Independent Review of Cardiac Surgery Service St Georges Hospital NHS Trust.

Authors:

Professor Mike Bewick, Independent Health Consultant and founder iQ4U Consultants Ltd

Dr Simon Haynes, Consultant Paediatric Cardiac Anaesthetist, Newcastle Hospital Foundation Trust

Period of Review 11th June to 3rd July

Commissioner of review:

Jacqueline Totterdell, Chief Executive Officer for St Georges Hospital NHS Trust

Contents of the Review

1.Introduction

1.1 St Georges Hospital (SGH) is a large teaching hospital and tertiary referral unit covering the population of South West London and its hinterland extending into the South and South West of England. As a trauma unit and tertiary centre, it receives patients with serious and life-threatening illness from a wide geography. Cardiac surgery is a vital component of the comprehensive service the hospital provides to local and far away populations. It is seen as a centre of excellence for cardiac and other associated specialities including thoracic and vascular surgery, cardiology and trauma.

1.2 SGH is a Trust subject to financial and clinical 'special measures' and is working closely with regulators to improve its performance. The increased mortality in the cardiac unit is an added and significant concern to an already challenged environment.

1.3 Cardiac surgery is a well-established and mature service at the Trust. Following the move of site from Hyde Park in the city centre to the current site in Tooting the service has until recently flourished. It became known for its high quality of care and outcomes as well as a favoured teaching centre for future cardiac and thoracic surgeons. It is still seen as such but due to a complex series of events and deteriorating performance data this reputation has been dented. There are also concerns of a diminishing waiting list, quantifiable reductions in referrals and threats from other nearby providers to develop their own service.

1.4 In 2017 the Trust received its first NICOR alert showing that there was increased mortality of those patients receiving cardiac surgery at the Trust. An 'alert' is when mortality falls below a line 2 standard deviations below the mean for the peer referenced group of 31 cardiac surgery units in the UK. The Trust was also aware of the deteriorating relationship between cardiac surgeons within the unit, issues of unprofessional behaviour by senior staff and a view both internally and externally that the surgeons were working in 'camps' and dysfunctionally.

1.5 As a result of the initial NICOR alert the Trust, under the lead of the Medical Director and the Clinical Director covering cardiac surgery, set up a 'Cardiac Task Group' to evaluate and act upon the mortality issue. The plan is detailed in **Appendix 1.**

1.6 Professional issues, based on poor personal relationships between consultant surgeons, were seen as the major inhibitor of change and in light of this the Trust engaged an external mediation service in an attempt 'once and for all' to sort out the issues between the consultant staff both within the cardiac surgeons' cadre and those senior staff who worked closely with them. A 2-day event was held in December 2017 and while details of the agreement were kept secret under a non-disclosure and confidentiality agreement an action plan was produced following what was seen as a positive and productive time. The initial signs were good and agreement was reached on the future leadership of the cardiac core group, subject to an interview procedure, improving scrutiny of work and more importantly on future behaviours.

1.7 In April 2018 the Trust was informed of a second NICOR alert covering the period 2014/17. This, with a background of continuing concerns over the performance and professional behaviours in the unit, led to the Trust requesting an external independent review. This commenced after initial discussions in late May/early June on the 11th June and completed over a 3-week period. The Terms of Reference are described in **Appendix 2**

Aims of the Review

The review team were asked to achieve 2 principle tasks in the context of the terms of reference

1. In light of the second NICOR alert in April 2018 and the previously agreed Cardiac Task Force action plan that progress was being made in addressing the concerns of excess mortality within the unit
2. Following on from the 'Settlement Agreement 'and subsequent 'Action Plan' agreed at the Team mediation event in December 2017, that sufficient progress was being made and that the plan was being acted upon and engaged with by members of the cardiac surgical team, and if not, what further actions or modifications would be required to achieve the plan's objectives.

The Trust's Board required a written report and advice on the future planning of the cardiac surgical service in the wider context of South London and the required workforce to deliver routine and sub-speciality cardiac surgical services.

The Cardiac Task Force plan is presented in **Appendix 1** and the agreed Action Plan from the settlement agreement is also summarised there.

The review team was cognisant that the period we were asked to comment on followed the mediation process in December 2017, but that data resulting in the NICOR alert of April 2018 appertained to a 3-year period from 2014-17. Some understanding retrospectively of the unit's activity is required to understand the reasons for the deteriorating mortality data.

At the outset the review team was focused on the unit as a whole and not on the performance of individual surgeons. That said, it is the responsibility of any independent review to facilitate discussion and actions where performance data or behaviours may cause concern. The review findings are there for all to act on through the normal internal processes or via appropriate professional bodies and regulators where individual performance may be seen as sub-optimal.

2. Methodology

2.1 We engaged with SGH from the end of May having initial meetings with Professor Andrew Rhodes, acting Medical Director, and agreed the Terms of Reference. To assist me (MB) in the process I agreed with the Medical Director of Newcastle Hospitals FT the offices of Dr Simon Haynes, an experienced cardiac anaesthetist and clinical director of cardiac surgery services, conversant with performance data and the current expectations of a

modern tertiary cardiac surgical unit to assist me conduct the review. Our methodology included

- Interviews with key staff involved in the running of the cardiac surgery service. We interviewed 39 members of staff additional to the medical director and CEO. They were from the following specialities and services
    - Senior cardiac theatre staff
    - Cardiologists
    - All 6 cardiac surgeons (2 twice at their request)
    - Specialist registrars in training (3) and 1 post CCT Fellow
    - Thoracic surgeons
    - Perfusionists
    - Ward sister and staff
    - Senior managers
    - Clinical and Divisional Directors
    - Chief Nurse
    - Data manager Dr Oswaldo Valencia
    - Senior anaesthetic and ITU consultants
    - Theatre anaesthetic staff
    - ITU pulmonologist
- Documents analysed and read included
    - Board papers
        - Mortality Monitoring Group Report on adult cardiac surgical outcomes (April 2013- March 2016) at SGH
        - SGH Trust Board paper 27th November 2017; safety concerns in cardiac surgery presented by Trust Medical Director
        - SGH Trust Board Paper Update on cardiac surgery 3rd May 2018 presented by Trust Medical Director
    - Mortality Monitoring Group Report NICOR adult cardiac surgical outcomes (April 2013 to March 2016)
    - Cardiac Surgery Task force-behavioural and GIRFT Tracking document 13/04/18
    - GIRFT; Cardiothoracic Surgery review 31st August 2017 (**Appendix 6** summarises the generic GIRFT recommendations)
    - Report on the review of surgical services and other associated specialities 14TH April 2010, author Professor John Wallwork.
    - CQC report 3rd August 2017

Additionally, we communicated with

- A cardiologist in one of the local NHS providers who refers to the unit
- NICOR

And attended

- Ward visits to Benjamin Weir
- Cardiac Theatre Visits
- CTITU visit
- The June M&M meeting

2.2 We were helped significantly by Dr Oswaldo Valencia who supplied us with all available data and prepared up to date activity and mortality reports.

