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# International perspectives on acute health efforts focusing on emergency hospitals and emergency services

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v1.6



## Alliance Manchester Business School, University of Manchester:

BSc, MSc, MBA, PhD, DBA [www.mbs.ac.uk](http://www.mbs.ac.uk)

### Health Management Group [www.research.mbs.ac.uk/health](http://www.research.mbs.ac.uk/health)

For NHS Health Education England:

- *Elizabeth Garrett Anderson* programme (PgDip)
- *NHS Management Training Scheme* (MSc) – the graduate management fast-track
- *NHS Higher Specialist Scientist Training* (DClinSci)
- Some (part-time) MBA places

MSc *International Healthcare Leadership* (part-time: Singapore, Dubai, Shanghai, Manchester...)

### Health Services Research Centre [www.research.mbs.ac.uk/hsrc](http://www.research.mbs.ac.uk/hsrc)

Research & Evaluation projects for & with the Dept of Health, NIHR, health thinktanks

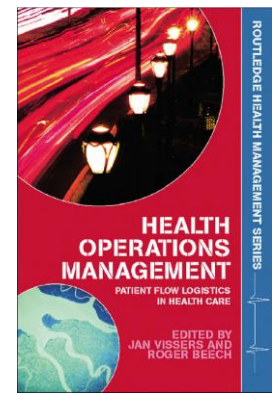
### Dr Nathan Proudlove [www.linkedin.com/in/nathanproudlove](http://www.linkedin.com/in/nathanproudlove)

Associate Professor, Operational Research & Operations Management

OR & OM (especially in Healthcare) research, teaching, consulting : 20+ years

Next edition of Health Operations Management

(lead editor Prof Jan Vissers, Erasmus)



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- Denmark vs. the UK

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- Emergency access – the “shop window” of healthcare systems
- Emergency pressures and performance – where we are, where we are going(?)
- Emergency Hospitals Challenges and Initiatives

Management Matters (empirically!)



## Greener Grass?

	Heart Attack Mortality	Access & Quality Index	Expenditure per head
DK	3.6 (1 <sup>st</sup> )	92 (17 <sup>th</sup> )	\$5,183
UK	7.5 (19 <sup>th</sup> )	90 (23 <sup>rd</sup> )	\$3,341
US	6.5 (15 <sup>th</sup> )	89 (29 <sup>th</sup> )	\$8,047

Death rates per 1000 discharges, by 30 days after admission, OECD 2014  
Expenditure US\$PPP, OECD 2017

Healthcare Access and Quality Index: Measuring performance on the Healthcare Access and Quality Index for 195 countries and territories and selected subnational locations: a systematic analysis from the Global Burden of Disease Study 2016 *The Lancet* (2018)

	HDI (Potential)	HDI (Actual)	% of potential
DK	0.929 (11 <sup>th</sup> )	<b>0.860 (9<sup>th</sup>)</b>	93%
UK	0.922 (14 <sup>th</sup> )	<b>0.835 (18<sup>th</sup>)</b>	91%
US	0.924 (13 <sup>th</sup> )	<b>0.797 (25<sup>th</sup>)</b>	86%

Human Development Index (2017 data)

Actual = Adjusted for losses due to **inequality in health, education & income**

# The NHS: Bad News!

## The Shop Window

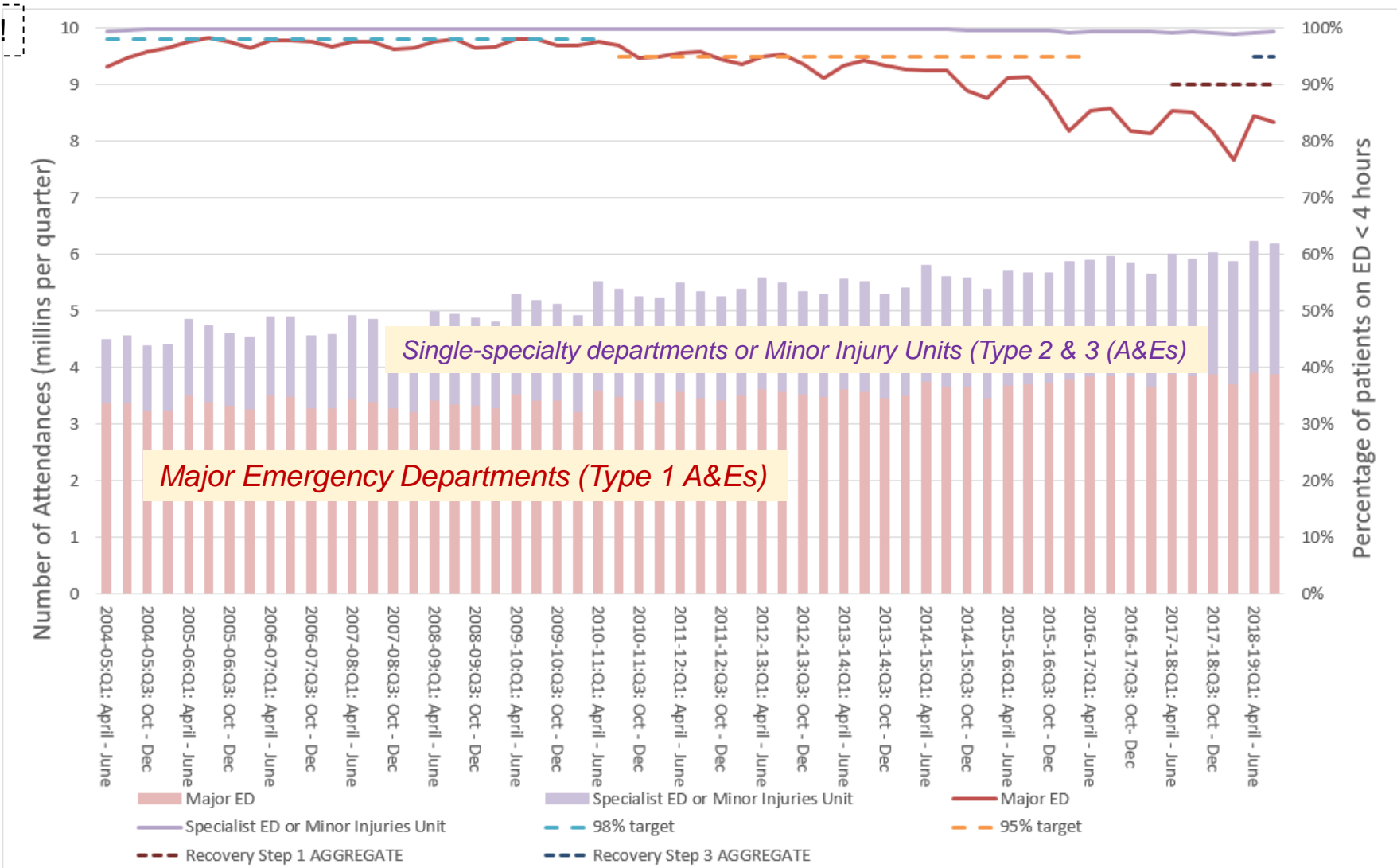
- embarrassing for Government (central responsibility)
- a barometer...



