Stroke Care Indictors for Aotearoa

Alan Davis 4 May 2022

NATIONAL
STROKE
NETWORK

MINISTRY OF HEALTH
MANATŪ HAUORA

Agenda

- Background
- The current indicators
- The evidence
- Where are we
- Challenges
- The future

National Stroke Network

NATIONAL STROKE NETWORK

ABOUT   GUIDELINES & RECOMMENDATIONS   QUALITY & AUDIT   RESOURCES & PUBLICATIONS   NEWS & EVENTS

STROKE NURSE FORUM AOTEAROA

ational clinical leadership and stroke resources for
ealth professionals

National Stroke Network

As clinicians across New Zealand DHBs have increased their use of
telehealth to manage care in response to the challenges of Covid-19, so

Quick links:

Stroke Rehabilitation Action Plan

**The 2017 Australian and New Zealand Clinical Guide
Stroke Management**

NATIONAL STROKE NETWORK

MINISTRY OF HEALTH
MANATŪ HAUORA

Clinical Guidelines for Stroke Management

The Australian and New Zealand *Clinical Guidelines for Stroke Management* are **living guidelines**, updated as new evidence emerges. They supersede the 2017 Clinical Guidelines.

How to use the guidelines

- **MAGICapp.org** is the platform that hosts the guidelines. When you click a link you may be asked to accept terms and conditions, or to load the latest version. Please agree and continue to the guidelines.
- **Save a PDF** of the guidelines as they are today by clicking on the PDF link in the top right corner of MAGICapp.
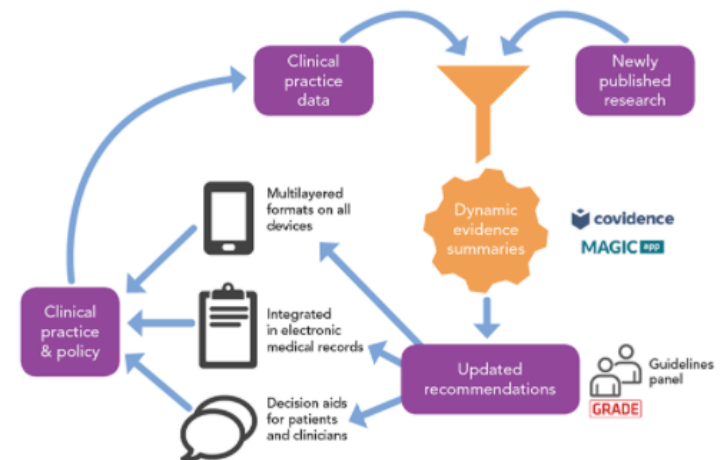
Reporting to MOH

- Initial set of indicators developed 2013
- Set by MOH on advice of NSN
- Quarterly reports to MOH (SS13 SA5)
- Include comments about local issues, challenges and planned process change
- Signed off by clinical leads (nursing, medical, AH)
- Assessment of achievement and response from MOH

Key Performance Indictors 2014

1. Acute stroke patients treated in ASU or by OASS (at any time)

    - target 80%

2. Thrombolysis in Ischaemic Stroke

    - target 6%

Key Performance Indictors 2022

1. Acute stroke patients treated in ASU (within 24 hrs)
      - target 80%
2. Reperfusion in Ischaemic Stroke (2020)
      - target 12%
3. In-patient rehab within 7 days of admission (2016)
      - target 80%
4. Community stroke rehabilitation 7 days   (2018)
      - target 60%

Key Performance Indictors

1. Acute stroke patients treated in ASU
   - target 80%
2. Reperfusion in Ischaemic Stroke
   - target 12%
3. In-patient rehabilitation within 7 days of admission
   - target 80%
4. Community stroke Rehabilitation 7 days
   - target 60%

Acute Stroke Unit Care - evidence

The organisation of hospital services to provide stroke unit care is the single most important recommendation for improving stroke management. While numbers of stroke units and stroke unit beds have increased between 2010 and 2019, the percentage of patients receiving stroke unit care has platued (67-69%) over the last 6 years (Stroke Foundation 2019 [15]). Therefore stroke unit care should be the highest priority for clinicians and administrators to consider.

Strong recommendation

All stroke patients should be admitted to hospital and be treated in a stroke unit with an interdisciplinary team. (Langhorne 2020 [7])

Practice points
- All stroke patients should be admitted directly to a stroke unit (preferably within three hours of stroke onset).
- For patients with suspected stroke presenting to non-stroke unit hospitals, transfer protocols should be developed and used to guide urgent transfers to the nearest stroke unit hospital.
- Where transfer is not feasible, smaller isolated hospitals should manage stroke services in a manner that adheres as closely as possible to the criteria for stroke unit care. Where possible, stroke patients should receive care in geographically discrete units.

ASU/OASS definition (NZ)

- Organised Acute Stroke Services are provided by a coordinated specialised interdisciplinary team (IDT) and consist of early and ongoing comprehensive assessments and treatment which is guided by best practice. This is reflected in the use of stroke specific protocols.

- The IDT meets regularly to discuss, formulate and implement patient management and optimise rehabilitation and patient function.

- Ideally care is provided in a geographically discrete unit but depending on DHB size this may not always be **feasible.**

ASU indicator definition

- **Numerator =** number of acute stroke admissions admitted to an ASU or organised stroke service with a demonstrated stroke pathway <u>within 24 hours</u> of their presentation to hospital (i.e. ED presentation time).

