Did stroke reconfiguration work?

Part of - Achieving successful system change: learning from stroke reconfiguration in London and Greater Manchester

15 May 2018

Welcome! How to join in

- There are three ways to contribute this afternoon:

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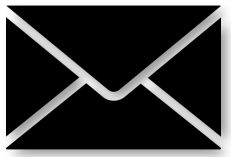

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Kaleidoscope Health & Care

- Kaleidoscope is a social enterprise which brings people together to improve health and care. We find new ways to overcome old barriers. We enable constructive conversations on difficult topics.

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- Your host today is Rich Taunt, joined by Professor Naomi Fulop, Professor Steve Morris and Professor Ruth Boaden

Acute stroke service reconfiguration in Greater Manchester and London: what happened?

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Acknowledgement of funding

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- The views and opinions expressed therein are those of the authors and do not necessarily reflect those of the HS&DR, NIHR, NHS or the Department of Health.

NHS
National Institute for Health Research

Research team

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Tony Rudd, Charles Wolfe, Christopher McKevitt

Pippa Tyrrell, Ruth Boaden, Catherine Perry

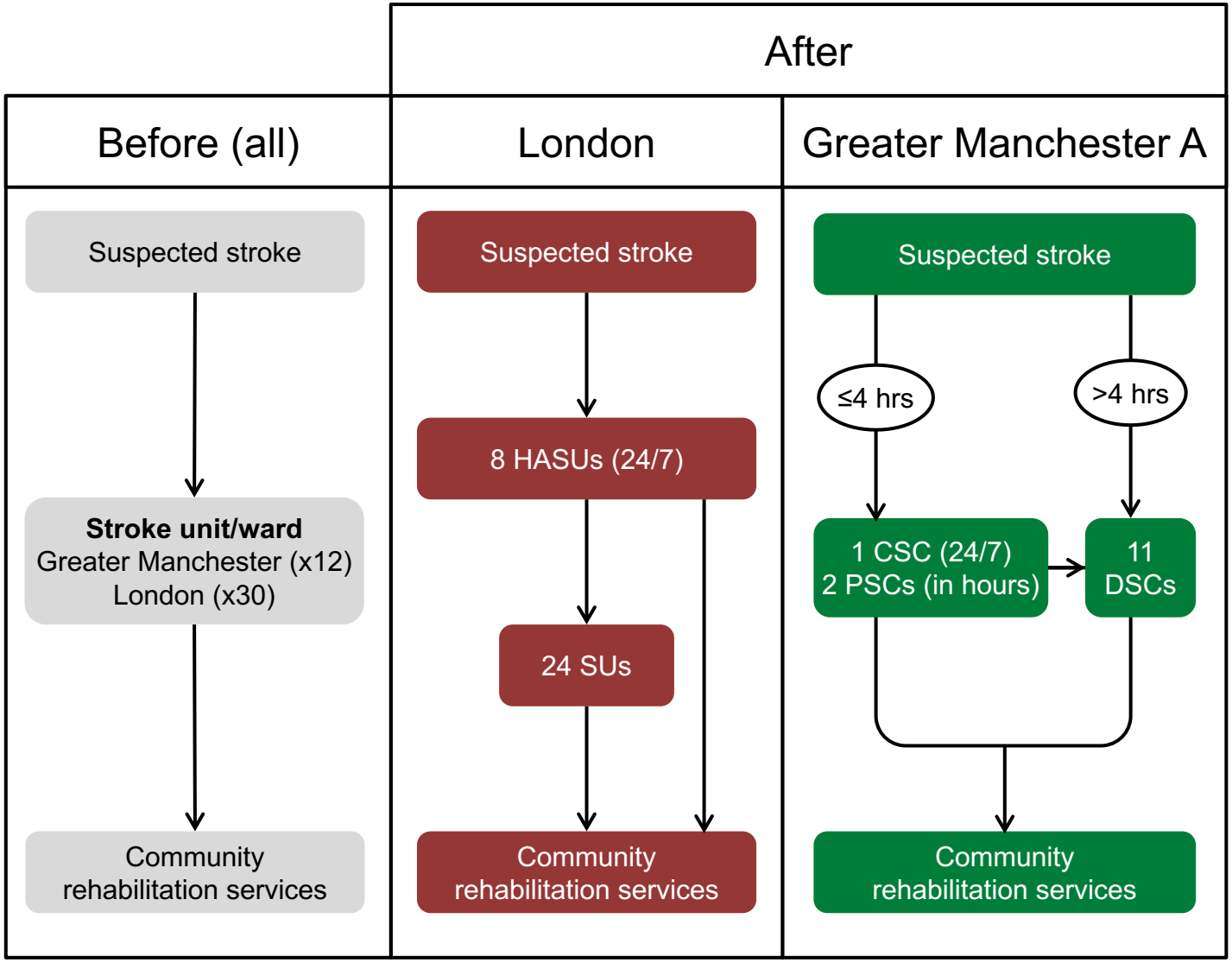
Background - drivers for change

National Stroke Strategy (2007) set out case for change:

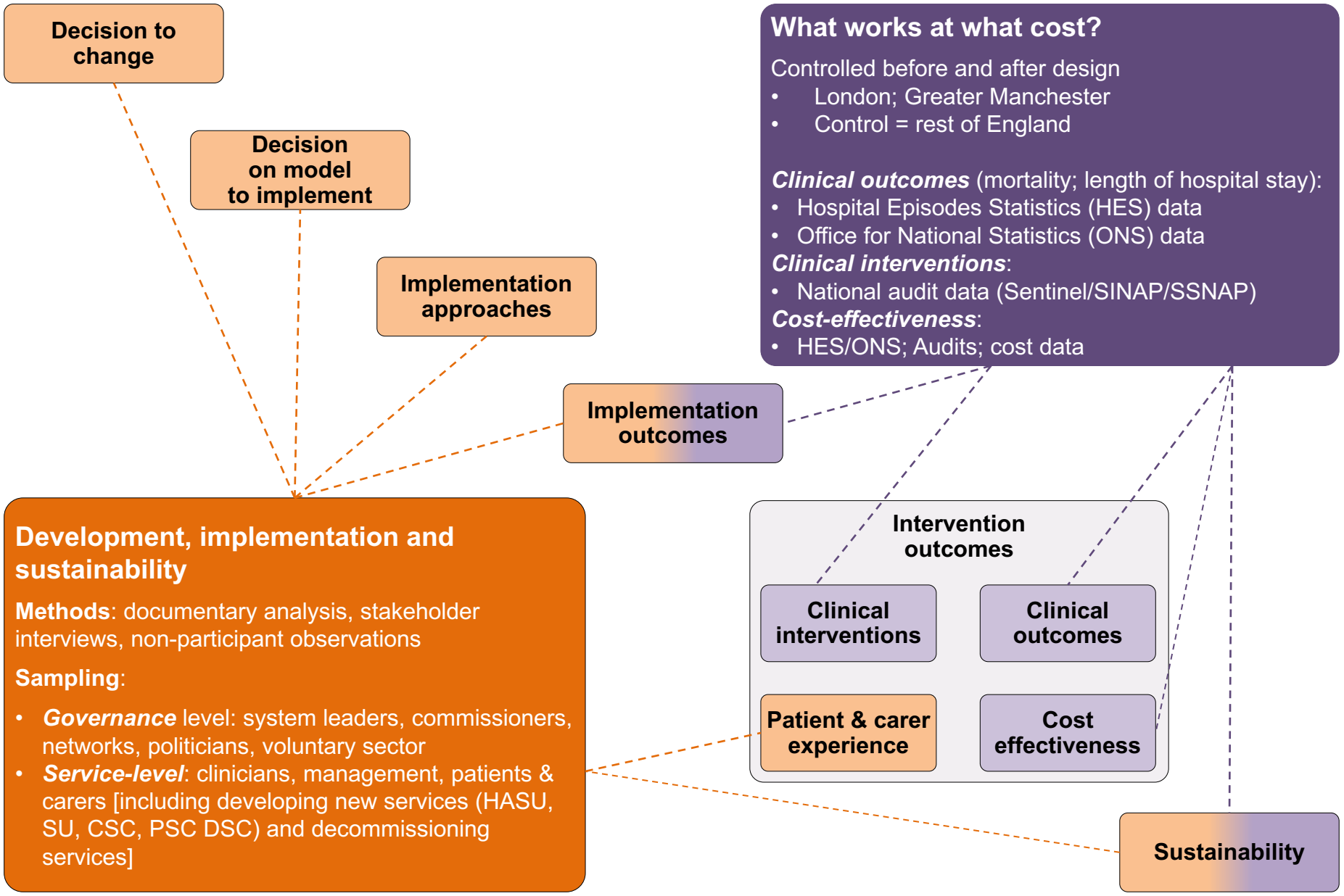
- 3rd biggest cause of death in UK
- Outcomes for stroke in UK compared poorly with those internationally

- Services not organised to enable evidence-based clinical practices to be provided
- Greater Manchester and London led the way in reconfiguring services to address these concerns

Changes implemented in 2010

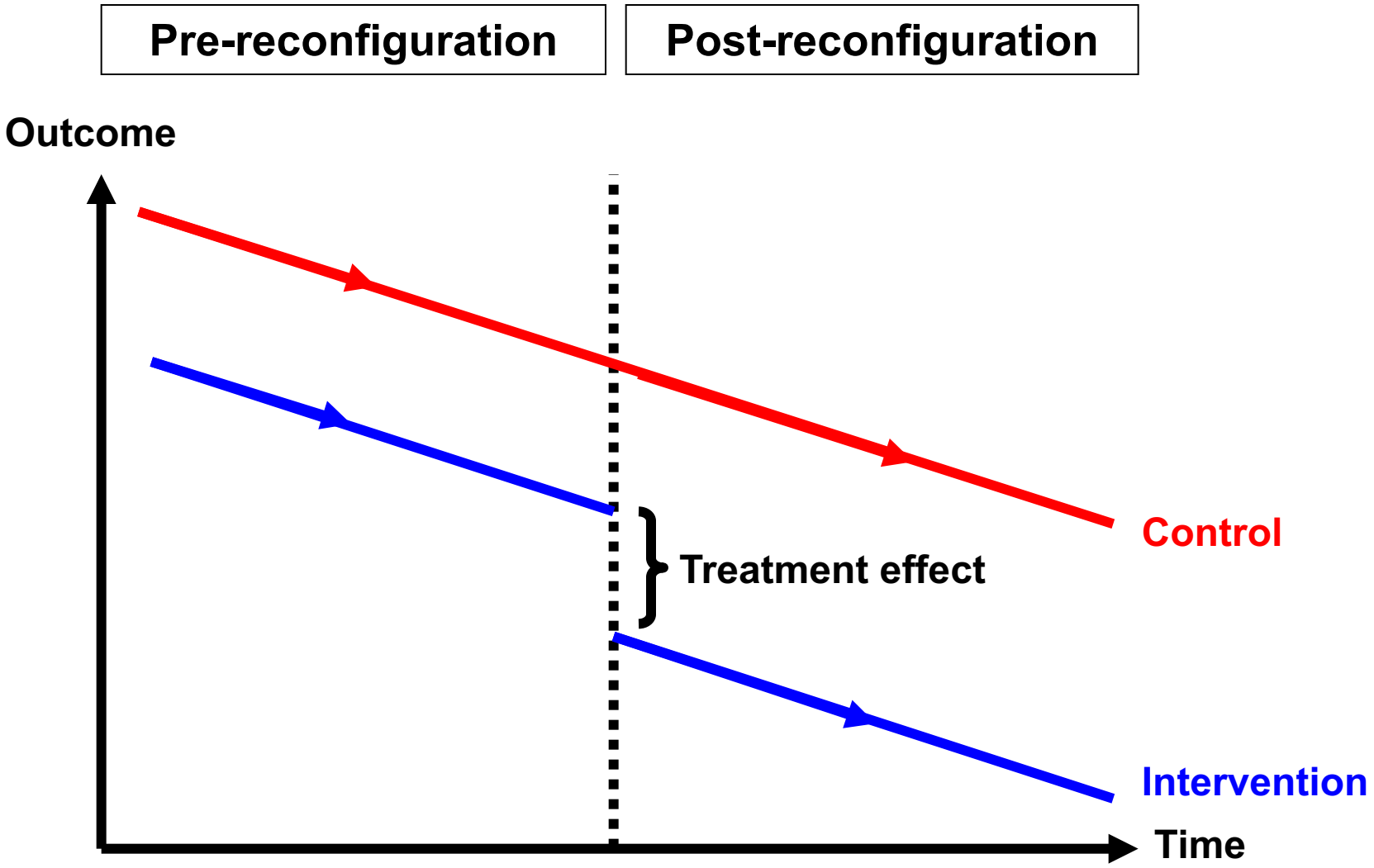


Methods for analysing reconfigurations



Quantitative findings: 2010 changes

Difference-in-differences estimation



Impact on patient outcomes: London & GM A

Our analysis of HES/ONS data (2008-12) found…

➔Impact: mortality

- **London**: fell significantly more than in rest of England
  - ➢ 96 additional lives saved per year
- **Manchester**: also fell, but in line with rest of England

➔Impact: length of hospital stay

- Fell significantly more than in rest of England in both areas:
- **London**: 1.4 days
- **Greater Manchester**: 2 days

