# **A case study in driving change:**
# The Australian Stroke Clinical Registry

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BETTER CARE EVERYWHERE

# About us

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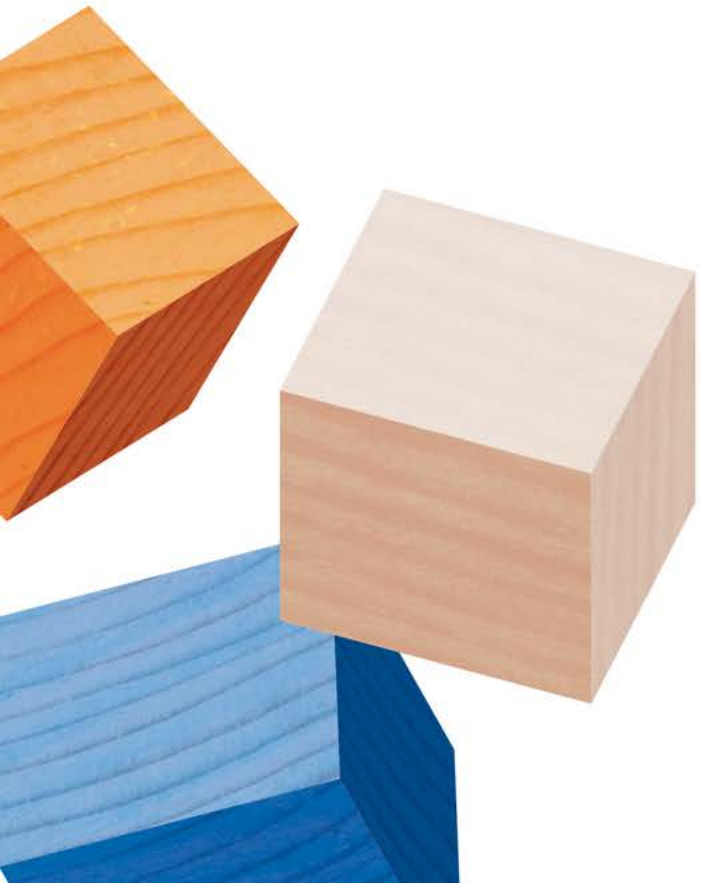
ABOUT US

# Dominique Cadilhac & Nicola Hall



**Australian Stroke Clinical Registry**
**Florey Institute of Neuroscience and Mental Health**

**Logan Hospital**
**Queensland**

# About stroke care in Australia

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# STROKE IN AUSTRALIA

| | | |
|---|---|---|
| One person has a stroke **every 19 minutes**[1] | It is a **leading cause** of adult disability and death | In 2020, it's estimated that over 450,000 people are living with stroke; **1 in 4 are under 55**[1] |
| **Evidence-based treatments** to prevent stroke and reduce the impacts of stroke do exist | Not all health care providers adhere to best-practice recommendations | Evidence-practice gap leads to **unnecessary deaths and disability** |

1. The economic impact of stroke in Australia, 2020 Stroke Foundation November 2020 Deloitte Access Economics

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STROKE IN AUSTRALIA

## Pillars of stroke care and continuous quality improvement

STROKE IN AUSTRALIA

## Guidelines and standards that communicate what to do and what to measure


Stroke Foundation

stroke society OF AUSTRALASIA

Clinical Care Standards

AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTH CARE

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# Data collection and feedback systems

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# Continuous quality improvement

Clinical Guidelines Frameworks Care Standards

Data Collection & Analysis

Quality Improvement Activities

Improved Care & Patient Outcomes

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# Using data to drive quality improvement in hospitals

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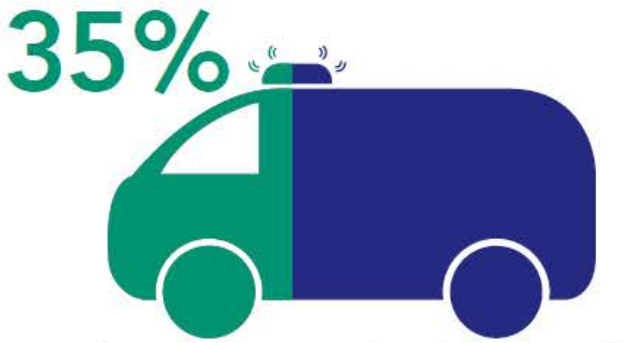
ADHERENCE TO BEST PRACTICE

