

Scottish Stroke Care Audit 2024

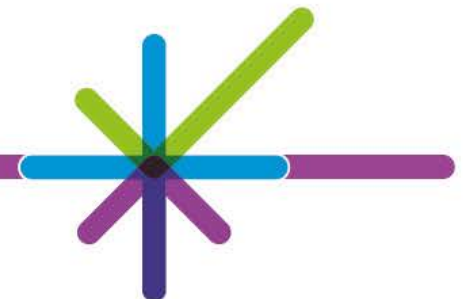
Neil Muir

19th September 2024



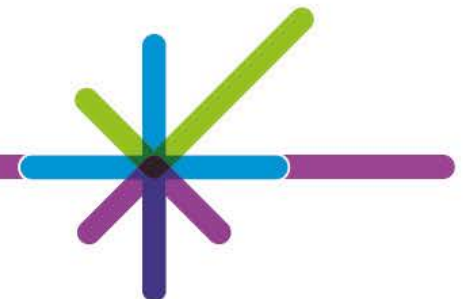
Scottish Stroke Care Audit (SSCA)

- Started collecting data in 2002
- Includes all hospitals managing acute stroke in Scotland
- First report published in 2005
- Purpose: to drive improvements in stroke care for all patients in Scotland
- Report to the National Advisory Committee for Stroke (NACS) at Scottish Government
- Audit coordinators employed in each Health Board to collect stroke data



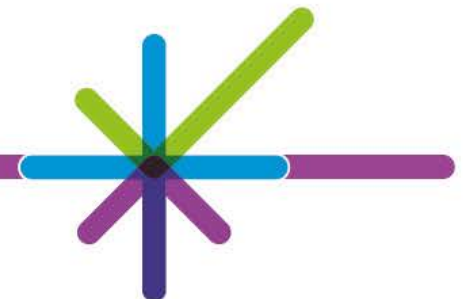
Who is in the SSCA/ Scottish Stroke Improvement team?

- Clinical Lead/ Chair: Prof Mary-Joan MacLeod
- Clinical Coordinator: Neil Muir
- Regional Coordinator: Emma Munro
- Senior Information Analyst: Stephannie Whigham
- Information Analyst: George Addo Opoku-Pare
- Scottish Stroke Improvement Lead: Katrina Brennan
- Rehabilitation Lead: Therese Lebedis
- Specialty Advisor to the CMO: Dr Matt Lambert
- Clinical Priorities Policy Lead: Martin MacDonald



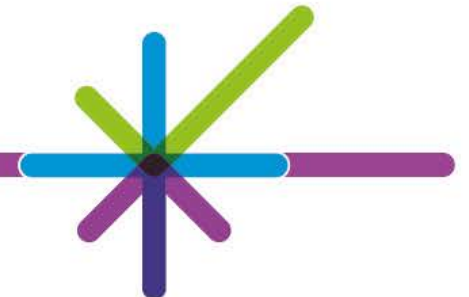
What does SSCA report on?

- Access to Stroke Unit: 90% within 1 day of admission (Day 0 and 1)
- Brain imaging: 90% within 12 hours of arrival
- Swallow screen: 100% within 4 hours of admission
- Aspirin administration: 95% of ischaemic strokes within 1 day of admission (Day 0 and 1)
- Bundle performance : 80% of patients receive the 'appropriate' Stroke Care Bundle



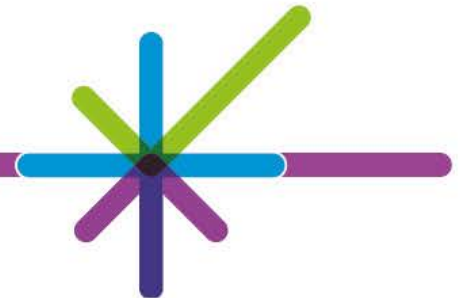
What else do we report on?

- Thrombolysis: 50% \leq 30 mins of arrival at hospital
 80% \leq 60 mins of arrival at hospital
- Referral to specialist stroke/ TIA clinic: 80% are assessed within 4 days of receipt of referral (Day 0 being day of receipt of referral)
- Carotid Intervention: 80% undergoing carotid endarterectomy for symptomatic carotid stenosis within 14 days of event



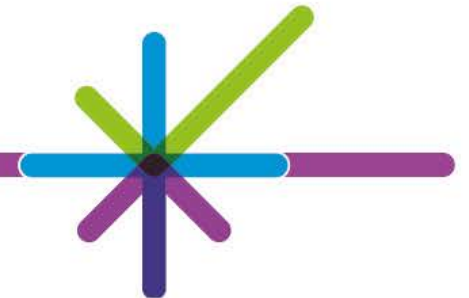
Other analysis for service improvement

- Door to needle time for thrombolysis
- In hours door to needle time and out of hours door to needle time.
 - Reflects service structure and delivery
- Thrombolysis rates
- % of stay in the stroke unit
- Length of stay as a mean and median



Scottish Stroke Improvement Programme 2024, with data from the Scottish Stroke Care Audit: national report

A Management information release for Scotland



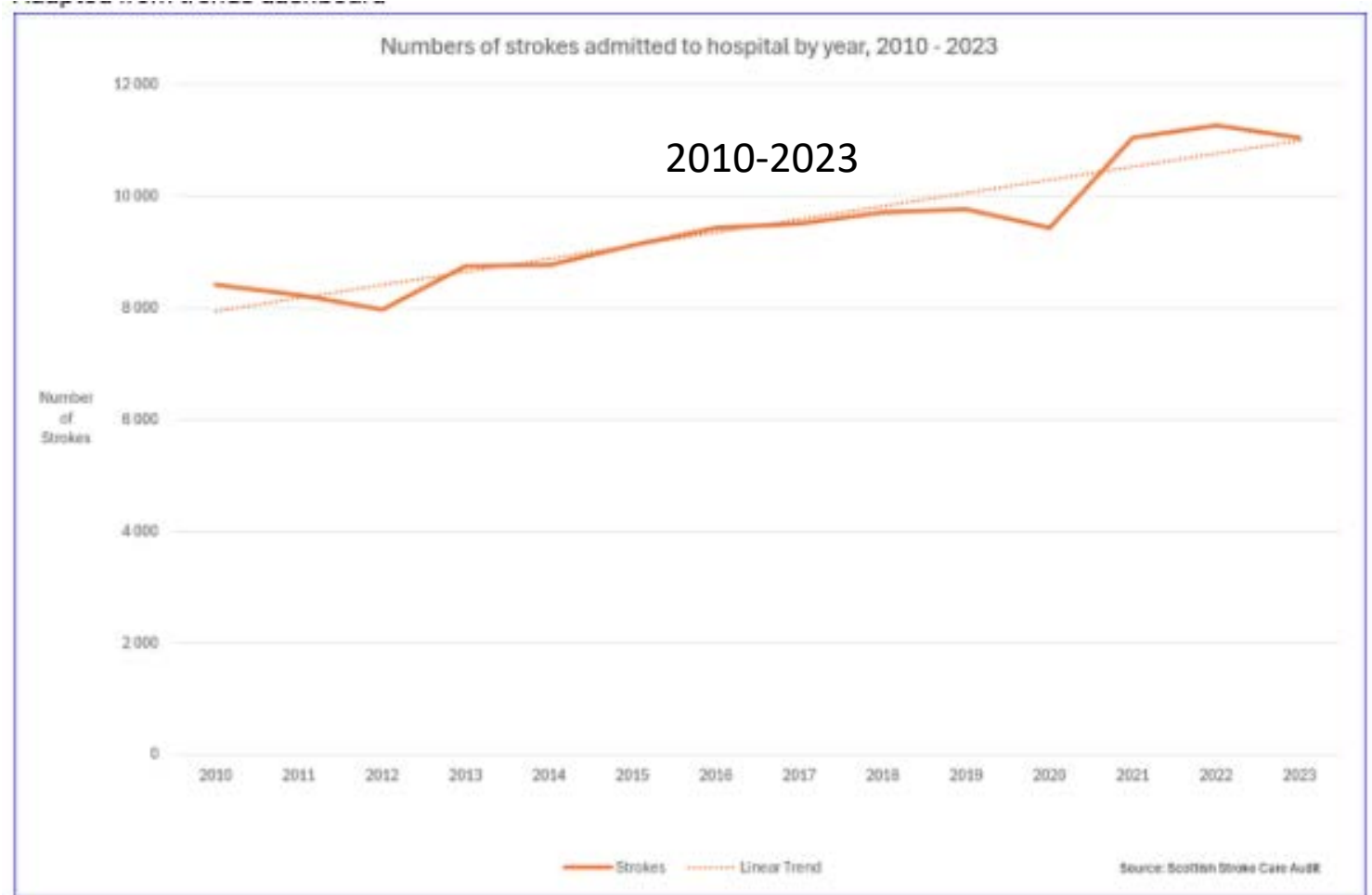
Stroke admission: numbers of patients

Number of strokes in
2023: 10 803

9 182 ischaemic (85%)

1 451 ICH (13.4%)

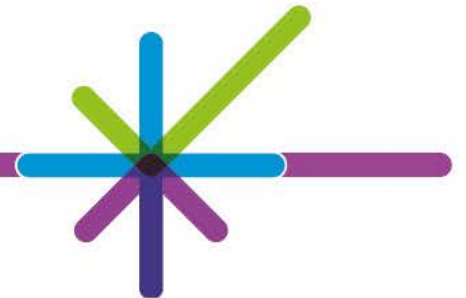
ICH varies from 9 – 17%
across Health Boards



The bundle

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- Bundle performance : 80% of patients receive the 'appropriate' Stroke Care Bundle



Does the stroke bundle affect outcomes?