# So... ED 4-hour Target arrival to discharge/admission

2018/19:  
On hold, but aggregate-level  
"recovery steps" targets

100%



Raw data from : [www.england.nhs.uk/statistics/statistical-work-areas/ae-waiting-times-and-activity/ae-attendances-and-emergency-admissions-2018-19/](http://www.england.nhs.uk/statistics/statistical-work-areas/ae-waiting-times-and-activity/ae-attendances-and-emergency-admissions-2018-19/)

Commentary: [www.qualitywatch.org.uk/indicator/ae-waiting-times](http://www.qualitywatch.org.uk/indicator/ae-waiting-times)

[www.kingsfund.org.uk/projects/urgent-emergency-care/urgent-and-emergency-care-mythbusters](http://www.kingsfund.org.uk/projects/urgent-emergency-care/urgent-and-emergency-care-mythbusters)

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/691998/nhse-mandate-2018-19.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/691998/nhse-mandate-2018-19.pdf)

# N=135 English NHS Trusts with a full ED (Type 1 A&E)

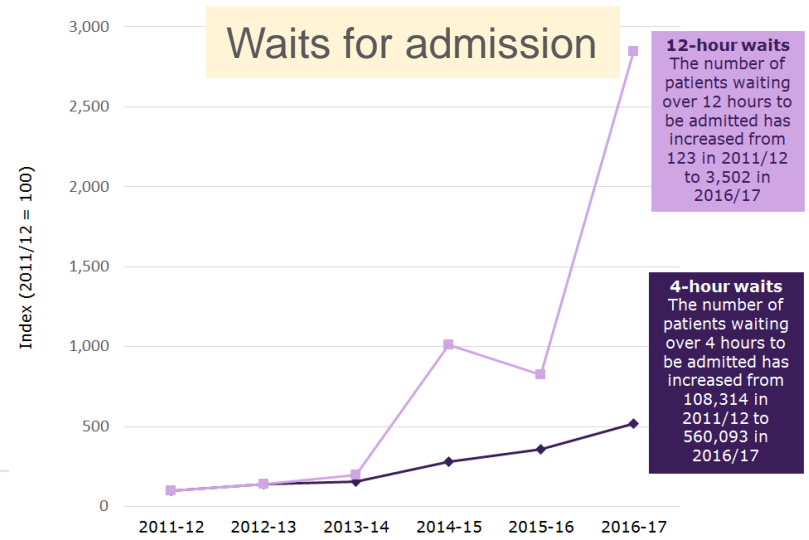
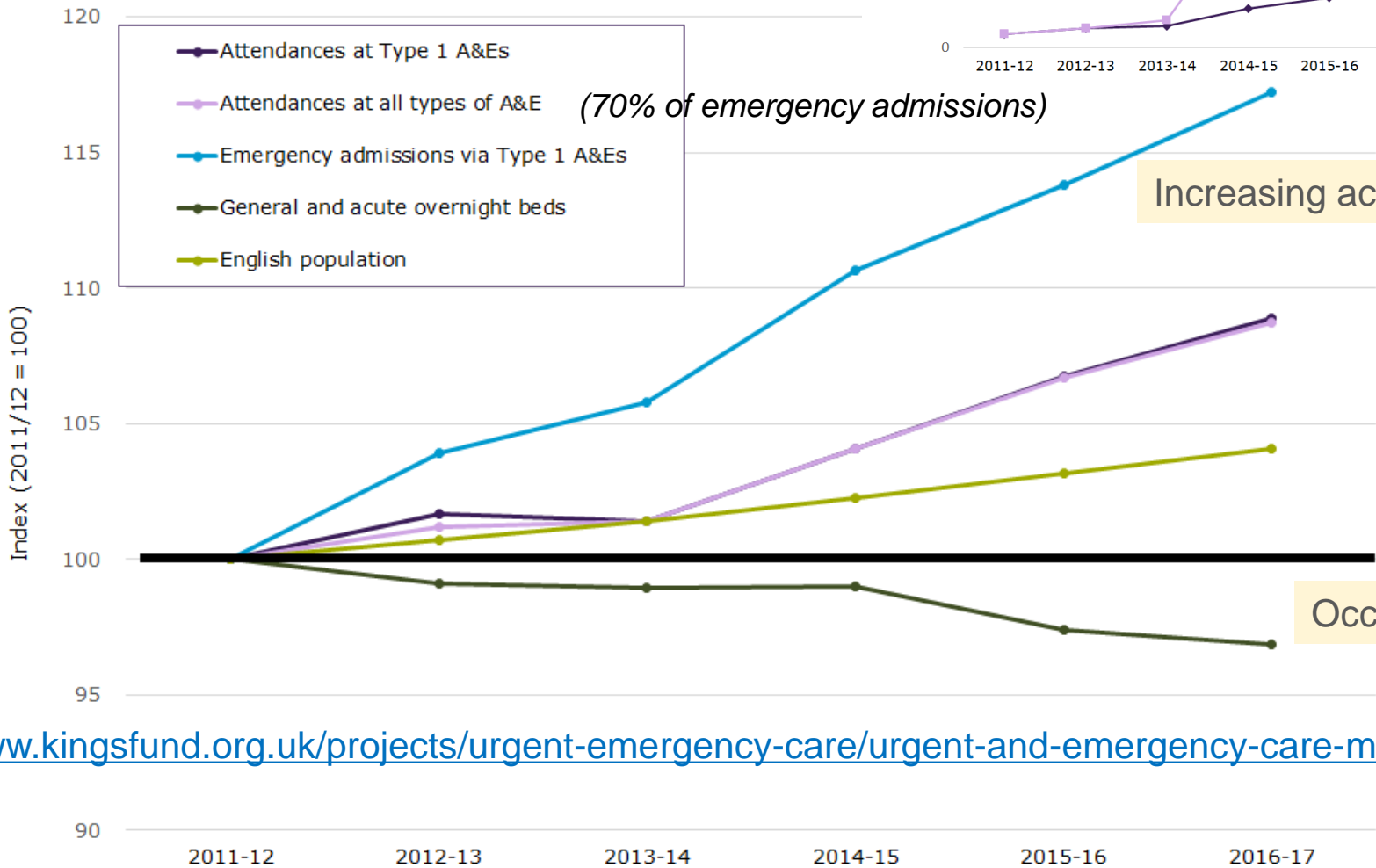


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## 2011/12

99.3	98.1	97.8	97.0	96.7	96.4	96.0	95.6	95.4	94.9	94.3	91.4
99.3	98.0	97.7	97.0	96.7	96.4	95.9	95.6	95.4	94.9	94.3	89.4
99.1	98.0	97.6	97.0	96.6	96.4	95.9	95.6	95.3	94.8	94.0	82.1
99.0	97.9	97.6	97.0	96.6	96.3	95.9	95.5	95.2	94.8	94.0	
98.9	97.9	97.5	97.0	96.6	96.3	95.8	95.5	95.2	94.8	94.0	
98.5	97.9	97.4	96.9	96.5	96.3	95.8	95.5	95.1	94.8	93.9	
98.4	97.9	97.4	96.9	96.5	96.3	95.8	95.5	95.1	94.7	93.8	
98.4	97.8	97.3	96.9	96.5	96.1	95.7	95.5	95.1	94.6	93.7	
98.4	97.8	97.2	96.9	96.5	96.1	95.7	95.5	95.0	94.5	93.6	
98.3	97.8	97.2	96.8	96.4	96.1	95.7	95.5	95.0	94.5	92.3	
98.3	97.8	97.1	96.8	96.4	96.0	95.6	95.5	95.0	94.4	91.7	
98.3	97.8	97.1	96.7	96.4	96.0	95.6	95.5	95.0	94.4	91.7	

# Why?



## Waits for admission

**12-hour waits**  
The number of patients waiting over 12 hours to be admitted has increased from 123 in 2011/12 to 3,502 in 2016/17

**4-hour waits**  
The number of patients waiting over 4 hours to be admitted has increased from 108,314 in 2011/12 to 560,093 in 2016/17

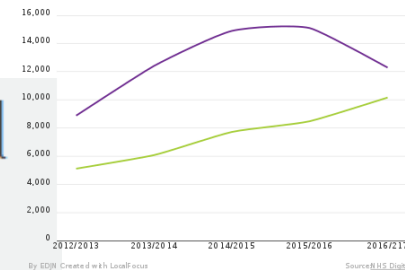
Increasing acuity (?)

