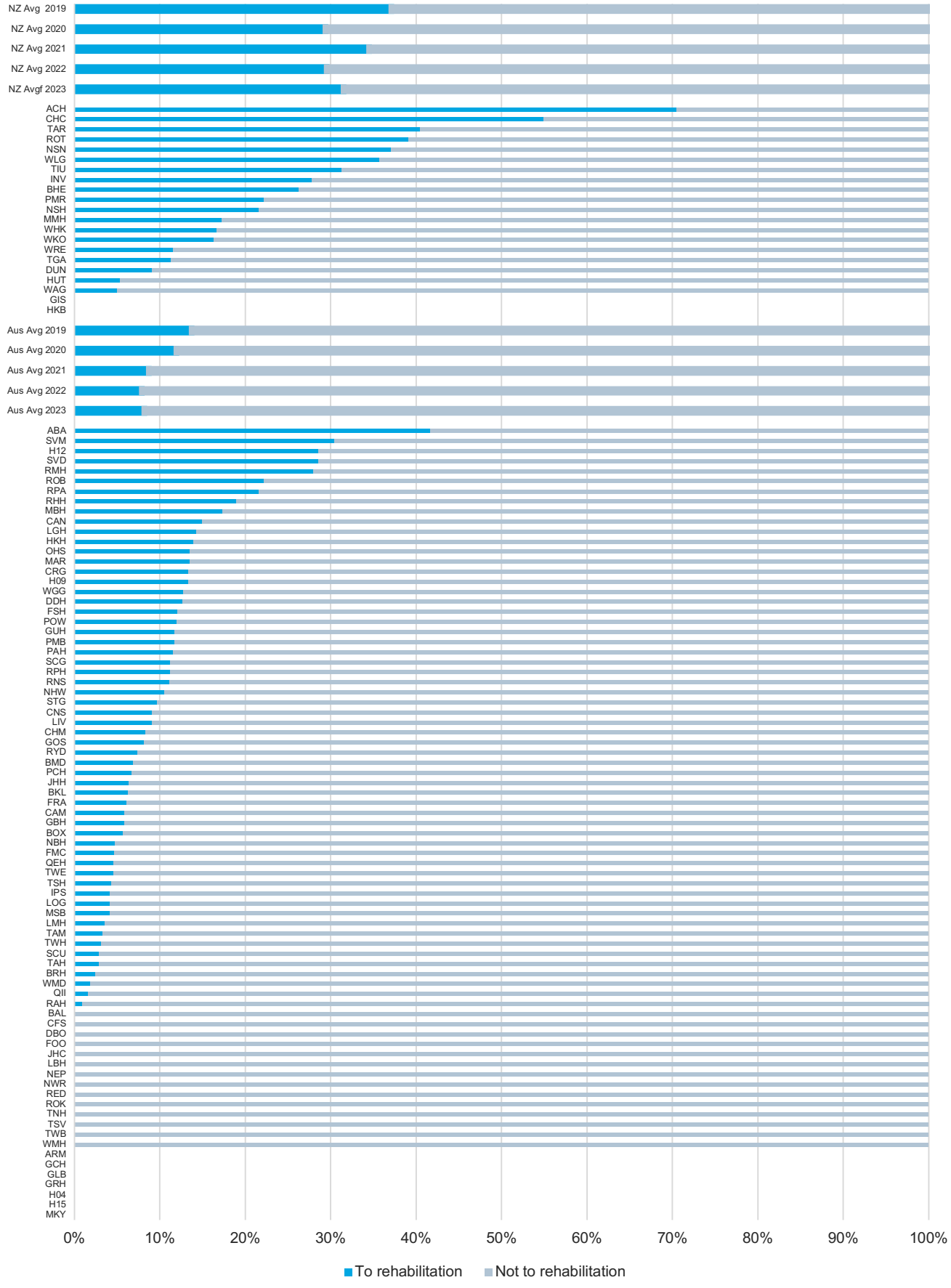


FIGURE 114 Access to rehabilitation (public or private) for patients from private residence with preadmission impaired cognition

In New Zealand, 70% of people with pre-existing cognitive impairment, who lived in a private residence prior to their injury, were transferred to rehabilitation. In Australia, 50% went to rehabilitation, reflecting an ongoing decrease each year since 2019. Large variation in practice remains evident.