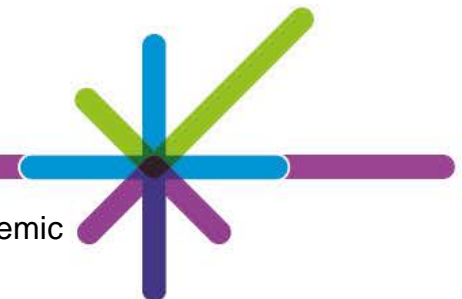
Standards	Adjusted OR (95% CI) for mortality at 30 days	Adjusted OR (95% CI) for mortality at 6 months
Stroke Unit standard	0.82 (0.75–0.90)	0.79 (0.74–0.85)
Swallow screen standard	0.88 (0.77–0.99)	0.95 (0.86–1.04)
Brain scan standard	1.07 (0.96–1.19)	0.95 (0.88–1.03)
Aspirin standard	0.39 (0.35–0.43)	0.54 (0.49–0.58)

Mortality is reduced by 20% if patients are admitted to a stroke unit within 24 hours of admission.

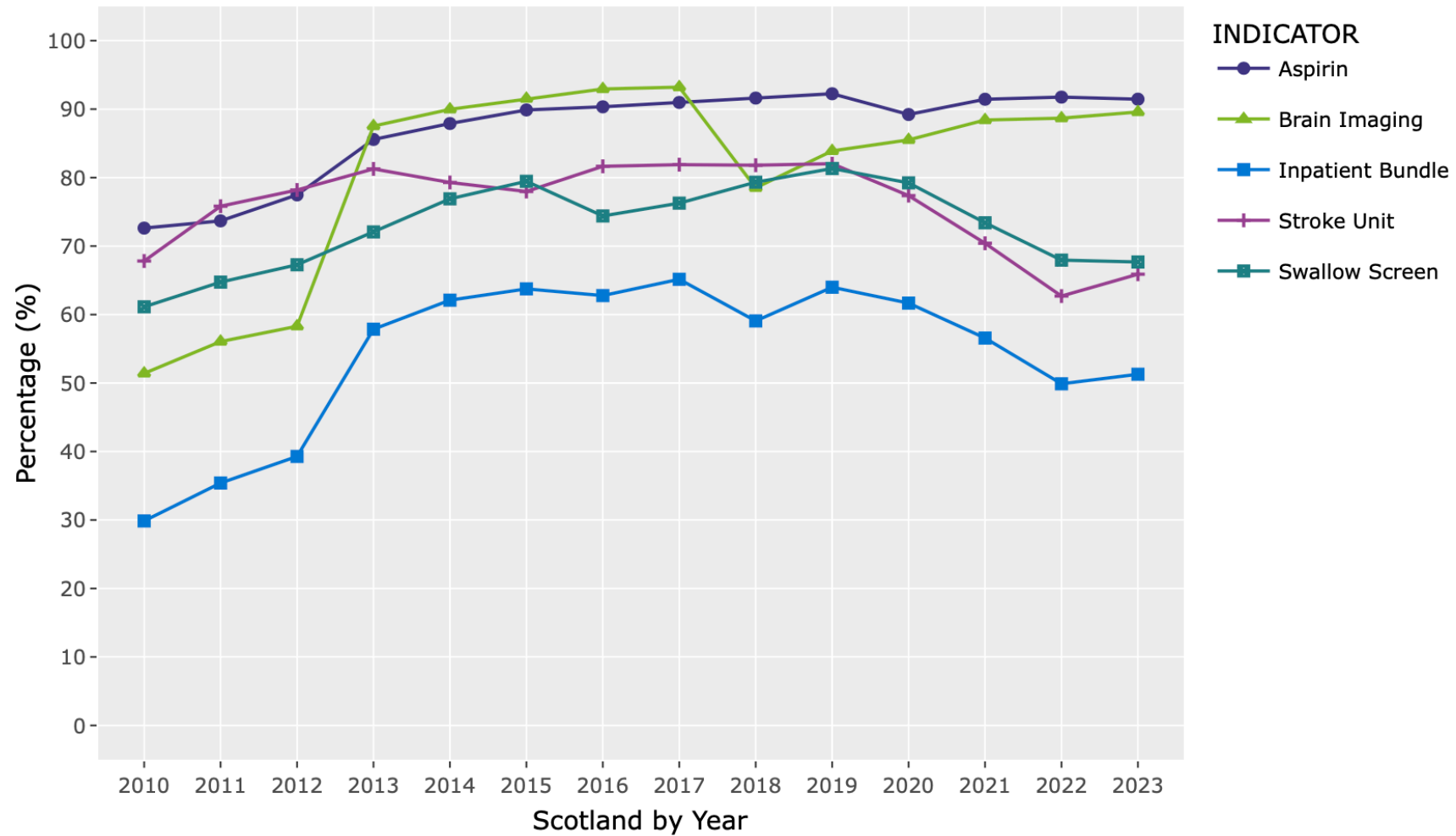
Mortality at 30 days is reduced if patients have an early swallow screen

Early aspirin is associated with lower mortality.

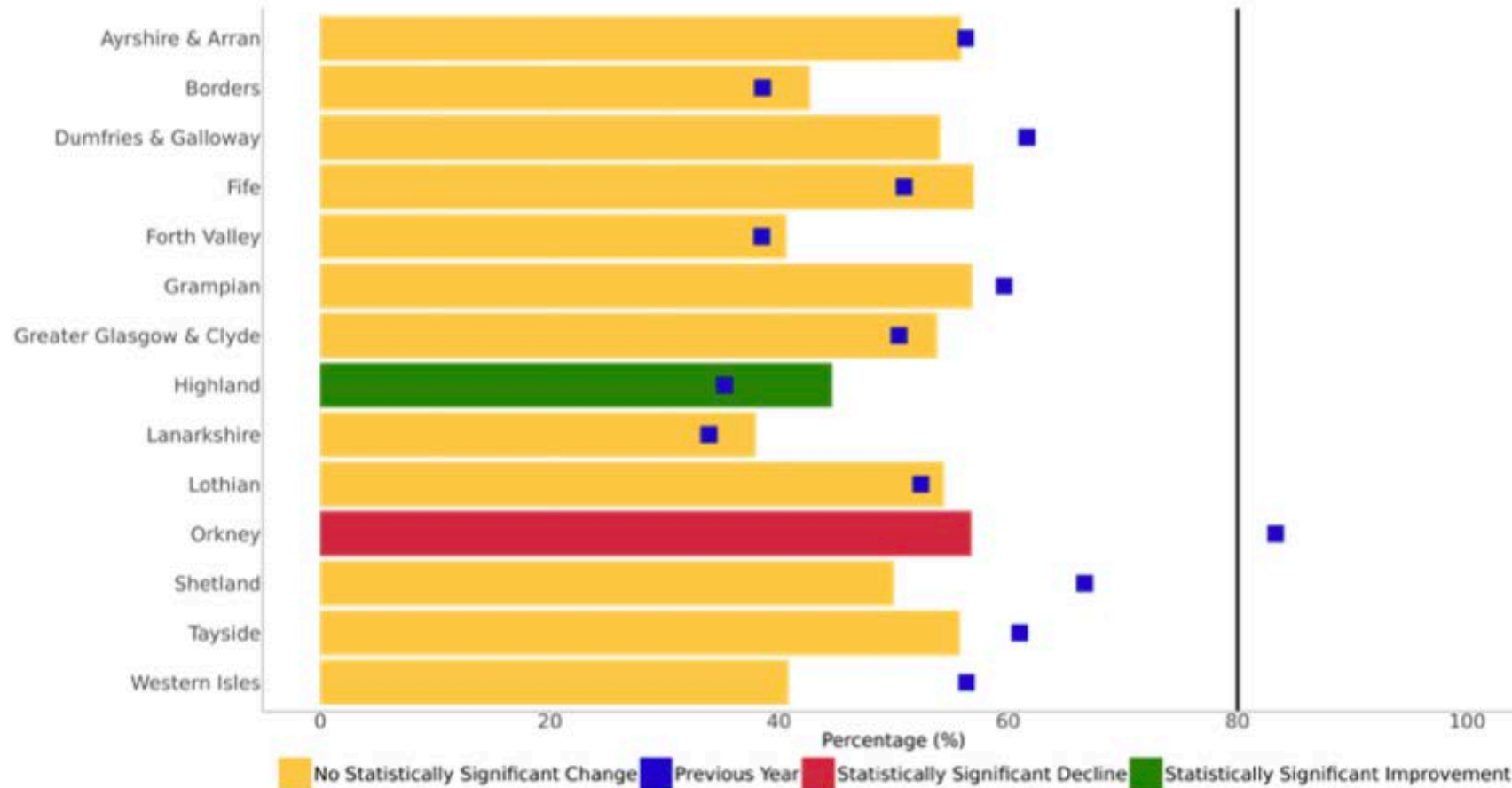
CI indicates confidence interval; OR, odds ratio; and SSV, six simple variables. Adjusted for SSV, year of admission, and hospital-level random effects.