2.3 We used a semi structured approach to our questioning with some anchor questions reported in section 5.

3. St Georges as a Cardiac Surgery Centre

3.1 St Georges is a cardiothoracic unit serving the SW of London and its immediate hinterland. It also receives referrals as a tertiary unit nationwide. As well as routine adult cardiac surgery it offers sub-speciality(cardiac) expertise in

- Mitral valve repair
- Aorto-vascular surgery
- Marfans disease affecting the vasculature
- High risk and complex patients with comorbidity
- Hypertrophic Obstructive Cardiomyopathy

3.2 The unit also supports a very active and robust interventional PCI service and cardiac trauma (SGH is an acute trauma centre). The unit no longer performs cardiac transplants and isn't a designated paediatric cardiac surgery centre.

3.3 The unit hosts several speciality registrars training in cardiac and thoracic surgery and there is a highly successful PhD/MD programme for surgeons in training. The unit recently received a BMJ award for 'Clinical Leadership team of The Year 'for work associated with the unit's expertise in aortic aneurysm repair.

3.4 Organisationally Cardiac surgery sits in the 'medicine and Cardiovascular Division' led by Lisa Pickering its Chair. Fiona Ashworth is the Divisional director and Peter Holt the Clinical director. Recently Mr V Chandrasekaran has been appointed as 'Cardiac Care Group' lead and Mr Mazin Sarsam as governance lead. A patient receiving cardiac surgery will come under 3 different divisions of the hospital as they progress from pre-operative to post-operative care. This is a complexity which doesn't favour simplicity with regards to accountability or development of this specific service

3.5 There are 6 surgeons serving the unit, 5 full time cardiac and 1 who splits his role 50:50 with thoracic surgery. Clinics are held externally by 3 surgeons . There are 4 theatres available for cardiac surgery. Two are utilised five days a week purely for cardiac surgery, one for thoracic surgery and the other for other surgical activity, but all can be mobilised for cardiac surgery purposes. Theatre staff are a mix of trained cardiac, those seeking such expertise and general theatre nursing. There is a shortage of trained theatre staff with the skills to routinely support cardiac surgeons.

3.6 The anaesthetic department provides 16 anaesthetists with cardiac theatre competency and all do at least 1 session per week. CTITU is a mixed unit but there are dedicated CTICU beds with up to 13 available and an additional 6 rapid throughput beds for low risk patients. 8 consultant intensivists share the rota for cardiac patients.

3.7 There are several MDT's assessing the patient's suitability for interventions which are composed of a lead surgeon(s), cardiologist of the sub-speciality, echo-cardiographer, anaesthetist, perfusionist, unit managers and others appropriate to the diagnosis.

3.8 The unit doesn't run a surgeon of the week, but the on call surgeon assesses urgent cases and manages salvage and emergencies. Day of surgery admissions are unusual at SGH for cardiac surgery (and are generally across the UK). Occupancy of cardiac surgery beds is high (94%) on a 32 bedded ward, ITU beds are routinely at 100% occupancy and 13 are ring fenced for cardiac surgery.

3.9 Patients once transferred to ITU from theatre are handed over by theatre staff, and if this is achieved by early evening are seen by the duty ITU consultant. Surgeons visit ITU post operatively but there is no routine joint consultant ward round. Surgeons both during surgery and post operatively have different practice and there are no accepted standard operating policy on the unit for cardiac surgical practice post-operatively. This will be discussed later in our report where we feel such policies would reduce risk and potential harm

3.10 **Appendix 3** is a summary of the activity data including readmissions post cardiac surgery, length of stay for individual procedures and average lengths of stay. These are unremarkable. Also presented is evidence of improved Surgical Site Infections which are now virtually zero.

4. Cardiac surgery mortality and morbidity at St Georges

4.1 Prediction of mortality risk for cardiac surgical patients. Evolution of scoring systems and importance of correct risk stratification:

Operative mortality is a measure of quality of cardiac surgical care, as long as patient risk factors are taken into consideration. EuroSCORE (details first published in 1999) is a method of calculating predicted operative mortality for patients undergoing cardiac surgery. To define this scoring system 20,000 consecutive patients from 128 hospitals in eight European countries were studied, the most important, reliable and objective risk factors were then used to prepare a scoring system. The scoring system was prepared from part of the database and tested and validated on another part. If a risk factor is present in a patient, a weight or number is assigned. The weights are added to give an approximate percent predicted mortality. However, because of its simple additive scoring system, it will underestimate operative risk in higher risk patient groups. In general though, EuroSCORE was found to be an easy tool for inter-institutional comparison with good or excellent predictive ability.
The additive EuroSCORE is well validated, and user-friendly. Because of its additive properties, it underestimates risk in some very high risk groups. The logistic EuroSCORE (LES) is more suitable for individual risk prediction in very high risk patients. In 2003, details of the logistic EuroSCORE were published in an attempt to better calculate operative risk. The LES weights different risk factors more specifically

It became apparent that both EuroSCORE and LES were becoming outdated and in 2012 a more refined logistic regression based risk assessment algorithm was published – EuroSCORE 2. This uses similar methodology but is derived from a more current data set better reflects current cardiac surgical practice.

4.2 Monitoring and reporting by The National Institute of Cardiovascular Outcomes Research (NICOR of mortality) in UK cardiac surgical centres.

Outcome data including risk factors are collected and are submitted at the end of each fiscal year by all cardiac surgery centres in the UK to NICOR. Until 31st March 2017, LES was used to define risk factors applicable to patients and latterly, EuroSCORE 2 is used.
Each year the mean mortality (risk adjusted) is calculated for the nation's cardiac surgery, and 95% confidence limits are defined for a 3 year rolling epoch ending in the most recently completed fiscal year. Individual unit and surgeon specific mortality outcomes are then plotted for the most current 3-year epoch on a "funnel" plot, and any unit lying outside the 95% confidence limit for excess mortality is informed. This information is in the public domain. Although LES has been used and latterly EuroSCORE 2 used, progressive improvements in patient care are such that both these algorithms overestimate mortality. This has meant that in the most recent years (2015-16 and 2016-7), outcomes are such that when applied nationally the predictive risk using LES is actually in the region of 0.35 x LES.

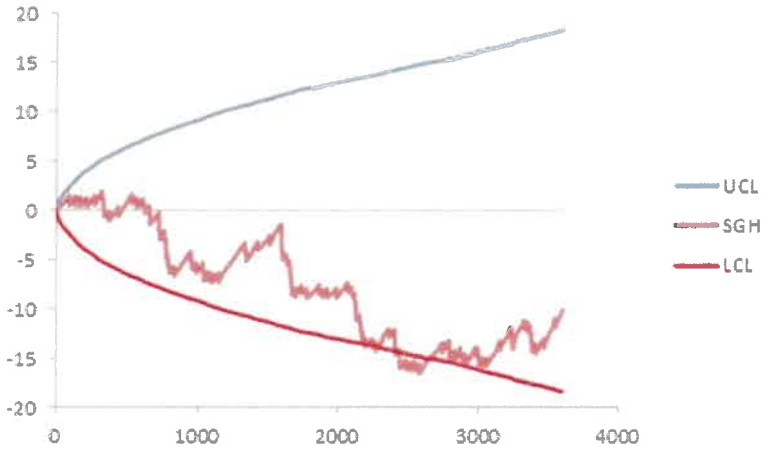
4.3 Ideal governance of individual hospital and surgeon performances

Real-time analysis of surgical mortality can easily be carried out using Variable Life Adjusted Display (VLAD) or Continuous Risk Adjusted Mortality (CRAM) methodology. Thus the risk adjusted predicted mortality is defined and the outcome plotted. If a patient with a low predicted risk of death dies, the plot dips sharply on the y-axis, and if a high-risk patient survives, the plot takes a sharp upturn. This can easily be carried out on an Excel spreadsheet. The LES has to be calibrated appropriately and over the last 2-3 years a correction factor of approximately 0.35 x LES correlates with nationally published NICOR risk adjusted outcomes. This exercise can be carried out at any point in time, for any period of time providing the data are continuous. Any subset of patients may also be reviewed e.g. CABG alone.