- **Denominator =** total acute stroke discharges for the quarter (I61, I63, I64 <u>as primary diagnosis</u>).
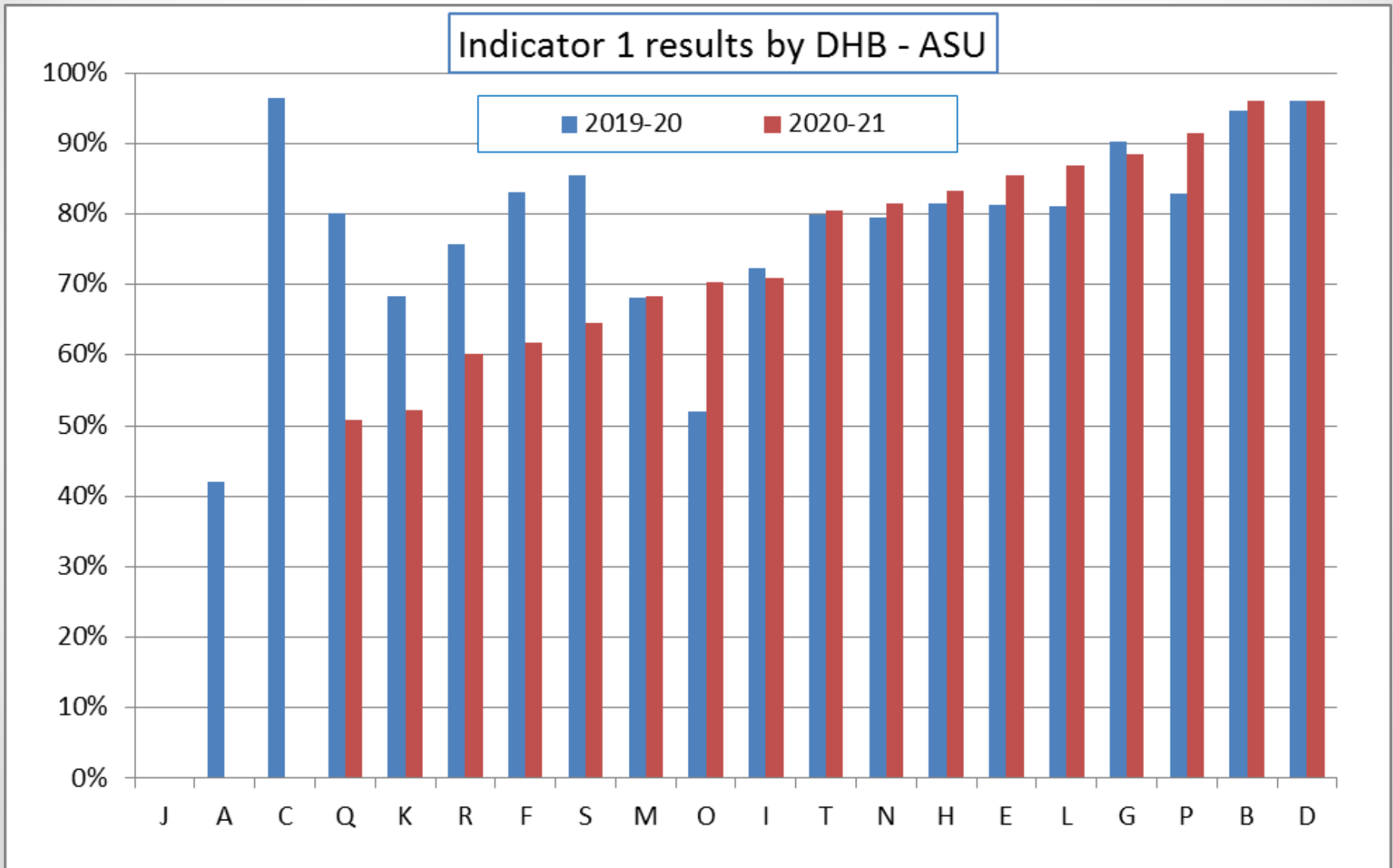
- **Target =** 80% (numerator/denominator).