Occupancy > 90%



## NOW: more money pledged

- “the biggest cash boost in the NHS' history: +£20.5 billion a year” (The Conservative Party, 29 Oct 2018) [by 2023... current £114bn +inflation + average of 3.4% annually]
- “the ‘minimum’ that was needed: after almost **a decade of austerity**, the NHS has a lot of catching up to do” [NHS Providers] (£1.23bn deficit; £4.3bn underlying [NHS Improvement])
- NHS England is working on a 10 year plan on how to spend it (should be out by Christmas... )
  - Emergency care is not an explicit priority (?)
  - But Mental Health is, including in EDs and preventative
- “an opportunity to **fundamentally re-design** how the NHS works...” [NHS Improvement]
- But.. 100,000 staff vacancies (projections of > 300,000!)



NHSI: Restoring performance may take until  
2023

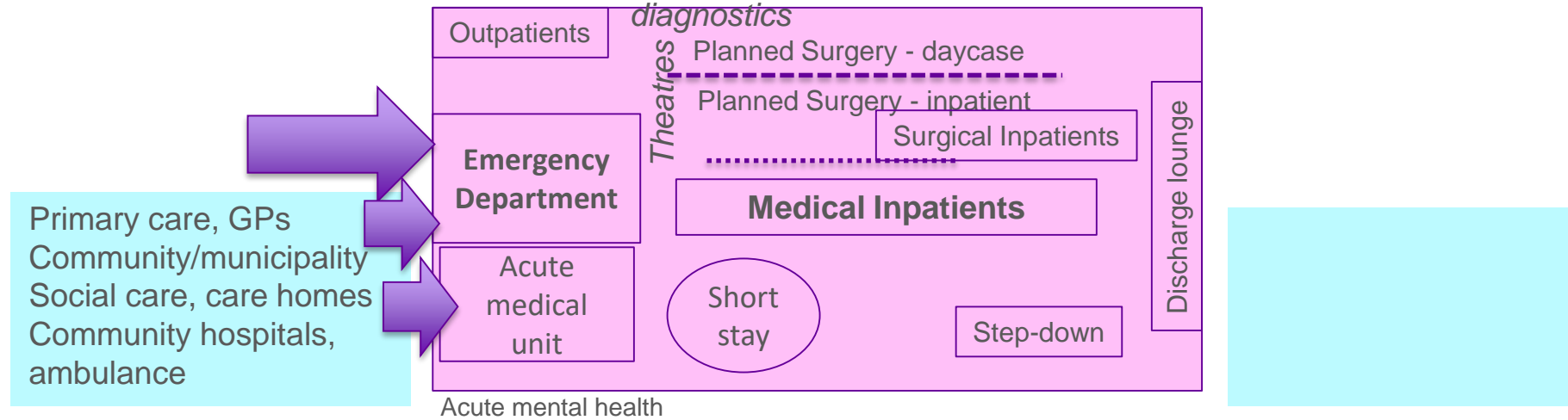
By James Illman | 29 November 2018

[Wikipedia!]

It could take up to five years to get NHS performance back on track, NHS Improvement has warned.

*Health Service Journal*

# Emergency Hospitals Challenges and Initiatives: The Front Door



## Anything & Everything?

- ~ 22 million attendances per year, 'walk'-up
- GP out-of-hours (2004+ contract?), patchy & fragmented: confusion [& DK?]
- 11% no treatment, 39% advice only' [diagnostics?]
- Inappropriate admissions
- **"Failure Demand"** call-centres: 50+ % of demand
- Efforts
  - Improved GP out-of-hours access
  - 111 advice line
  - Pharmacy advice
  - and...

## A&E appointments system proposed in NHS targets shakeup

Patients may have to pre-book for emergency care as health chiefs look to Danish model

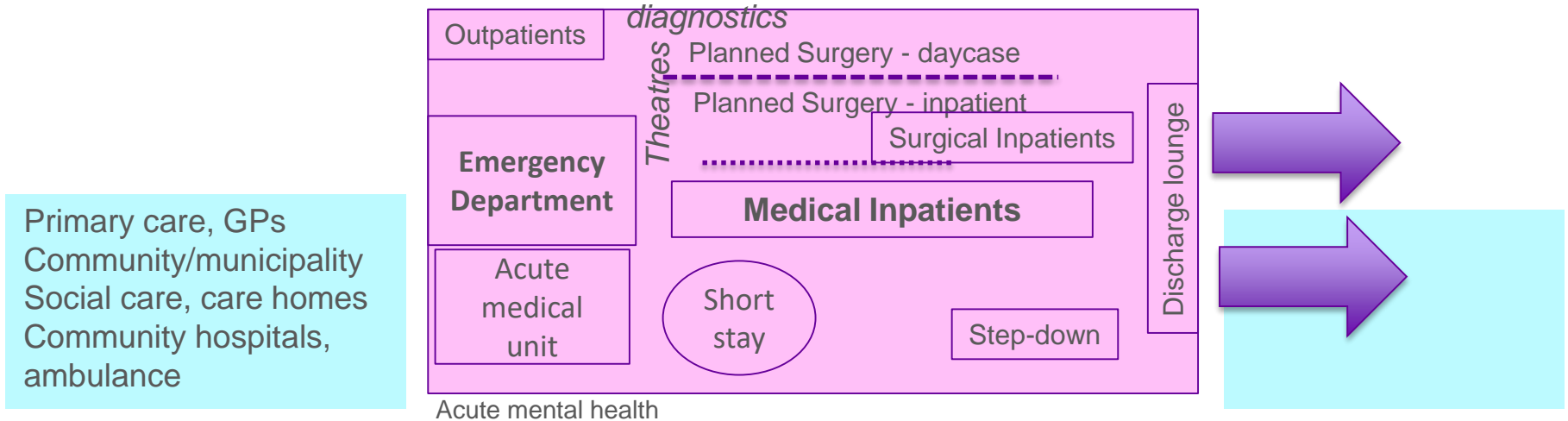


But the Royal College of Emergency Medicine, which represents A&E doctors, rejected the idea. "I would be very surprised if this worked in the NHS. The NHS is filled with innovative ideas that crash and burn," said its president, Dr Taj Hassan.

NHS bosses should focus instead on tackling understaffing, and the threat to patients' safety posed when hospitals can no longer meet the four-hour target, Hassan added.

*The Guardian* newspaper, 20 Sept 2018 10

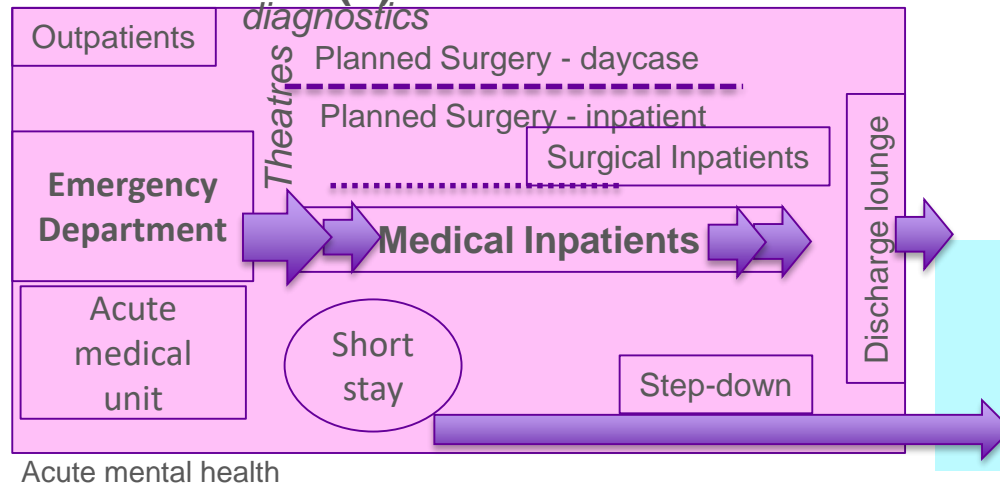
# Emergency Hospitals Challenges and Initiatives: The Back Door