Morris et al (2014) *BMJ*

Impact on care provision: London & GM A

Our analysis of national audit data (2008-12) found…

- **All areas** more likely to provide evidence-based care interventions over time

  HOWEVER

  - **London:** more likely than elsewhere to provide most types of care
  - **Manchester:** no different from elsewhere in England

HASUs were important:

- More likely to provide evidence-based care
- But different proportions treated in HASU
  - **93%** in London, **39%** in Manchester
- **34%** Manchester patients who got to hospital in 4 hours not treated in HASU

Ramsay et al (2015) *Stroke*

Impact on cost-effectiveness: London & GM A

- Our analysis of HES/ONS, national audit, South London Stroke Register found…
- High probability that **both** London and GM A were cost-effective at 10 years

- London: due to improvements in mortality & morbidity
  - Incremental cost per QALY gained <£20,000
- GM: reduced cost of stroke care due to reduced LOS
  - QALY gains and cost savings

Hunter et al (2018) *Health Res Policy Syst*

Qualitative findings: Planning and implementation; impact on patient experience

Leading change: London & GM A

- Combine ‘top-down’ and ‘bottom-up’ clinical leadership
- Engage all relevant stakeholders from planning onward
- System-wide authority can help challenge resistance

London: *holding the line*

“What got it through was being straight with them [clinicians], trying to explain it to them, but in the end **holding the line**.” (Commissioner, Project Board Member)

Greater Manchester: *consensus*

“the minute it felt like unanimity was being compromised on that clinical discussion on the 24 versus the 4 hour pathway, I think **we were always going to be minded then to tilt towards holding unanimity**.” (Commissioner)

Turner et al (2016) *J Health Serv Res Policy*

Lay involvement in change: London & GM A

- Patients and the public were involved through consultation processes and governance structures
- Professionals found it hard to say what impact involvement had
- Felt to have *strategic value* (supporting implementation) and *intrinsic value* (allowing citizen participation in change)
- Concept of 'value' might be more useful than 'impact' when thinking about patient and public involvement

'I don't think it really changed anything […] but at least people felt that they had a voice.'
(Patient organisation, Greater Manchester)

'I have a suspicion that those [*events*] were more effective in terms of stakeholder engagement than in terms of the answers that were produced - in terms of getting a sense of stakeholder ownership of the process'
(Patient organisation, London)

McKevitt et al (2018) *Health Expect*

Implementing London and GM A

London:

- 'Big bang' launch; accreditation with financial levers; hands-on facilitation

'The one thing that we really did push for was a "go live" date, not a "go live" date in one area and another in other areas' (Ambulance service)

'The Programme Board was quite unrelenting really about, these are the targets, we've got to hit them…' (Stroke network)

Greater Manchester A:

- Pilot, then phased; no accreditation or financial levers; platform to share learning

'I don't understand who's supposed to be going here and who's supposed to be going there, and if I don't, I bet other people don't' (Stroke physician)

Fulop et al (2016) *Implement Sci*

Impact on patient experience: London & GM A

- Centralised service can offer a good experience (despite increased travel)
- Important to provide clear information at every stage

"They said we're taking you to (HASU) because they've got a specialist stroke unit there […] I said, 'well that's fine"
(Patient, Greater Manchester)

Perry et al (2018) *Health Expect*

Overview of findings: London & GM A

LONDON Implementation		GREATER MANCHESTER A implementation
Drivers: national stroke strategy, local variations **Leadership**: regional authority; 'Holding the line'	**Decision to change**	**Drivers**: national stroke strategy, local variations **Leadership**: Network; 'Consensus'
Simple, inclusive model (all patients to HASU; all HASUs admit 24/7)	**Decision on model to implement**	More complex, less inclusive model (4 hour window; PSCs admit patients 7-7, Monday to Friday)
'Big bang' launch Accreditation with financial levers **Facilitation**: hands-on	**Implementation approaches**	Pilot, then phased No accreditation or financial levers **Facilitation**: platform to share learning
All HASUs provide interventions; 93% treated in HASU	**Implementation outcomes**	CSC/PSCs provide interventions; DSCs vary; 39% treated in CSC/PSC
Mortality: ↓ **Length of stay**: ↓ **Clinical interventions**: more likely than elsewhere **Cost-effectiveness**: Cost ↑; QALYs = ↑; NMB >0 **Patient experience:** Good experience overall; clear communication needed at each stage	**Intervention outcomes**	**Mortality**: Overall →; HASUs ↓ **Length of stay**:↓ **Clinical interventions**: No more likely than elsewhere (except CSC/PSC) **Cost-effectiveness**: Cost ↓; QALYs = ↑; NMB >0 **Patient experience:** Good experience overall; clear communication needed at each stage

Influence on further centralisation in GM

- Further centralisation in GM recommended in 2011
- Significant delays in implementation
- Our published findings on mortality and LoS helped move things along… and calculation that if GM further centralised, additional 50 lives p.a. could be saved

- **Services were further centralised in March 2015**
  - ***We studied these further changes alongside sustainability in London***

Quantitative findings: 2015 changes in GM; sustainability in London

Impact on patient outcomes: GM B

We reran our analysis on HES/ONS data (2008-16)…

➔Impact: mortality

- **Across all hospitals in GM**: borderline significant fall
- **In GM HASUs**: fell significantly more than in rest of England

➢ 69 additional lives saved per year

➔Impact: length of hospital stay

- Fell significantly more than in rest of England: 1.5 days

➢ 6750 fewer bed-days per year

Impact on care provision: GM B

Our analysis of national audit data (2013-16) found…

Treatment in a HASU increased significantly:

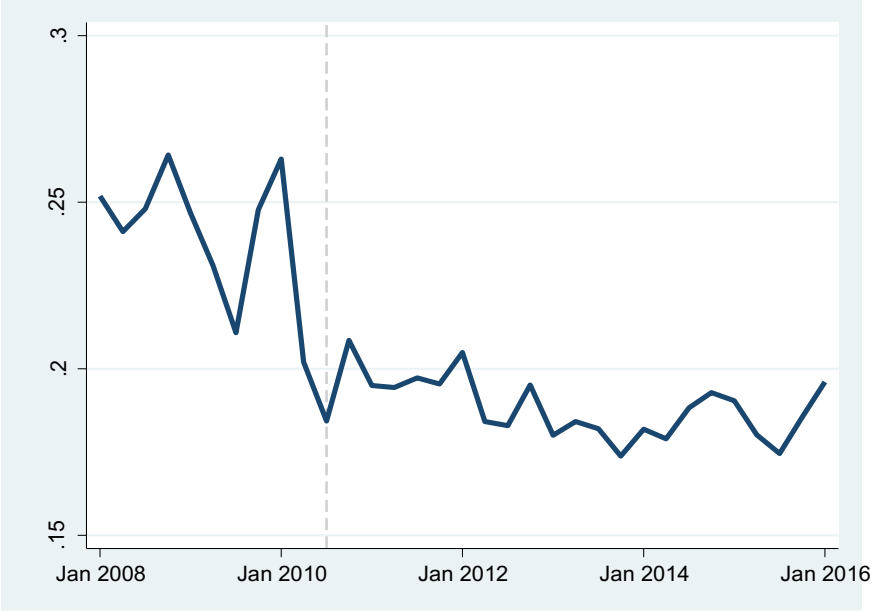
- 39% in 2010/12
- 64% in 2014/15
- 86% in 2015/16