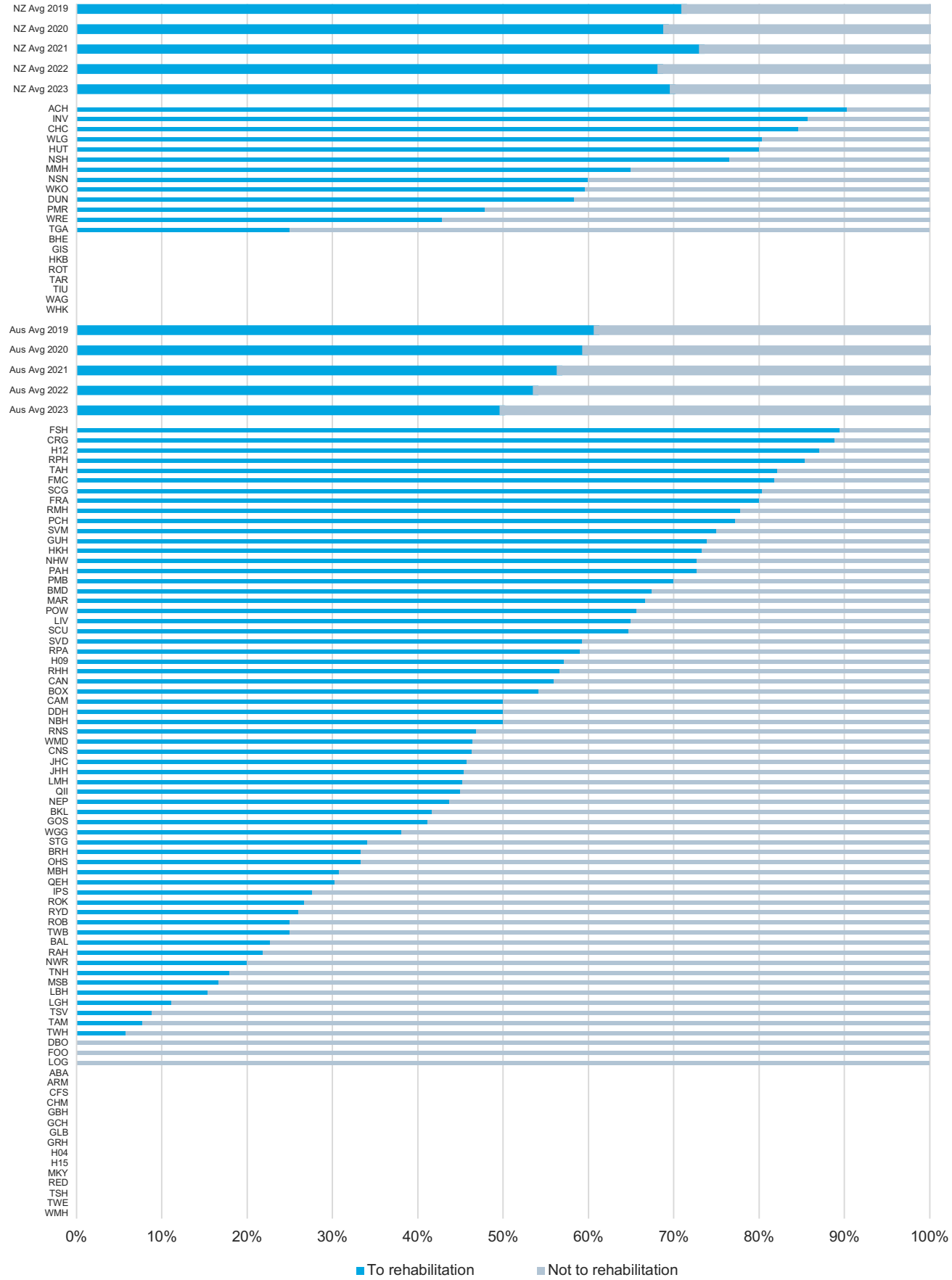
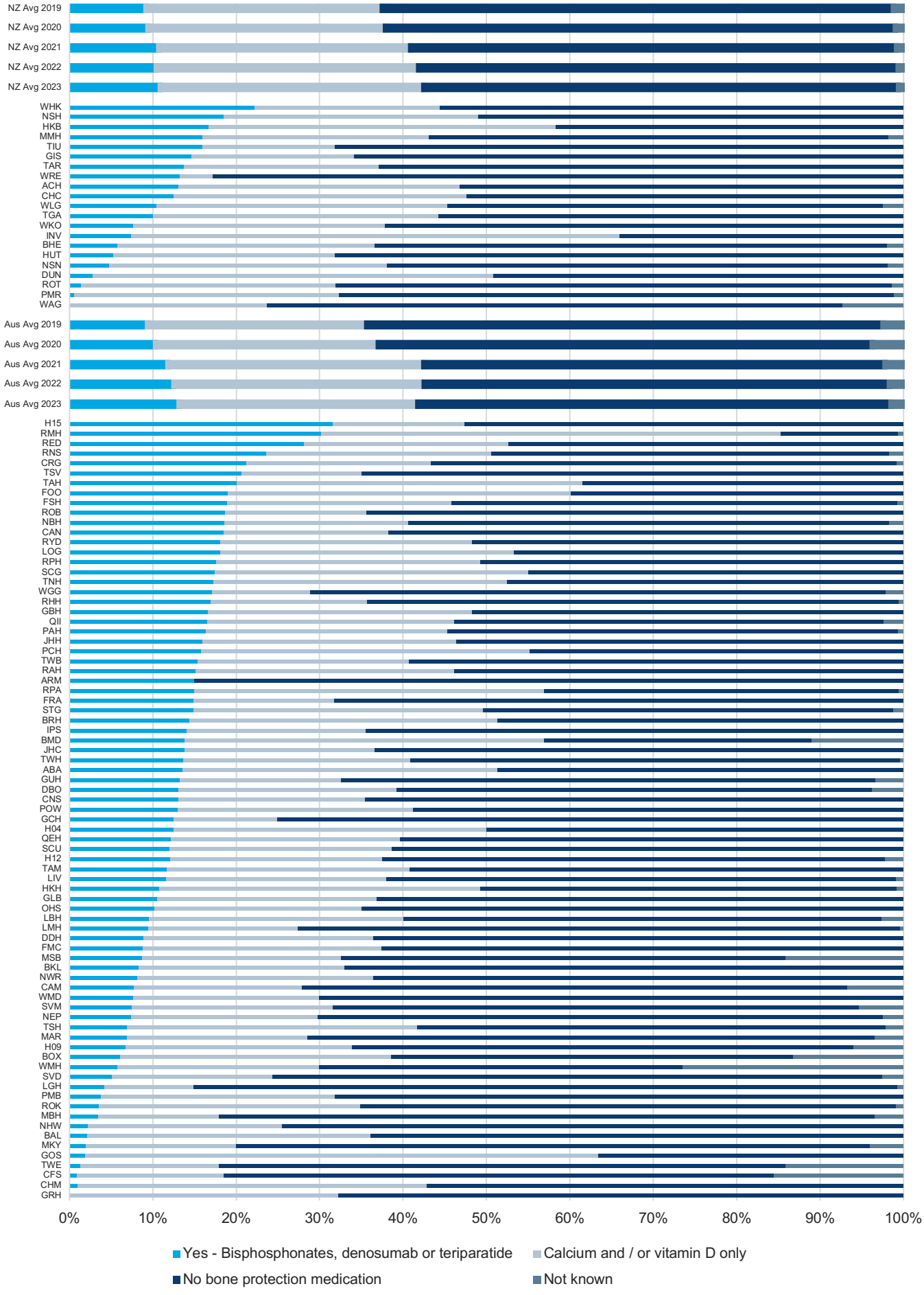


FIGURE 115 Bone protection medication on admission

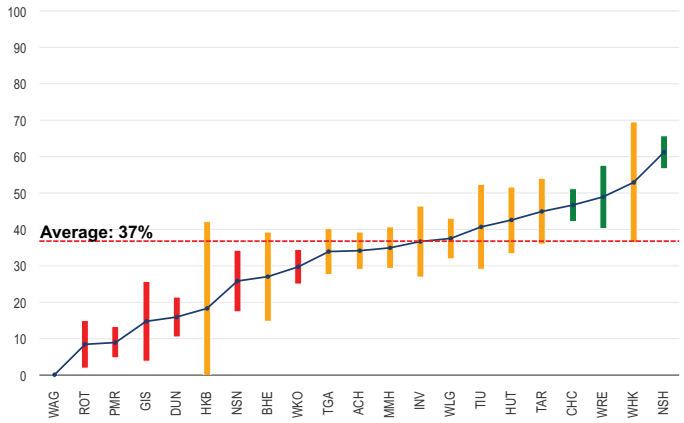


INDICATOR 6A:

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

FIGURE 116

Bone protection medication on discharge: New Zealand



There continues to be a gradual improvement in the proportion of people leaving hospital on a bisphosphonate, denosumab or teriparatide from 2015.

In New Zealand, 37% of hip fracture patients left hospital on bone protection medicine (Figure 116), compared with 11% on admission.

In Australia, 32% of patients left hospital on a bisphosphonate, denosumab or teriparatide (Figure 117), compared with 13% on admission.