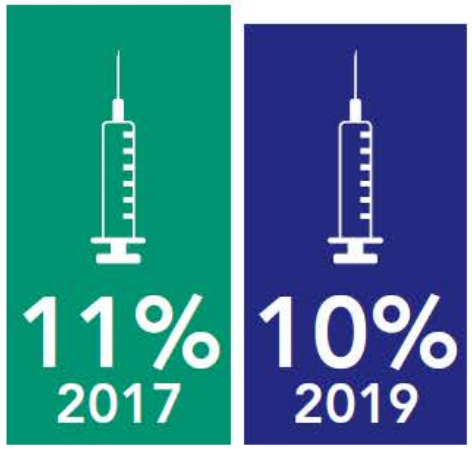
# Australia is falling behind

## Examples from the National Stroke Audit

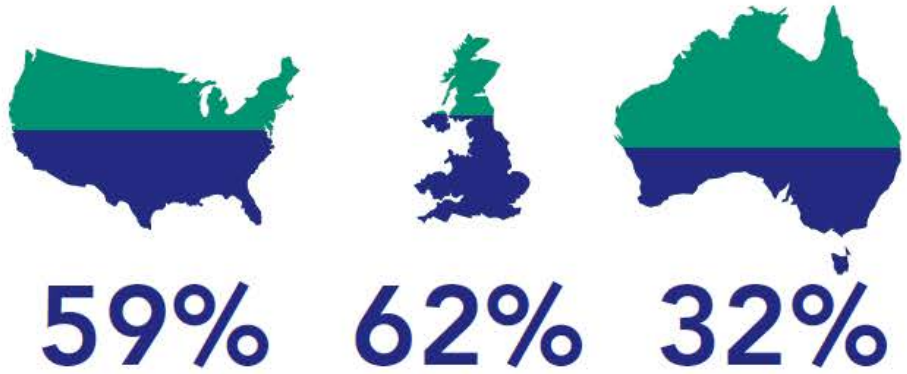
*Acute Services Report*, *National Stroke Audit,* 2019,
Stroke Foundation, Melbourne




35% of patients reached hospital in a 4.5 hour time window for thrombolysis




use of thrombolysis has stagnated




Australia lags internationally for access to thrombolysis within 60 minutes

NATIONAL MONITORING

# Australian Stroke Clinical Registry

Making fair comparisons between hospitals

| | | |
|---|---|---|
| Established in 2008 to monitor clinical care and health outcomes for patients with acute stroke and TIA | Follows best-practice national standards including opt-out approach and waiver for deaths in hospitals | Includes a minimum data set on all consecutive admissions rather than a snapshot of data |
| Collects data using integrated stroke-data management system to minimise clinician workload | Provides hospital staff with access to real-time data which they can export at any time | Follows up with patient survey at 90-180 days to understand longer term impact<br>+ annual linkage to death records |