Provision of evidence-based care:

- **Front door services:** significant improvements, over and above those seen in RoE
- **Thrombolysis:** proportion of eligible patients receiving thrombolysis increased, but it also did in the RoE
- **Specialist assessments:** Most improved over time, over and above those seen in RoE

London sustainability

- **No significant variation in mortality or LoS** over time since the reconfiguration in London
- Indicates the reductions in mortality and LOS following centralisation in London were **sustained**
- Patterns reflected in **analyses of clinical interventions**



Adjusted trends in mortality at 90 days in London

Adjusted trends in LoS in London

Qualitative findings: 2015 changes in Greater Manchester; sustainability in London

Factors influencing further change in GM

- Further change in GM:
  - Recommended 2011, implemented March 2015
- Delays agreeing model, planning, implementation
- System faced obstacles:
  - Turbulence - 2013 NHS reforms
    - disrupted decision-making
    - loss of local knowledge
  - National staffing shortages
  - Local concerns about service and leadership capacity

*'It was kind of assumed that it was a relatively small change, when **in fact it was probably as big a change as it had been the first time round**.'*
(Stroke physician, GM)

➢ ***Despite these obstacles, change was implemented***

Factors influencing sustainability: London

- Obstacles:
  - Turbulence (2013 NHS reforms); national targets (e.g. A&E targets); national staffing shortages; pressures on social care
  - Pressure: delayed patient transfer; difficulties finding HASU/SU beds

➢ ***Despite these, delivery of interventions and outcomes was sustained over the period studied***

- Facilitators:
  - The model - service standards linked to tariff
  - Processes sustaining the system - service reviews
  - Leadership - continuity and adaptability
  - Independent evidence - SSNAP; research

*'there's an enhanced tariff that we get if we pass, I think if that threat went away, that would be a real loss to us. **We need that threat**.'* (Stroke physician)

'keeping London working together […] has enabled us to have at least some elements of the old strategic health authority […] they've continued to operate pretty much really as an SHA but without some of the powers that the SHA previously had' (Stroke physician)

Lessons for Major System Change in stroke

What works at what cost:

- Centralised acute stroke services in urban areas reduce mortality and LOS, and are cost-effective
- Advantage of models where all eligible for HASU
- Impact on care and outcomes can be sustained over time

Planning, implementation, and sustainability

- Combine ‘top-down’ and ‘bottom-up’ clinical leadership; System-wide authority can help challenge resistance
- Consistent, adaptive leadership facilitates both implementation and sustainability in challenging contexts
- Important to engage all relevant stakeholders from planning onward
- Implementation: importance of standards linked to financial incentives and hands-on facilitation
- Independent evidence (audit, research) can help build and maintain stakeholder ownership of changes
- ***Not a one-off:*** attend to evidence, consider further change

Many thanks for your time!

More information:

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steve.morris@ucl.ac.uk

http://www.learningfromstroke.com/

References

Morris et al. (2014) Impact of centralising acute stroke services in English metropolitan areas on mortality and length of hospital stay: difference-in-differences analysis. *BMJ*;349:g4757

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Perry et al. (2018) Patient experience of centralised acute stroke care pathways. *Health Expect* 2018; doi:10.1111/hex.12685

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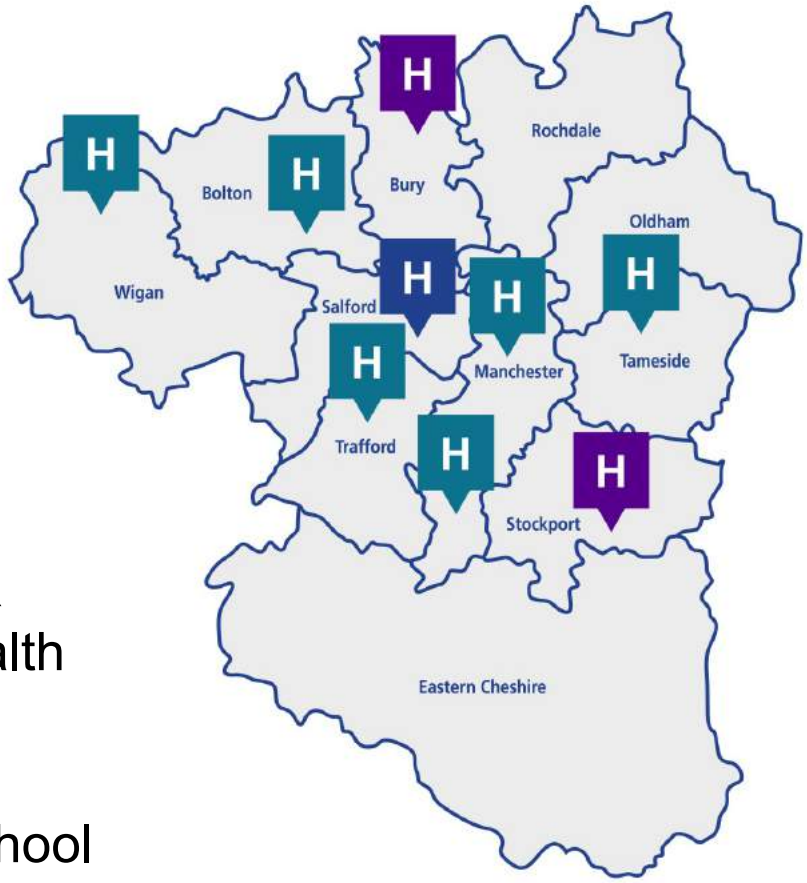
The (Greater) Manchester story