**Discharge!**

- Delayed Transfers of Care
  - 57% NHS → NHS
  - but also **social care stretched**: municipalities in austerity, private care homes closing
- Flow **blockages** (“bed blockers”)
- Efforts
  - Integration: ownership, sharing of funding
  - e.g. ‘Devomanc’
  - Widespread acknowledgement that social care system is “broken”
    - – several stalled proposals for major reform

# Emergency Hospitals Challenges and Initiatives: The Way the Work Works (1)



Primary care, GPs  
Community/municipality  
Social care, care homes  
Community hospitals, ambulance

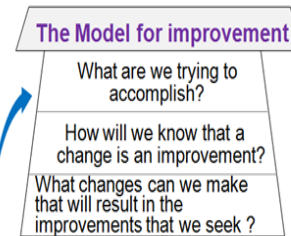
Acute mental health

Push, lack of coordination:  
delay, waste, firefighting

→ Flow

A way of thinking  
*Systems Thinking:*

- Needs: Operations management, Systems engineering
- Efforts
  - Continual improvement (Deming etc)
  - 'Lean', Virginia Mason Institute [ & DK], IHI
  - Experimentation: & honest failure!

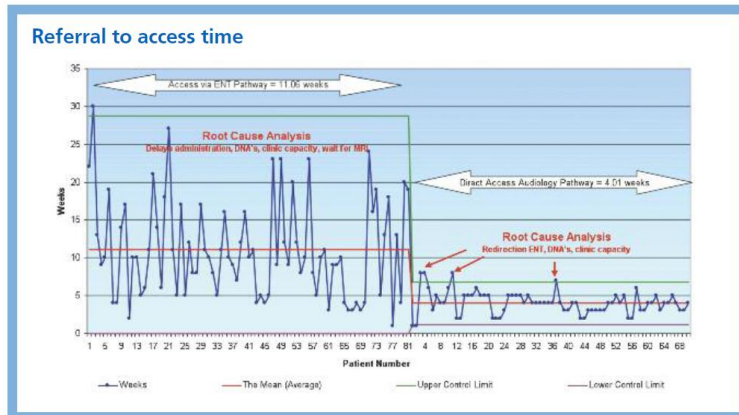


- Purpose?
- Metrics?
- Method?



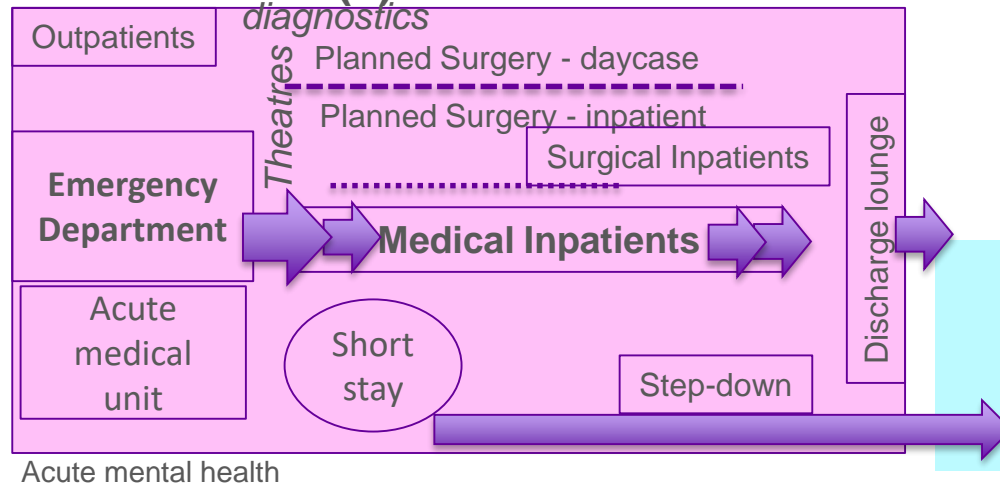
testing ideas before  
implementing  
changes

- Experiment!



*Cf. Reflective Learning,  
Action Research*

# Emergency Hospitals Challenges and Initiatives: The Way the Work Works (2)

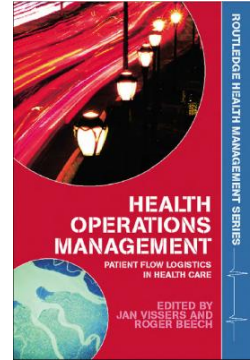
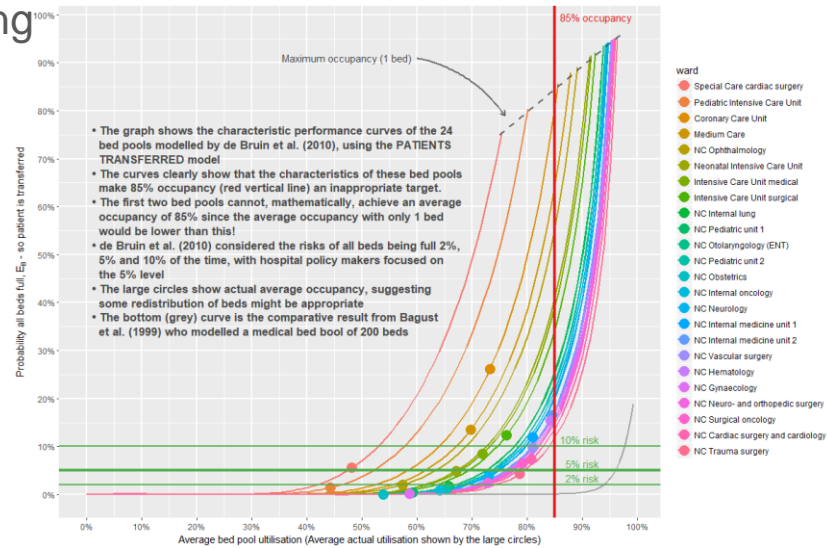


Primary care, GPs  
Community/municipality  
Social care, care homes  
Community hospitals,  
ambulance

Push, lack of coordination:  
delay, waste, firefighting

→ Flow

- Needs: Operations management, Systems engineering
- Efforts
  - Understanding variation
  - Standardise vs. absorb variety & variation
  - Consolidation
  - Chaotic systems make operations mgmt hard!