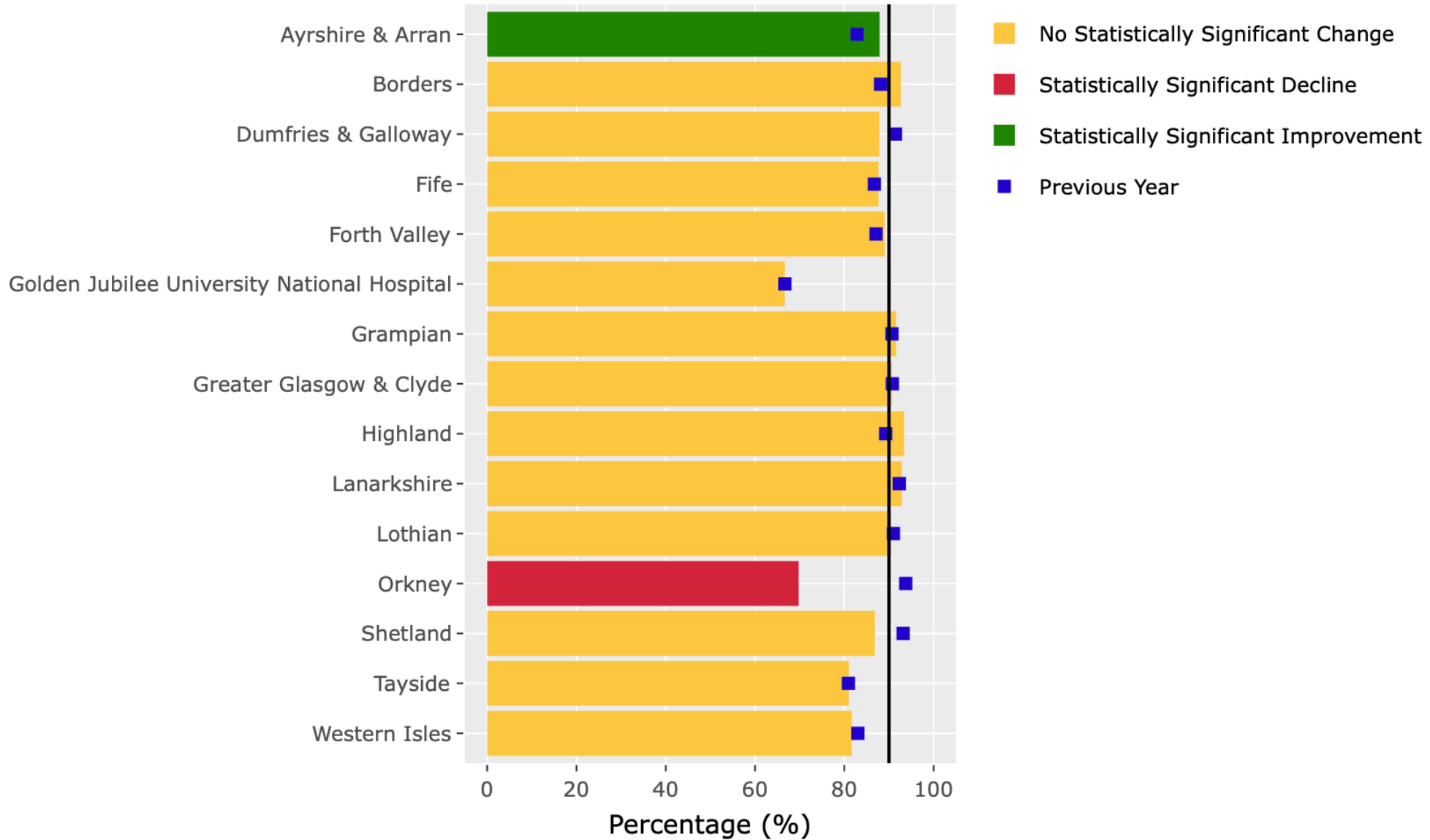
Bundle performance 2010 - 2023



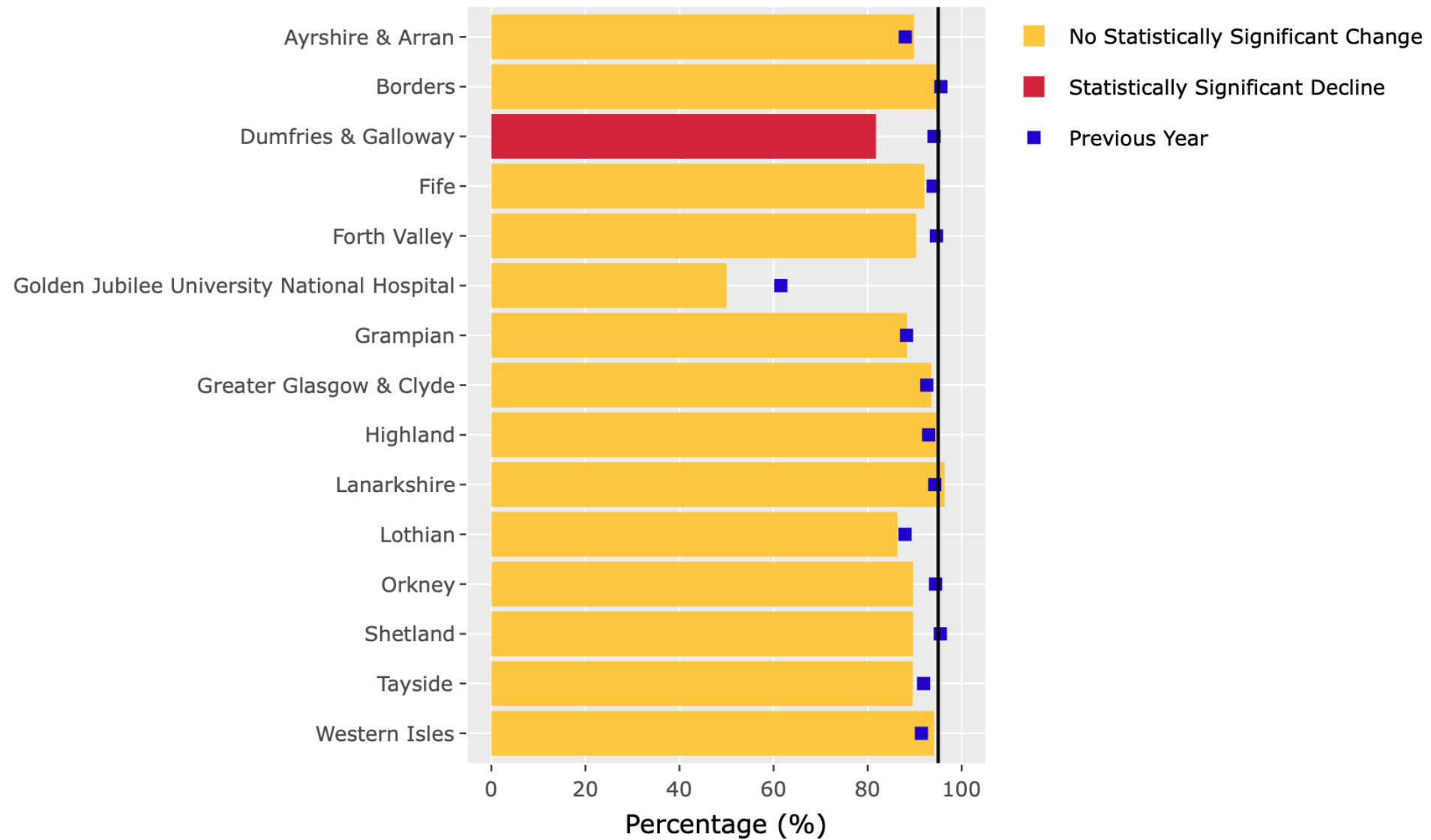
Percentage of stroke patients achieving stroke bundle 2023 vs 2022



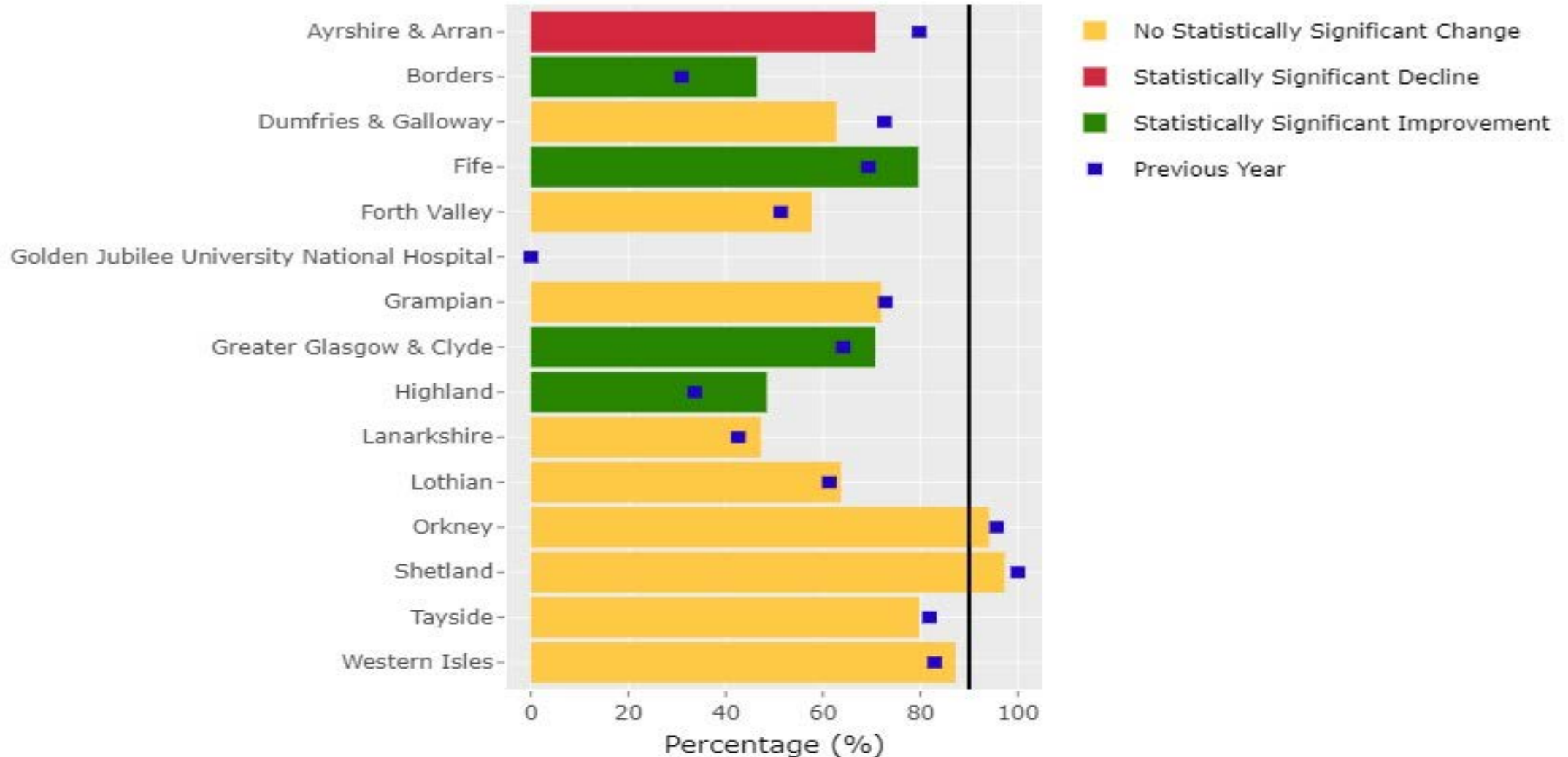
Brain imaging within 12 hours (standard 90%)