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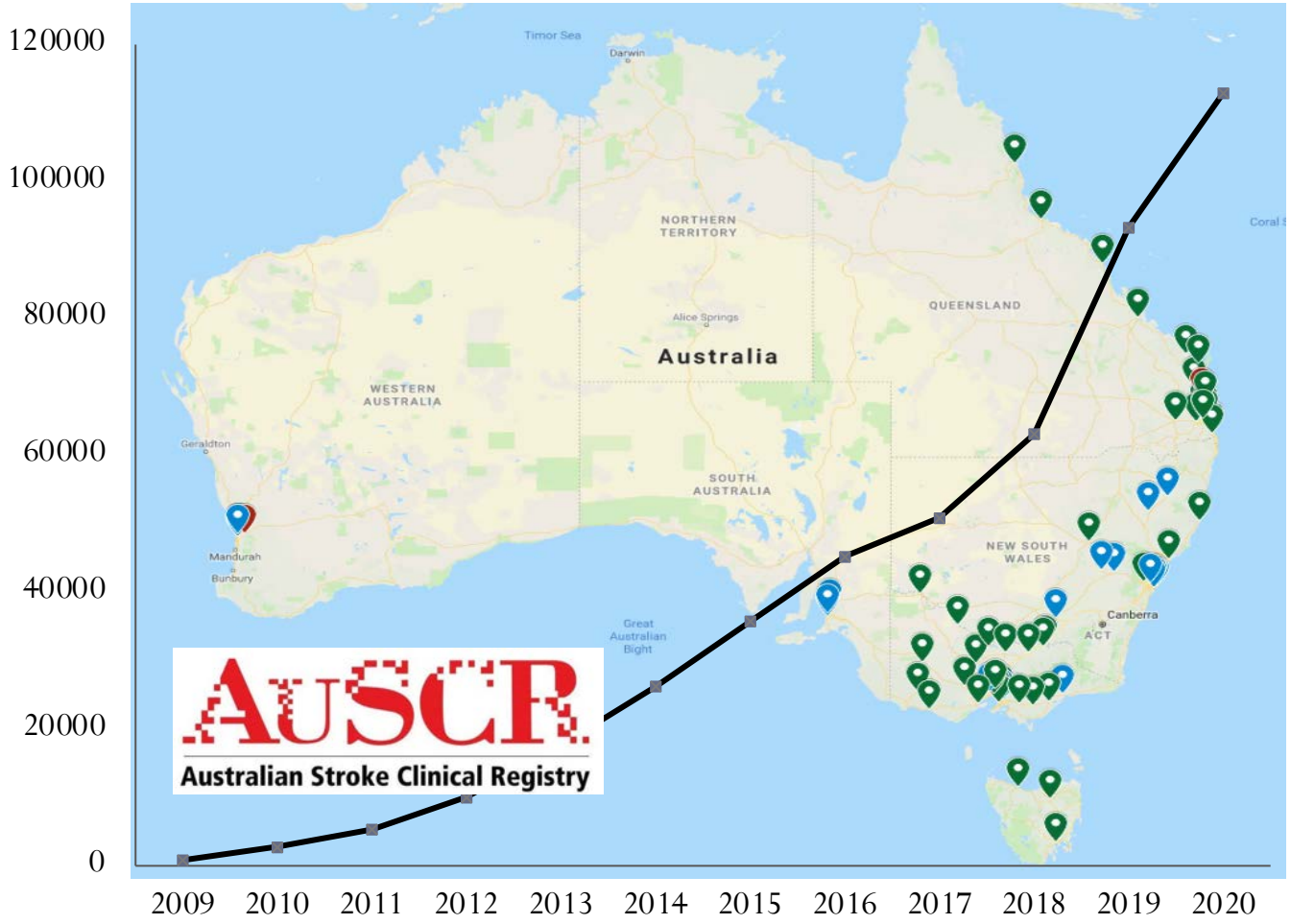
# HOSPITAL PARTICIPATION




**86**
**approved hospitals**

**112,866**
**stroke / TIA episodes**

**52,776**
**patients followed up**

*Figures correct as of December 2020*

# USING DATA

25% inpatient rehabilitation

8% died in hospital

<u>At median 144 days after stroke:</u>

24% free of disability
(modified Rankin score)