4.4 Cardiac Surgical Outcomes in St Georges Hospital

It is not just the absolute outcomes which can be scrutinised. A downward turning plot in a previously well-performing unit may indicate a new problem which requires addressing, and regular outcome monitoring of this nature should be part of the internal clinical governance procedures in all cardiac surgical units. Data provided to the reviewers are presented below in Figure 1.

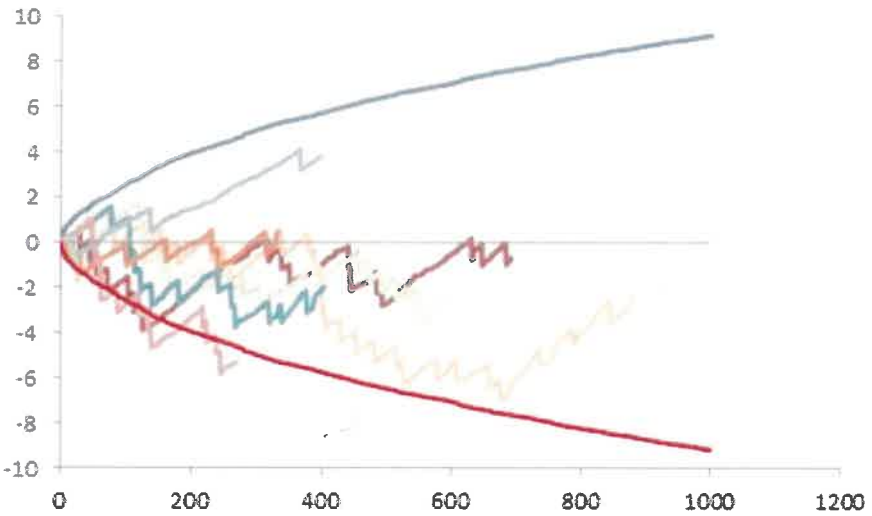
Fig. 1: Data Review of four consecutive years at SGH: Jan 2014 – Dec 2017 Excluding VSD, Dissections, Salvage and Emergencies. Correction Coefficient = 0.35 for EuroScore I Vlad with 95% Prediction Intervals for SGH



It can be seen that there is very likely to be excess mortality in the case series from case numbers approx. 600 – 2800 with subsequent improvement. *UCL, upper confidence limits, LCL, lower confidence limits.*

More detailed data provided to the reviewers (fig 2) shows outcomes attributable to individual surgeons during this period.

Fig.2: Review of four consecutive years at SGH: Jan 2014 – Dec 2017: Excluding VSD, Dissections, Salvage and Emergencies. Correction Coefficient = 0.35 for EuroScore I Vlad with 95% Prediction Intervals for SGH



It is clear to the reviewers that the majority of the apparent excess mortality is accounted for by the more complex end of the surgical spectrum. This is demonstrated in Figs. 3, 4, and 5 (all for April 14 – March 17) below

Fig 3: VLAD for SGH: isolated AVR + CABG using EuroScore I x 0.35, April 2014 – March 2017

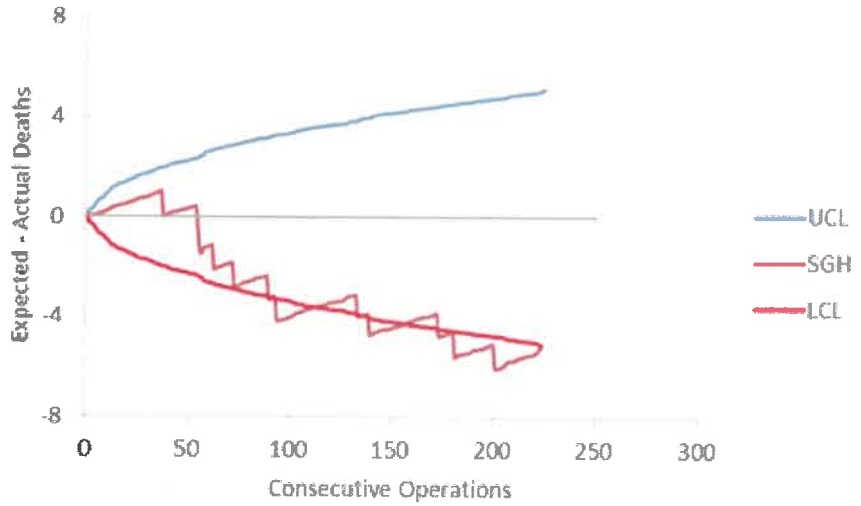


Fig 4: VLAD for Surgeons: isolated AVR + CABG using EuroScore I x 0.35

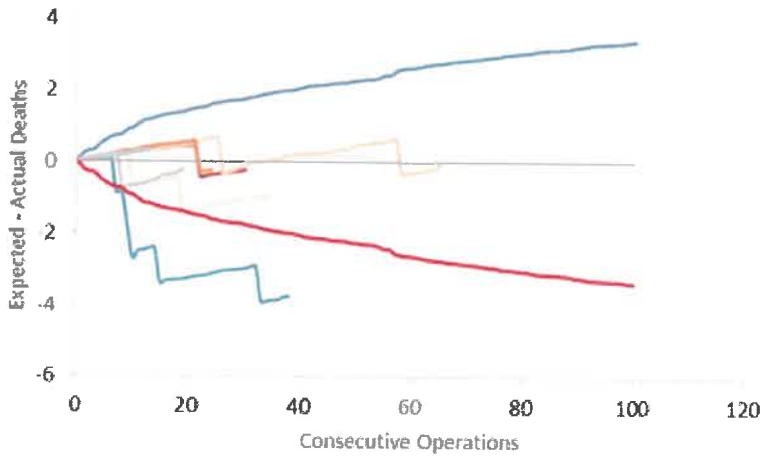


Fig 4 may be concerning. The surgeon with the blue plot has 10% mortality for this procedure. It is the reviewers' opinion that there should have been a review of events following the 3rd death in this series. **We would however approach such data with caution as it is based on relatively low numbers but it should initiate scrutiny of the surgeon's practice.**