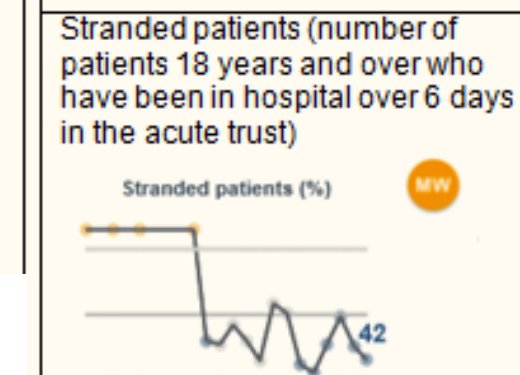
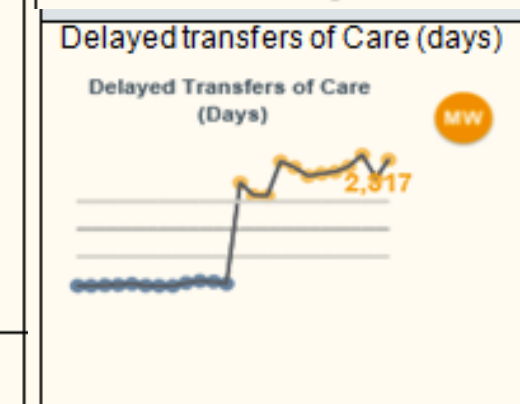
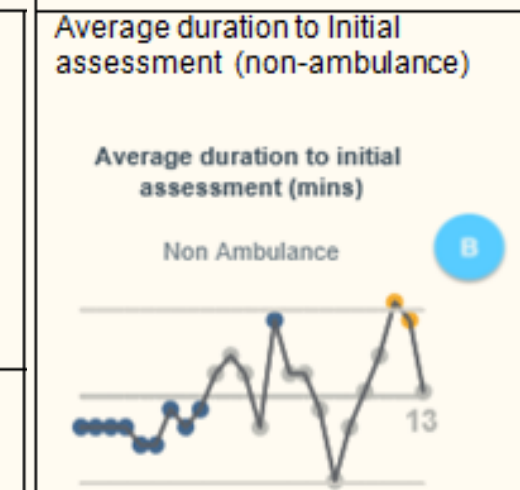
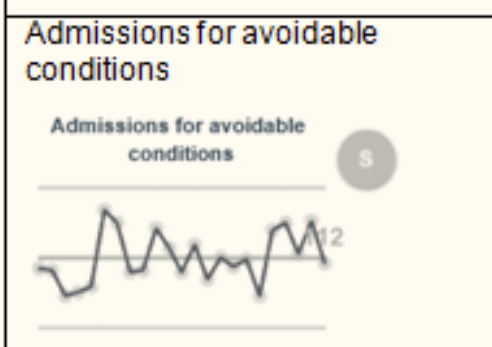


# Emergency flow improvement tool

## Indicator guide

(Ctrl + Click to hyperlink to respective indicator)

- [A&E 4-hour performance](#)
- [Arrivals \(non-ambulance\)](#)
- [Arrivals \(ambulance\)](#)
- [Staff sickness](#)
- [Average duration to initial assessment \(non-ambulance\)](#)
- [Average duration to initial assessment \(ambulance\)](#)
- [Turnover](#)
- [Time to treat/senior review \(non-ambulance\)](#)
- [Time to treat/senior review \(ambulance\)](#)
- [A&E scores from Friends and Family Test - % positive](#)
- [Inpatient scores from Friends and Family Test - % positive](#)
- [Time from treat to departure](#)
- [Average wait per breach – crowding](#)
- [Re-attenders within 7 days](#)
- [Breaches](#)
- [Breach admitted](#)
- [Breach not admitted](#)
- [Conversion rate](#)
- [Emergency admissions \(GP\)](#)
- [Emergency admissions \(A&E\)](#)
- [Admissions for avoidable conditions](#)
- [Delayed transfers of care \(days\)](#)
- [Stranded patients](#)
- [Patients in bed at midnight](#)
- [90th Percentile LOS \(days\) excluding 0 length stays](#)
- [Patients discharged to their usual place of residence](#)
- [Discharged over weekend](#)
- [Emergency readmissions](#)



<https://improvement.nhs.uk/resources/emergency-flow-improvement-tool/>

<https://improvement.nhs.uk/resources/rapid-improvement-guides-urgent-and-emergency-care/>

# Performance and Management

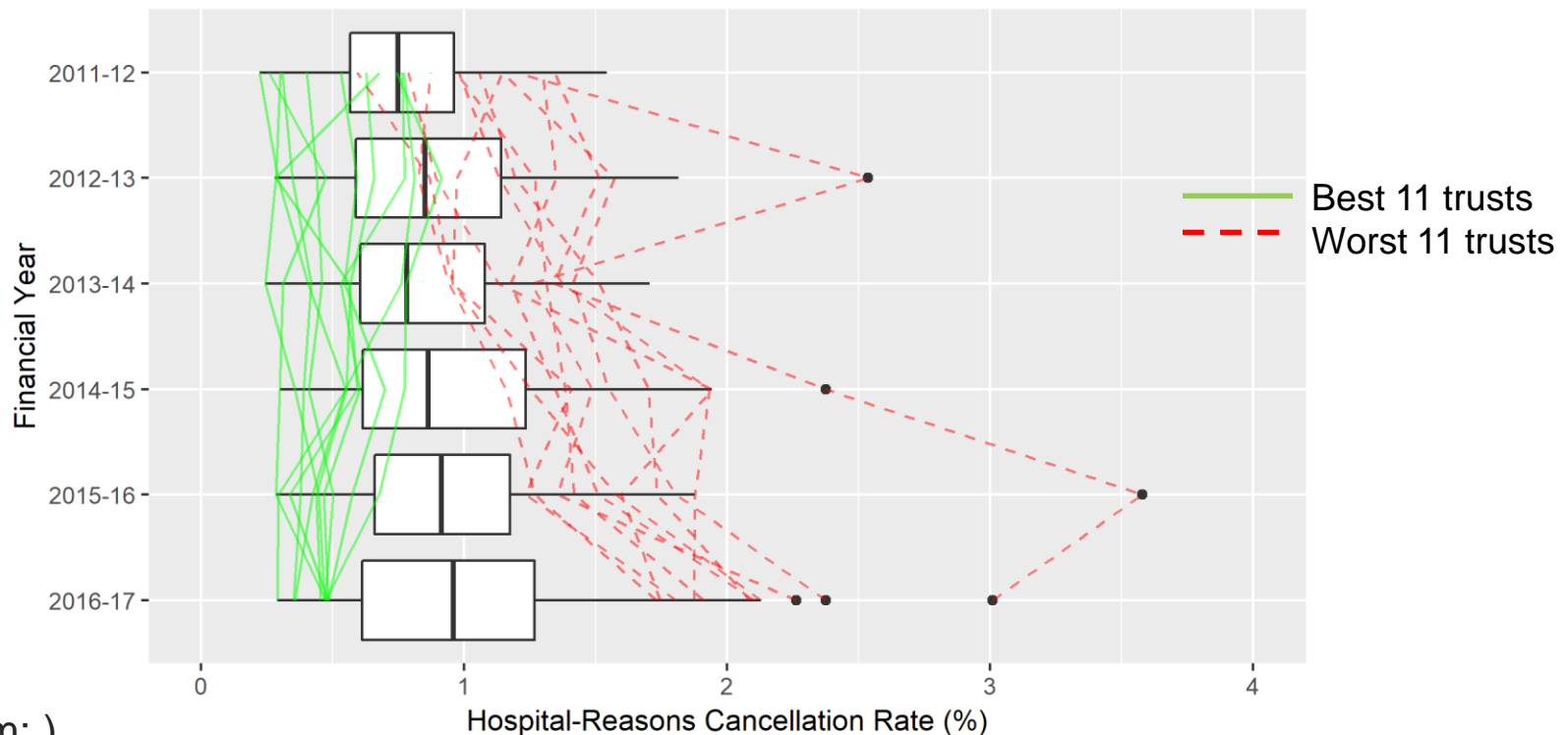
Some acute hospitals trusts are doing relatively well

- Strong, insightful senior leadership
  - Persisting with building a quality culture
  - Supported by IT infrastructure etc
  - (all face major financial challenges)
- 
- NHS England ↔ ~140 acute trusts
  - Spread is a challenge
  - Some are ‘taking over’ others...
- 
- “Leadership and Management matters...”

