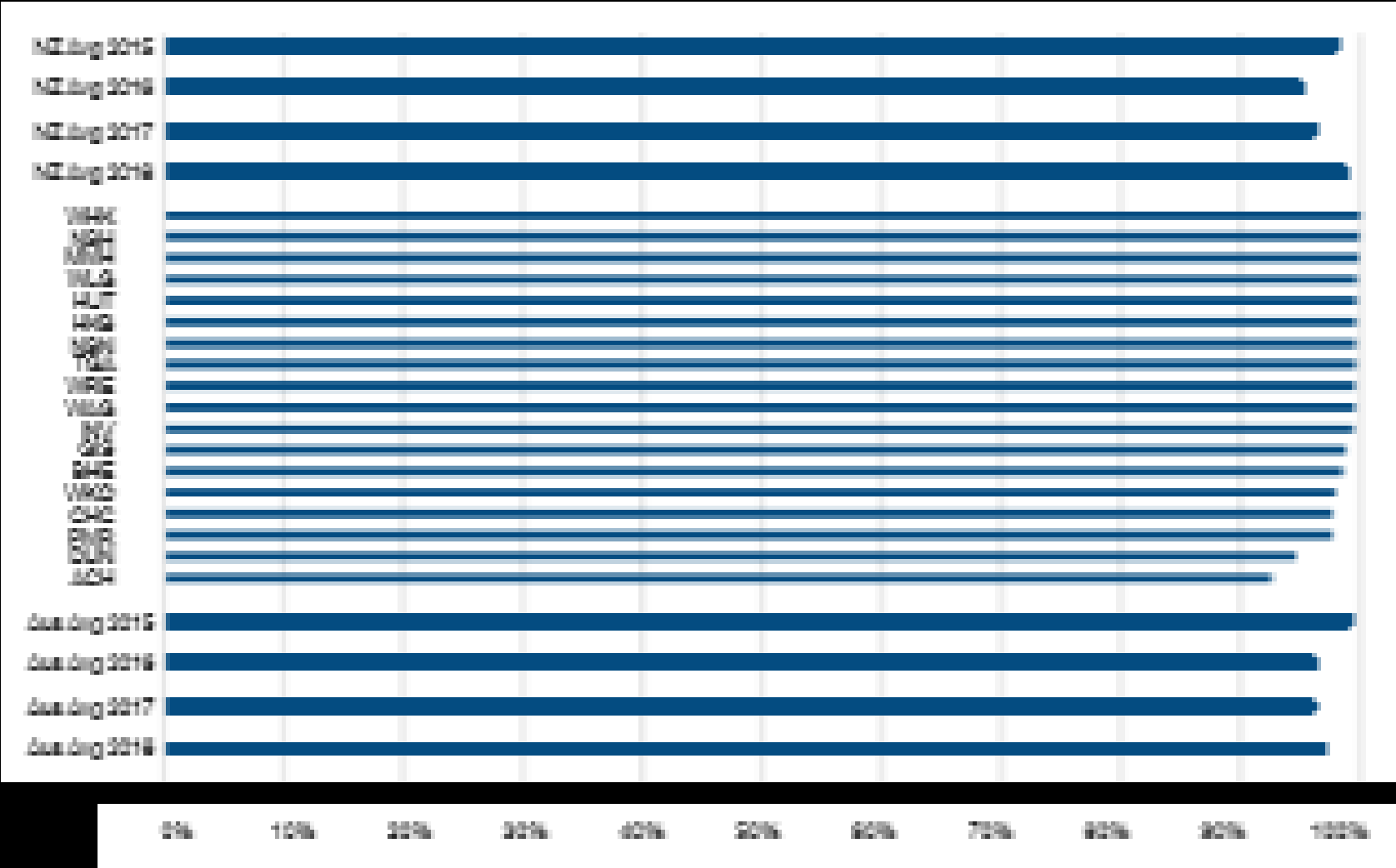


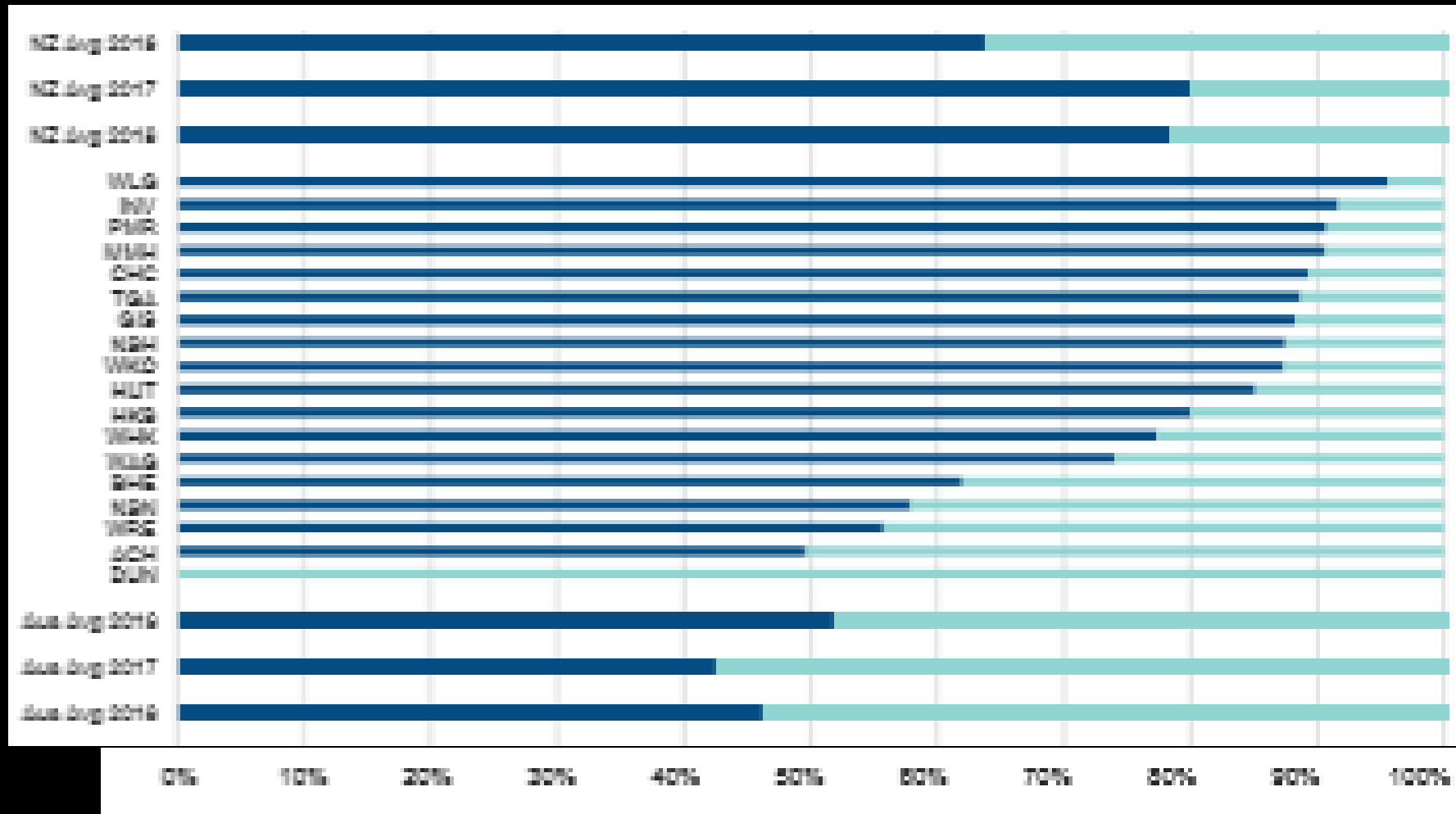
What is Data Quality ?

- Case ascertainment (coverage)
 - Do we have all hip fractures ? (2018 = c. 70% for NZ)
 - Missing cases can distort the truth
- Completeness
 - If data is missing – this can also cause misleading results
 - See next 2 slides
- Accuracy
 - This one is obvious