FIGURE 117

Bone protection medication on discharge: Australia

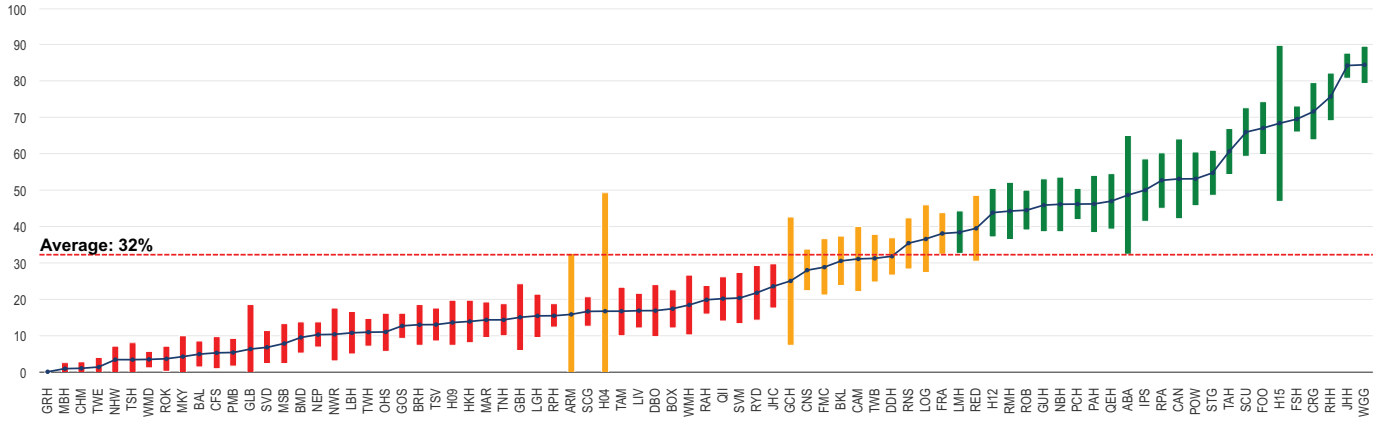
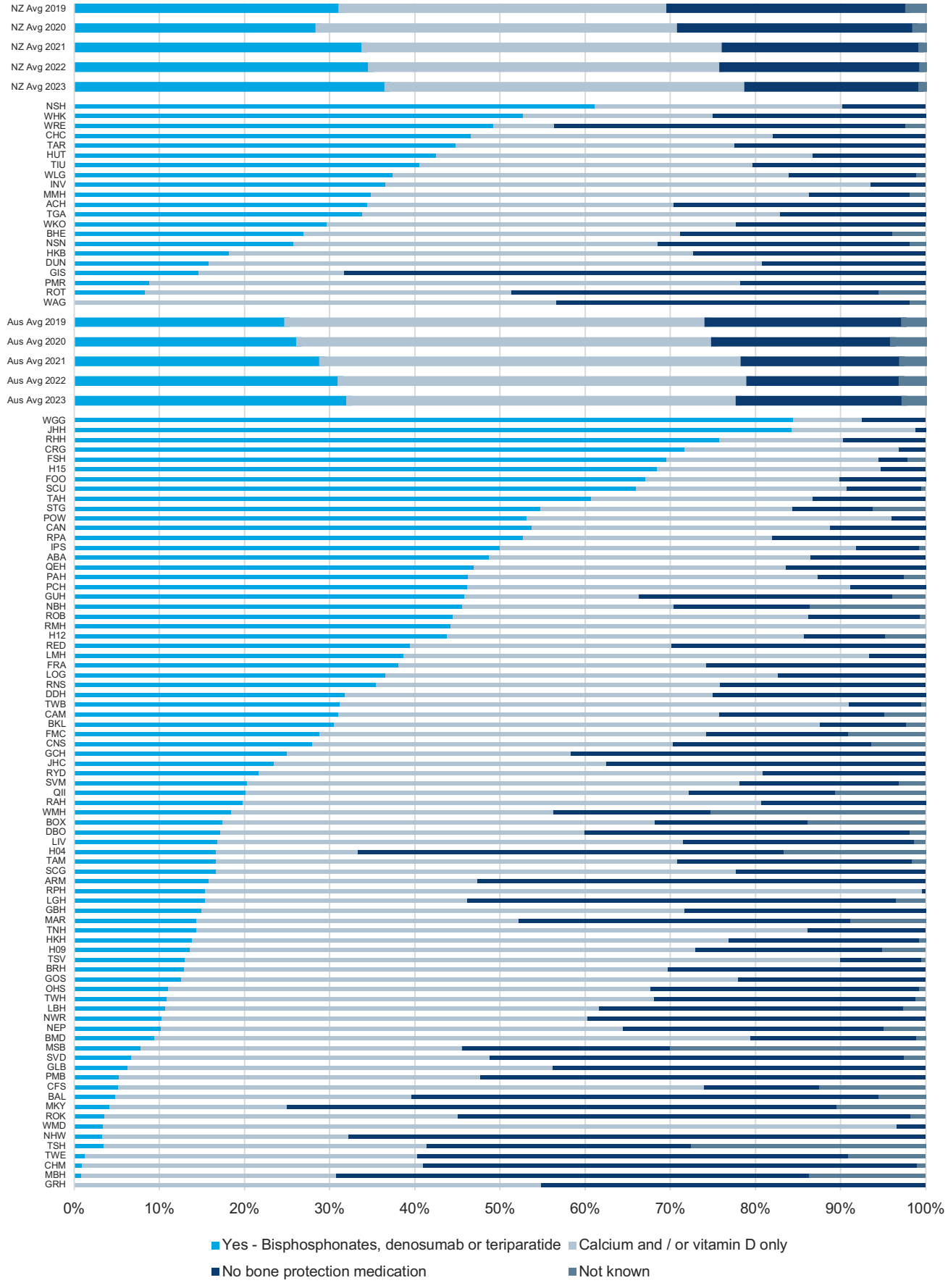


FIGURE 118 Bone protection medication on discharge

There has been gradual improvement in the proportion of people leaving hospital on a bisphosphonate, denosumab or teriparatide since 2020. Figure 118 shows that in New Zealand, 37% of hip fracture patients left hospital on bone protection medicine. In Australia, 32% of patients left hospital on a bisphosphonate, denosumab or teriparatide.