# Performance

- is very variable
- is highly persistent

## Elective operation cancellation rates



(updated from: )

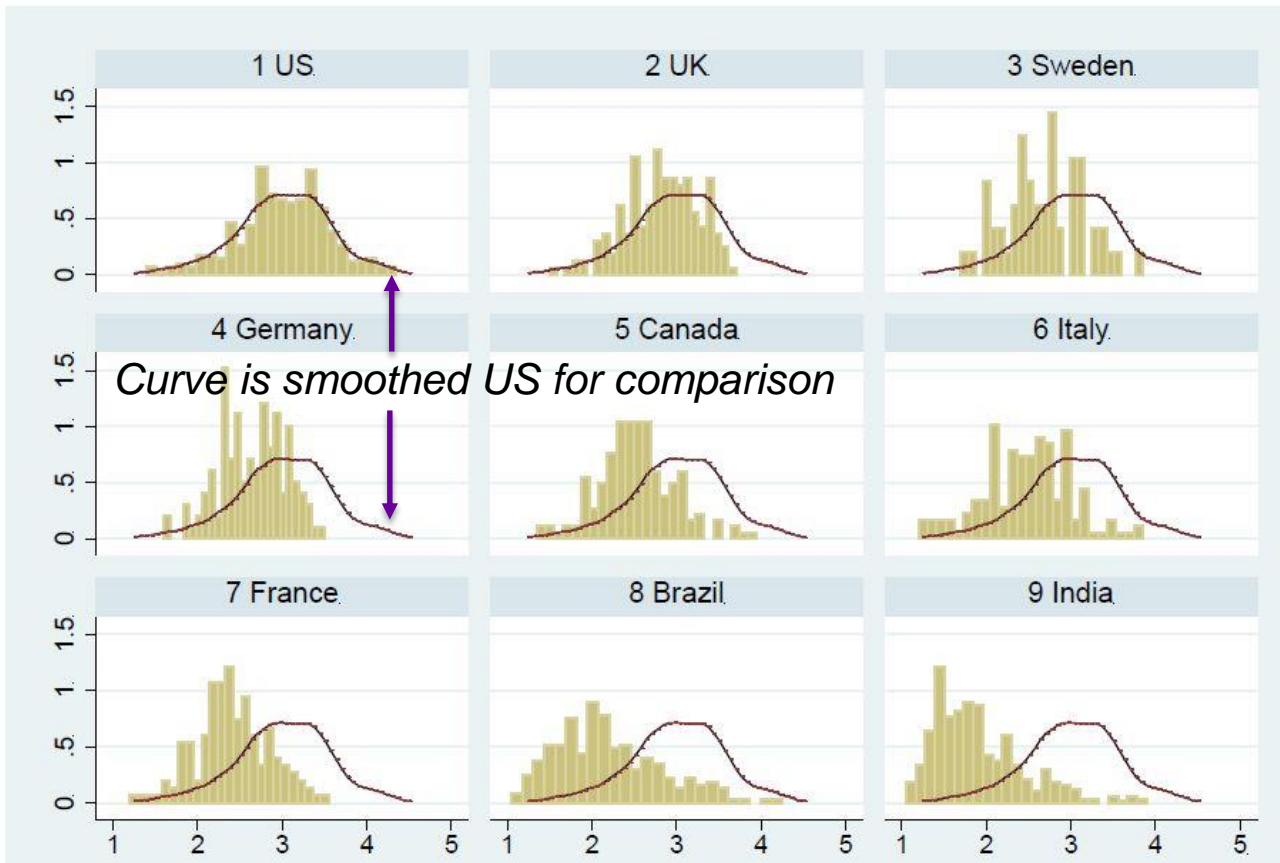
Proudlove, N. C., Samarasinghe, B. S. and Walshe, K. (2018), 'Investigating consistent patterns of variation in short-notice cancellations of elective operations: The potential for learning and improvement through multi-site evaluations', *Health Services Management Research* 31(3), 111–119.



# The Quality of Management Practices

- is also very variable

World Management Survey (WMS) Healthcare (hospital organisation) data



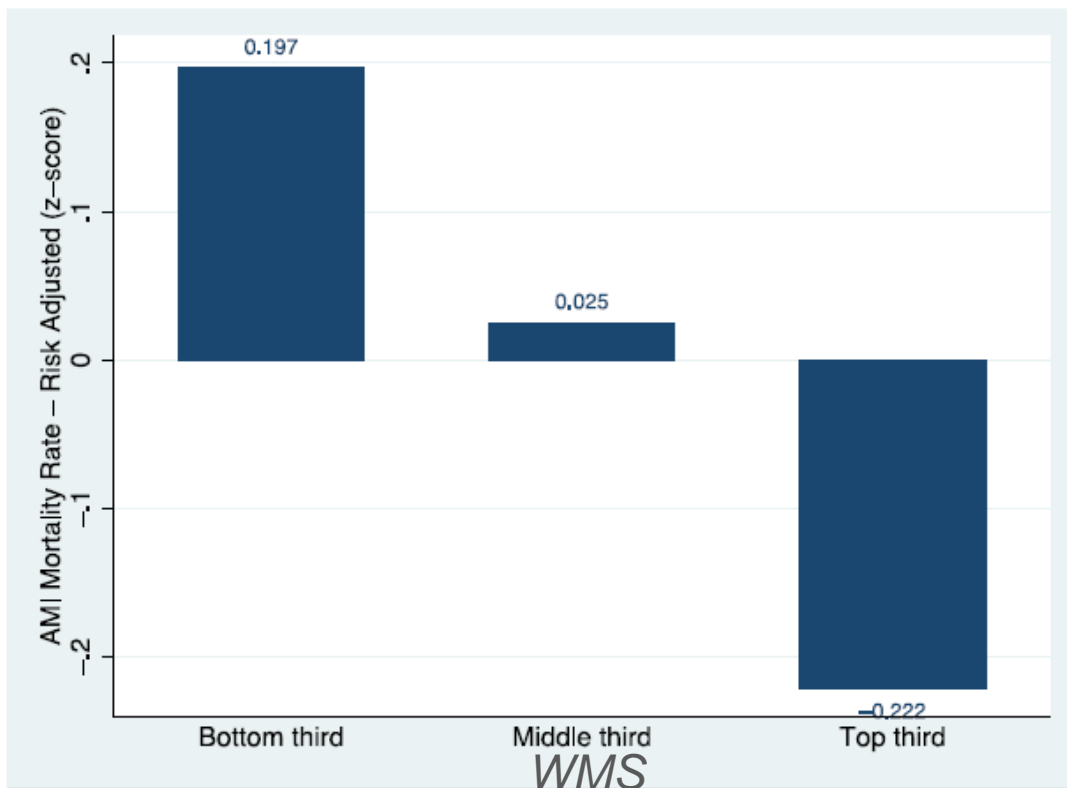
Nick Bloom, Stanford  
John Van Reenen, MIT  
(ex-University College London)

Bloom, N., Sadun, R. and Van Reenen, J. (2014), Does management matter in healthcare?, Technical report, Stanford Mimeo.

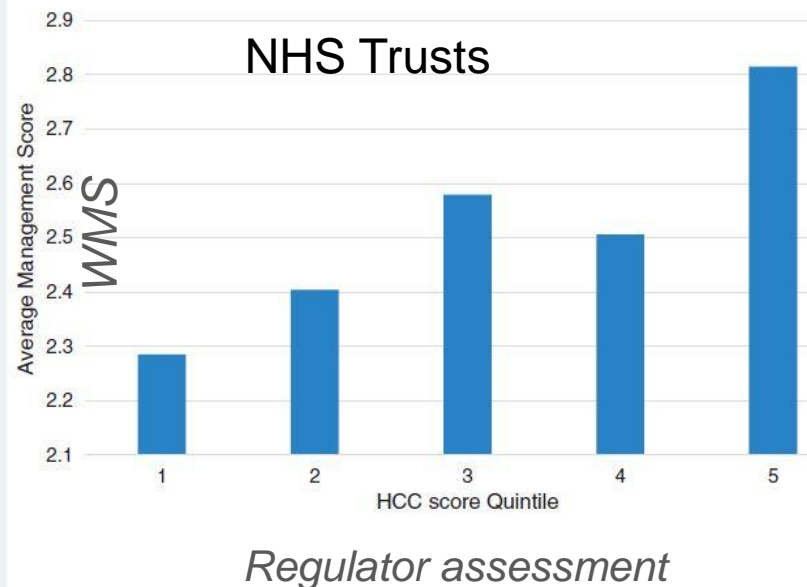
URL: [http://www.people.hbs.edu/rsadun/Management\\_Healthcare\\_June2014.pdf](http://www.people.hbs.edu/rsadun/Management_Healthcare_June2014.pdf)