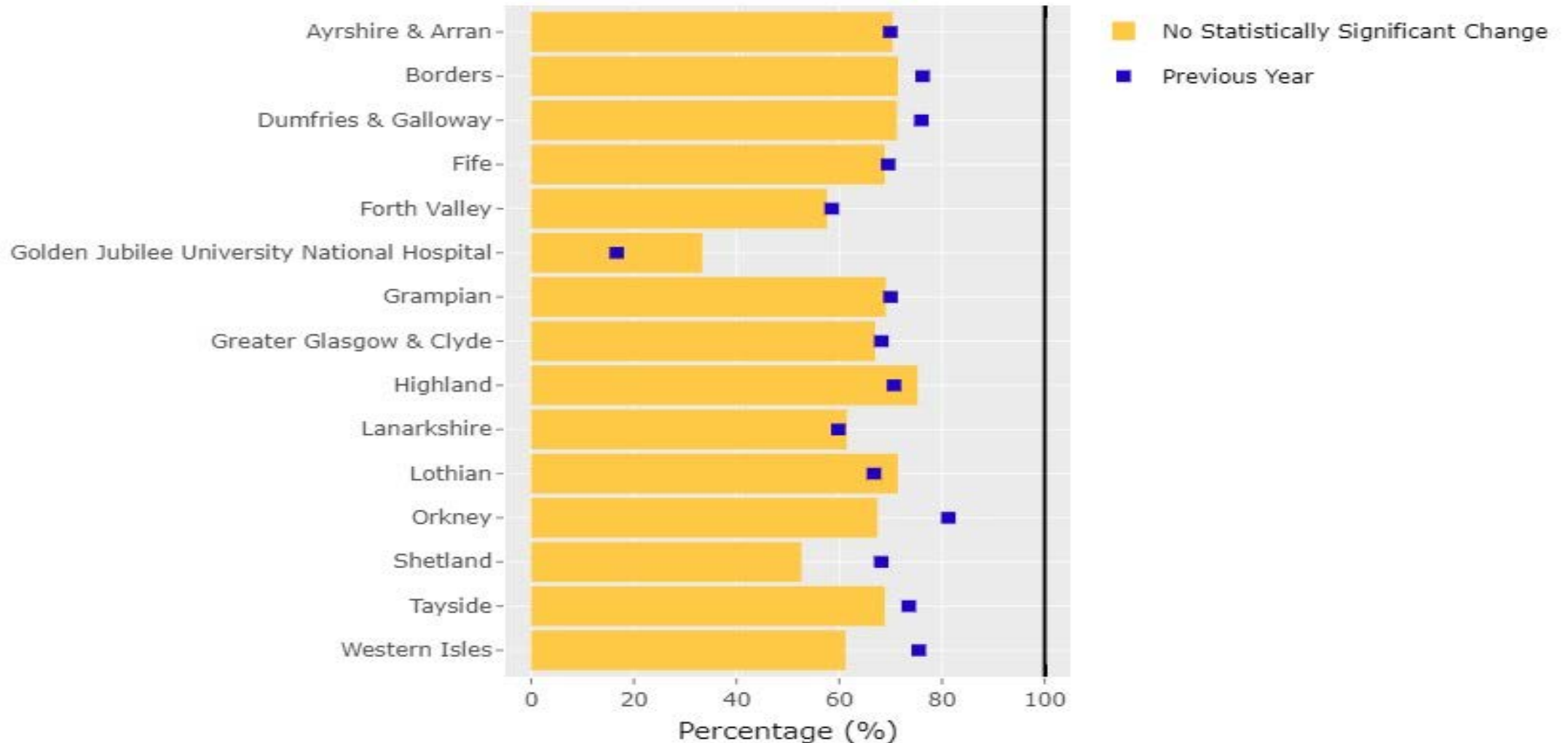
Asprin standard: 95% of ischaemic strokes within one day



Admission to the stroke unit.



Swallow Screen



Messages from the bundle performance:

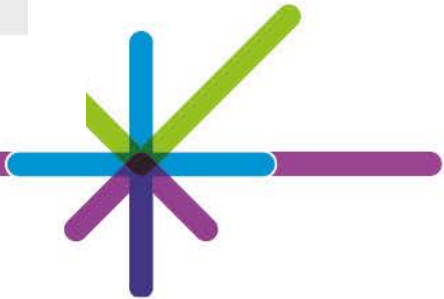
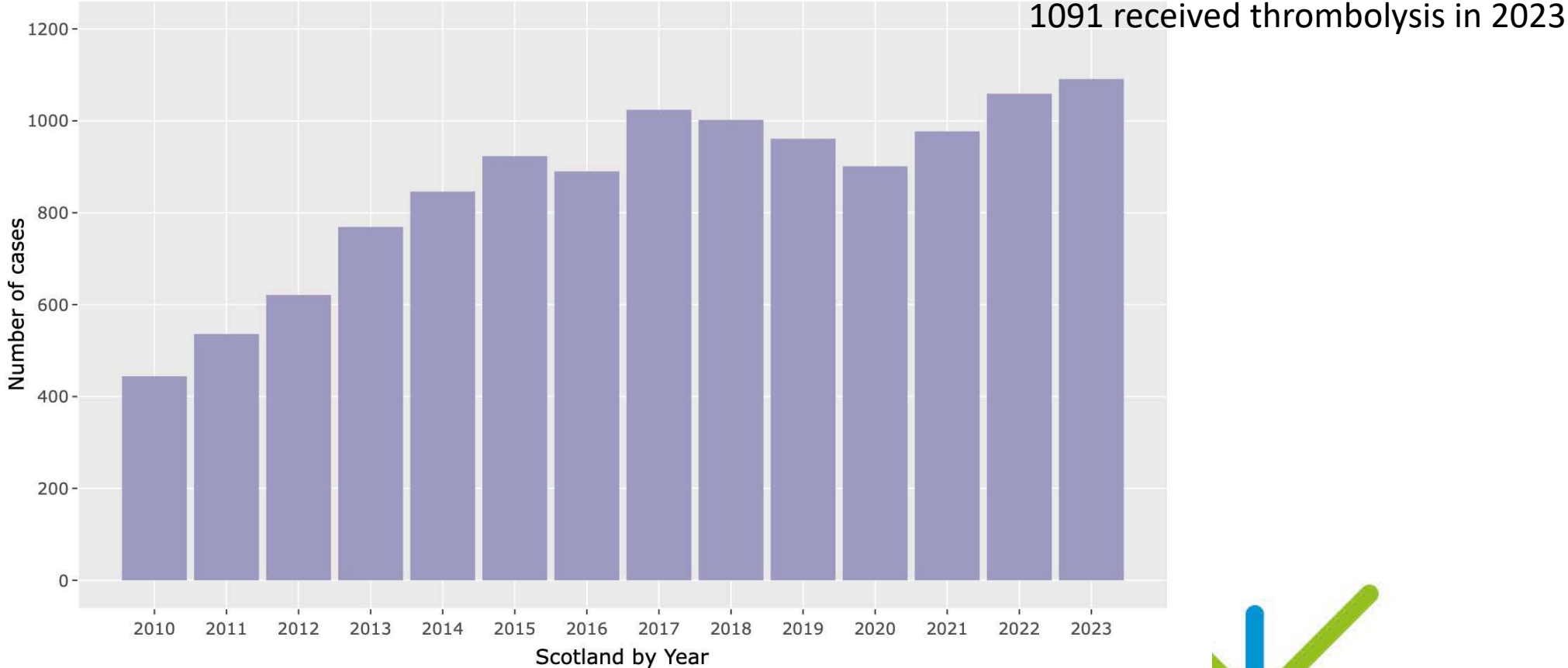
- To help improve patient outcomes, we need to change practice and aim to achieve the targets for:

Swallow screen

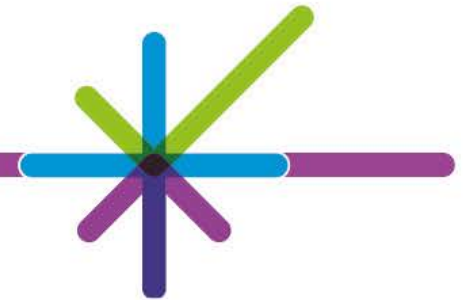
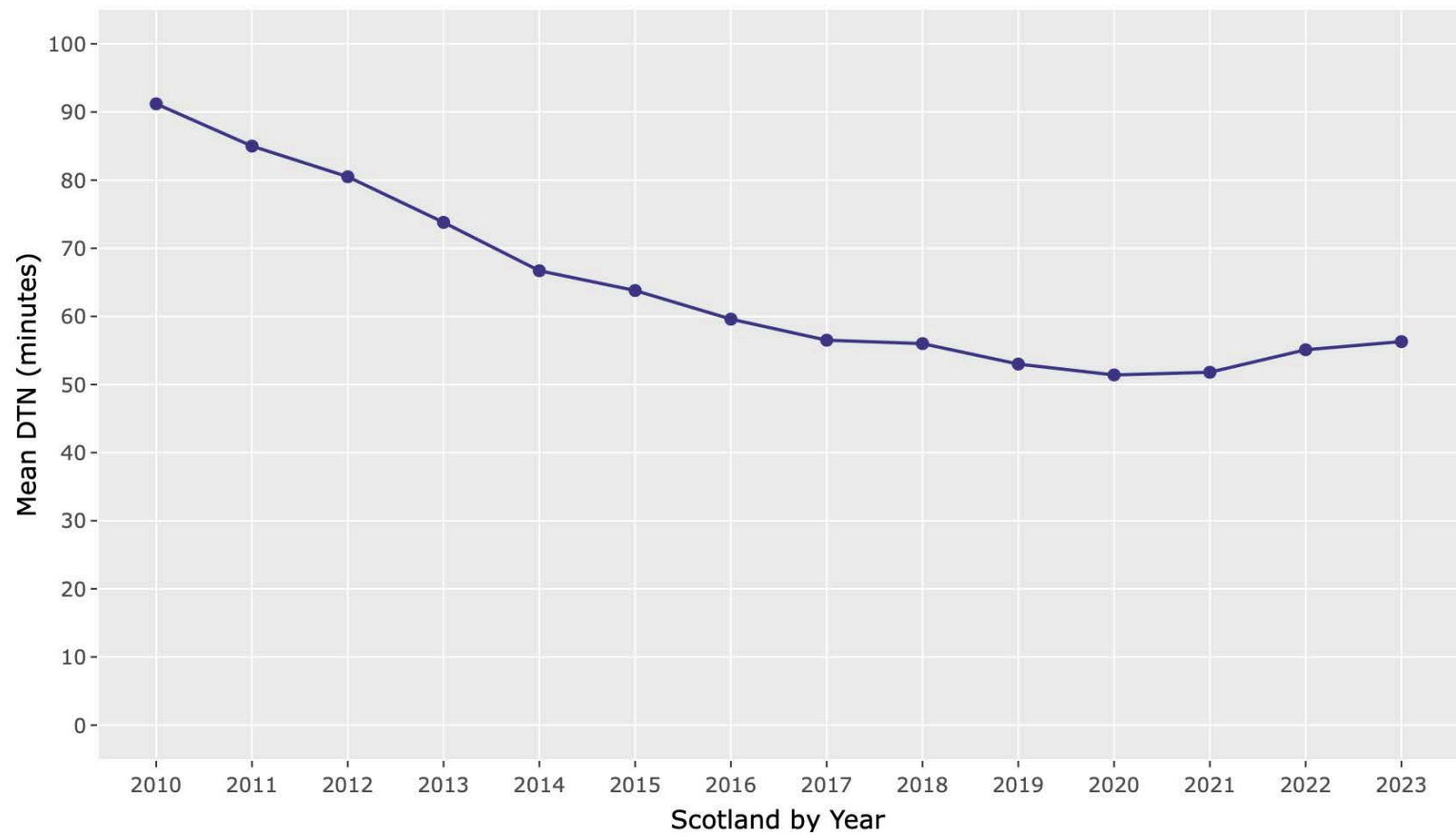
Stroke Unit admission



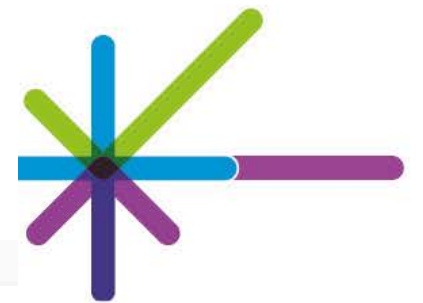
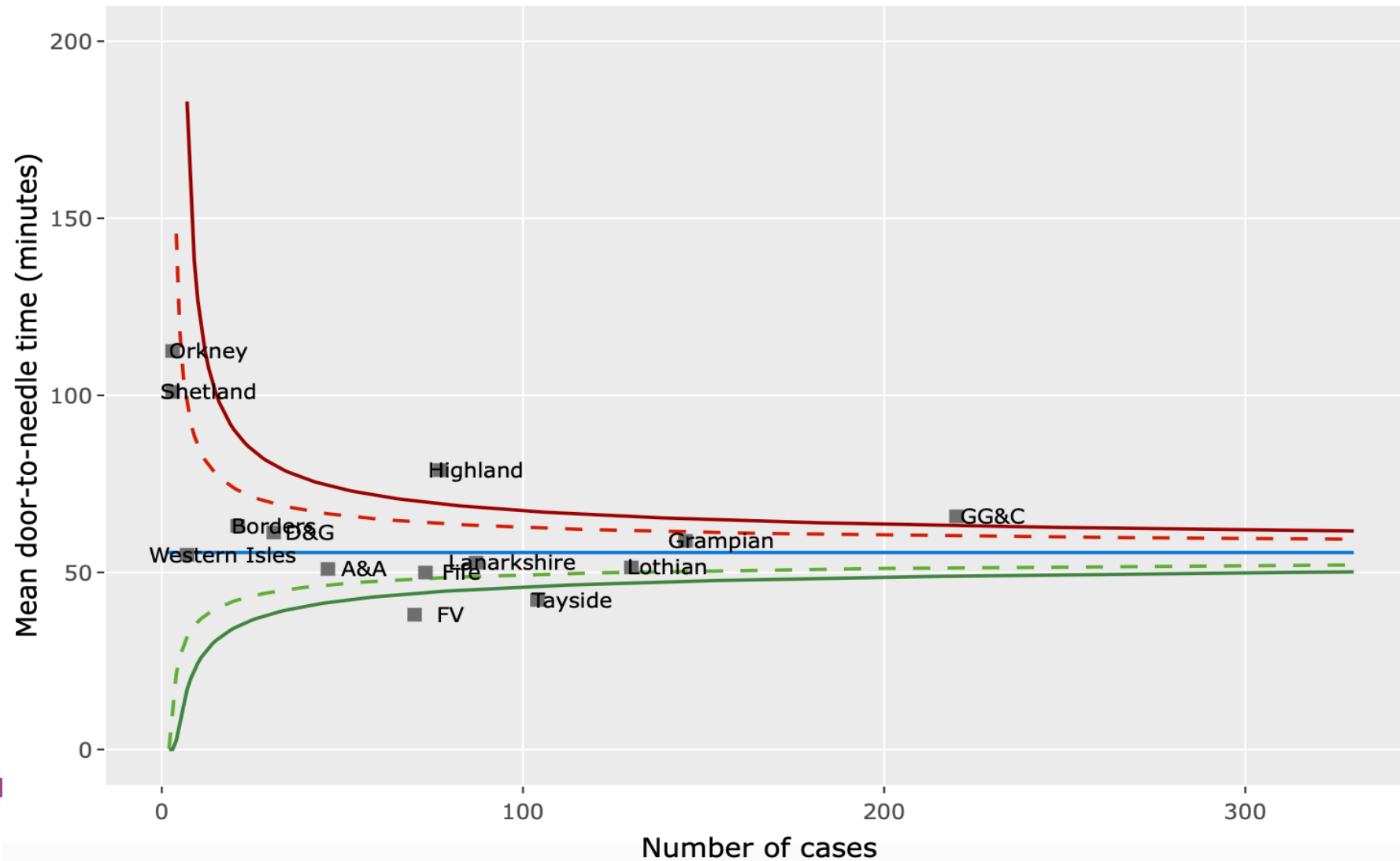
Thrombolysis: Numbers treated 2010 to 2023