BONE PROTECTION MEDICATION ON DISCHARGE BY AUSTRALIAN STATE

FIGURE 119 New South Wales

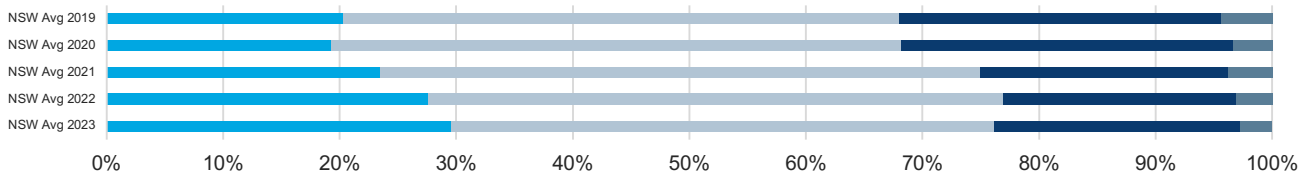


FIGURE 120 Queensland

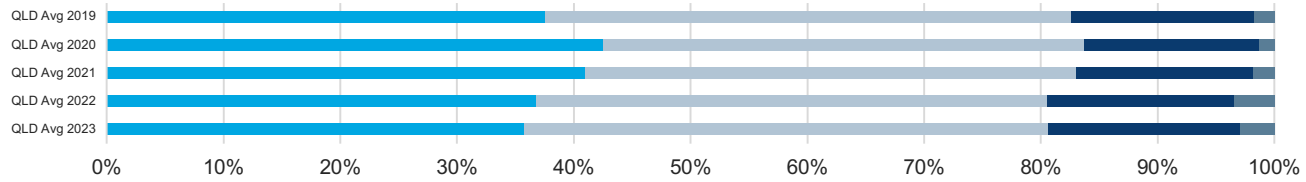


FIGURE 121 South Australia

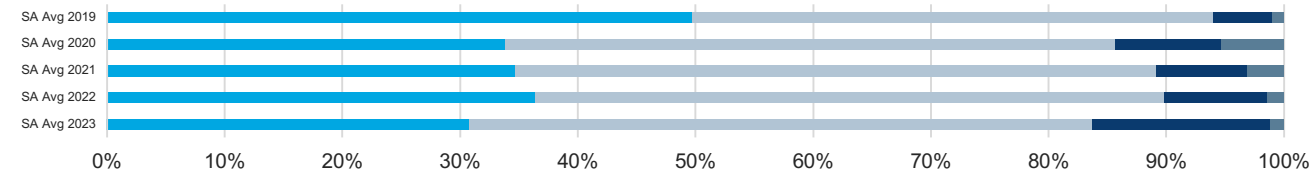


FIGURE 122 Tasmania

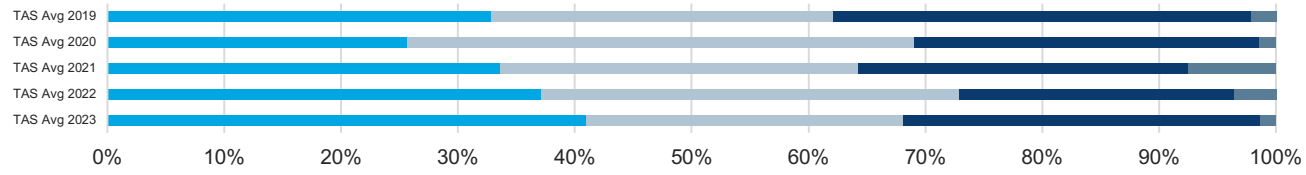


FIGURE 123 Victoria

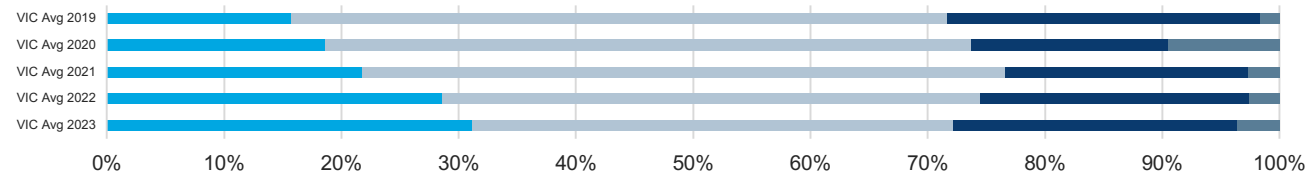
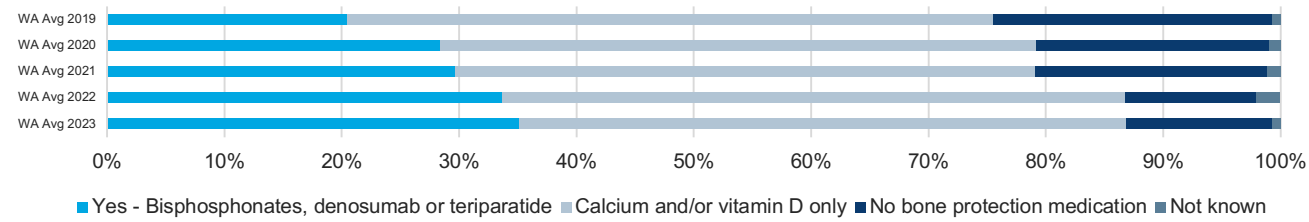


FIGURE 124 Western Australia



SECTION 5: FOLLOW-UP AT 120 DAYS

The ANZHFR has reported 120-day follow-up for all sites to acknowledge the work that goes into undertaking the follow-up and continue to amplify the patient's voice in the data reported. The caterpillar charts reflect sites that have followed-up at least 70% of their patients.

Figure 125 reports the proportion of patients followed up at each hospital. Follow-up is completed by staff at the treating hospital via telephone, and the variation reflects local differences in resources. In New Zealand, 82% of patient records had data for 120 days. In Australia, 56% of patient records had data for 120 days.

Figures 127, 129, 133 and 137 should be interpreted while considering the corresponding 120-day follow-up completion graph. There is a high proportion of not known follow-up data, particularly in Australia, suggesting caution with interpretation of the results. The results can be confidently interpreted where follow-up is indicated as near complete.