Data Completeness



120 Day Follow Up



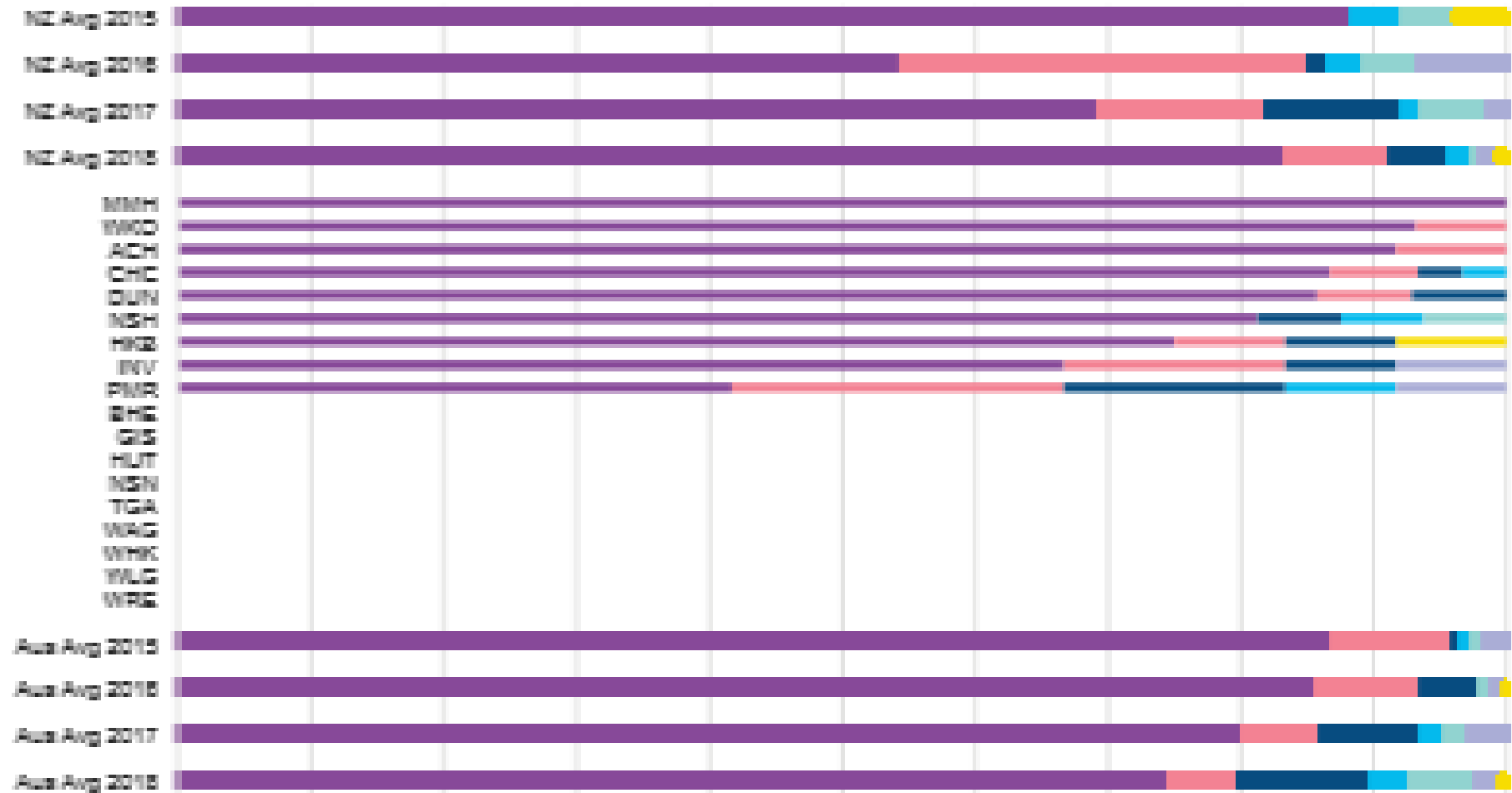
Data Accuracy Audit

- Pilot audit of 163 patients from 3 hospitals
 - 53 data variables in each data sheet
- Completeness 96%
- Agreement 82%
- Discrepancies
 - 50% information (see next slide)
 - 25% missing (e.g. nerve block not documented)
 - 25% date / time
 - Only 2% transcription
- **Comment – NO GOLD STANDARD**

Data Accuracy Audit

- Highlights the importance of:
 - Clear definitions
 - Appropriate training to avoid incorrect interpretation
 - Documentation - hard to find information in clinical record
- Remedies – by ANZHFR and locally
 - Reminders on data collection sheet
 - Checks built into website
 - Structures for recording information in clinical record
 - Training of data collectors

FIGURE 33 PROCEDURE TYPE FOR SUBTROCHANTERIC FRACTURES



- Intramedullary nail
- Sliding hip screw
- Hemiarthroplasty
- Cannulated screws
- Total hip replacement
- Not known
- Other

How Does Each Hospital Check Accuracy ?

- Possibilities
 - Check a sample of complete entries by another person
 - Check of targeted “problem” variables
 - Formal study – Trainee project ?
- Aim to LEARN and improve whole system accuracy

Australian CQSHC – Operating Principles for CQR's

- Must report percentage of eligible patients recruited (coverage)
- Must have a robust QA plan to ensure ongoing monitoring
 - A sample of cases should be regularly checked – audit against source
 - Sufficient size large enough to be reliable
 - Frequent enough to allow prompt identification of lapses
- Should incorporate in-built data management process
 - Data range and validity checks

Data Accuracy Plan for 2020

- Every hospital to audit 10% of cases – maximum of 25
- Audit full record
- Submit results to Steering Group Data Subcommittee
- Identify which variables are the most problematic
 - Likely to be different for each country
- Decide on best method for improvement

- Tool to do this in development

Common Queries / Debates / Overlooked

- Acute phase
- Falls assessment
- Surgery start time
- Preadmission Cognition
- Cognition assessment
- Delirium assessment
- Malnutrition assessment
- Cognition, delirium, malnutrition all have a negative effect on outcome
- Identifying these should lead to a “customised” care plan

[1] ALERTNESS

This includes patients who may be markedly drowsy (eg. difficult to rouse and/or obviously sleepy during assessment) or agitated/hyperactive. Observe the patient. If asleep, attempt to wake with speech or gentle touch on shoulder. Ask the patient to state their name and address to assist rating.