ASU Indicator – NZ 2014-21
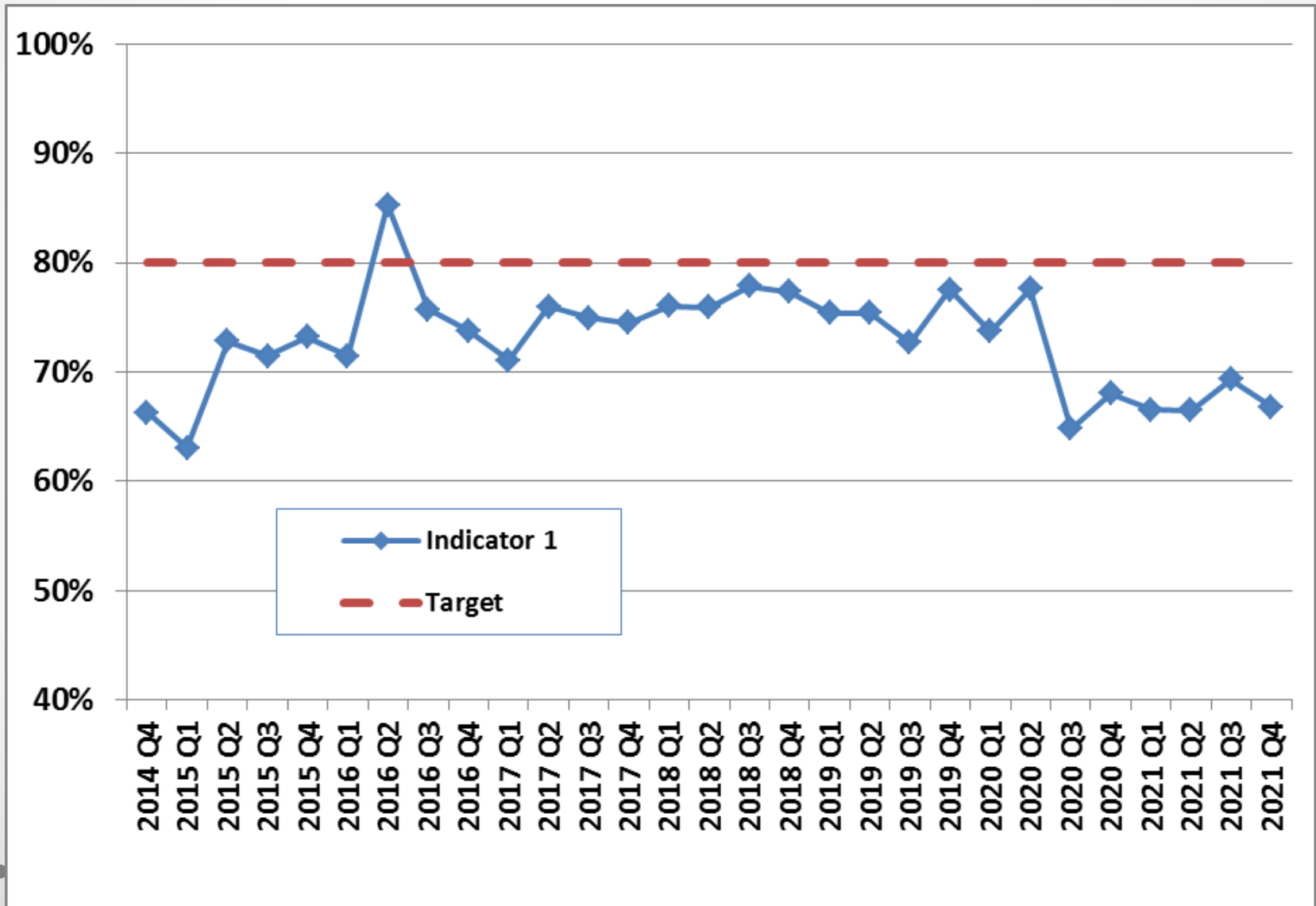
ASU Indicator – NZ 2014-21
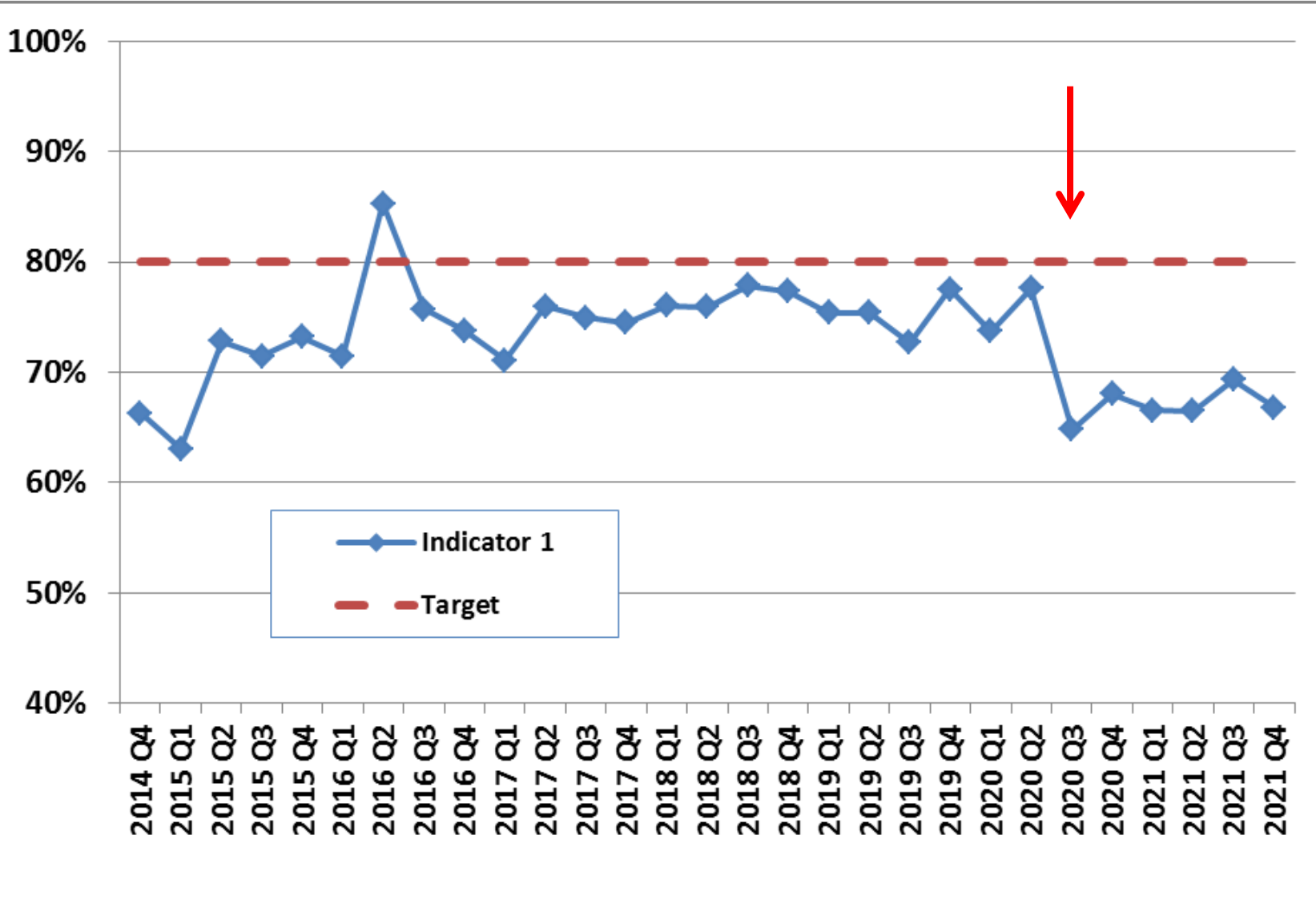
ASU indicator by DHB 2019-21

Indicator 1 results by DHB - ASU

Key Performance Indictors

1. Acute stroke patients treated in ASU
    - target 80%
2. Reperfusion in Ischaemic Stroke
    - target 12%
3. In-patient rehabilitation within 7 days of admission
    - target 80%
4. Community stroke Rehabilitation 7 days
    - target 60%

Reperfusion - evidence

For patients with potentially disabling ischaemic stroke due to large vessel occlusion who meet specific eligibility criteria, intravenous tenecteplase (0.25mg/kg, maximum of 25mg) or alteplase (0.9mg/kg, maximum of 90mg) should be administered up to 4.5 hours after the time the patient was last known to be well. (Parsons et al 2012 [57], Campbell et al 2018 [55])

For patients with potentially disabling ischaemic stroke who meet perfusion mismatch criteria in addition to standard clinical criteria, intravenous alteplase (dose of 0.9 mg/kg, maximum of 90 mg) should be administered up to 9 hours after the time the patient was last known to be well, or from the midpoint of sleep for patients who wake with stroke symptoms, unless immediate endovascular thrombectomy is planned. (Ma et al 2019 [64], Campbell et al 2019 [58])

For patients with ischaemic stroke caused by a large vessel occlusion in the internal carotid artery, proximal middle cerebral artery (M1 segment), or with tandem occlusion of both the cervical carotid and intracranial large arteries, endovascular thrombectomy should be undertaken when the procedure can be commenced within six hours of stroke onset. (Goyal et al. 2016 [76])

Reperfusion indicator definition

- **Numerator =** number of patients with ischaemic stroke thrombolysed and/or treated with clot retrieval - counted by DHB of domicile. Data from reperfusion register (REDcap).