FIGURE 125 Follow-up at 120 days

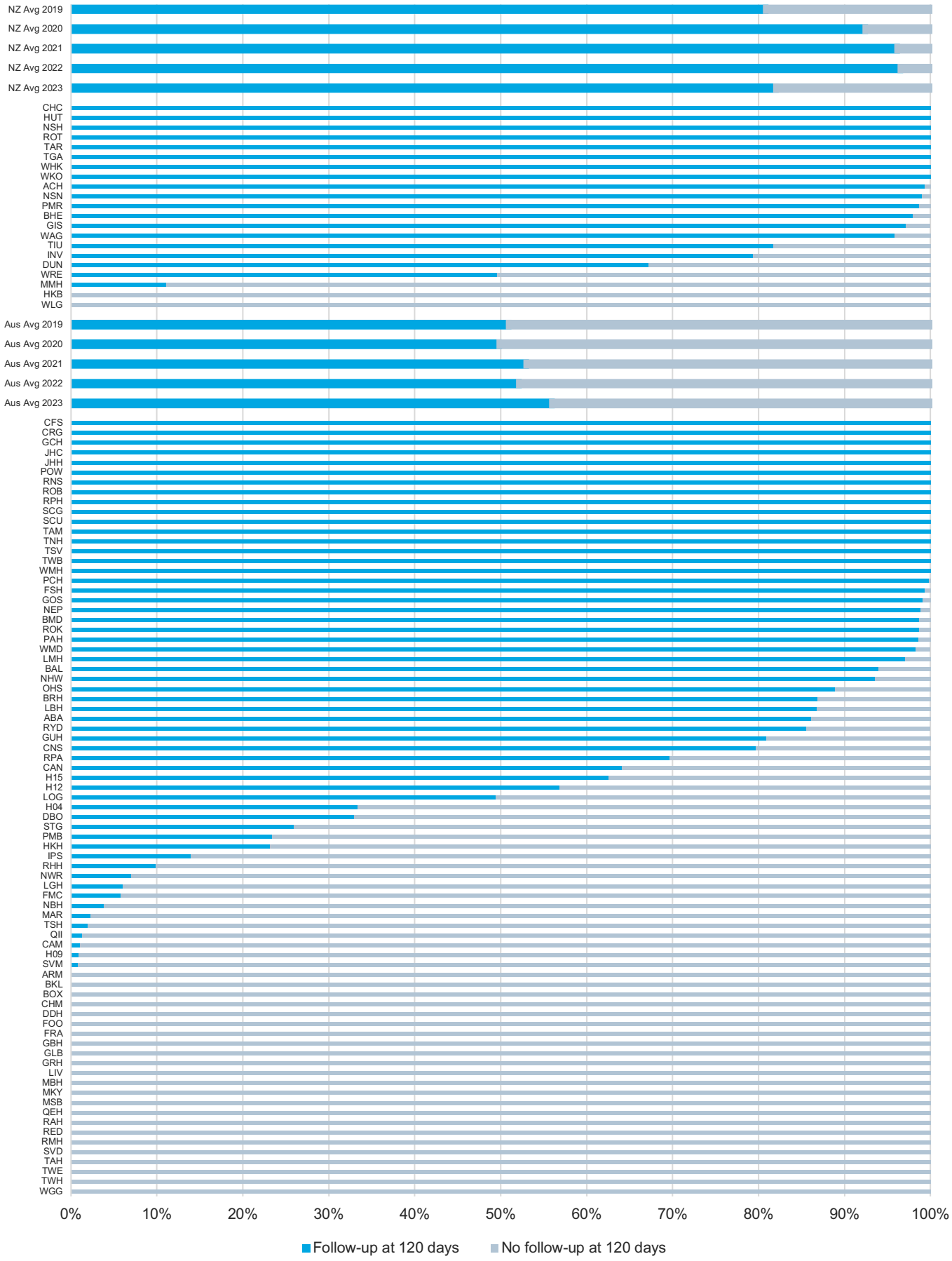


FIGURE 126
Follow-up at 120 days

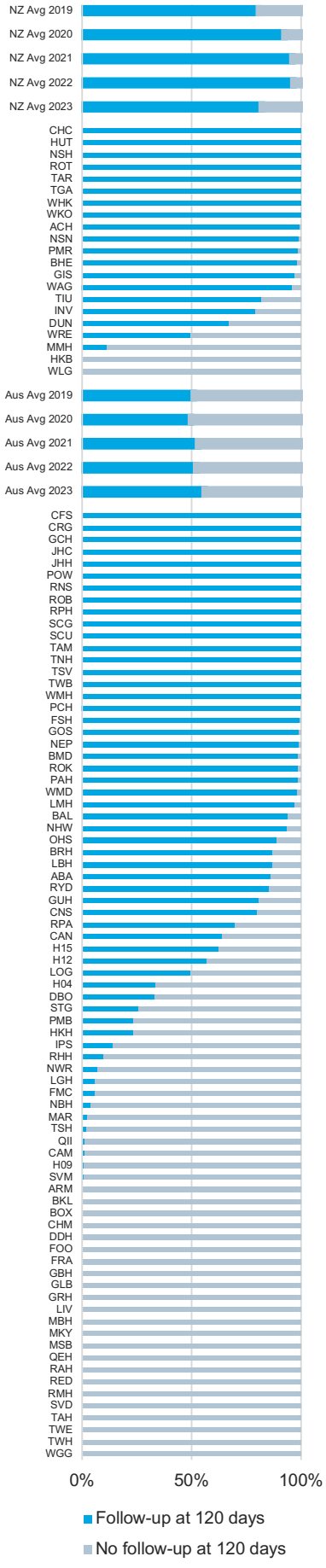


FIGURE 127
Reoperation within 120 days

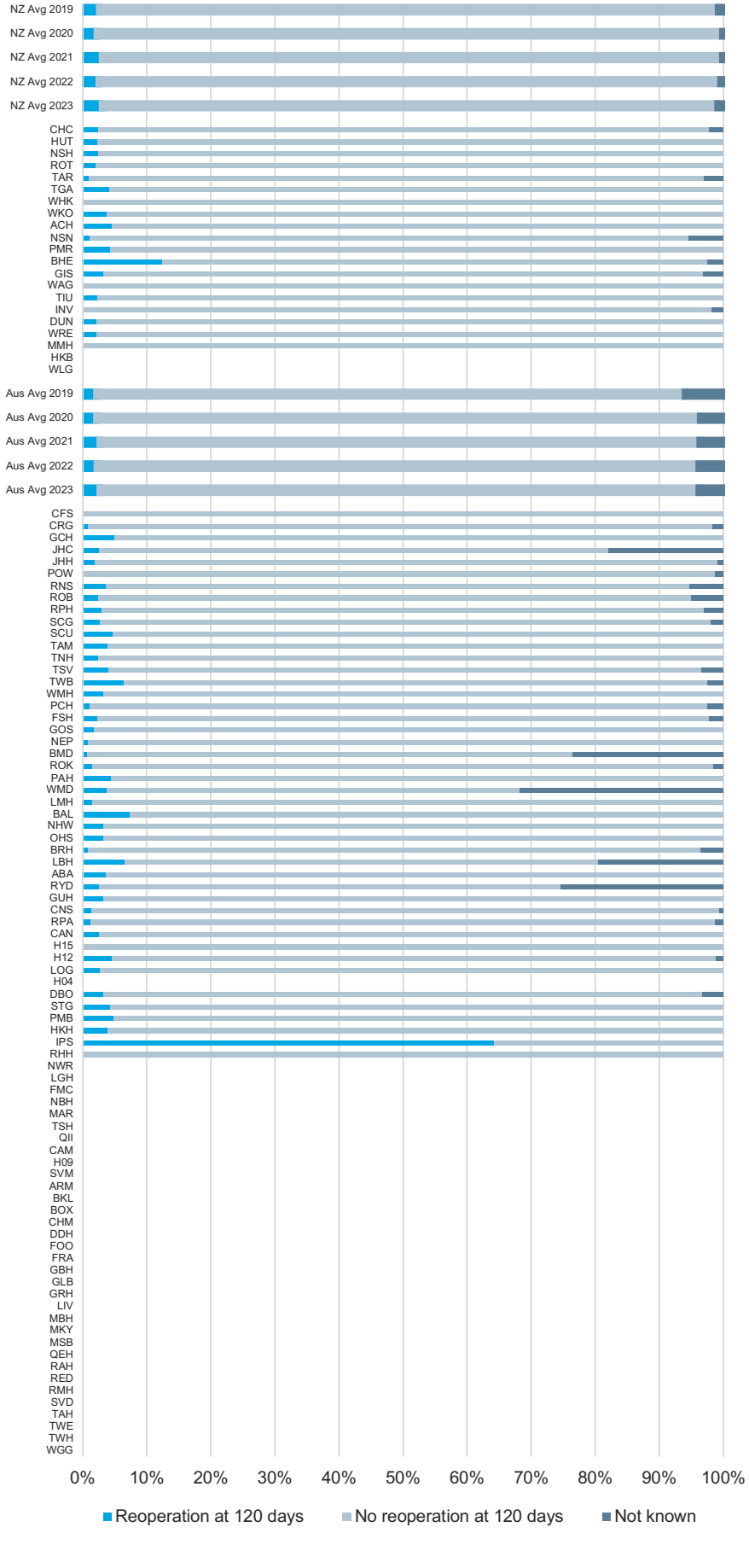


FIGURE 128
Follow-up at 120 days

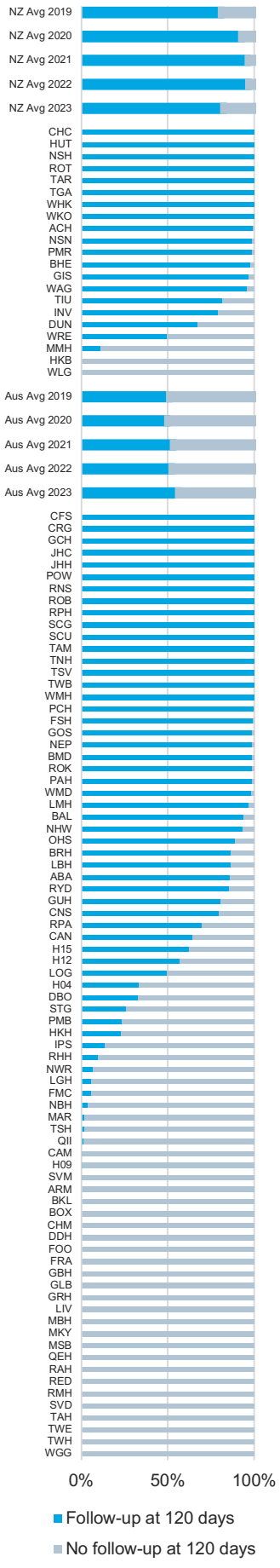
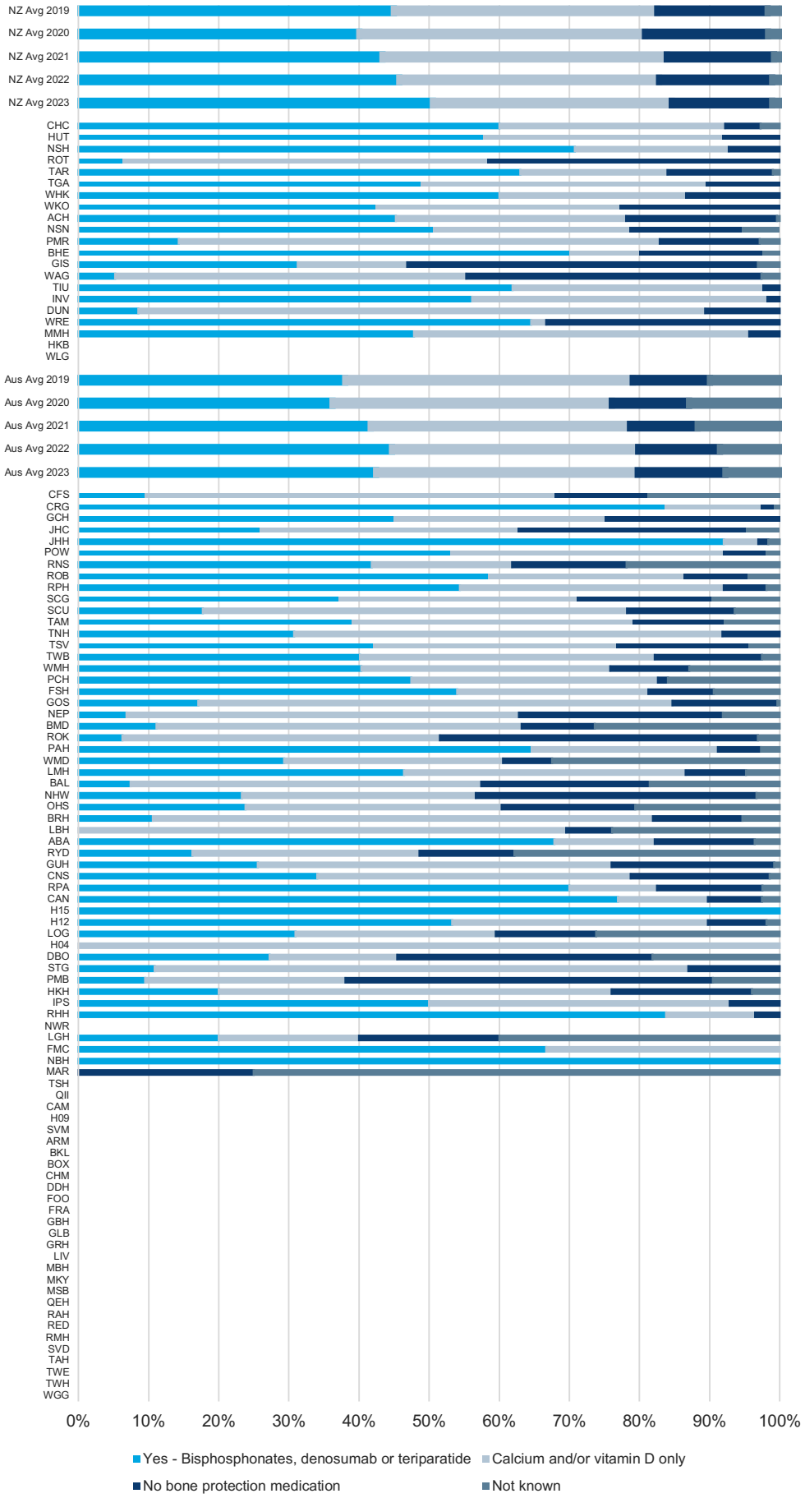