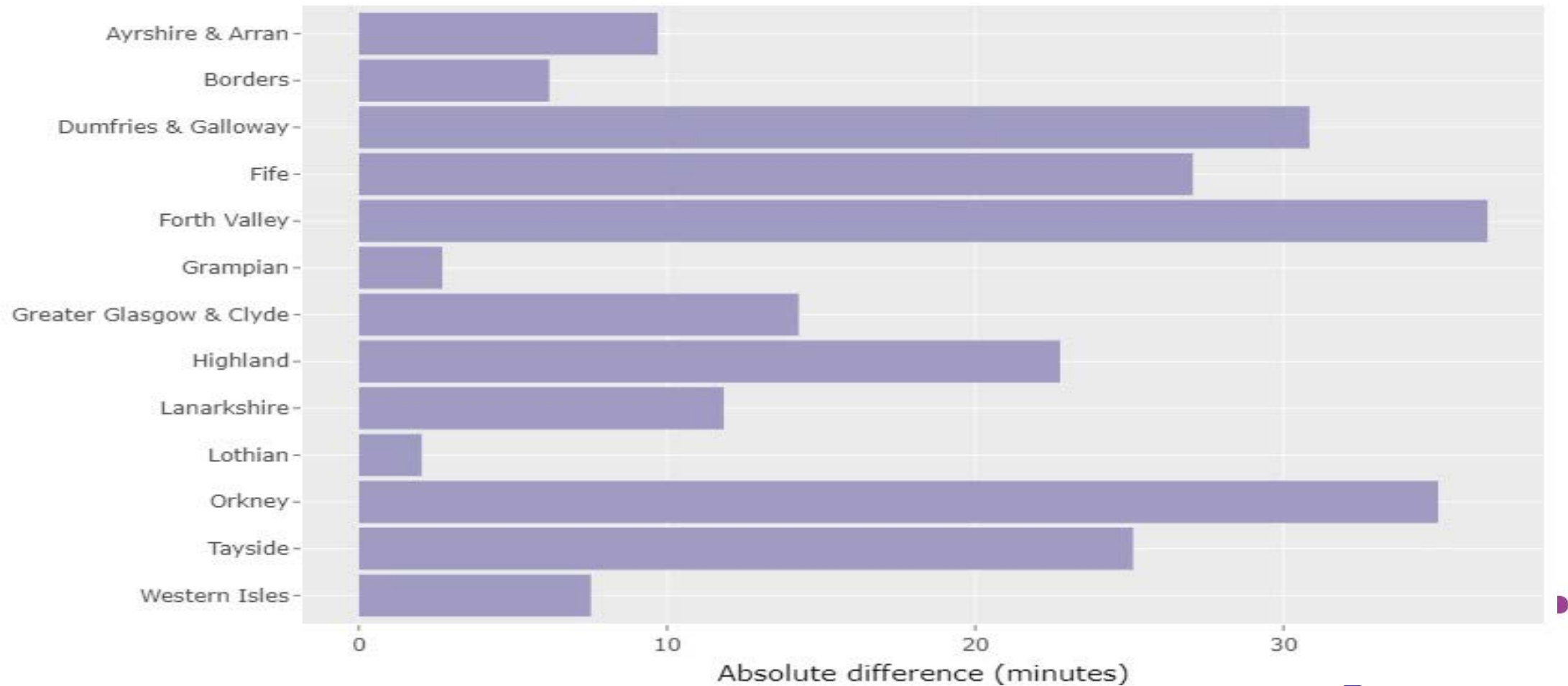
Mean door to needle time for thrombolysis 2010-2023



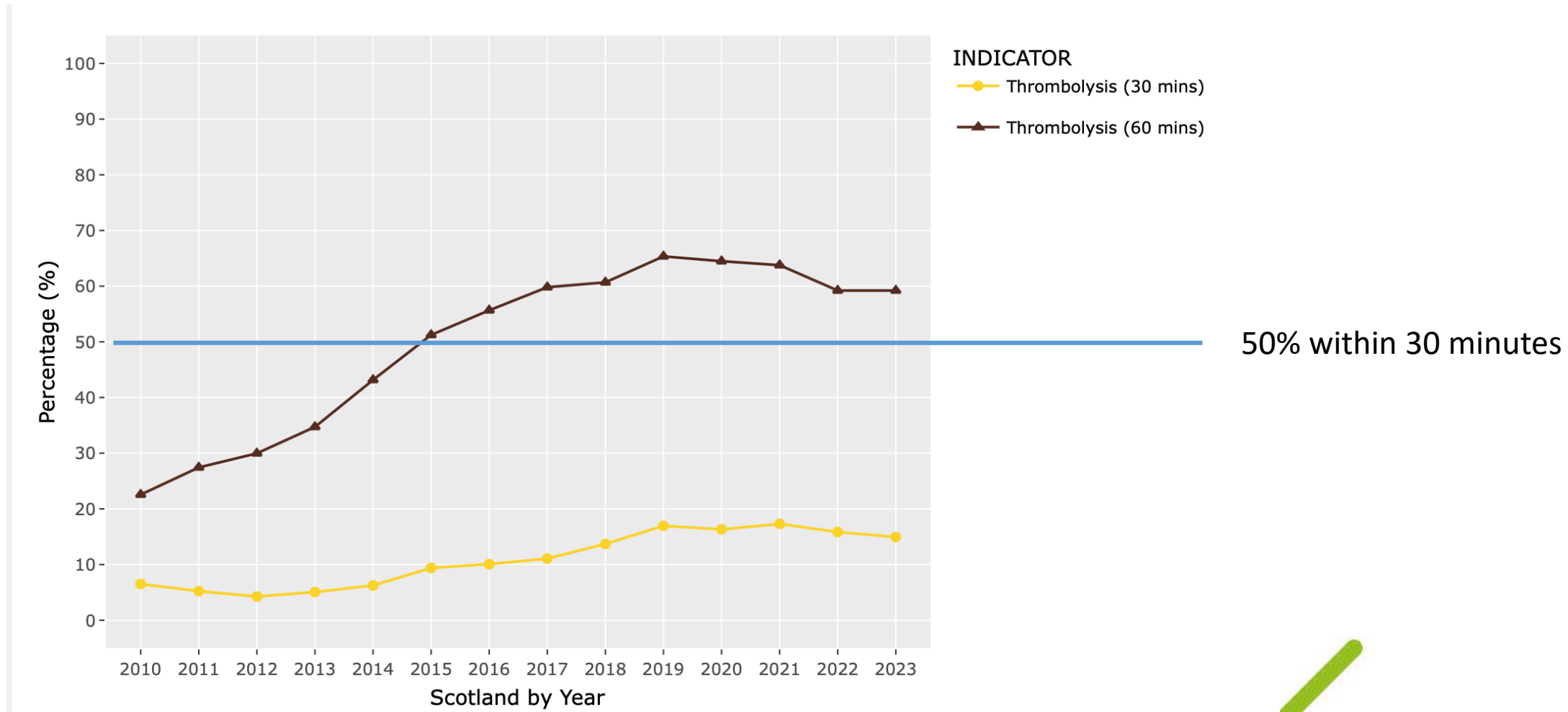
Mean DTN time by first hospital



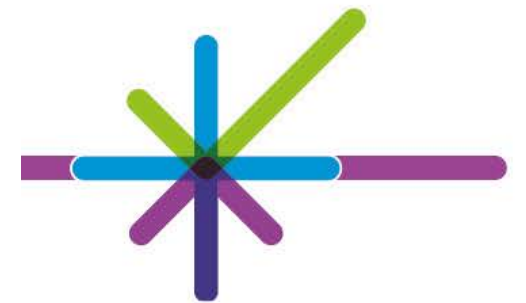
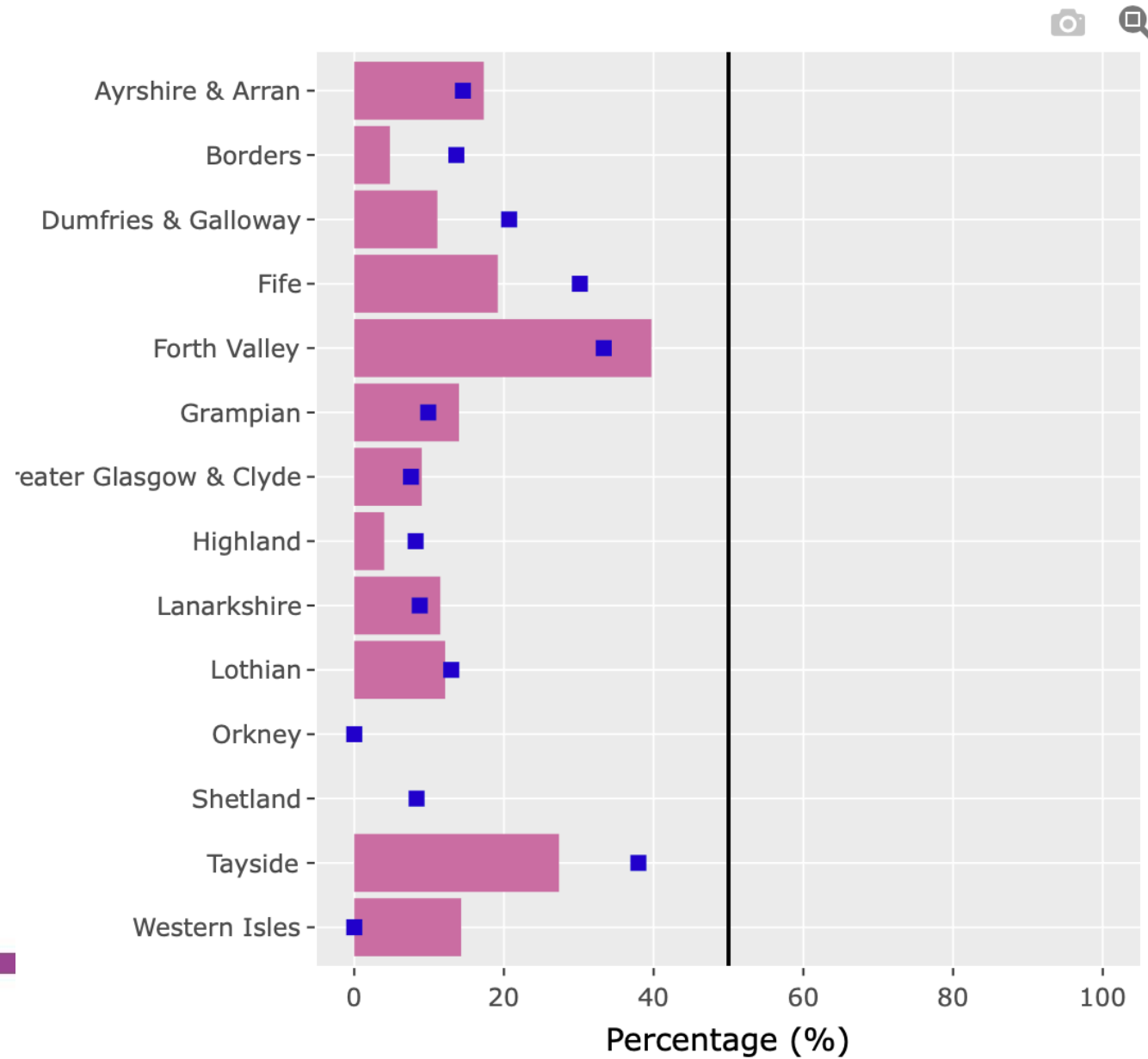
Difference in door to needle time