- **Denominator =** number of ischaemic stroke discharges for the quarter (ICD Codes I63, I64).
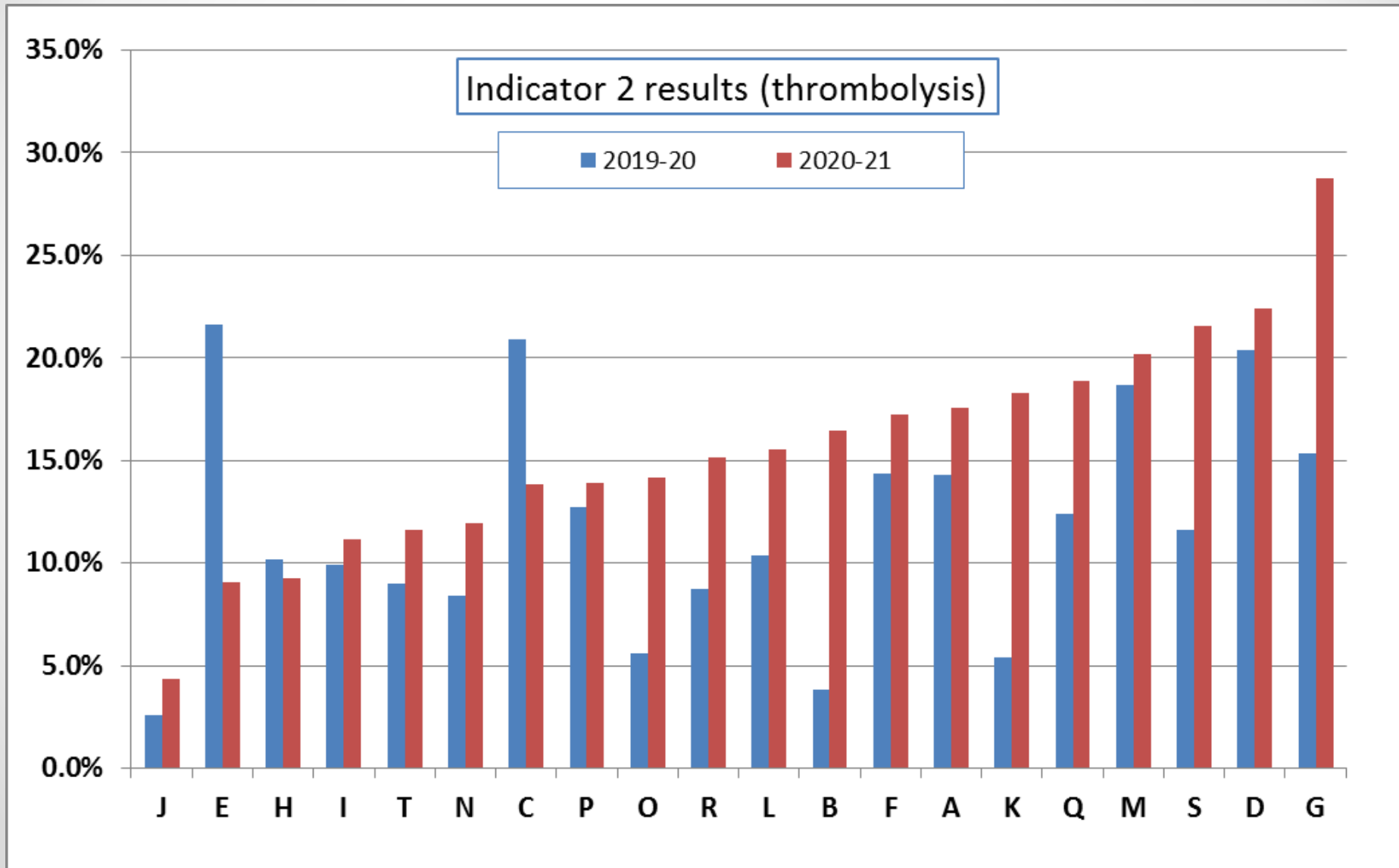
- **Target =** 12% (numerator/denominator).