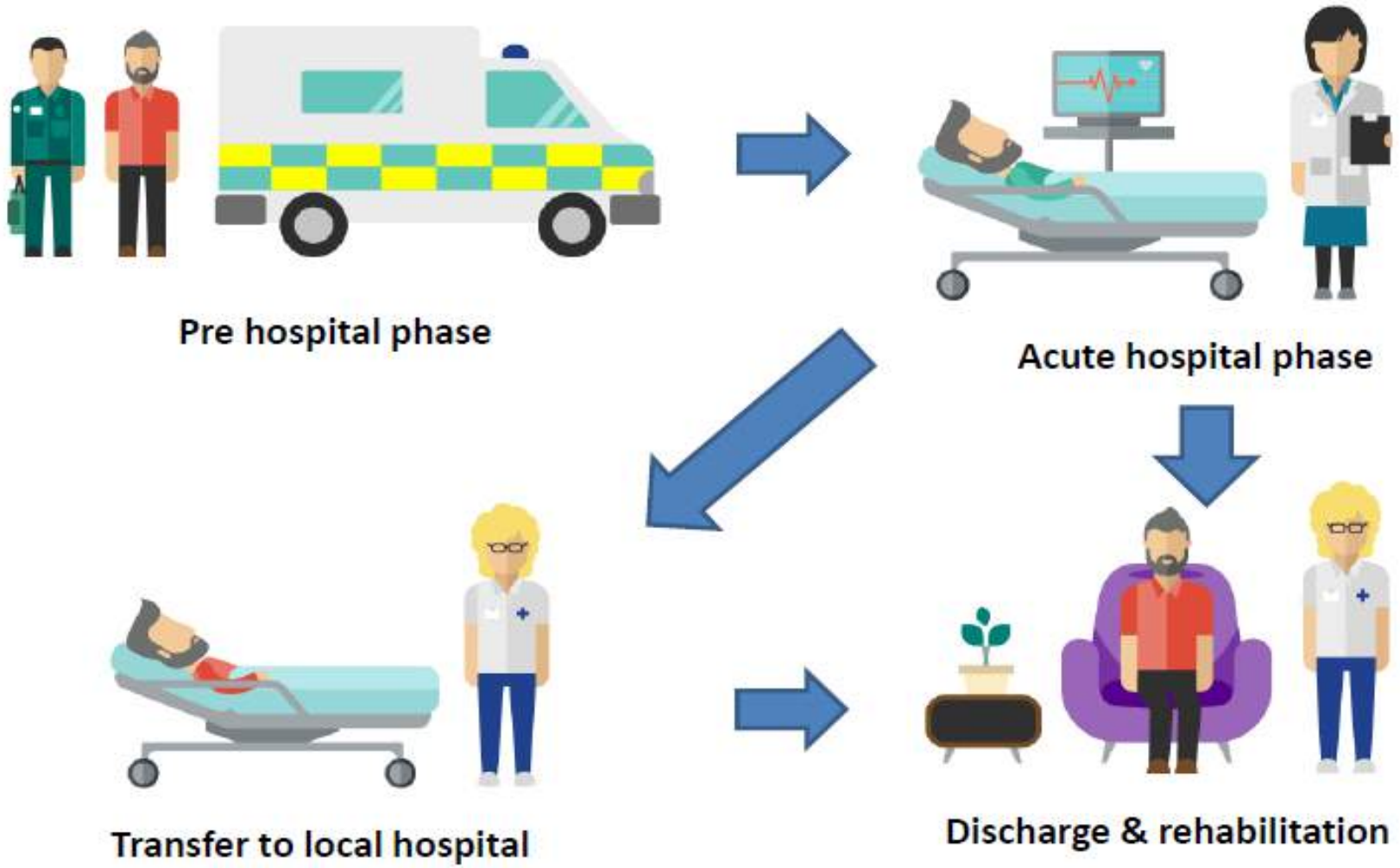


Professor Ruth Boaden, Director – NIHR Collaboration for Leadership in Applied Health Research and Care (CLAHRC) Greater Manchester
Professor, Alliance Manchester Business School

On behalf of research team

UCL KING'S College LONDON MANCHESTER 1824 The University of Manchester

The stroke pathway



What happened when?