# WMS: Associations with performance, e.g. mortality

Exhibit 5 (Figure): Management and AMI Mortality Rates



## and regulator's assessments

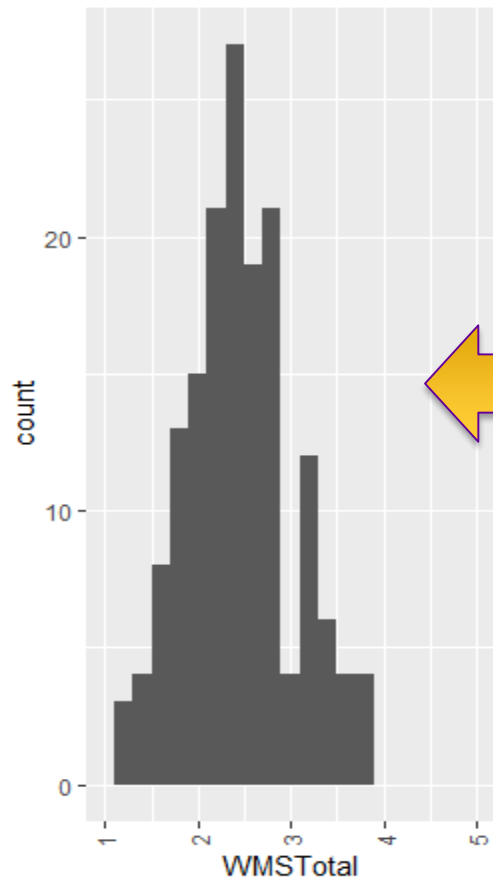


**Notes:** Based on 324 observations with available AMI information (Canada:29; Sweden: 48; UK: 74; US: 178). We z-score the AMI data within country to take into account differences in the way the AMI rates are calculated across countries, and keep only hospitals with at least 20 AMI cases in a year. For both AMI rates and Management, we take residuals from a regression including country dummies, hospital controls(number of employees, specialty, percentage of managers with a clinical degree), noise controls (13 interviewer dummies, the seniority and tenure of the manager who responded, the duration of the interview, and an indicator of the reliability of the information as coded by the interviewer, interviewee type) and regional dummies. AMI mortality rates data refer to 2009 in the US and UK, to 2008 in Sweden and the average between 2007 and 2009 in Canada. The p-value on the difference between the bottom and the middle tercile is 0.204; the p-value on the difference between the bottom and the top tercile is 0.001. The p-value on the difference between the middle and the top tercile is 0.07.

Bloom, N., Sadun, R. and Van Reenen, J. (2014), Does management matter in healthcare?, Technical report, Stanford Mimeo.

URL: [http://www.people.hbs.edu/rsadun/Management\\_Healthcare\\_June2014.pdf](http://www.people.hbs.edu/rsadun/Management_Healthcare_June2014.pdf)

WMS NHS data (2006, 2009, Cardiology & Orthopaedics)  
 Total Management Practices Scores  
 n=161 responses from 100 acute trusts



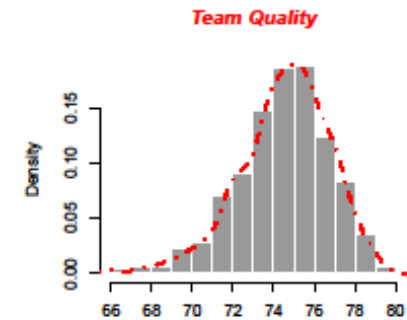
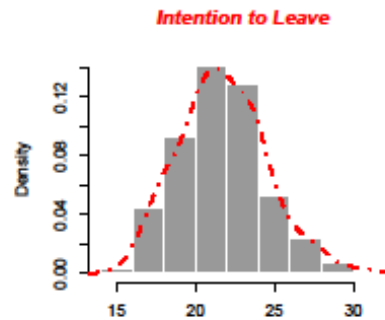
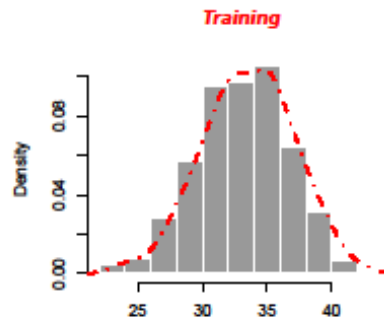
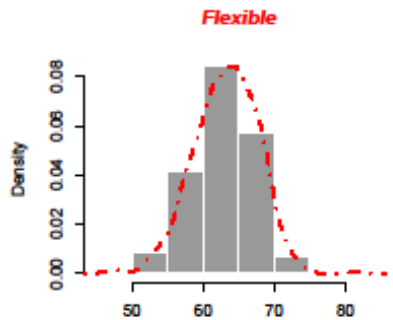
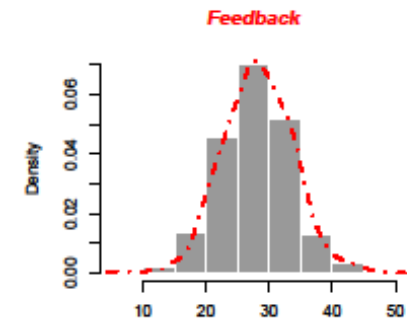
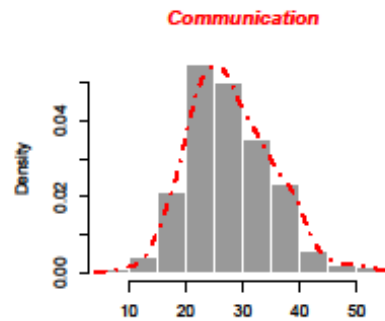
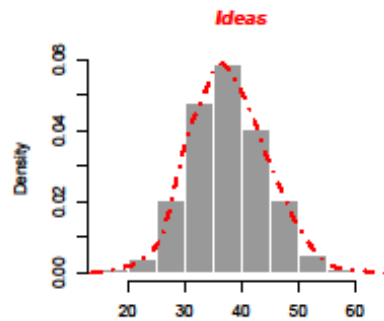
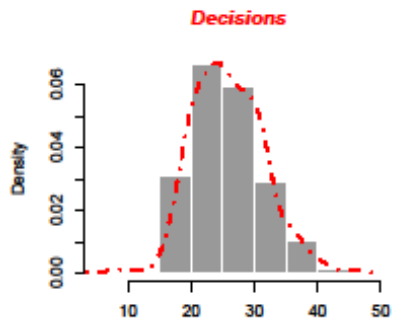
(raw data available with: )