Reperfusion indicator - NZ
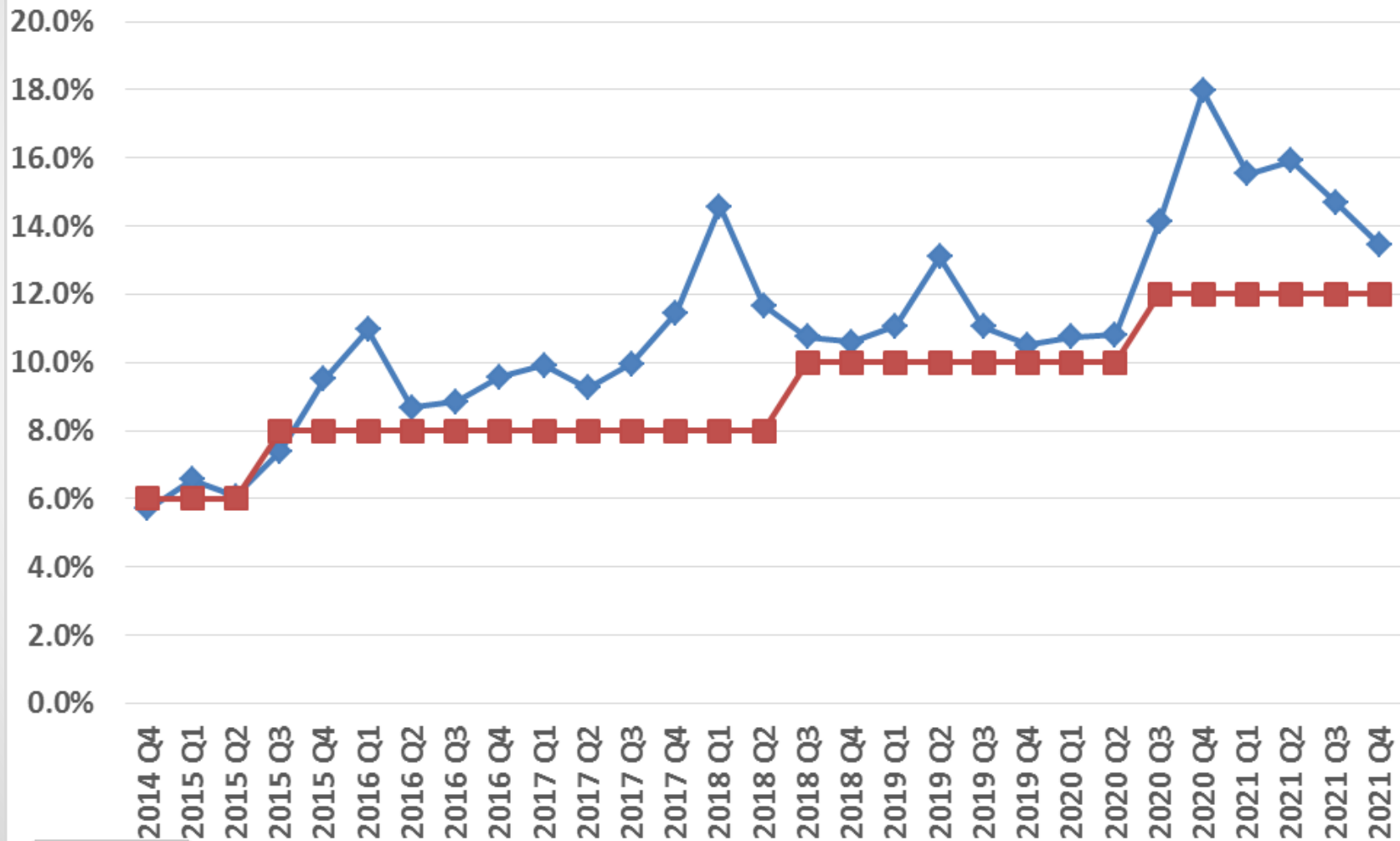
Reperfusion indicator by DHB 2019-21

Key Performance Indictors 2022

1. Acute stroke patients treated in ASU
    - target 80%
2. Reperfusion in Ischaemic Stroke
    - target 12%
3. In-patient rehab within 7 days of admission (2016)
    - target 80%
4. Community stroke rehabilitation 7 days (2018)
    - target 60%

In-patient stroke rehabilitation

- On-site stroke rehabilitation team
- All stroke rehabilitation on a single ward
- Weekly team meetings
- Written clinical guidelines
- Goal specific person centred plans
- Stroke education
- Pre-discharge carer training
- Measurement and documentation of rehab intensity
- Participation in AROC and MoH stroke KPIs
- Audit
- Stroke specific staff education
- Access to key services

Rehabilitation - evidence

All stroke patients should commence mobilisation (out-of-bed activity) within 48 hours of stroke onset unless otherwise contraindicated (e.g. receiving end-of-life care). (Bernhardt et al. 2015 [9]; Lynch et al. 2014 [10])

- For stroke survivors, rehabilitation should be structured to provide as much scheduled therapy (occupational therapy and physiotherapy) as possible. (Lohse et al. 2014 [26]); Schneider et al. 2016 [32]; Veerbeek et al. 2014 [96])
- For stroke survivors, group circuit class therapy should be used to increase scheduled therapy time. (English et al. 2015 [23])

A minimum of three hours a day of scheduled therapy (occupational therapy and physiotherapy) is recommended, ensuring at least two hours of active task practice occurs during this time. (Lohse et al. 2014 [26]; Schneider et al. 2016 [32])

In patient rehabilitation indicator definition

- **Numerator =** number of acute stroke admissions transferred to in-pt rehabilitation during quarter that transferred within 7 days of acute admission.

