SSMD DISGUISE WIDER FAILINGS IN DELIVERY OF SAFE SURGICAL SERVICES. DUTY OF CANDOUR MEANS THAT WE SHOULD BE HONEST ABOUT THIS.

Stephen Westaby
Oxford, UK
Clinical Responsibility, Ethics and Transparency in Modern Medicine

• Continuous quality improvement is in the best interest of any healthcare system.

• Feedback of outcome data to clinicians can improve performance.

• The public has a right to see and understand outcomes data.

• Disclosure of information and guidance is an ethical responsibility of the profession.

The consequences of outcome disclosure should benefit patients and the profession not disadvantage them. This is not the case with the current format.
Surgeons Mortality Data in the Public Arena. How it happened

- 1990  “Newsday” learns that the New York State Health Department hold information on cardiac surgeons death rates – sues for then publishes the information.


- 1992 Donald Berwick, President of the US Institute for Healthcare Improvement cautions that “mortality is inherent in systems and individuals should not bear responsibility for systems failure”.

- 1995 Risk averse behaviour is widely documented. Cardiologists complain but follow the same path when primary angioplasty results are published.
Response of the US Professional Societies


- American College of Cardiology (2008) issues a formal document on public disclosure advocating scientifically valid performance measure at hospital level. They warn about the dangers of public reporting at operator level.

There was broad recognition that placing individual operator mortality in the public arena disadvantages patients and the profession.
Then there was Bristol.....
Background to Outcome Reporting in the UK

- **1999** The Bristol children's heart scandal turned public, press and politicians against the medical profession.

- **2001** The Doctor Foster organisation and Guardian newspaper publish centre specific death rates with punitive intention.

- **2005** A political directive forces public disclosure of named surgeon “risk adjusted” mortality rates failing to acknowledge lessons from the US. The few patients who look at the data find it difficult to understand.

- **2013** Death rates published for other surgical specialties and interventional cardiology. Prompts a predictable media attack on individuals. The process is questioned by statisticians, surgeons and patient groups.
Publishing individual surgeons’ death rates prompts risk averse behaviour

Most deaths are related to team dynamics and hospital infrastructure rather than surgical error, says Stephen Westaby, and publishing surgeon specific mortality data is unhelpful for the profession—and patients

Stephen Westaby consultant cardiac surgeon, Oxford, UK
Defensive Practice: Bad for Patients and the Profession

• High risk patients denied surgery.
• Gaming with risk algorithms – dishonest data.
• Affects choice of procedure – easier operation but less satisfactory long term outcome.
• Patients kept alive inappropriately and transferred to avoid index case mortality
• Negative impact on training.
• Negative impact on innovation.
Financial traders exhibit risk averse behaviour during prolonged Stock Market volatility.

They exhibit high blood cortisol levels in response to stress (68% above normal).

Cambridge University Institute of Metabolic Science and Judge Business School gave hydrocortisone to normal volunteers.

Patterns of response to economic tests changed with higher cortisol. They became risk averse.

UK cardiac surgeons are stressed by outcome disclosure particularly following a death. Risk averse behaviour is an involuntary physiological response.

Coates et al. Proc Nat Acad Sciences, 2014;11.3608 DOI:10.1073/pnas 131708111
The effects of stress on surgical performance

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Stress impairs judgment decision making and communication – same parameters as in financial traders.
“We were concerned that focusing on mortality as an outcome for surgeons would lead to a reduction in the resection rate and a reduction in the numbers of cures for patients suffering from lung cancer”.

The thoracic surgery paradox: publish centre not surgeon specific mortality to avoid risk averse behaviour.

Are we missing something? Surely this should also apply to cardiac surgery.
Surgeon-specific mortality data disguise wider failings in delivery of safe surgical services

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The Failure to Rescue Concept

- All surgical centres experience similar post-operative complication rates.

- Mortality rate depends upon prompt diagnosis and effective treatment of complications.

- Failure to Rescue (FTR) is death following a treatable event.

- FTR rate is dependent upon hospital structure and process.

- FTR is an important surgery and trauma quality metric and part of the Society of Thoracic Surgeons (US) Star Rating System.
Failure to rescue: The unpredictable factor in cardiac surgical mortality

The best centres have low failure to rescue rates
Personal Examples of Failure to Rescue

- Fatal air embolism through inappropriate neck line removal
- Displaced tracheostomy tube
- Unrecognised bleeding from duodenal erosions
- Inhalation of gastric contents
- Atrial fibrillation management causing asystolic arrest.

In each case the operation had been designated “uneventful”. All events involved temporary medical or nursing staff.
Why do patients die after cardiac surgery?

• Phase of care mortality analysis identifies the trigger for the pathway to death.

• Very few deaths are caused by technical errors.

• The majority are failure to rescue deaths.