Category  
 Ops Mgmt  
 Monitoring  
 Targets  
 Incentives

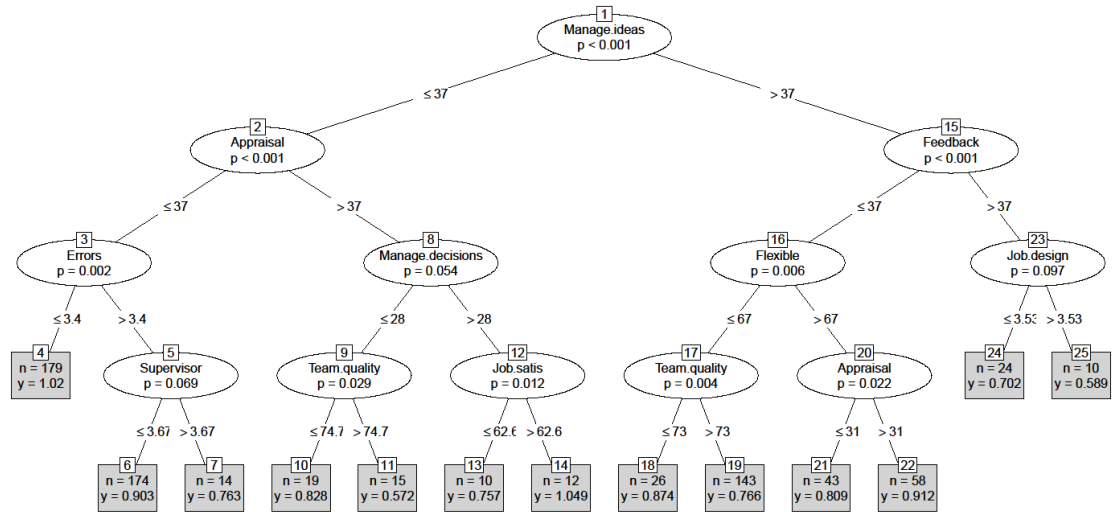
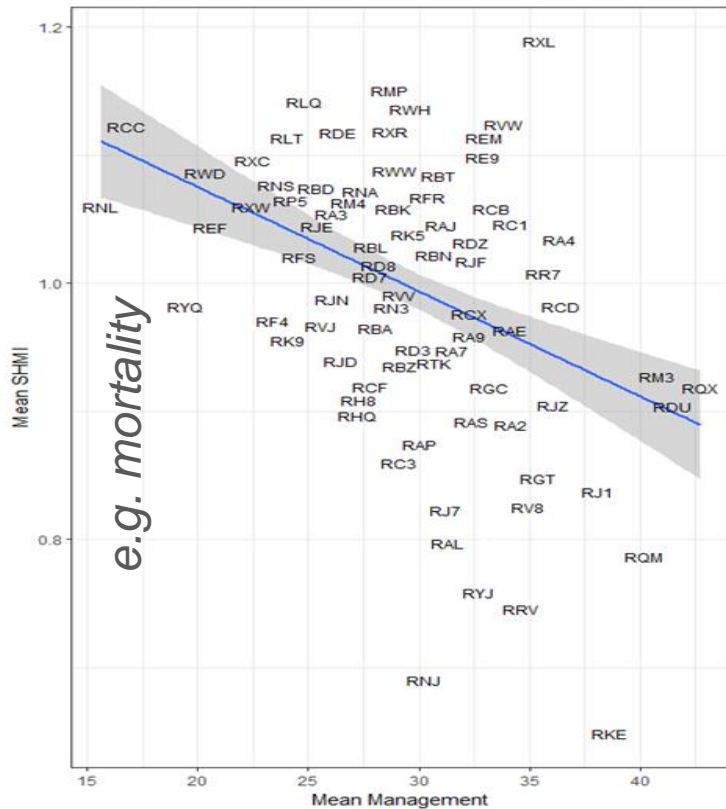
Bloom, N., Propper, C., Seiler, S. and Van Reenen, J. (2015), 'The impact of competition on management quality: Evidence from public hospitals', *The Review of Economic Studies* 82(2), 457-489.

# NHS National Staff Survey (annual):



trust management practices/ culture scores vary considerably

# Associations between NSS Mgmt Practices and Performance



Management practices seem to :

- have threshold levels
- be complementary

Salehnejad, R., Ali, M. and Proudlove, N. (2018), 'Combining regression trees and panel regression for exploring and testing the impact of complementary management practices on short-notice elective operation cancellation rates', *University of Manchester working paper (in journal Revise & Resubmit process)*.

Salehnejad, R., Ali, M., Proudlove, N. C. and Lyons, M. (2018), Management practices drivers of hospital patient safety data, Technical report, University of Manchester working paper (draft).

# Management Matters!

“Administration” → “Management” → “Leadership” !

**"Why Do We Undervalue Competent Management? Great Leadership and Brilliant Strategy Won't Succeed Without Operational Excellence"**

Sadun R, Bloom N and Van Reenen J (2017). *Harvard Business Review* 95:5, 120-127.

Trusts near universities with Medical & Business Schools have higher management practices scores!

Bloom, N., Propper, C., Seiler, S. and Van Reenen, J. (2015), 'The impact of competition on management quality: Evidence from public hospitals', *The Review of Economic Studies* 82(2), 457–489.

So

- Do we need more data collection? or...
- Do we know enough to be designing experiments?

# Contents

The grass is always greener ?

- Denmark vs. the UK

The (English) NHS and Performance (Improvement [?])

- Emergency access – the “shop window” of healthcare systems
- Emergency pressures and performance – where we are, where we are going(?)
- Emergency Hospitals Challenges and Initiatives

Management Matters (empirically!)



## Appendix: background and some initiatives

Good overview of how emergency care works (and otherwise!) in England

[www.kingsfund.org.uk/audio-video/alternative-guide-urgent-and-emergency-care-system-england](http://www.kingsfund.org.uk/audio-video/alternative-guide-urgent-and-emergency-care-system-england)

Some excellent practical, systems-thinking improvement work

- Simon Dodds: systems engineer and consultant general surgeon

- <http://futurehospital.rcpjournals.org/content/5/3/160.full>
- [www.saasoft.co.uk](http://www.saasoft.co.uk)
- [www.improvementscience.co.uk](http://www.improvementscience.co.uk)

NHS Improvement: emergency care (A&E) initiatives and case studies

- <https://improvement.nhs.uk/improvement-hub/emergency-care/>



## Appendix: more examples/exemplars, and perhaps places to visit

Some **acute hospital trusts** with a good reputation for improving care:

- Salford: [www.srft.nhs.uk](http://www.srft.nhs.uk) one of few CQC-rated *Outstanding* trusts. Exhibits Deming's "constancy of purpose" in building quality-improvement capability over many years, buying in some support from the IHI in the US. I know these people quite well.
- Northumbria: [www.northumbria.nhs.uk](http://www.northumbria.nhs.uk) another *Outstanding*-rated trust. Led by a board that understands how to build a quality culture.

And in **mental health & learning disabilities**:

- Tees, Esk & Wear Valleys [www.tewv.nhs.uk](http://www.tewv.nhs.uk) one of the first to work with Virginia Mason, to do lean deep & fast. Medics and managers who have rotated through there tell me that the culture is like nowhere else they've seen in the NHS. [CQC: *Good*]. There is now a wider lean network across North-east England: <https://improvement.nhs.uk/resources/lean-and-quality-improvement-case-studies-nets/>
- East London [www.elft.nhs.uk](http://www.elft.nhs.uk) *Outstanding*. Serious about quality improvement and publicising it <https://qi.elft.nhs.uk/>

All will say they have a long way to go!

NHS Improvement + Virginia Mason: on-going partnership with 5 acute hospital trusts to try to do lean better:

- <https://improvement.nhs.uk/resources/virginia-mason-institute/#h2-follow-the-journey-so-far>
- Currently being evaluated by Warwick Business School

NHS Improvement's latest lean programme <https://improvement.nhs.uk/resources/lean-programme/>

- First wave of 7 acute hospital trusts participating: <https://improvement.nhs.uk/news-alerts/seven-trusts-take-part-our-lean-programme/> I know the person leading the one near Manchester quite well

Digital and Technology Exemplars, including 16 acute hospital trusts and 3 ambulance trusts

- [www.england.nhs.uk/digitaltechnology/connecteddigitalsystems/exemplars](http://www.england.nhs.uk/digitaltechnology/connecteddigitalsystems/exemplars)