~1 in 2 problems with mobility, pain, anxiety/depression

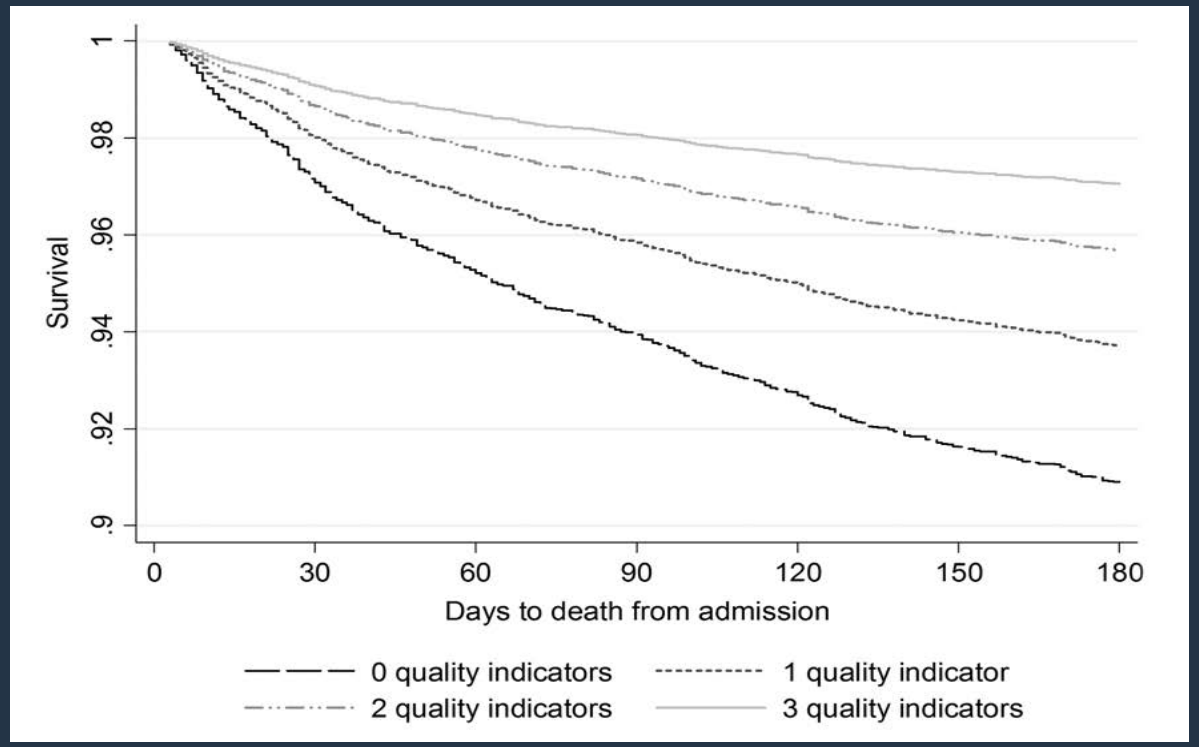
<u>Access to stroke units:</u>
75%

<u>Alteplase:</u>
15% metropolitan
10% regional

*2018 Annual Report auscr.com.au*

USING DATA

# Does it make a difference?




**WITHIN 180 DAYS**

**70%**

**reduced hazard of death**

**18-point**

**increase in quality of life**

Cadilhac DA, Andrew NE, Lannin NA, et al. *Stroke;* 2017;48:1026-1032

USING DATA

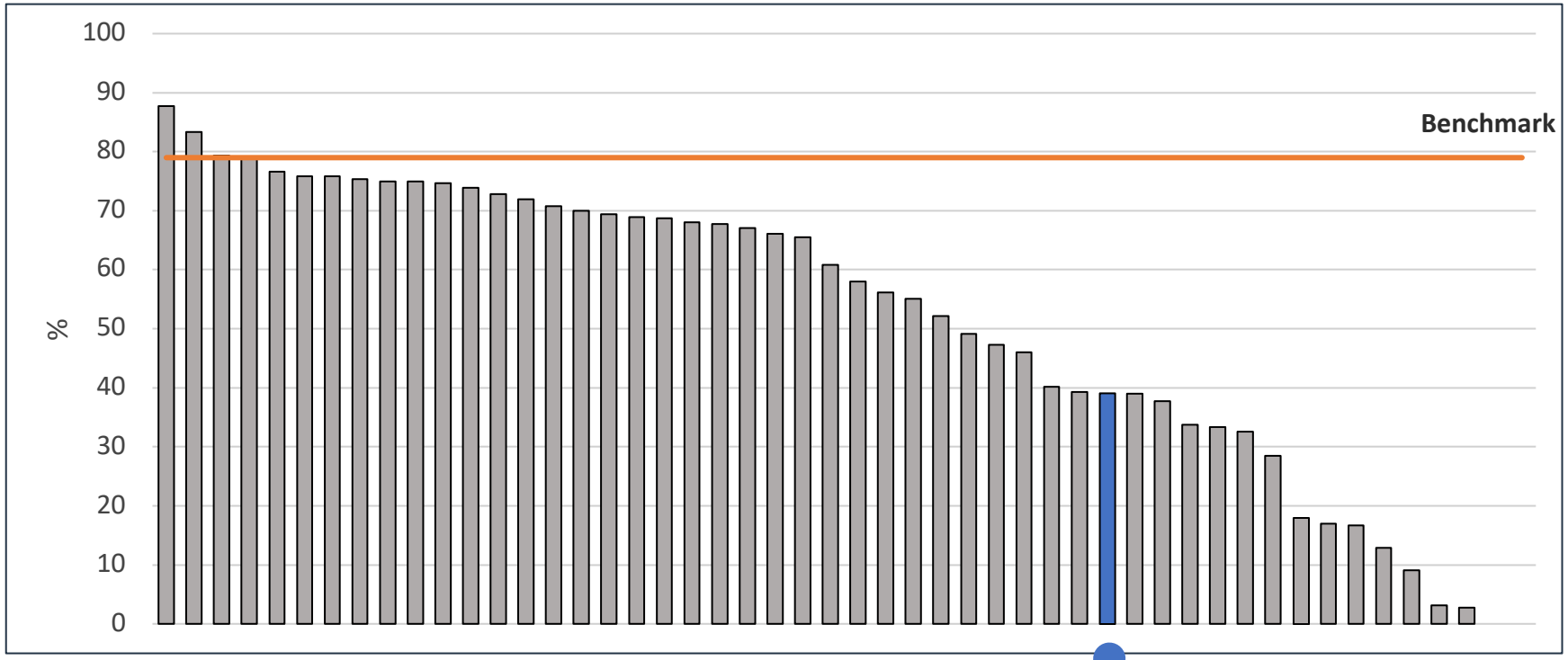
# Using data for quality improvement


Implementation of agreed evidence-based action plan by local teams at individual hospitals