• Some elderly frail patients and those with high urgency status will not survive but should not be deprived of the chance of better quality of life.

Risk of mortality is a function of patient factors which interact with hospital structure and process. The surgeon plays a limited role in the whole episode.
Factors which underpin failure to rescue in the UK

- Out of hours care.
- Locum doctors and agency nurses.
- Nurse patient ratios.
- Staff education and burnout.
- Availability of LVADs/ECMO.
- Quality of Human Resource management.
Temporary Staff and Team Consistency in the NHS

The Daily Telegraph 20th September 2014

- In 3 months (April-June 2014) Foundation Trusts spent £400 million on locum and agency workers – predominantly non British nationals.

- This followed difficulties in recruiting UK trained doctors and nurses to vital posts.

- It perpetuates the issues exposed by the Mid-Staffordshire Hospital mortality scandal confirming that similar problems exist in all NHS hospitals.

Poor human resource management, staff shortages, lack of team consistency and language difficulties provide the root cause for failure to rescue events.
Donald Berwick, President of the US Institute for HealthCare Improvement

1999: “Negative outcomes result from failures of process and systems and not individuals. Publication of SSMD not advisable.

2012: Prime Minister asks Berwick to review NHS failures following the Stafford Inquiry.

2013: The Berwick Report on the state of the NHS reiterates that hospitals not individuals should be held responsible for quality and outcomes.

2013: The Department of Health insists on disclosure of death rates for named surgeons in other specialties.
Not a Level Playing Field

- UK cardiac surgical units have widely varied facilities.
- High volume, well resourced and equipped centres report lowest mortality.
- Many centres do not even have LVADS or ECMO.
- Use of temporary medical and nursing staff varies (predispose to failure to rescue events).
Responses to the recent release of outcome data (2014)

- **Sir Bruce Keogh**: “Previously the risk in a high risk operation has only been taken by the patient. Now it is shared between the patient and the surgeon”. THIS IS THE ELEPHANT IN THE CONSULTING ROOM!

- **Dr Foster**: Poor methodology. Only 3/5000 (<0.01%) outliers barely credible. Surgeons should not be submitting their own data.

- **Federation of surgical specialities**: Data are crude and misleading. They generate risk averse behaviour.

- **Public Poll (BBC Sunday Morning Live)**: 70% not in favour.

- **Press**: Tabloids – name and shame
  Broadsheets – scepticism – now recognising the downside.
"The publication today of individual surgeons’ performance data is crude and can be misleading, and does not include essential information such as duration of hospital stay and returns to theatre. There is now good anecdotal evidence that shows publishing this data has encouraged risk averse behaviour, which is not in the interest of patients.

Professor John MacFie, President of the FSSA
Contrasting approaches to outcome disclosure and quality improvement

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These are important lessons for other European Healthcare systems.

Westaby S. BMJ 2014;349:g5026
Recruitment to UK Cardiothoracic Surgery in the era of Public Outcome Reporting (1999-2014)

- Currently 59% of congenital, 46% thoracic and 36% of adult cardiac surgeons are overseas graduates.
- Only 5% are women.
- The GMC Specialist Register shows 68% of entries to be UK graduates in 2000 but 14% in 2013.
- EU graduates have increased from 10% to 66%.
- Only 32% of registrar grade surgeons are UK graduates.
- Of those receiving CCT in 2014 only 20% were UK graduates compared to 68% in 2000.

UK Graduates have abandoned cardiothoracic surgery as a career option.
In Summary

• Mortality is inherent in hospital systems as Berwick suggests.

• Surgeons are not opposed to openness and transparency but this requires honest disclosure of why patients die.

• Very few deaths occur through technical error and team performance supercedes the individual surgeons ability.

• Individual NHS surgeons are unable to influence team consistency, unit structure or availability of circulatory support equipment.

• Public disclosure of SSMD has caused risk averse behaviour disadvantaging patients and the profession.

• More comprehensive systems of outcome reporting have greater likelihood of improving quality without the negative effects – hence the US “Star Rating” system.
The Way Forward

- NHS England have taken a risk by stressing the profession. There are now serious recruitment and training issues.

- Failure to rescue deaths predominate.

- Focus needs to shift towards improving poor NHS infrastructure and process.

- Surgeons should not be managing their own data.

- Having followed the US into SSMD we should now follow them out of it – towards a comprehensive hospital “Star Rating system”.
A UK Hospital Star Rating System

• Unit mortality and morbidity (blood use, infection, stroke).
• Waiting list duration and deaths.
• Surgical team consistency (WHO checklist).
• ITU length of stay indexed to patient age.
• Failure to rescue events.
• Use of temporary medical and nursing staff.
• Availability of circulatory support (LVADs/ECMO).
• Re-admission rates.