Fig 5: VLAD for SGH: MVR + another cardiac procedure using EuroSCORE I x 0.35

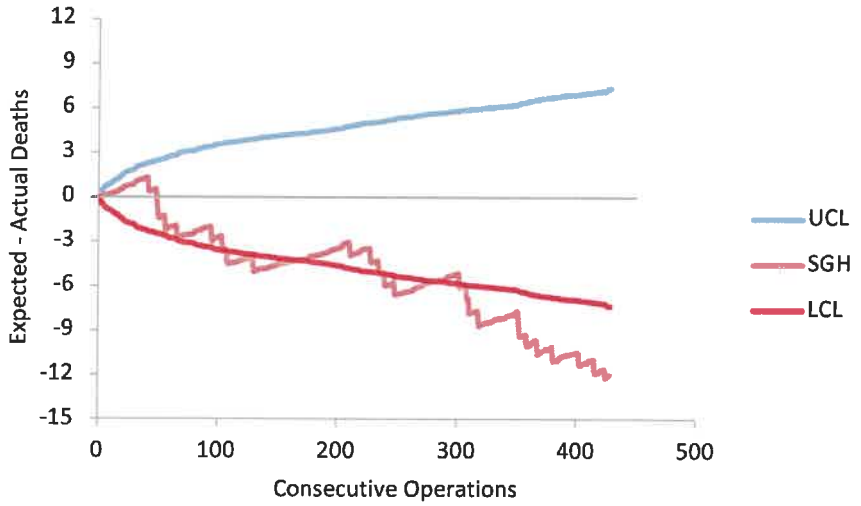


Figure 5 demonstrates unsatisfactory mortality for patients undergoing mitral valve surgery plus another cardiac procedure(s) during this period and it is the reviewers' opinion that this excessive mortality should have been identified and examined at a much earlier stage

Data has also been provided which demonstrates that the outcomes for isolated CABG or isolated Aortic Valve replacement are generally acceptable.

4.5 Why the evidentially poor outcomes?

Various explanations and suggestions have been offered to the reviewers for these apparently poor outcomes. However, a simple reality check looking at crude mortality confirms that a problem is present. The overall mortality rate for all patients receiving cardiac surgery in the UK 2013 - 16 (NICOR data) is 2.0%. The overall mortality rate for patients operated on at St George's Hospital for calendar years 2014 - 17 inclusive is 3.7%.

Various explanations to explain this discrepancy have been given to the reviewers:

a) "Different case mix": this is unlikely. There is in fact little variation between the average LES of all units in the country as shown in supplementary data provided to St Georges by NICOR

b) "Poor results are entirely attributable to locums". This is not so as shown by Figure 6 (source NICOR)

Figure 6 shows risk adjusted in-hospital survival rate for the six surgeons currently working at St Georges:

Risk-adjusted in-hospital survival rate

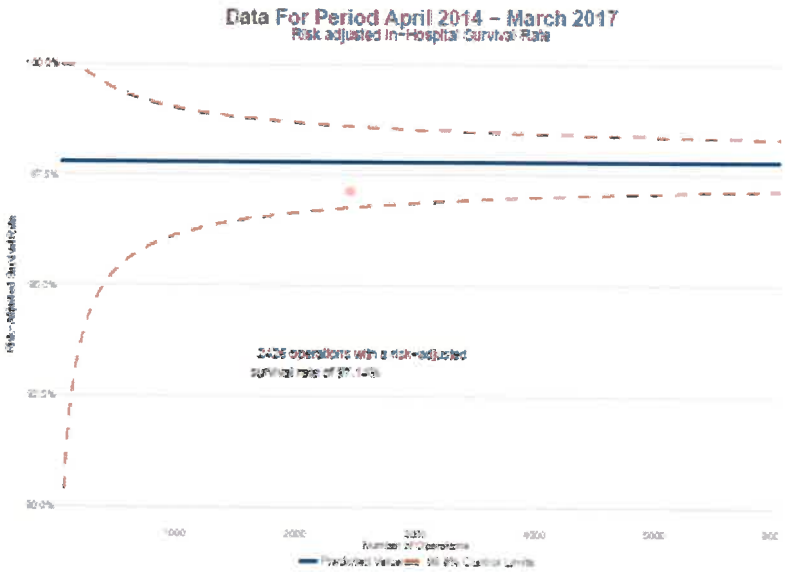


Fig 6. Risk Adjusted in-hospital survival rate

c) "Data entry insufficiently validated by surgeons"; this may well be so. Data is not validated by the surgeons, there is no audit of data quality, and it may be that there is some under-representation of risk factors. Examination of the supplementary data from NICOR provided to St George's fails to suggest that this would have had any significant impact on risk adjusted survival rate.

4.6 St George's failure to monitor outcomes, and failure to identify poor outcomes:

It is very clear to the reviewers that internal governance of cardiac surgical outcomes has been inadequate during recent years. It should not have been necessary to await an alert from NICOR before undertaking an internal review of governance procedures, identifying poor performance throughout the patient pathway (not necessarily just poor performance by the surgeons) and taking remedial action and subsequently monitoring the effects of the remedial actions.

The reviewers are fully cognisant of the fact that examination of a relatively small series can be misleading because adverse outcomes inevitably occur at random. We cannot say that any one surgeon's mortality figures, or adverse VLAD plot over a short period of time constitutes poor performance. What can be said is that a well governed department would have used such a trend to further review outcomes and to assess performance in greater detail. The operation of combined CABG and AVR is chosen as a benchmark of a greater complexity procedure, but one which consultant cardiac surgeons should be comfortable at carrying out with good outcomes.

4.7 Morbidity data

This is tabulated in **Appendix 4**

Comments by reviewers.

There has been less focus on morbidity by the Trust. This is misplaced as there are significantly higher rates of re-operation, stroke and renal replacement at the unit. We address these issues in our section on practical steps to improvement in **Appendix 5**.
At the one M&M we attended there was a good presentation on SSI's but there was a considerable imbalance with morbidity and 'near misses' not being represented as much as cases resulting in mortality

5. Review Findings following Interviews with staff and site visits

5.1 One of the key requirements of the review is to assess the success or otherwise of the implementation of both the Cardiac Task Force following the first (and then subsequent) NICOR alert, and as importantly the agreed 'action plan' following the 'settlement agreement' at the mediation event in December 2017.

5.2 Appendix 1 is a spreadsheet listing the agreed Task Force implementation plan, in columns 9/10 we have added our commentary based on our visit and extensive interviews as to if the actions have been achieved either fully or partially, or not.

5.3 Appendix 3 is a list of the outputs and agreed actions from the 'settlement agreement' and we have indicated in our commentary, in columns based on the feedback during our review.

5.4 During the interviews over a 3-week period we interviewed 39 staff, from various departments associated with the running of the cardiac surgery services. These are listed in the section on methodology. All staff interviewed did so on the understanding that their comments would be treated in confidence. This encouraged an openness and all of the interviews appeared to us candid and heartfelt. All expressed a need for the unit to put the past behind it and move on. All also had hope for the service to improve and come together.

While it isn't possible to report all of the comments from our interviews we have chosen to report the common themes and concerns as well as positive statements about the service.

We used an open approach but did ask directly 3 questions to the all of interviewees, which were

- Since the mediation process in December 17 has there been any improvement in the functioning of the service and relationships within the consultant body of surgeons and with their colleagues from other associated specialties?
- Why do you think that mortality rates are higher in the unit?

- A third question (often answered prior to being explicitly asked) enquired respondent's views on what would improve the service and improve clinical outcomes?