USING DATA

# Data feedback format

## Aspirin in less than 48 hours (excludes ICH)




**MY HOSPITAL**
V
OTHER HOSPITALS

USING DATA

## In the state of Queensland we assessed the impact of external quality improvement interventions

$

### financial incentives

For having more patients treated on stroke units

### facilitator

- ✓ Feedback data from registry
- ✓ Provide education on best practice
- ✓ Help clinicians discuss barriers and plan strategies to overcome them

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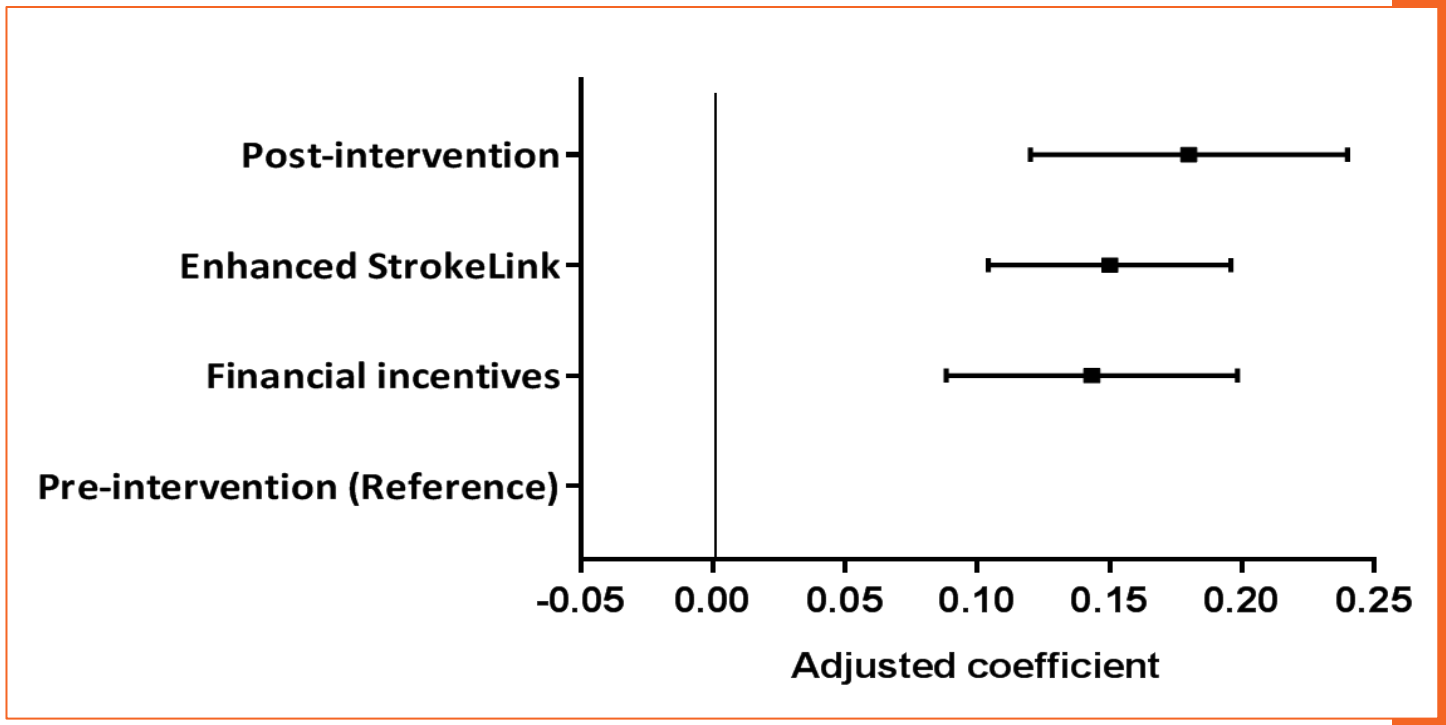
USING DATA