- **Denominator =** number of acute stroke admissions transferred to in-pt rehabilitation during quarter.
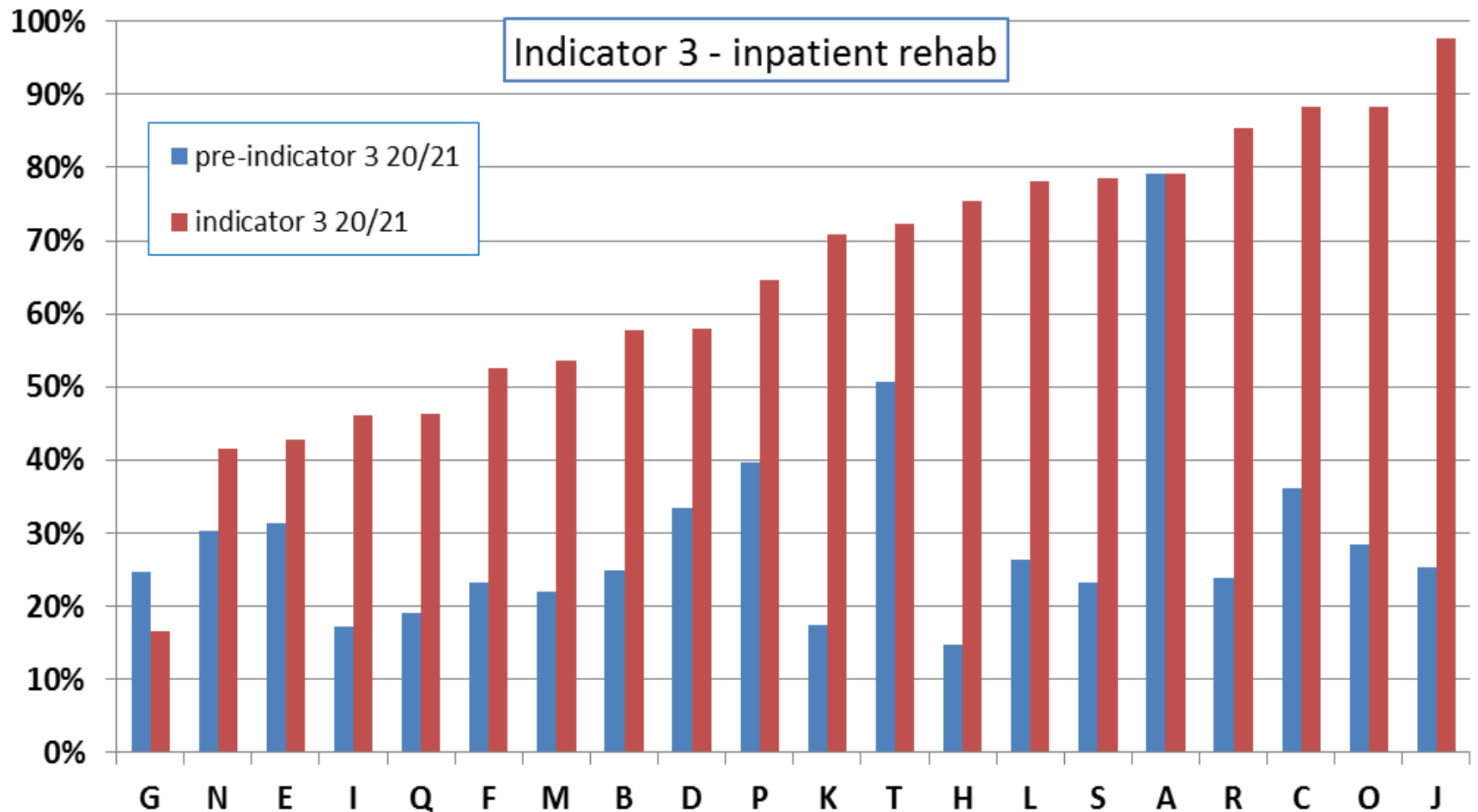
- **Target =** 80% (numerator/denominator).

I/P rehab indicator results – NZ 2016-21
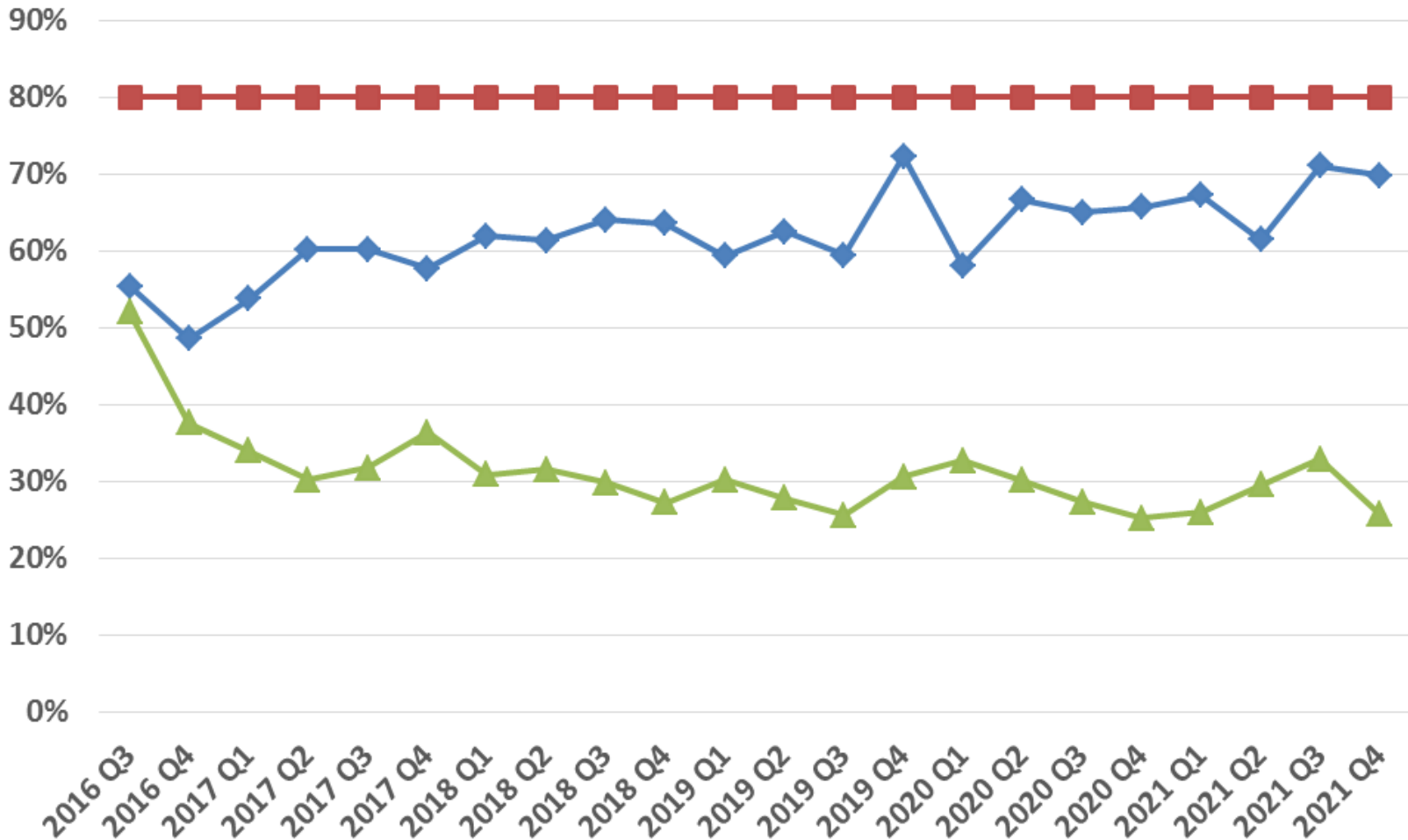
Indicator 3 by DHB 2020/21