6.Themes and comments

The effect of the mediation process

6.1 All stated that there had been an initial improvement in the relationships between the surgeons and to a lesser extent with other specialities

6.2 Most respondents stated that the improvement had been short lived and there was a sense that they were 'on their best behaviour' but that the relationship changes were superficial

6.3 Many expressed the belief that the 'two camps' of 3 still persisted

6.4 There was a lack of cohesive leadership and this was stifling development and recruitment of new surgeons.

6.5 All stated that there was less bad behaviour such as shouting or 'bad mouthing'

6.6 Some felt that there was a persistent toxic atmosphere and stated that there was a 'dark force' in the unit

6.7 Relationships with staff on the wards had improved and ward rounds were more consistent and regular.

6.8 The relationships with individual surgeons and their consultant cardiologist colleagues is good, but there were still concerns that as a unit there was a lack of consistency, particularly at MDT's and in meeting the requirements of emergency cases. A common theme was that some surgeons were more risk averse and patients were put at risk by unnecessary delays.

6.9 Teaching of registrars and inexperienced theatre staff was variable. Most surgeons were approachable but some were reluctant to teach and one in particular rejected assistance by less experienced staff.

6.10 On the whole speciality registrars had a very positive experience in both cardiac and thoracic surgery but there were missed opportunities

6.11 The appointment of a new CGL was seen as positive and despite this being a recent appointment many reported positive changes on the surgical ward

6.12 Most respondents were concerned that the service was poorly led and that more needed to be done to establish a common vision and operating model

6.13 Theatre staff were concerned of the variable requirements during surgery of the 6 surgeons which was both demanding on staff time and equipment, and questionable in nature.

6.14 Theatre staff are concerned about the length of surgical procedures by some surgeons, often overrunning or starting late. One surgeon is a poor communicator and often changes the scope and length of the surgery during the procedure, requiring additional equipment and prolonging theatre time. This issue was raised by consultant anaesthetic staff as well.

6.15 There is no pooling of elective cases with appropriate distribution, pooling of urgent cases remains somewhat ambiguous

6.16 As yet no progress on recruitment and moving to a surgeon of the week.

Response to NICOR mortality alert

6.17 Most staff, while shocked at the NICOR alerts believed poor performance was inevitable due the pervading atmosphere

6.18 Many, while supporting an improvement in the conduct at MDT's were still concerned at the pre-operative assessment of patients and lack of preparation before theatre

6.19 The recent development of a high risk pathway is seen as a positive development but the author of the policy was disappointed at the lack of engagement by surgical colleagues

6.20 There were some concerns over technical aspects of surgery both in theatre and on ITU. In the latter case there was evidence of an idiosyncratic approach by surgeons in their post-operative requirements, examples being antibiotic and anticoagulation prescribing.

6.21 Some staff were concerned at the number of returns to theatre and the high post-operative bleeding rate.
6.22 Case selection was seen as an issue; some patients should have been offered alternative treatment pathways.

6.23 Most surgeons pointed to the data not fully reflecting the changes in previous years when easier cases were shifted elsewhere for surgery, their data base having errors relating to underlying risk in the local geography, and the effect of locums employed in the Trust in 2016/17.

6.24 A small number of staff were concerned about two surgeons' abilities, particularly when attempting more advanced procedures in complex cases

6.25 Theatre staff were concerned about equipment levels and we heard of a dramatic case where an emergency sternotomy kit wasn't available in the ED for a chest trauma case who succumbed (after being taken to theatre).

6.26 Staffing levels on the ward had improved but theatre staff were often trained only to go elsewhere as conditions are deemed better. 'We are a training centre for Imperial' was one comment.

Staff views on what should happen to improve clinical outcomes and behaviour?

6.27 New blood is required at a consultant surgeon level

6.28 External experienced surgeon who will eventually lead the unit and the immediate employment of a long term locum, most wished the current post CCT Fellow to be appointed

6.29 Senior nursing and theatre leadership to be replaced soon following their intended departures

6.30 An increase in the consultant cohort to 7 or 8 would allow for a consultant of the week

6.31 An ultimatum to all surgeons to work as a team

6.32 To restrict surgeons to either cardiac or thoracic but not both

6.33 To develop pooling of patients with a more cohesive and responsive decision making process to allocate surgeons

6.34 Some felt a move to a cardiac CEPOD system would be beneficial

6.35 All surgeons to commit to training

6.36 An ambassadorial role by senior surgeons to attract new business

6.37 Active succession planning for the probable retirement of one or more surgeons in the next few years

6.38 Improved oversight of the patient pathway and improvement in ITU ward rounds to be multi-professional.

Visits to the ward (BW), ITU and Theatres.

6.39 We met enthusiastic staff who were proud of the unit and enjoyed working in it. Theatre staff were concerned over recruitment and retention.

6.40 A common scenario is that a theatre nurse will become trained on the unit and then leave for a better contract elsewhere and one where their hours were more strictly adhered too.

6.41 Ben Weir has always been an attractive ward to work on, but 2 years ago following several incidents and an infection issue morale was low. Effective management and

leadership have turned this around and morale is now improved and staffing levels increased with improved post-operative care and minimal incidents reported. Vacancies remain high and the recent resignation of the sister from her post is seen as unfortunate. Similarly, the resignation of the senior theatre sister is seen negatively within the service.

6.42 On the running of ITU and anaesthetic practice related to cardiac surgery, many consultants have a broad portfolio of work and do only a single day in cardiac theatre. A move to a more focused group of consultant anaesthetists on the service would we believe create improved theatre and post-operative practice and improve collegiality between surgeons and themselves.

M&M meeting

We both attended the meeting on the26th June. There was excellent attendance and a positive attitude throughout. It was in two parts, the first a review of NICOR data and their conclusions on how mortality could be reduced. The data presented, did however, try to put the unit in a 'good light' using alternative correction factors than are currently used by NICOR. While understandable it somewhat detracted from the point of the meeting which was to understand, reflect and act on preventable factors. The second part was more productive and discursive as cases were discussed and critiqued. It was good to see surgical registrars and nurse practitioners involved in the presentations and consultants challenging each other on best practice and future improvements. One case highlighted one of theatre staff's main concerns when a case described a lack of equipment for sternotomy in a fatal stabbing.

MDT meetings

There are several these being

- Monday: EP MDT
- Tuesday: Aortic MDT
- Wednesday: Coronary MDT and TAVI MDT
- Thursday: Heart Failure MDT and High-Risk Pathway
- Friday: Echo & Mitral MDT

We have seen several outputs from meetings which are variable in content. they are notes rather than minuted decisions and as expressed in the Trust Board paper of 3rd May could be significantly improved. The timing of the meetings is first business of the day, which some surgeons and theatre staff find frustrating with the inevitable delays to theatre

Management of inpatients awaiting surgery

The GIRFT report indicated a need for a more streamlined service, responsive to the acuity of the situation and involving pooling of all patients. It requires substantial commitment to team work and on the ground 'clinical leadership'. A move to a 'consultant of the week' model would be helpful, but only if all surgeons were bought into it from the outset.

Senior managements role in the unit

A minority of surgeons felt there was a partial approach from the governance team and one respondent was concerned of a vindictive attitude towards those that raised concerns over the service. Most staff felt that the new CEO leadership and Board were succeeding in 'getting a grip' but that the cardiac surgery performance and behavioural issues required a more forthright approach.