# Did it make a difference?




**18%**

**overall change**

Pre-composite: 0.57 and moved to 0.75 (post)

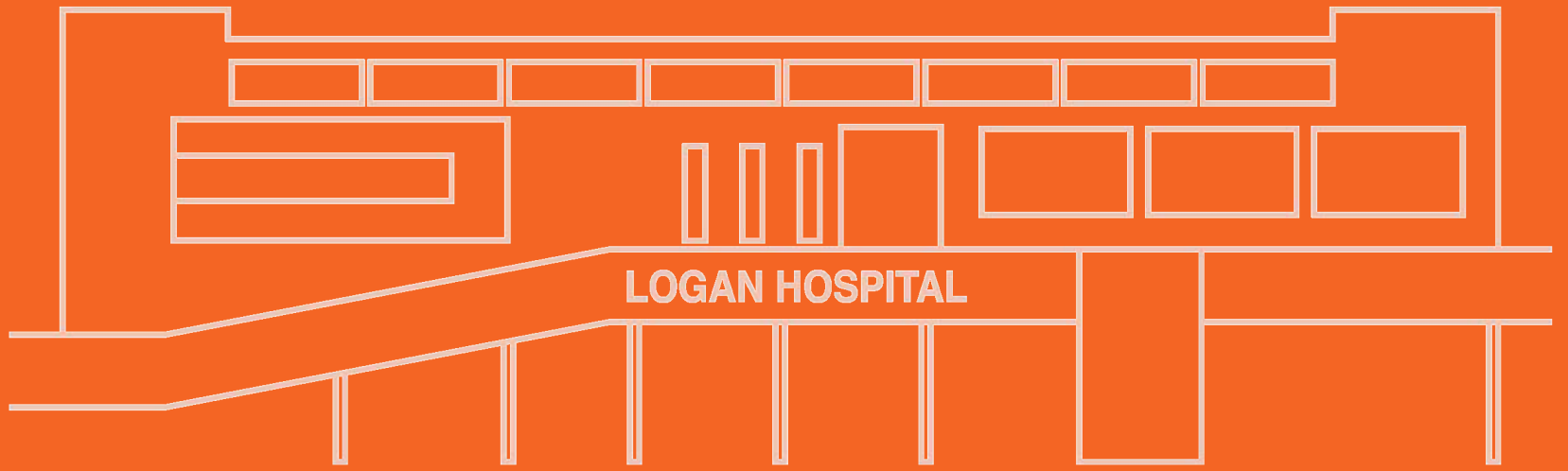
**14%**

**change following financial incentives**

Non-statistically significant additive increase in both the primary composite score (4%) and action plan scores (3%) following introduction of financial incentives

Stroke. 2019; 50:1525-1530. DOI: 10.1161/STROKEAHA.118.023076

# CASE STUDY:
# Logan Hospital



# STEP 1

## Select clinical priority areas for assessing and reporting variation

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STEP 1

**Blood pressure lowering is consistently found to reduce stroke risk by about 25%**

- benefits are found irrespective of baseline blood pressure
- adherence is higher in patients who commence medication prior to discharge
- therefore treatment should commence while in hospital for people admitted for stroke[1].

1. Stroke-Foundation, *Clinical Guidelines for Stroke Management* 2017: Melbourne Australia.

**Logan Hospital** became aware of below State benchmark performance at a Queensland Statewide Stroke Network Forum.

**Logan Hospital** progressed with a gap analysis of medications on discharge, specifically blood pressure-lowering medication.