Key Performance Indictors

1. Acute stroke patients treated in ASU
   - target 80%
2. Reperfusion in Ischaemic Stroke
   - target 12%
3. In-patient rehabilitation within 7 days of admission
   - target 80%
4. Community stroke Rehabilitation 7 days
   - target 60%

Community stroke rehabilitation

- Interdisciplinary stroke rehabilitation team
- Seamless transition, single point of entry
- Weekly team meetings
- Partnership with person/whanau
- Goal specific person centred plans
- Three times weekly therapy
- Participation in stroke KPIs
- Stroke specific staff education
- Interface with primary and community care

Community rehabilitation - evidence

Strong recommendation

Where appropriate home-based coordinated stroke services are available (*see Practical information section*), early supported discharge services should be offered to stroke patients with mild to moderate disability. (Langhorne et al. 2017 [39])

Weak recommendation

Home-based rehabilitation may be considered as a preferred model for delivering rehabilitation in the community. Where home rehabilitation is unavailable, stroke patients requiring rehabilitation should receive centre-based care. (Rasmussen et al. 2016 [51]; Hillier et al. 2010 [53])

Community rehab indicator definition

- **Numerator =** number of patients referred for community rehabilitation who are seen face to face by a member of the community rehab team within 7 calendar days of hospital discharge.

- **Denominator =** number of patients discharged from hospital (either from acute care or rehabilitation) with a primary stroke diagnosis (I61, I63, I64) who are referred within 2 weeks of discharge and subsequently treated by a community rehabilitation team.

- **Target =** 60% (numerator/denominator).

Community rehab Indicator 2018-21
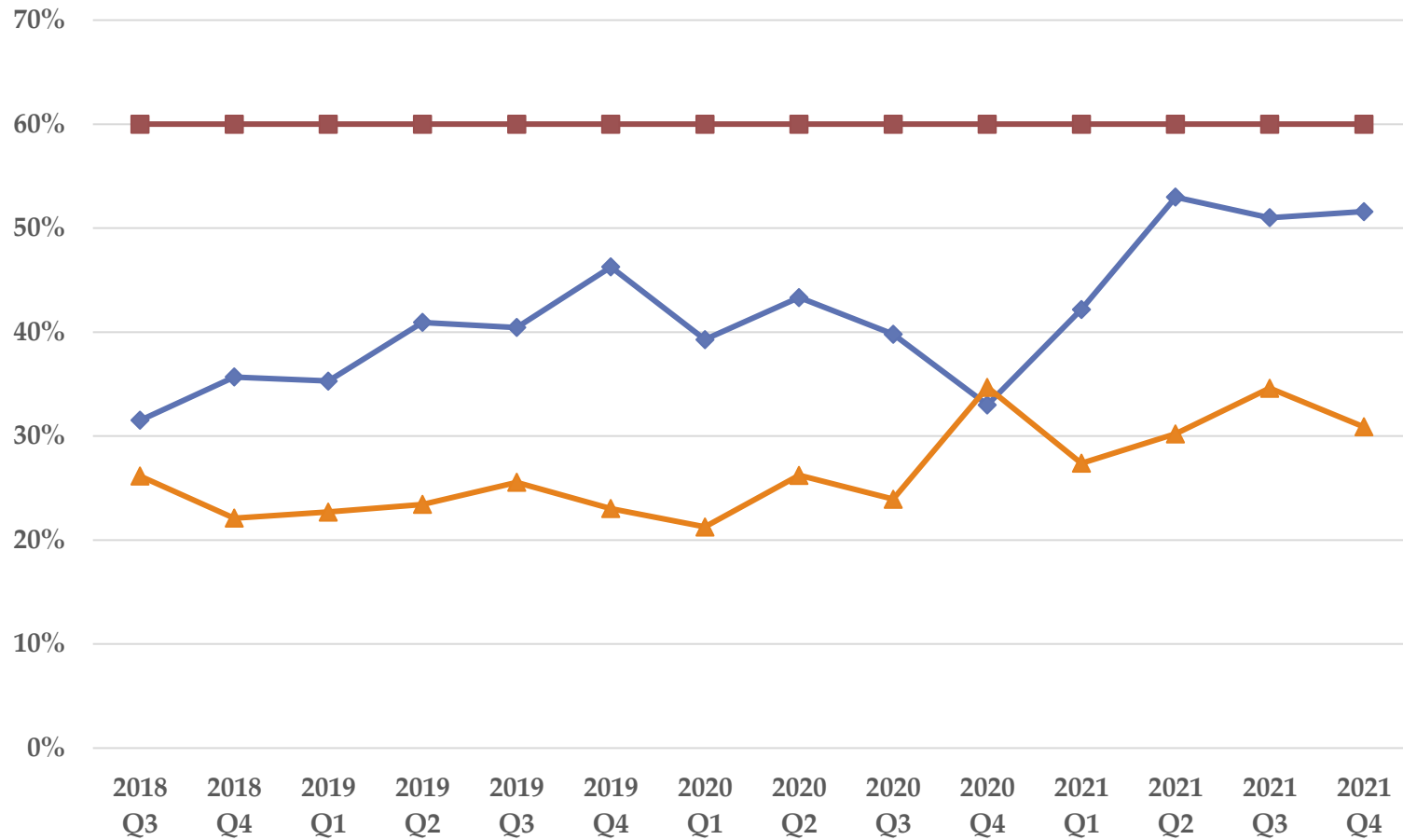
Indicator 4 by DHB 20/21
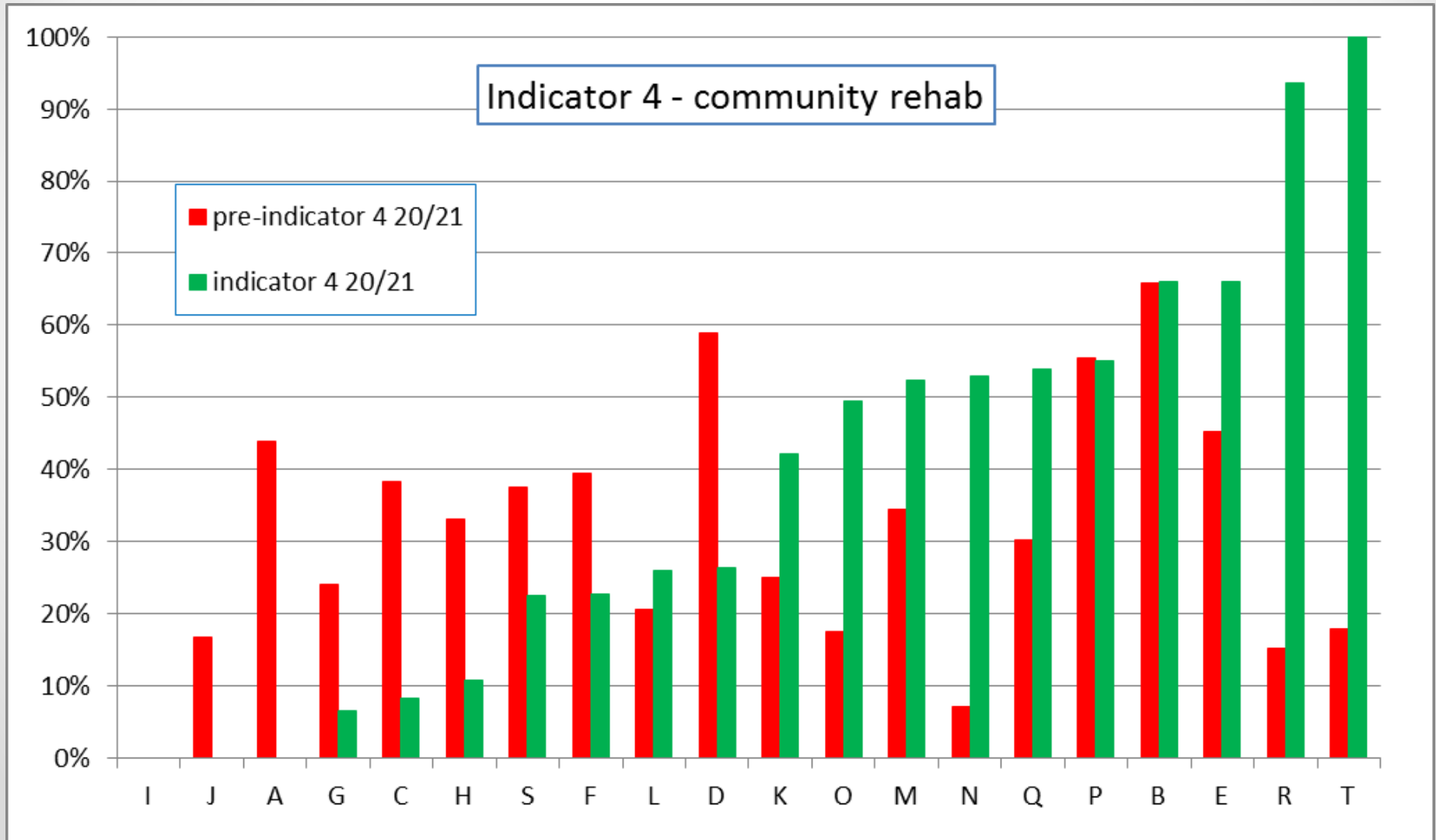
Indicator results Q3 2021/22