As part of any future restructuring and staffing, management (clinical and administrative) must be more aware of the surgeon's availability and improve job planning to reflect the needs of the unit. These needs go beyond availability for clinics, teaching, theatre and ward rounds but also at important clinical governance and team meetings. We detected a lack of rigor in managing the expectations of surgeons Rota's.

The diverse divisional structure is seen as a block to accountable decision making across the patient's pathway. This goes beyond the scope of the review but will need to be addressed in light of our recommendations.

Training of SpR's on the unit

There was a general concern over the inconsistent approach to training by senior surgeons. This ranged from excellent through to uninterested. All registrars despite reflecting some negative features of the unit felt their experience was excellent and that SGH is a good place to train. They were very enthusiastic about the opportunities for research and higher degrees.
New consultants surgeons felt let down by initial support and mentoring and their exposure and experience in more complex cases was inadequate.

Sustainability of Cardiac Surgery at SGH

A common view from all staff was that the unit was under threat internally and existentially. The general concerns were

- NICOR data has damaged the unit's reputation and coming on top of special measures the service is vulnerable.
- The surgical team is viewed as dysfunctional both internally and externally and this is having, and will have, further effects on recruitment and retention of cardiac surgeons.
- The cardiac surgical service is seen as an iconic one and losing it would put at risk other services currently on site.
- There is an existential threat from other growing providers of the service and SGH will be left behind.

Reviewers Commentary

While there is evidence of progress in both behaviours and the running of the service all but a small number of respondents were convinced of any substantial underlying improvement.

The vast majority of opinion is of a divided team with different and sometimes conflicting views of how the service should, and could, be run. While most felt more comfortable with the improved behaviours and there was early evidence of more effective clinical leadership since the change in care group lead, the majority felt more fundamental change was required. A commonly held view was that without expansion of the consultant numbers, new blood both experienced and new, improved teamwork and in some cases change of personnel, the unit would fail. The consultant body itself recognised that problems remain and that changes to it (the body) in terms of personnel and external recruitment was required. Most were concerned about the sustainability and viability of the unit. There has been a positive response to the NICOR data, in improvements of analysis at M&M meetings, but there is still a defensive response by some.

7. Suggested improvement strategy

Appendix 5 gives details of suggested changes that will in our view practical advice on how practice can improve at all stages of the surgical pathway. It is highly dependent on successful cross speciality leadership with the development of oversight of practice across the patient pathway from referral to discharge. Multi-disciplinary working is key as is regular review of outputs and outcomes.

8. Recommended actions and Opinion

8.1 We are grateful to the staff and senior management for asking us to conduct this review. We acknowledge their commitment and cooperation during the review and we commend them for being so candid and helpful in their approach.

We were aware from the outset that the review would be difficult as it puts a spotlight on what is one of the most analysed surgical practices internationally. Cardiac surgeons and their colleagues who deliver care across the pathway are at the forefront of medical practice and under intense scrutiny at even the calmest of times. When a Trust is in 'special measures' and the cardiac surgical unit is in receipt of a second NICOR alert the intensity of scrutiny is raised significantly.

We were also aware of the history of the unit and the existence of a poor working relationship internally. We knew this as the Trust had to take the extraordinary step of inviting in professional mediators to work with senior management, cardiac surgical, cardiologists and anaesthetic staff at a 2-day immersion event in December of last year.

8.2 Our task was in simple terms to report on progress on:

1. **The NICOR alert; causes of concern contributing to it, data quality and processes, mitigating factors and importantly the response of the service to the alert. Further to assess if the aims of the Cardiac Task Force have been fulfilled or made progress.**
2. **To establish if the mediation process of December 2017 has resulted in significant improvement in the professional relationships, leadership and effective running of the service as described in the 'Settlement Agreement', with a remit of providing advice for the future adult cardiac surgical provision at SGH.**

As reported above, we describe an intense review canvassing opinion across the cardiothoracic service and have scrutinised the unit's operational activities and clinical governance systems. We have also had sight of documents relating to previous reviews and individuals have sent us personal portfolios of evidence related to cases and their own experience in the Trust. While we have read all of these and they add to the context of our review, our brief wasn't to resolve ongoing individual or historic concerns, as these are dealt with by the Trusts own internal processes and/or professional bodies or regulators. We have concentrated on data and documents that are based on the unit's activities and synthesised our conclusions and opinions on these and the vast amount of detail we were exposed to through the interview process and on-site visits.

8.3 We were also aware that the Trust and its workforce desire a solution to what appears to be an insolvable and indolent state within the cardiac service. We recognise that our conclusions and recommendations may be challenging and to some threatening. Our conclusions address the two principle asks of the review and our recommendations are in response to the wider requirements of the TOR's and importantly to what we view as a critical and vulnerable time for the unit and its workforce

Conclusions assessing the response of the cardiac service to the second NICOR alert;

The trust already had an action plan in place lead by the Cardiac task force', subsequent to the first NICOR alert this was extensive and is reported in **Appendix 1**. These actions are wide ranging and address a wide brief across the service. Many of the actions have commenced and there is an increasingly rigorous approach since the second alert. We concentrate on those areas we feel are critical to both an understanding of the data and activity that address quality improvement (although it could be argued that all do). Progress has been made on:

- Appointment of a Care Group Lead (CGL) for cardiac surgery April 2018
- Commencement of cardiac surgeon's meetings
- Monthly M&M meetings minuted with good attendance
- Improved attendance at MDT's with notes taken, including heart failure with echocardiography and effective chairing of the meetings
- Progress on improved monitoring of aortic arch and dissection
- Weekly Monday planning meeting
- Improved coding more representative of catchment population

There is less progress on:

- Surgical list planning
- Job planning (holidays were raised with us as an issue)
- Move to a full surgical pathway design and 'one stop shop' facility
- Admissions lounge on Ben Weir, not in place
- Named consultant (point of principle), inconsistent and multiple rotas can be confusing

- Consultant of the week, recent letter stating this will be enacted but issues over current consultant capacity and effect on operating time persist
- Post ITU step down, partially complete with a template for care but inconsistent approach by some consultants one described it as 'chaotic'
- Data entry, currently single source of entry; the dendrite system awaited which should assist in improving data and coding quality
- Urgent inpatients response times. Cardiologists concerned that there is a variable response from different consultants with some less risk averse than others. This is still a vexed area for most cardiologist and two stated that it results in the occasional transfer of patients elsewhere for urgent care. They also wished to point out that PCI was delivered aggressively at SGH and that demand on surgeons less than in other units.
- Pooling of patients; only occurs for urgent cases and then variably depending on the individual surgeon. Reluctance to move to such a model as for several surgeon's personal referrals remain more important
- High risk pathway; thoroughly thought through policy but with poor engagement and a low bar set at ES 5.

8.4 Professional, Operational and Leadership factors

8.4.1 The evidence from our extensive and candid interviews contained some disturbing and often difficult information. While there has been a recognisable change in the behaviours of consultants towards each other with less gossip and a friendlier approach, most interviewees felt this hid fundamental issues within the team. Most insisted that the two camps were still evident and that there was no single vision or way of working. Many voiced the view that the unit remained toxic and bipartisan. Certainly our interviews with consultants while often complementary about each other also contained statements indicating long standing distrust and anger.