# STEP 2

## Identify how clinical variation will be assessed

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STEP 2

**Data pertaining to blood pressure-lowering medication has been included in the AuSCR minimum dataset since commencement, therefore there is existing data available from 2013.**

# STEP 3

## Measure clinical variation and review performance

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STEP 3

## Comparison of the available internal and external data

### INTERNALLY

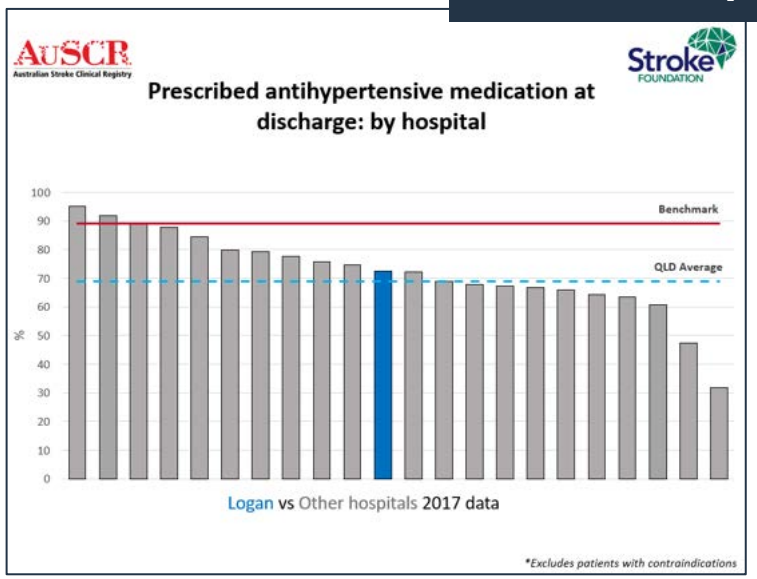
- data were collated on each patient who did not have a blood pressure-lowering medication on discharge
- treating teams were identified for comparison

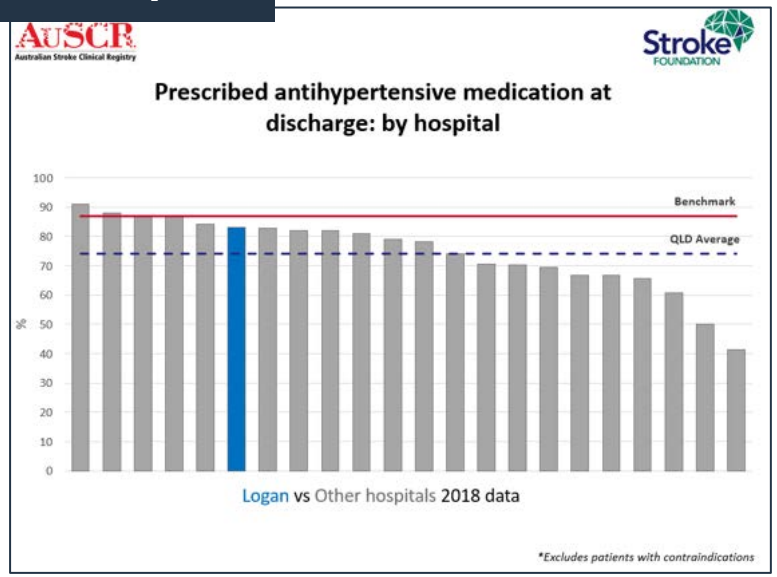
### EXTERNALLY

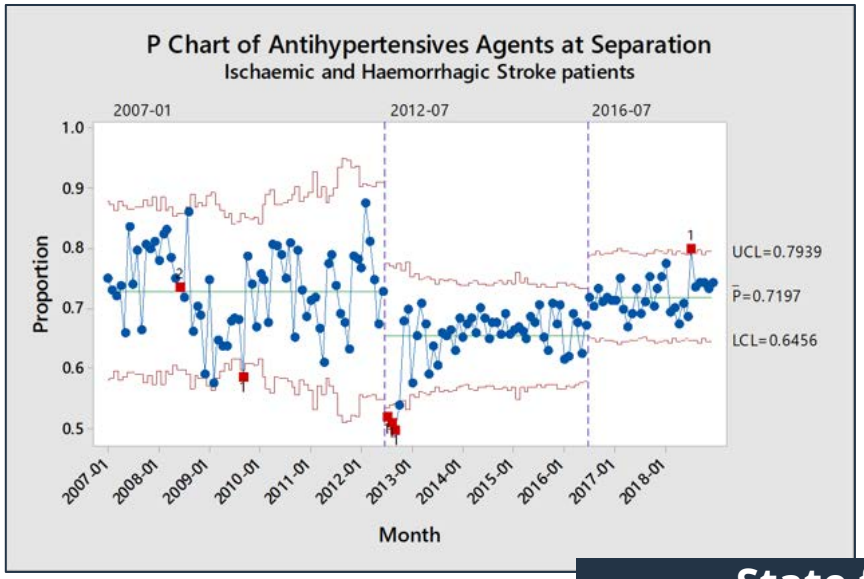
- AuSCR live reports
- AuSCR reports specific to Logan Hospital
- presentations at state forums