FIGURE 129
Bone protection medication at 120 days

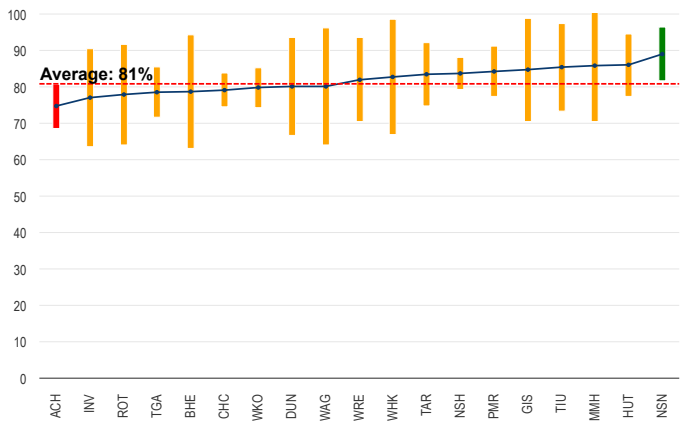


INDICATOR 7B:

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 separation from hospital

FIGURE 130

Return to private residence at 120 days in New Zealand



This chart includes sites that had 120-day follow-up data for **at least 70%** of their patients. Sites missing data for more than 30% of their patients have not been included in the caterpillar chart.

In 2023, 81% of patients in New Zealand (Figure 130) and 80% in Australia (Figure 131) had returned to their private residence 120 days after hip fracture.