8.4.2 Senior colleagues from other specialities, intensivists/anaesthetists and cardiologists were concerned that there are inconsistencies of approach and no team based working or learning. Most stated they were able to work on a one to one basis with all surgeons, without difficulty but 2 senior doctors stated they found it difficult to do so, one stating he/she attempted to minimise engagement as much as possible as the surgeons were difficult and unresponsive.

8.4.3 Individual surgeons voiced concerns, often for different reasons, of the capability of others to work effectively in a tertiary centre. Typical views that came across included

- No shared view of the long term sustainability of the unit with a distrust of the motives of each surgeon
- Lack of standard operating plans with diverse interpretation of procedures during and after surgery
- Lack of transparency in selecting new consultants, especially locums
- Lack of teamwork between surgeons/ cardiologists and ITU at different points in the pathway

- Lack of mentoring for new consultants
- Case selection biased to more experienced doctors not helped by lack of pooling of patients with more distrust as a result.
- A concern of further reputational harm and inevitability of a downgrading of the unit or closure

8.4.4 Most of the criticisms were directed at the surgeons themselves, but some of the surgeons believed that senior clinical managers were culpable as, in their view, there was an inconsistent approach to performance issues within the surgical team.

8.4.5 Some staff, particularly in theatre were concerned over the performance of 2 consultants. One consultant, while very experienced and capable, frustrated staff by having an 'idiosyncratic' way of working where the procedure often changed during the operation. This has implications for the finish time affecting next case or a late finish, or resulted in disorganised theatre practice when equipment had to be sent for. The second less experienced surgeon, who felt he had missed out on initial support on arrival, was seen by staff as lacking in pace and always running into difficulties.

8.4.6 A third surgeon was very concerned over appointment processes for senior roles in the unit and poor decision making by management during the process. Three surgeons expressed their concerns over the Trusts response to 'whistle-blowing' and had less faith in the fairness of internal investigations.

8.4.7 All consultant surgeons felt the unit required 'new blood' and that some of this should be at a more senior level, although appointing a post CCT surgeon as a Locum would be helpful as soon as is practicable. Several consultants from cardiac and thoracic surgery as well as colleagues in cardiology voiced the opinion that in modern practice dual specialisation in cardiac and thoracic isn't representative of good practice. While all were supportive of the individual there is concern over the safety of continuing with 2 surgical specialities.

8.4.7 Our comment and conclusions of progress since the mediation is that after a promising start there has been a gradual regression to a '2-camp' situation and the recurrence of tribal-like activity. While there is a more functional approach to the M&M, and other team meetings, our view is that there has been little material improvement in the relationships and this is inhibiting the unit from development and threatens its existence.

8.4.8 There is still a defensive approach to the NICOR report which is stalling a full and frank discussion about how the unit could be run more effectively to reduce harm. We recognise that the new CGL has only been in place for a short period of time but there is a need for pace in any response and this requires a higher degree of engagement between professionals than we have witnessed during our review.

8.4.9 Our comments have attempted to avoid contaminating any current professional issues affecting individuals, and although we have been furnished with details of some of these we have not passed comment or given advice to individuals on the handing of the cases.

8.4.10 We make the following recommendations to the Trust Board and highlight in bold those we feel are most pressing.

1. **The current consultant cardiac surgical team membership is incompatible and requires restructuring with some urgency.**
2. To facilitate the required changes in practice to sustain and develop the service an expansion to **8 full time surgeons** is required. This would allow for a surgeon of the week, expansion of sub-specialisation roles and increased research and ambassadorial roles.
3. **There is a need for an immediate appointment of 2 consultants** which will be challenging in the current climate. One should be straightforward as there is a suitable post CCT surgeon working in the unit who could be interviewed for initially a long term locum role.
4. **Seek out a proficient and credible cardiac surgeon to lead the unit**. One of the issues that was raised by many of the interviewees was to widen the recruitment process to seek a competent experienced surgeon with an interest in mitral valve repair. The pursuance of such a person, who would ideally be placed to offer a leadership role, should not be limited to the UK
5. **Succession plan to be produced within 2 months**. To plan for the probable retirement of at least one surgeon succession planning should commence now to seek a 3rd surgeon. Again, this could be from a sub-speciality offering more innovative surgical procedures such as robotics or less invasive surgery. International candidates could be approached
6. **Skills development of junior surgeon(s).** To assist the unit in further expansion of its services (either at SGH or as part of a wider South London network) one of the less experienced surgeons to be offered a sabbatical at a specialist unit where specific new skills can be developed.
7. **Pathway leadership role**. To complement the role of CGL which concentrates on the operational and governance issues of the unit a new role supporting development of a 'total pathway of care' model, encouraging multi-speciality team working across pre-, peri-and post-operative care. We see this as an essential step in promoting more critical analysis and safer care for all patients, but particularly those in a 'high risk' category. This role, while open to anyone, would be suitable for a relatively new consultant who wishes to develop new managerial as well as leadership skills
8. **Move to a single speciality surgical practice only**. The unit should develop a policy of only employing single speciality surgeons. There is an increasing evidence base for splitting the role of cardiac and thoracic surgery and our recommendation is that this should be adopted by the Trust enhancing safe practice
9. **Sustainability of the unit. Develop senior ambassadorial roles**. The cardiac surgery service is under considerable scrutiny and suffering reputational harm. The most senior clinicians (and new leaders as they come on stream) need to take responsibility for rebuilding trust in the unit. This will involve significant work with colleagues in 'feeder' units, academic and service links with other cardiac surgery centres in S London. SGH has a significant experience in sub-speciality working, examples being HOCM, Aortic Arch disease, Marfans and complex mitral valve repair. Only by demonstrating a single vision for the service as a revitalised and innovative one, will organisations be convinced of SGH's intent to build a better

service. To achieve this senior surgeon's may have to temporarily reduce clinical commitments.

10. Unit project manager, to support the expansion of consultant numbers and to develop a unit strategy the Trust should employ suitable project support.
11. Cardiac institute. There is already cooperation between cardiologists and vascular surgeons across South London. There has been some reluctance to include cardiac surgery into the process. This should be revisited and, supported by lead clinicians and an executive director sponsor, lines of communication opened up with GST to commence meaningful negotiations
12. Technical advice to improve patient safety. The following we hope are practical steps to assist surgical and associated specialities in improving clinical outcomes. These are summarised in **Appendix 5.**
13. **Improved data entry** Unsatisfactory at present.
    a. There needs to be clinical sign-off of each case accompanied by data-validation/audit etc. This can be arranged internally – e.g. every month each surgeon checks at random the entries for one patient operated on by a colleague. If SGH do not play by the same rules as other units, they are doing themselves a disservice (in reality probably very minor effect on outcome data). We note the trust is moving to surgeons entering their own data via the dendrite system and a definite start date would be helpful.
    b. The current data manager is the sole authority on data quality in the unit and responsible for data extraction, entry and coding. We believe this to be unsafe for the unit as there are no checks and balances, leaves the Trust vulnerable if he departs and is professionally isolating for him. Even with adoption of the Dendrite system this will not change and the Trust is advised to manage this situation *so that further analytical support* is available

14. **Outcome monitoring.**
    a. We have found little evidence of ongoing outcome monitoring of VLAD plots, until a surgeon feels under threat, nor significant engagement by surgeons in morbidity review – e.g. unexpected long ITU stay, unexpected long cross clamp time. Needs to be standing agenda item at M&M.
    b. We suggest that only the unit plot is shown to the meeting. CD or med director should review individual surgeons' plots quarterly and take appropriate action as needed. This we believe would allow good professional discourse and interaction.
15. Pooling patients with decision on appropriate allocation at the MDT, led by 'surgeon of the week'. This is dependent on recruitment but is a clear need in the next few months (3-6).