2010 2011 2012 2013 2014 2015 2016 2017 2018

Full centralisation of acute care in London

Greater Manchester A; partial centralisation of acute care in GM

Greater Manchester B: full centralisation

Internal review of pathway concludes further change is needed

PAT rationalises stroke services to one site

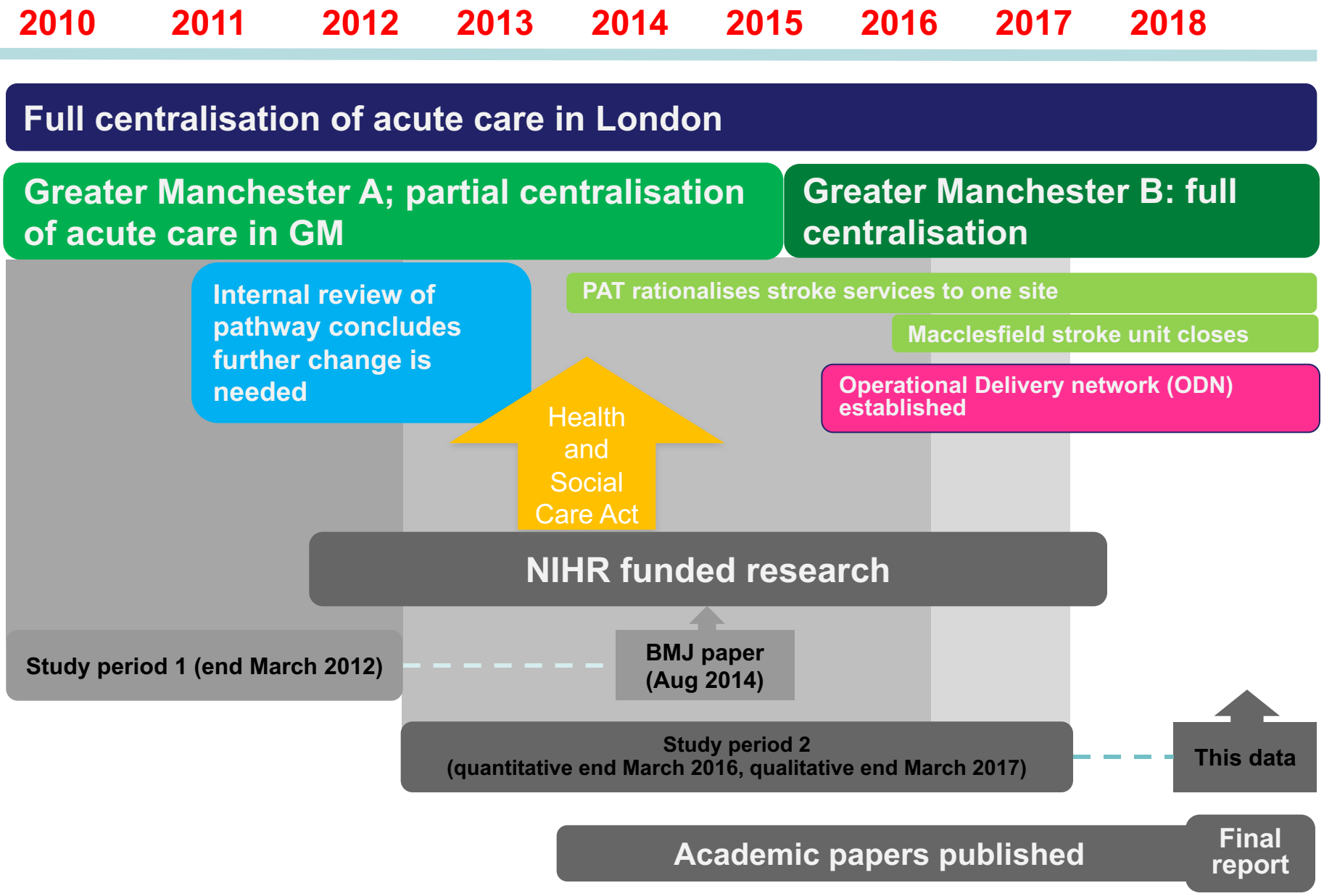
Macclesfield stroke unit closes

Operational Delivery network (ODN) established

Health and Social Care Act

2007 National Stroke Strategy

The research project



Further change in GM

- Recommended Oct 2011, implemented March 2015
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(Stroke physician, GM)

Despite these obstacles, change was implemented

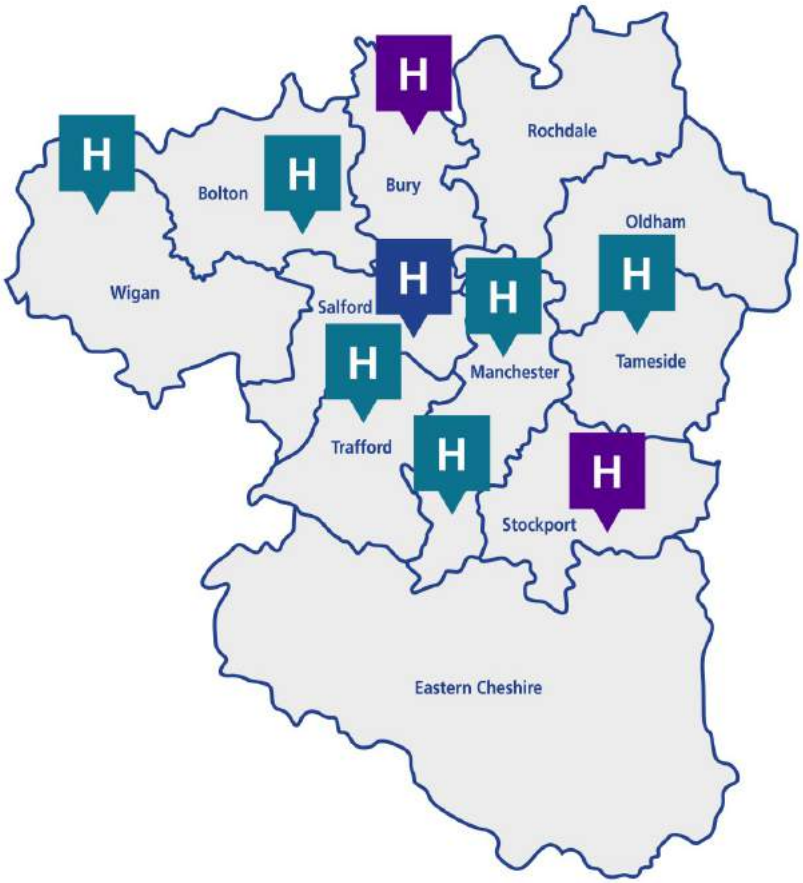
Facilitators of further change in GM (GM B)

- Governance: Implementation Board (from 2014)
  - Clearer system leadership
  - Included commissioners
  - A single project manager
  - 2 patient representatives
- Research evidence

- Leaders 'held the line'
  - On timing of change
  - On 'big bang' launch

'It would be extremely difficult to argue for e.g. 3-4 months [slippage] in light of the mortality data … as many as 16 deaths from stroke could be avoided in that period of time if services were centralised" (Implementation Board meeting 12/09/14)

Post-implementation (Apr 2015 onwards)



- GM Operational Delivery Network (**ODN**) facilitated effective operation of system

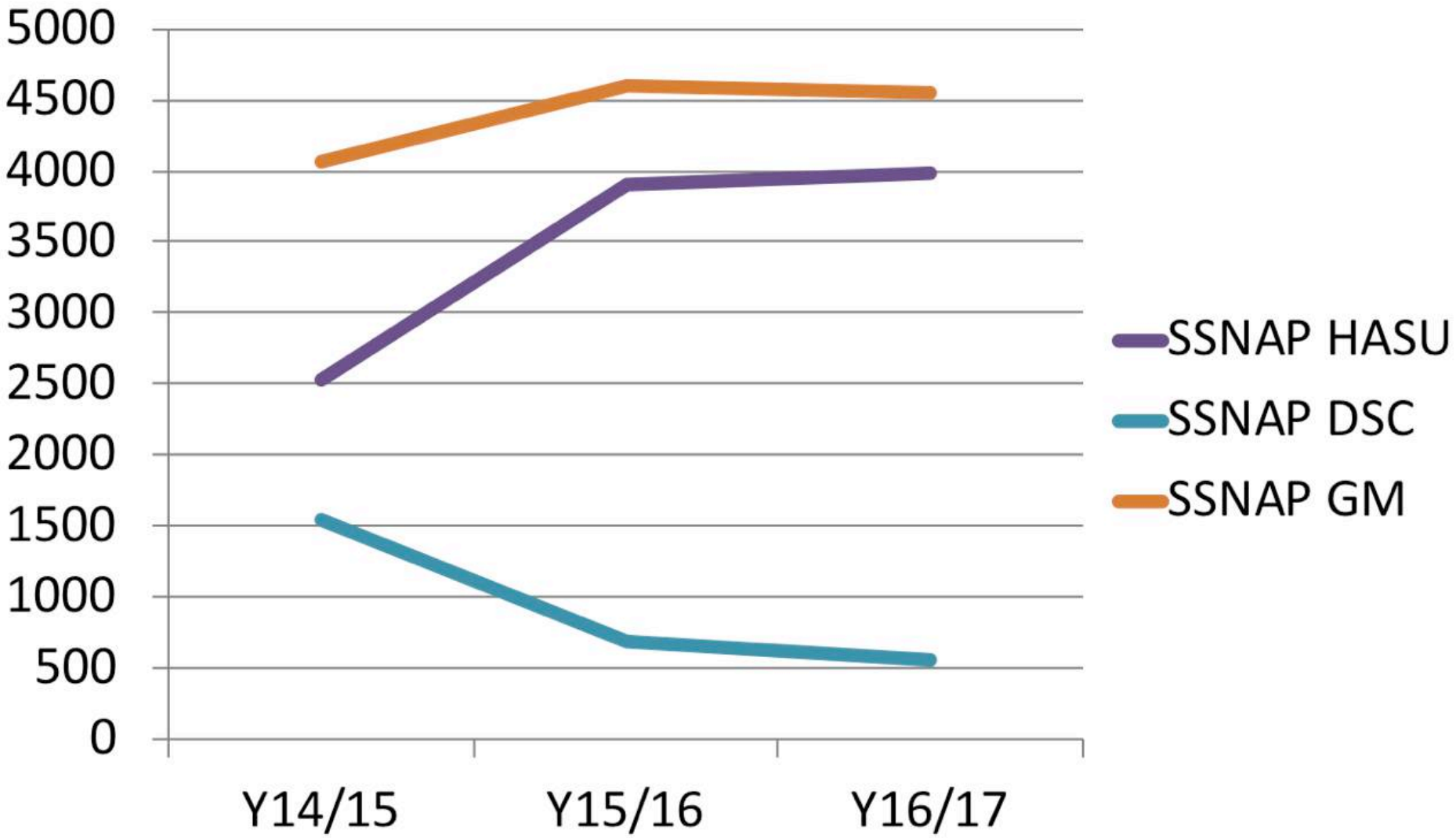
- **3 HASUs**
- **6 DSCs**
- **16 community rehabilitation teams**