FIGURE 131

Return to private residence at 120 days in Australia

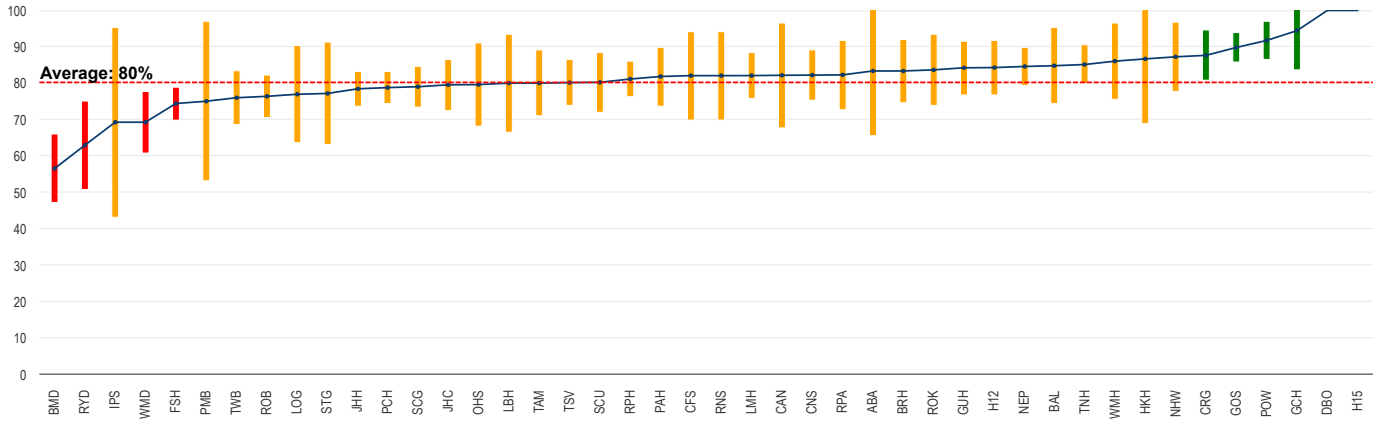


FIGURE 132
Follow-up at 120 days

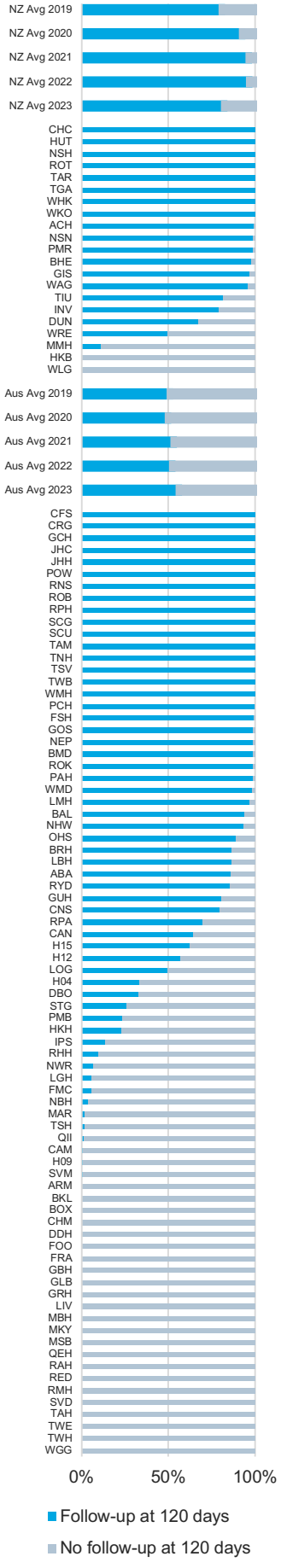
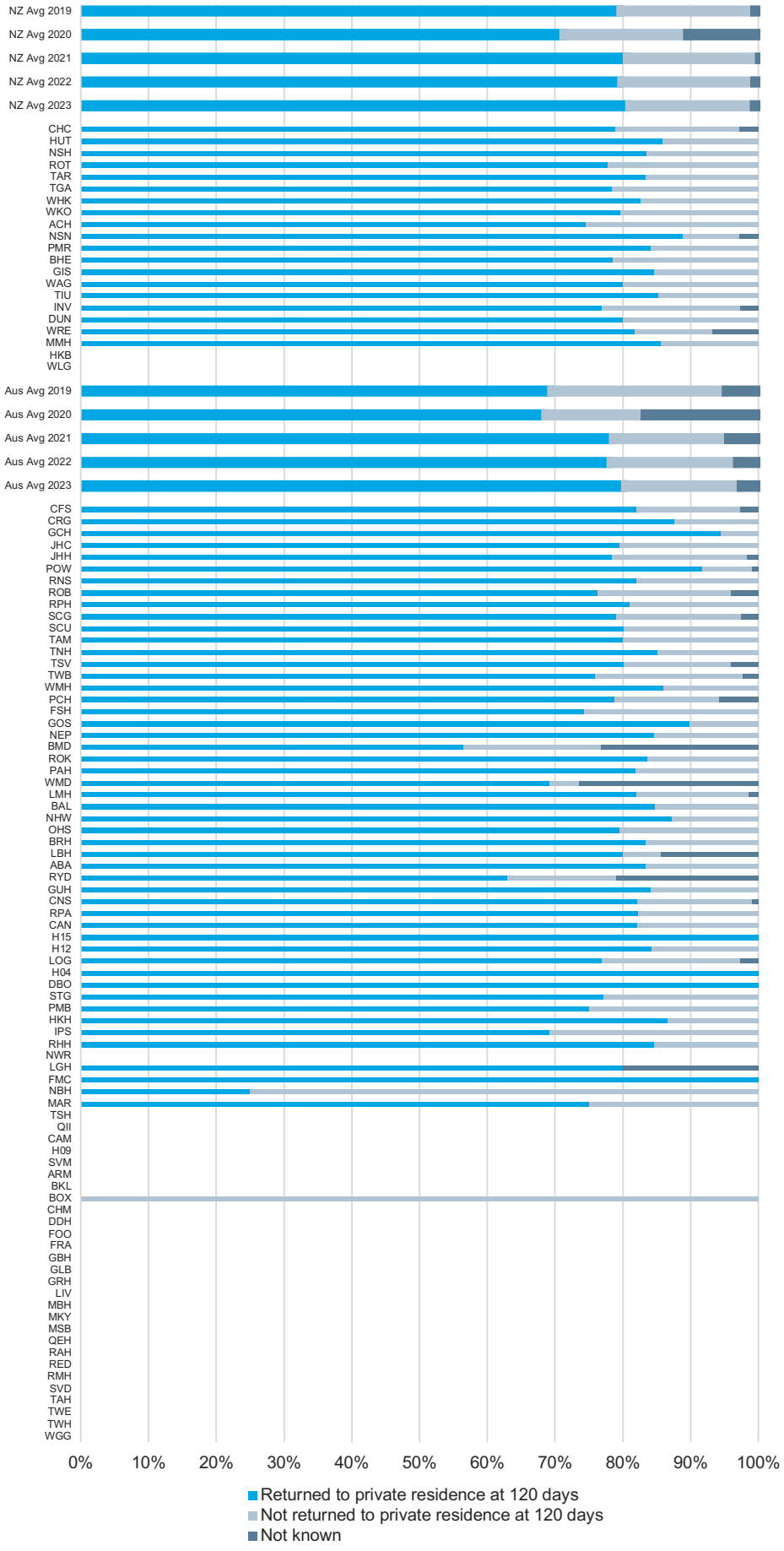
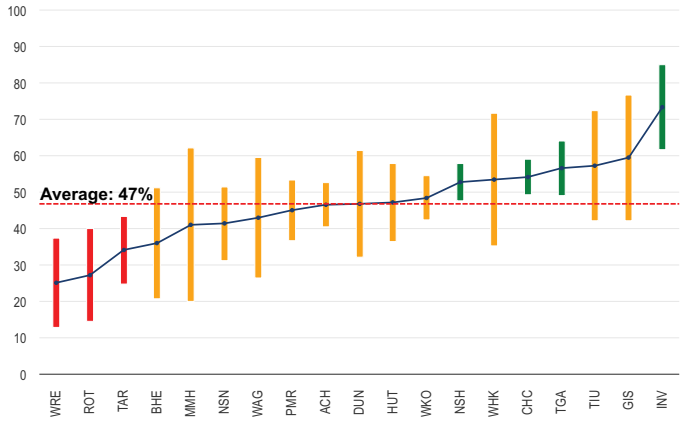


FIGURE 133
Return to private residence at 120 days



INDICATOR 5D:
Proportion of patients with a hip fracture returning to pre-fracture mobility

FIGURE 134
Return to pre-fracture mobility at 120 days: New Zealand



Return to pre-fracture mobility, a measure of functional recovery as reported by the patient, is captured as part of 120-day follow-up at sites where 120-day follow-up occurs.

Follow-up is completed by staff at the treating hospital via telephone. In New Zealand, 82% of patient records had data for 120 days. In Australia, 56% of patient records had data for 120 days.

This chart includes sites that had data for **at least 70%** of their patients. Sites missing data for more than 30% of their patients have not been included in the caterpillar chart.

Forty-seven percent of patients in New Zealand (Figure 134) and 44% of patients in Australia (Figure 135) reported a return to their pre-fracture mobility at 120 days.