Percentage treated within 30 minutes and within 60 minutes

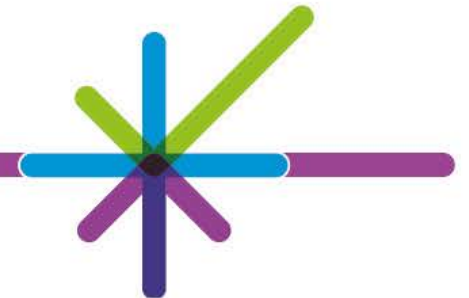


Thrombolysis by Health Board: 30-minute DTN target

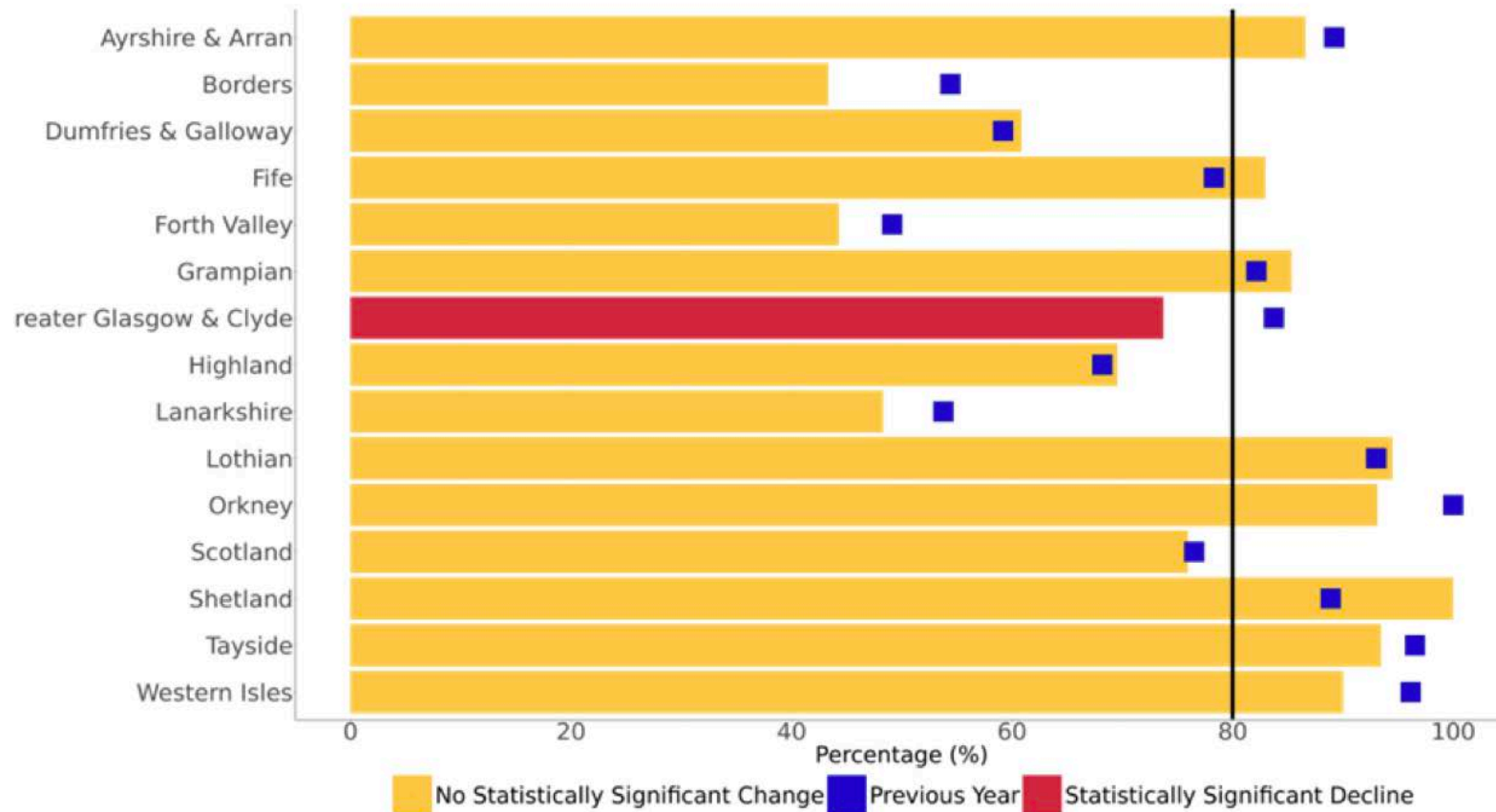


Thrombolysis summary

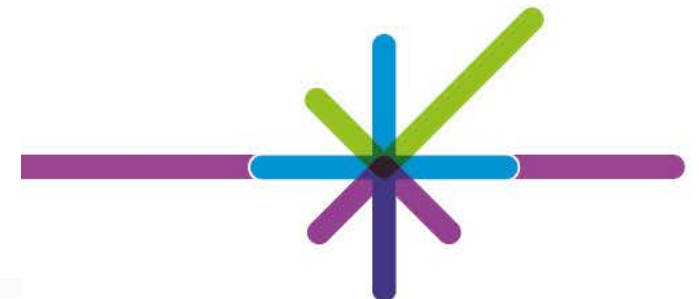
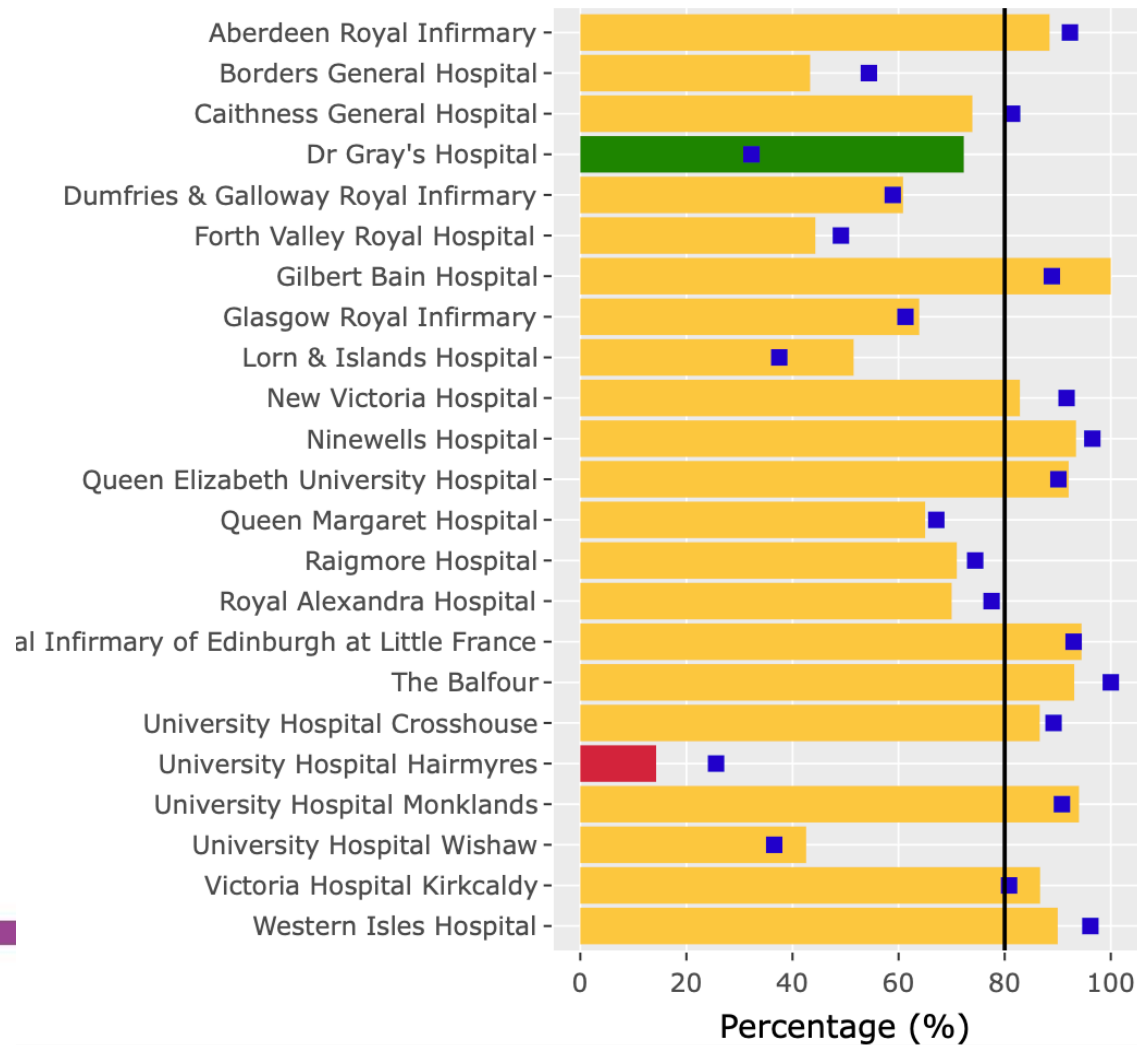
- >10% of patients treated - good
- DTN time is still too long
- Variation in DTN time between in and out of hours
- If we can shorten DTN time by 10 minutes per patient we will save >19 billion neurons a year
- Tenecteplase 25mg will be approved shortly for ischaemic stroke (NICE/SMC)
- (More minor non-disabling strokes may be treated with DAPT in future)
- Need for simulation and training nationally