Stroke pathway

Research quantitative data collection completed

GM full centralisation

Greater Manchester Stroke Operational Delivery Network



Acute pathway performance

Greater Manchester Stroke Operational Delivery Network

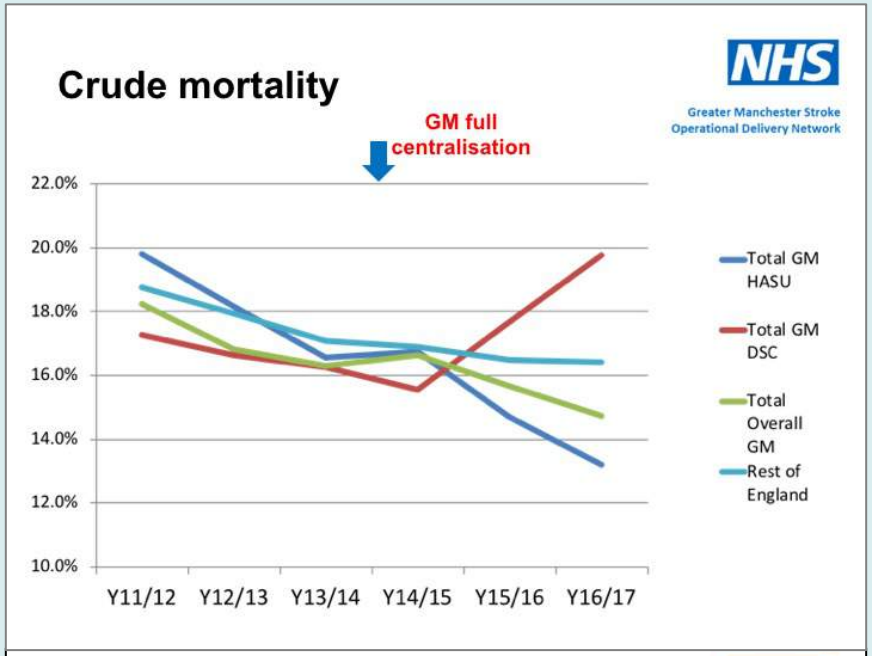
PAT re-organisation

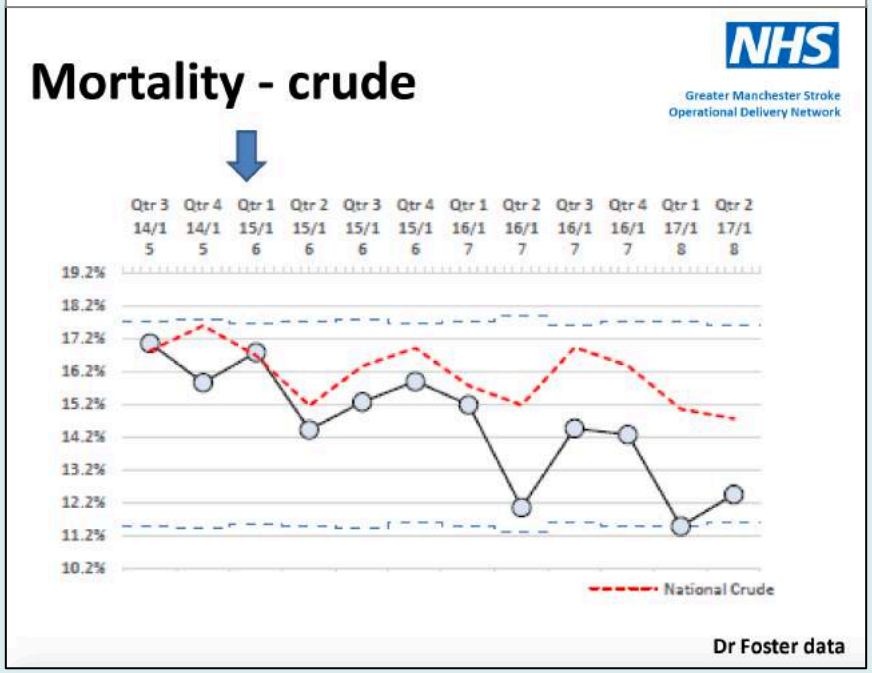
GM full centralisation

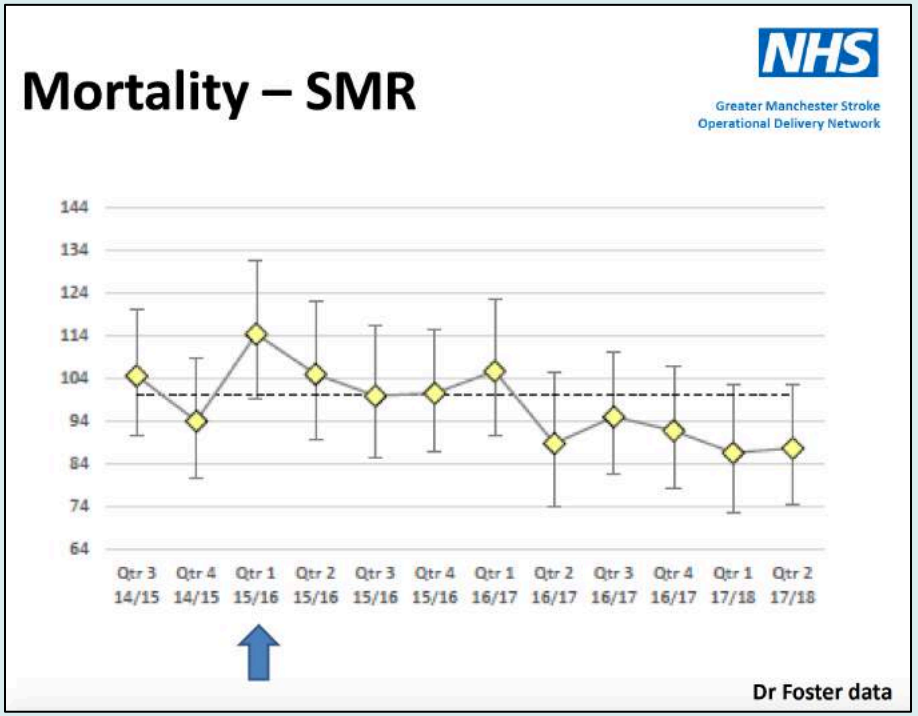
Research quantitative data collection completed

	2014			2015				2016			2017
CCG	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jul	Aug-Nov	Dec 16-Mar 17
Eastern Cheshire	D	D	D	D	C	C	B	B	B	A	A
Bolton	D	D	X	D	B	B	B	B	A	A	A
Bury	D	C	C	B	A	A	A	A	A	A	A
Central Manchester	D	D	D	C	B	B	B	B	A	A	A
Heywood, Middleton & Rochdale	C	C	C	B	A	A	A	A	A	A	A
North Manchester	D	C	C	B	A	A	A	A	A	A	A
Oldham	C	C	C	B	A	A	A	A	A	A	A
Salford	C	B	C	B	B	A	A	B	A	A	A
South Manchester	D	D	D	D	C	B	B	B	B	A	A
Stockport	D	C	C	D	C	B	B	A	B	A	A
Tameside & Glossop	D	D	D	D	C	C	B	B	B	A	A
Trafford	D	D	C	D	B	B	B	B	A	A	A
Wigan Borough	D	D	C	C	B	B	B	B	A	A	A

Mortality is going down …

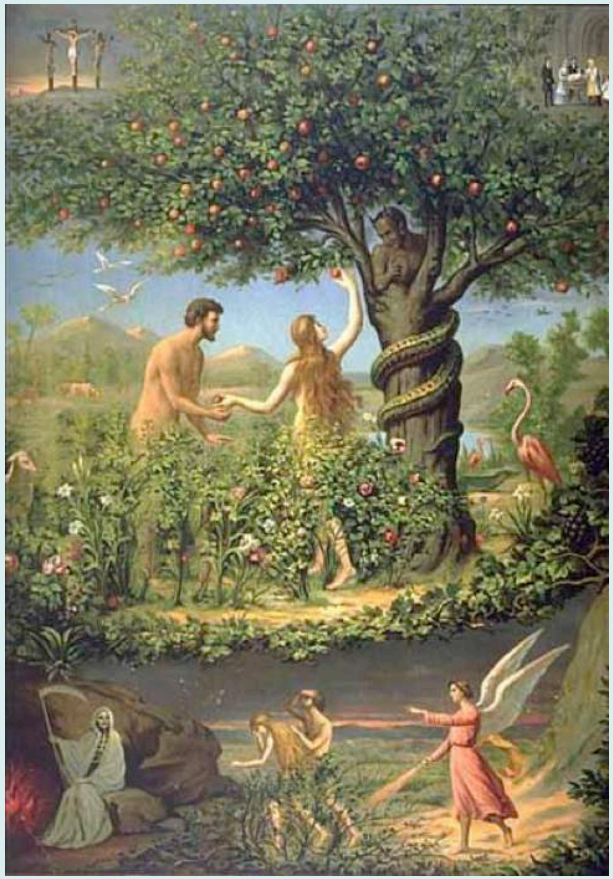






But … (April 2018)

Greater Manchester Stroke Operational Delivery Network



- Repatriation delays ~75 bed days per month
- DSC stroke care not so highly rated in SSNAP
- Main HASU under pressure due to size – largest in the country
- Community services not standardised
- TIA service not 7 days

Critical success factors (ODN)

Greater Manchester Stroke Operational Delivery Network

- Decision to centralise based on robust evidence
- Collaborative approach built relationships and trust over time
- Include patient voice
- Effective use of data to demonstrate impacts
- Network support for change management

‘Simple rules’ for major system change: our ‘lessons’

• Combine designated and distributed leadership	System-wide authority is needed and commitment to system-wide improvement goals
• Establish feedback loops	May be combined with other tools e.g. financial incentives to encourage change