FIGURE 135
Return to pre-fracture mobility at 120 days: Australia

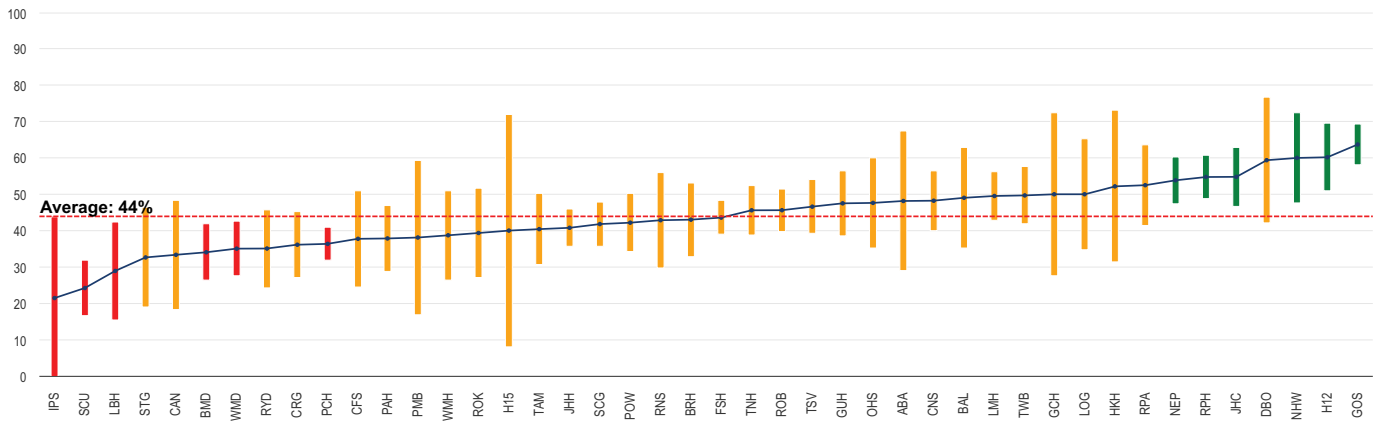


FIGURE 136
Follow-up at 120 days

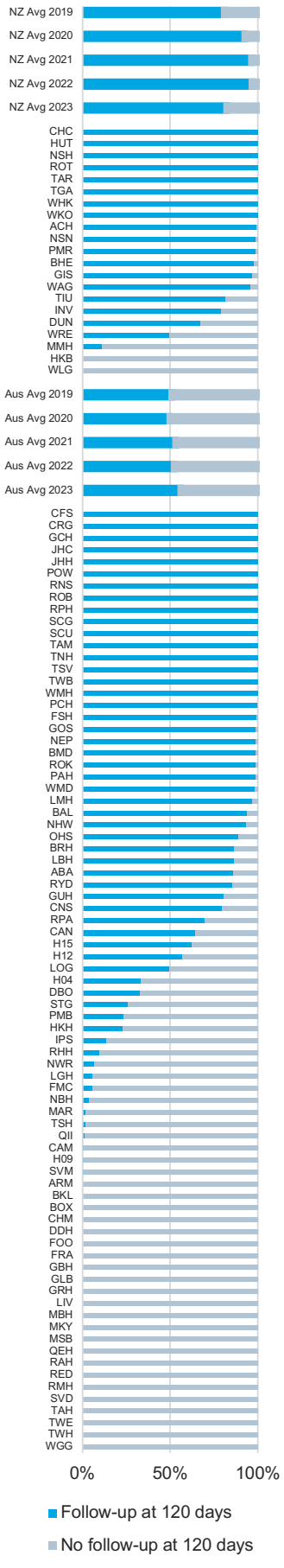


FIGURE 137
Return to pre-fracture mobility at 120 days

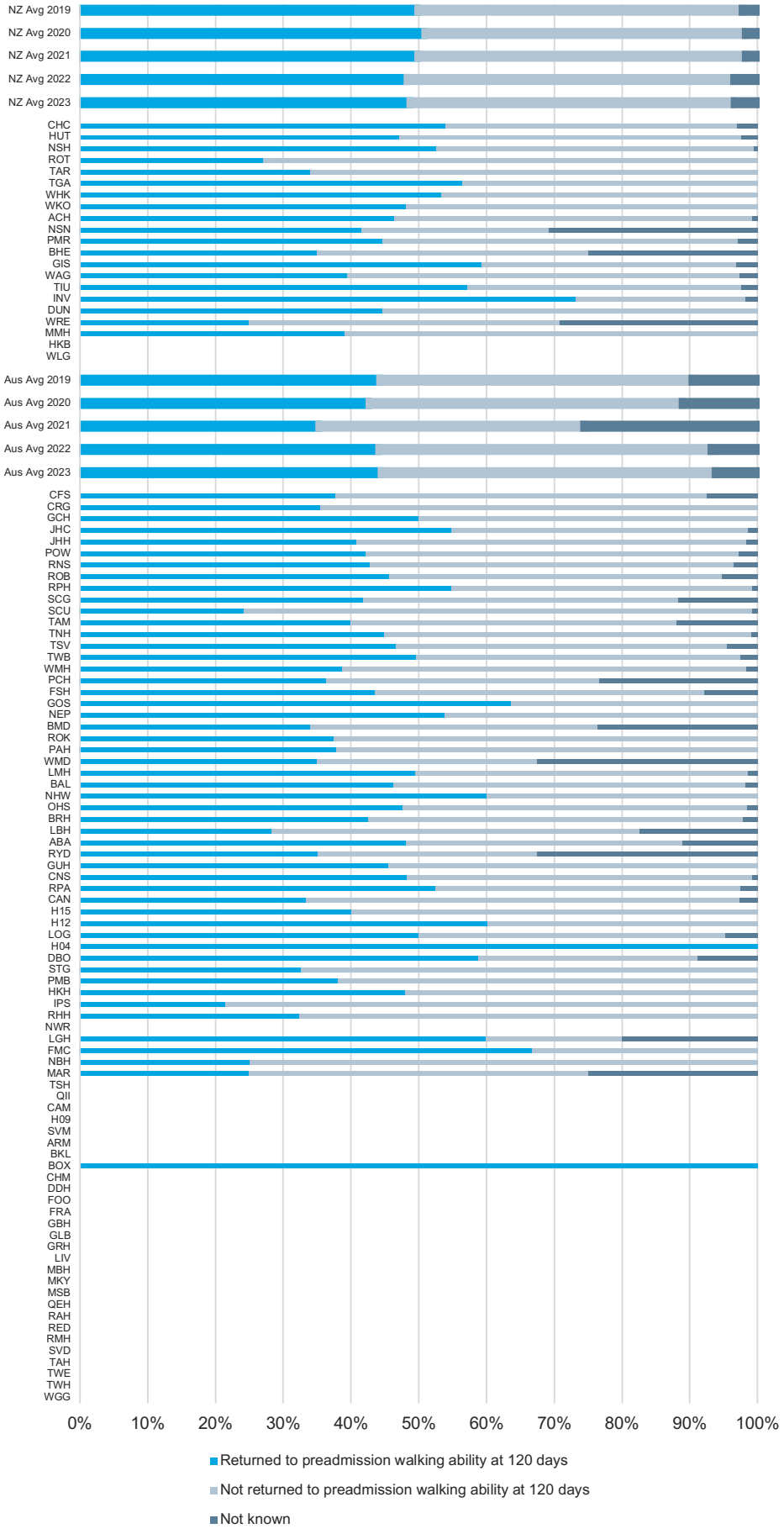
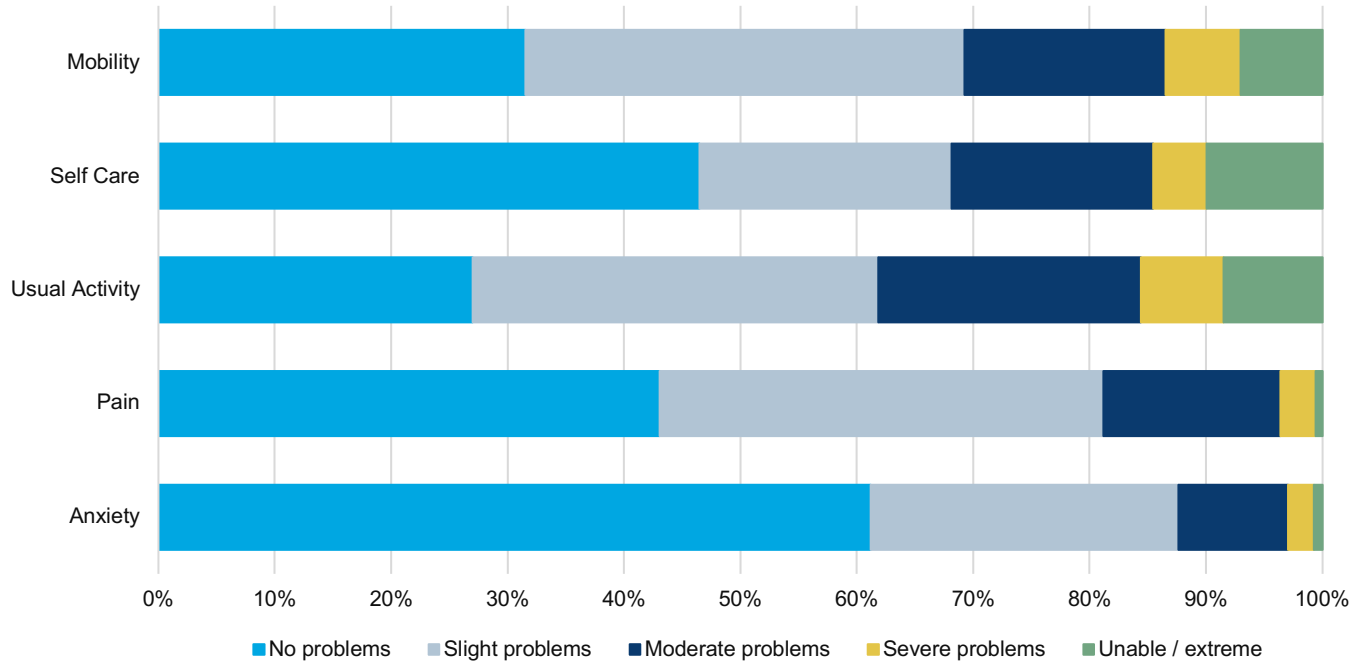


FIGURE 138 EQ-5D-5L at 120-days



47%

of patients in New Zealand and

44%

of patients in Australia reported a return to their pre-fracture mobility at 120 days.

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- **A/Professor Chris Wall**, Orthopaedic Surgeon Co-Chair
- **Dr Frazer Anderson**, Geriatrician, Osteoporosis New Zealand
- **Adj. Professor Jack Bell**, Advanced Accredited Practising Dietitian, Dietitians Australia
- **Dr Casey Bennetts**, Emergency Physician, Australasian College of Emergency Medicine
- **Professor Ian Cameron**, Rehabilitation Physician, Australasian Faculty of Rehabilitation Medicine
- **Dr Weiwen Chen**, Endocrinologist, Healthy Bones Australia
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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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