Q3 2021/22

DHB	1. ASU access Total	1. ASU access Māori	2. Reperfusion Total	2. Reperfusion Māori	3. Inpatient rehab Total	3. Inpatient rehab Māori	4. Community rehab Total	4. Community rehab Māori	Achievement MoH score
1	59.5%	67.0%	7.0%	20.0%	33.3%	31.8%	32.3%	40.0%	
2	55.8%	56.8%	11.1%	14.9%	38.6%	45.5%	97.3%	100.0%	
3	93.0%	100.0%	14.3%	20.8%	56.8%	35.7%	85.4%	86.7%	
4	43.0%	55.0%	13.0%	32.0%	24.0%	0.0%	56.0%	33.0%	
5	78.0%	67.0%	11.5%	24.0%	92.0%	96.0%	100.0%	100.0%	
6	69.9%	75.0%	10.0%	33.3%	81.0%	75.0%	58.0%	40.0%	
7	87.1%	100.0%	14.0%	0.0%	78.0%	100.0%	5.0%	0.0%	
8	83.0%	82.0%	16.0%	25.0%	100.0%	#	43.0%	45.0%	
9	100.0%	100.0%	10.0%	22.0%	66.0%	100.0%	0.0%	0.0%	
10	71.1%	82.4%	29.5%	36.3%	37.5%	50.0%	0.0%	0.0%	
11	96.0%	100.0%	27.0%	20.0%	71.0%	20.0%	14.0%	0.0%	
12	89.0%	100.0%	16.0%	17.0%	100.0%	#	20.0%	#	
13	0.0%	0.0%	4.0%	0.0%	85.0%	33.0%	10.0%	50.0%	
14	83.0%	86.0%	14.8%	40.0%	79.0%	100.0%	60.0%	75.0%	
15	73.0%	67.0%	21.0%	33.0%	17.0%	0.0%	81.4%	25.0%	
16	0.0%	0.0%	13.0%	#	44.4%	#	23.0%	#	
17	53.1%	50.0%	17.8%	20.0%	75.4%	#	9.6%	0.0%	
18	100.0%	100.0%	0.0%	#	#	#	50.0%	0.0%	
19	96.6%	100.0%	4.0%	0.0%	76.9%	0.0%	73.0%	0.0%	
20	63.5%	83.3%	6.5%	16.7%	76.9%	0.0%	36.0%	#	

Issues/challenges

- Do we have the ASU definition right
- Getting the data right
  - In patient
  - Community
- The "post code lottery"
- Are we really doing what we are reporting
- How to ensure clinical leads are listened to and accountable
- How to learn from each other
- What happens next year

The future

- Stroke services will continue
- Reporting and indicators will continue
- Networks will continue
- Service delivery moves to HNZ
- Monitoring and planning stays with MOH
- Data extraction for reporting may be more centralised

Questions….