• Attend to history	Political authority needed to challenge existing context
• Engage physicians	Involve a range of stakeholders, have a system-wide governance structure to align interests
• Involve patients and families	Drives of change influence how stakeholders’ views ‘count’ – may be tension between patients’ and others’ perspectives

Webinar 2: Crash course in system change internationally (4-5pm)

Best A, Greenhalgh T, Lewis S, Saul JE, Carroll S, Bitz J. Large-System Transformation in Health Care: A Realist Review. The Milbank Quarterly. 2012;90(3):421-456. doi:10.1111/j.1468-0009.2012.00670.x.

‘Simple rules’ for major system change: the GM ‘B’ and ODN experience

• Combine designated and distributed leadership	• Implementation Board • Including commissioners • Single project manager	• Collaborative approach built relationships and trust over time
• Establish feedback loops	• Decision to centralise based on robust evidence	• Use data to demonstrate impact
• Attend to history	• Big bang launch	• Network support for change management
• Engage physicians	• Implementation Board • Personal relationships	
• Involve patients and families	• 2 patient representatives on Implementation Board • No wider formal consultation	• Include patient voice

Best A, Greenhalgh T, Lewis S, Saul JE, Carroll S, Bitz J. Large-System Transformation in Health Care: A Realist Review. The Milbank Quarterly. 2012;90(3):421-456. doi:10.1111/j.1468-0009.2012.00670.x.

THANK YOU

More information:

Ruth.Boaden@manchester.ac.uk

www.ucl.ac.uk/dahr/research-pages/stroke_study

http://gmsodn.org.uk/

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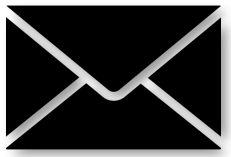

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What's next

- Join us at 4pm for a crash-course in system change worldwide
- We're running an all-day learning event 22 May – join the waiting list and cross your fingers!
- Lots more information at learningfromstroke.com

Thank you