## AuSCR site-specific reports

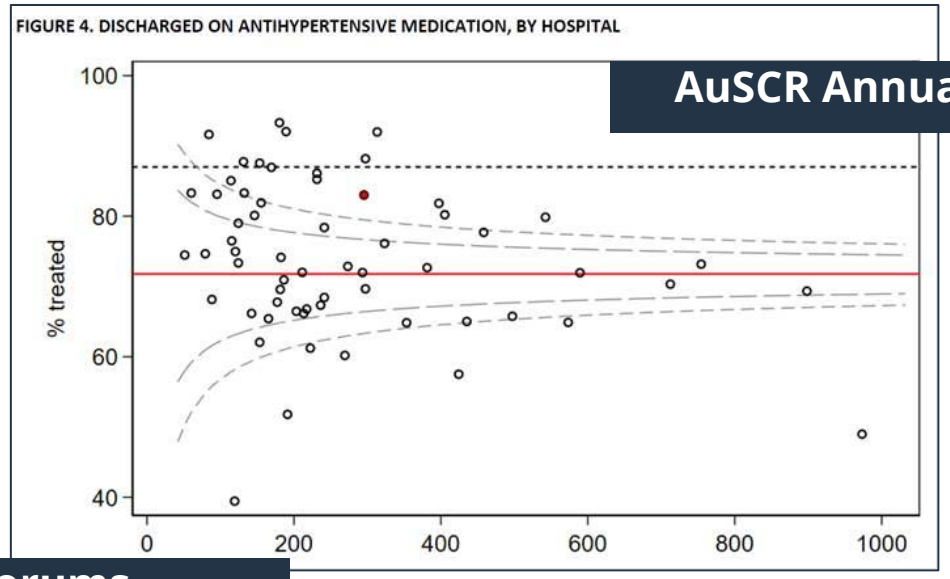
## AuSCR live reports


## AuSCR Annual reports




## State forums

Each dot is the result for a hospital

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# STEP 4

## Explore reasons for clinical variation

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## STEP 4

Having assessed the clinical importance of variation it was determined that action was required.  Knowledge gap was a possibility.

- The process provided an opportunity to support the data collection with clear documentation.
- When there is a contraindication for blood pressure-lowering medication it was not included in medical records, therefore the data collector was indicating “not prescribed” where in fact it was “contraindicated”.
- This highlighted the importance of shared responsibility for data accuracy.

# STEP 5

## Act to improve care and embed changes within the health service organisation

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STEP 5

Report presented to Medical Consultant Team together with de-identified data

**Private, one-on-one feedback sessions** with individual clinicians about their outcomes

Ongoing support for **routine rotations of medical teams** embedded into business as usual

CNC Stroke sends **'welcome' email** at each rotation outlining the evidence and the key requirements

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# STEP 6

## Record and report activities to monitor clinical variation and improve appropriateness of care

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STEP 6

**Processes to maintain records of reviews of clinical variation and actions taken include:**

- ✓ Quality Improvement Activity register
- ✓ Stroke Care Dashboard collated six-monthly by CNC Stroke
- ✓ Reports presented at Stroke Steering Committee Medical Governance meetings
- ✓ Findings and outcomes shared at forums like Medical Grand Rounds and Statewide Stroke Forums



# More information

- Australian Stroke Clinical Registry
- auscr.com.au
- dominique.cadilhac@florey.edu.au

# Up next

- Professor Jacqueline Close and the Australian and New Zealand Hip Fracture Registry case study

AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTH CARE

bettercareeverywhere.gov.au