Normal (fully alert, but not agitated, throughout assessment)	0
Mild sleepiness for <10 seconds after waking, then normal	0
Clearly abnormal	4

[2] AMT4

Age, date of birth, place (name of the hospital or building), current year.

No mistakes	0
1 mistake	1
2 or more mistakes/untestable	2

[3] ATTENTION

*Ask the patient: "Please tell me the months of the year in backwards order, starting at December."
To assist initial understanding one prompt of "what is the month before December?" is permitted.*

Months of the year backwards	Achieves 7 months or more correctly	0
	Starts but scores < 7 months / refuses to start	1
	Untestable (cannot start because unwell, drowsy, inattentive)	2

[4] ACUTE CHANGE OR FLUCTUATING COURSE

Evidence of significant change or fluctuation in: alertness, cognition, other mental function (eg. paranoia, hallucinations) arising over the last 2 weeks and still evident in last 24hrs

No	0
Yes	4

4 or above: possible delirium +/- cognitive impairment
1-3: possible cognitive impairment
0: delirium or cognitive impairment unlikely (but delirium still possible if [4] information incomplete)

4AT SCORE

AMT-4: Validation – Cognition

- Age, Date of birth, Year, Place
- Significant cognitive impairment
- 600 ED patients screened (J Euro Emerg Med 2010)
 - Compared to MMSE (cut off of 23 or less)
 - AMT-10 (cut off 7 or less): Sensitivity 86% ; Specificity 93%
 - AMT- 4: (cut off 3 or less): Sensitivity 80% ; Specificity 76%
- AMT-4: 200 consecutive patients in variety of settings (Clin Rehabil 1997)
 - Predictive efficiency 90% when compared with AMT-10

4AT: Validation - Delirium

- Screening in ED (age 70+ yrs)
 - PPV 0.68
 - NPV 0.99
 - Algorithm if no informant (question 4)
 - If 1-3 = 0, score 0
 - If 2-3 = 1+, score 4
- Consecutive hospital admissions (age 70+ yrs)
 - Sensitivity 90%
 - Specificity 84%
- 3D-CAM
 - Sensitivity 93%
 - Specificity 96%

Malnutrition

- A state of nutrition in which a deficiency of energy, protein and/or other nutrients cause measurable adverse effects on tissue/body form, composition, function or clinical outcome
- NICE
 - BMI < 18.5, (but use < 22 for older people)
 - Unintentional weight loss of > 10% in the last 3-6 months
 - (NB patient may still be obese)
 - BMI < 20 and unintentional weight loss > 5% in last 3-6 months
 - Mild / moderate / severe
- ASPEN

Malnutrition and Hip Fracture

- Can't weigh a person with a hip fracture to get BMI !
- May need to use demi-span as substitute for height
- BMI not valid if already overweight
- May not be able to obtain history
 - Cognitive impairment
 - No collateral history
- Prevalence about 50% using ICD-10 criteria !!
- Outcomes poorer if malnutrition present

Malnutrition and Hip Fracture

- Commonly used screening tools perform poorly in Hip Fracture
 - MUST, MST-N, MST-NA, MNA-SF, NRS, Albumin
- ICD-10-AM criteria or the MNA-SF – perhaps best
 - Associated with patient outcomes of discharge destination and 4-month mortality
- **“Clinical Assessment” is required – something systematic**
 - Dietician is gold standard – not practical ?
 - Combination of screening tool and clinical assessment ?
 - Geriatrician assessment over diagnoses malnutrition !! – not a bad thing ??



The MNA[®]-SF (Short-Form)

A: Appetite loss	0-2pts.
B: Weight loss	0-3pts.
C: Mobility	0-2pts.
D: Acute disease	0-2pts.
E: Depression/Dementia	0-2pts.

BMI available

CC available

F: BMI 0-3pts.

R: CC 0 - 3 pts.

12-14 pts.	Well Nourished
7 -11 pts.	At Risk
0 - 7 pts.	Malnourished

Improvement Methodology

- Complex care journey
- Team sport
- Suggest establishment of multi-disciplinary group in each hospital
 - To review 3 monthly data and annual report
 - Choose improvement projects
 - Use ANZHFR data to track change
- Requests for additional fields / topics for “sprint audits” ?



ANZHF

Australian & New Zealand Hip Fracture Registry

Thankyou to everybody
for your interest and support