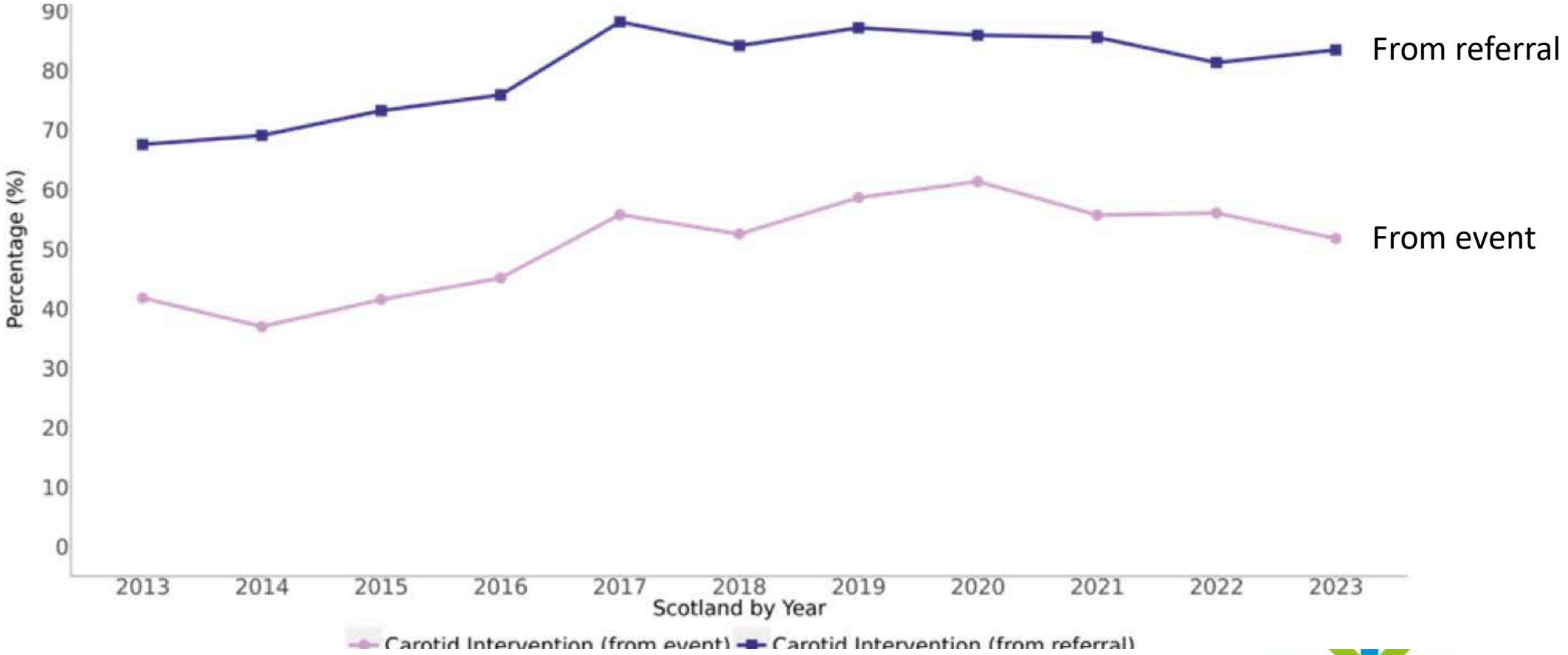
Outpatient standard: 80% of new patients with a stroke or TIA are seen within 4 days of receipt of referral to the neurovascular clinic.



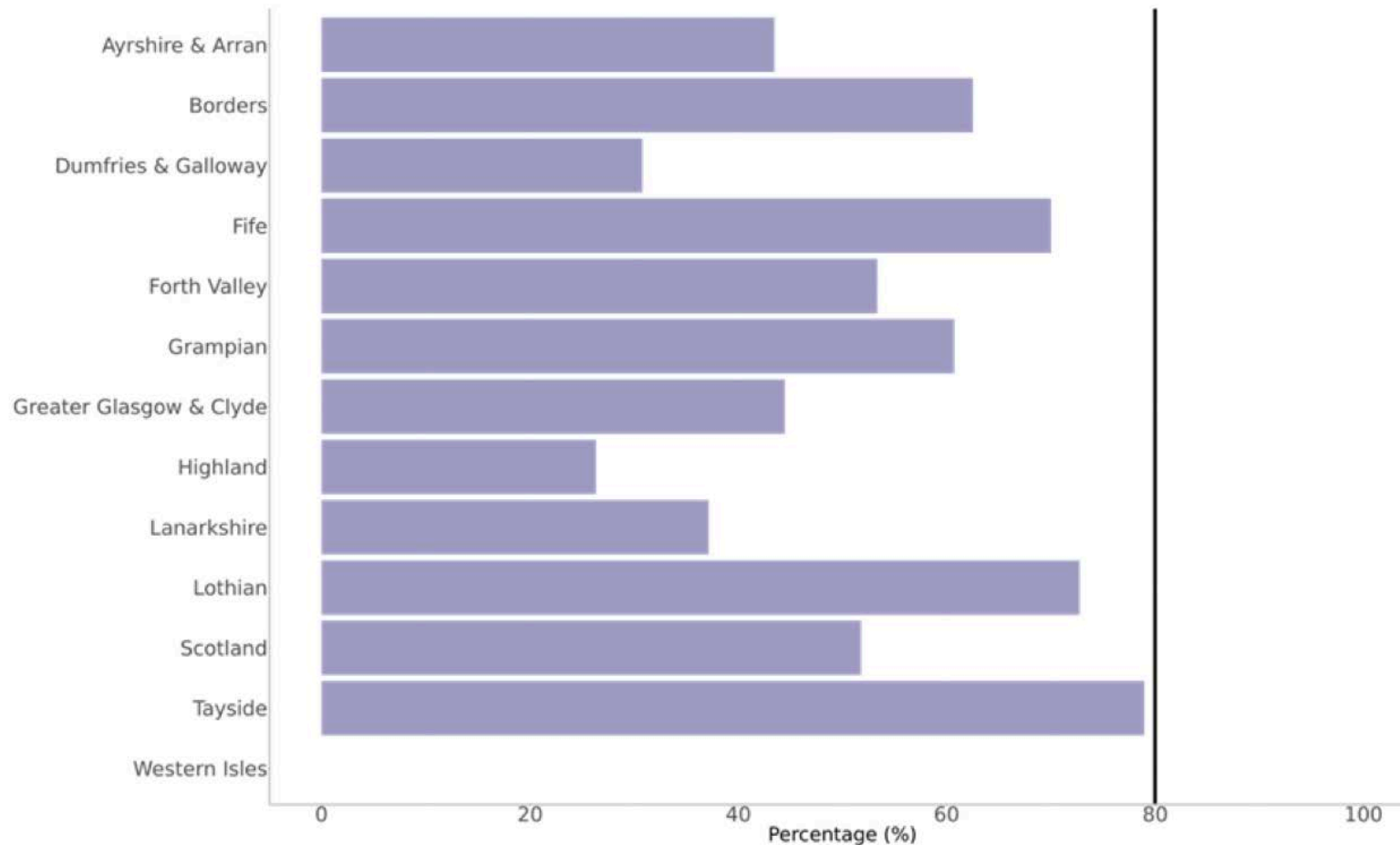
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Carotid endarterectomy: percentage within 14 days of event and referral

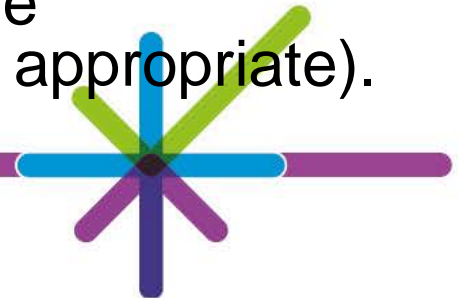


Event to endarterectomy by Health Board of referral



Future

- Rehabilitation Audit – sprint audit underway!
- Data collection will switch to REDCap
- Thrombectomy: 3 centres operational: data capture via REDCap
 - 153 thrombectomies in 2013 (1,4% of ischaemic strokes)
- TIA bundle to capture pathway
- Intracerebral haemorrhage ‘bundle’ – aiming to ensure important aspects of ICH care are standardised across Scotland (blood pressure management, anticoagulation reversal, neurosurgical input if appropriate).

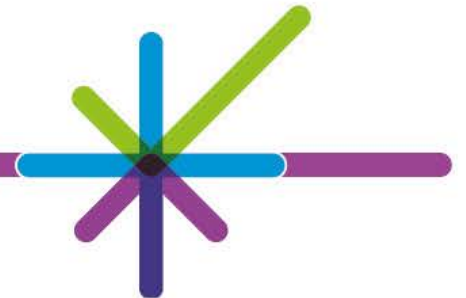


A big thank you to:

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- Tsholofelo Motswagole
- Stephannie Whigham

- The SSCA Report Writing Group

- And especially to all the local audit coordinators:



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