Summary of major recommendations

1. **The current consultant cardiac surgical team membership is incompatible and requires restructuring with some urgency.**
2. **A stated aim to increase the number of full time consultant surgeons to 8**
3. **An immediate need to appoint 2 FT Consultant Cardiac Surgeons (Locum or Substantive).**
4. **Pursue nationally and internationally, an experienced and innovative surgeon with potential leadership qualities to rebuild the unit appointed within an 18-month timescale with a gradual handover as the unit adapts to new ways of working and personnel.**
5. **Move to a single speciality surgical practice only with immediate effect**
6. **Develop a team approach led by the Clinical Director of a succession and sustainability plan**
7. **Engage senior surgeons as ambassadors to raise the profile of the service and to attract new business.**
8. **Develop the roles of junior members of the surgical team either internally as the pathway lead or externally to develop new skills useful to the unit.**
9. **Urgently review the processing and communication of surgical outcome data with new safeguards in place to reduce risk and appropriately challenge current practice.**
10. **Through the established Cardiac Task Group review all current practices across the surgical pathway and implement the changes highlighted in Appendix 5 to reduce variation in practice and reduce clinical risk.**
11. **Arrange with some pace 1:1 interviews with all consultant cardiac surgeons to explain the Boards intent on implementing the proposed changes and to review the role (or not) of the individual in such change.**

9. Conclusions and next steps

9.1 Looking back 8-years ago to Professor John Wallwork's review, our own conclusion is that there is little evidence of change since then of improved professional relationships within the unit.

9.2 Within the Trust and in wider cardio-thoracic practice change has occurred . Thoracic surgery now has its own 'care group' and sees itself as a distinct but connected speciality. Evidence and practice is changing apace and technology assisted surgery through robotics and minimally invasive techniques a reality.

9.3 Additionally, and alarmingly cardiac surgery at SGH is now under scrutiny having had 2 NICOR alerts in sequential years. While there has been progress in response to the Cardiac Task Force Action Plan there are still issues which with the correct leadership and team dynamics could be improved. We are concerned that despite investment by

the Trust into a mediation process and an initial 'honeymoon period' of improved professional behaviours that this is only a veneer and that tribal behaviours persist. The NICOR alert is the 'smoke' of a suppressed fire and while convenient to attack its voracity and accuracy, is really only fighting the fire that will help.

9.4 We have interviewed a wide range of willing and able people but there is little cohesion between those who are looked to lead. While our view is of a dysfunctional surgical team there are changes required in other specialities to improve the atmosphere, especially colleagues in cardiology and intensive care.

9.5 We have made suggestions in terms of technical advice on operational matters, team building, succession planning, sustainability and leadership; these will all be unachievable if the continuing behaviours and poor relationships persist. As the major players in this drama are still in post it is unlikely now as in 2010 that the situation will improve. We recommend that the Trust Board considers more radical solutions to break up the current surgical team if it cannot be assured of any material change in the current situation.

9.6 We wish to stress that any ongoing professional investigations and issues have not influenced this view and we have tried to maintain total impartiality having been made aware of their existence.

9.7 To not act soon risks an existential threat from other units, further deterioration in clinical outcomes and loss of confidence in the unit by commissioners, trainees and eventually the public.

9.8 The cardiac surgery service is an iconic and cherished one serving a population at high risk. The destabilisation of the service as evidenced by the 2 NICOR alerts and failure to change professional attitudes amount to a near crisis in confidence in the service and needs, in our view, urgent attention.

9.9 While many of our recommendations may take several months if not years we do believe that confronting the professional and succession issue needs urgent resolution within weeks to 2 months.

10 Next steps

The review team are cognisant of the high profile of the review. We have had representations from surgeons concerned with their individual futures and the effect the review may have on it. In our view the whole team shares responsibility for the failure to significantly improve professional relationships and to a degree surgical mortality. The steps we anticipate the Trust will have to take will involve confronting the situation and sharing with all senior colleagues our findings and opinion. Their response will define their

enthusiasm to respond to the expected and necessary changes to the unit. We suggest the following steps

10.1 The report is shared with the Trust Board, led by the acting medical director and CEO. Brief the CD

10.2 Individual interviews are held with all 6 surgeons, the report shared as a tabled document and their responses recorded and fed into a restructuring plan. The Board will be looking for positive leadership rather than overt self interest

10.3 Immediate changes in clinical practice to action a move to single speciality surgical practice.

10.4 If possible, appoint a full time Locum Consultant immediately to cover potential shortfalls in service following the impact of the Trust actions.

10.5 Led by the MD/Clinical director an agreed plan of action to restructure the unit and involving only those consultants who demonstrate a desire for change and cooperation (this may be a difficult task, but the bar should be set high).

10.6 All 6 consultants to review their performance data with the Clinical Director and if required a subject matter expert. *We would wish to point out that the performance is in the light of an individual's data findings, that recent trends showing deterioration based on small numbers may not be representative of overall long term performance, but are worthy of scrutiny.*

10.7 All work plans to be reviewed and a move towards a modern service involving the principles set out in David Richens GIRFT document (**Appendix 6**). This clearly sets out what is expected of a modern cardiac surgical unit.

10.8 Rapidly develop a succession and sustainability plan and appoint a project manager to push it forward. Appoint a NED and AMD to oversee the project.

10.9 Inform regulators of a possible disturbance to the service and

10.10 Liaise with adjacent providers seeking their support.

11.Risks and mitigations

We have approached this by asking what we believe will be difficult questions that the Board may wish to ask and be assured of the mitigation in place to overcome them.

11.1 It is only 8 months since the agreement and the care Group lead was only recently appointed (8 weeks), surely we should allow more time for resolution?

A. It isn't envisaged that an immediate change to the CGL is required, and while 8 months is a modest time in which to assess the long term effects of mediation, our evidence shows little evidence of any sustainable change of behaviours or a coming together of the consultant body.

11.2 The proposed restructuring will destabilise the unit and possibly other services dependent on it such as trauma and vascular?

A. The Trust Board has to be prepared for turbulence and build in mitigations to offset such an eventuality. These may well cause operational and financial challenges, if for example elective surgery had to be part suspended, diversion of cases to other units was required. Knock on effects on other services such as trauma would require contingencies were in place for an urgent response to cardiac trauma. There will be many more which is why we have suggested the next steps approach above to avoid precipitant actions and allow for a managed approach.

11.3 Standardising operational plans in theatre and post operatively will be over bureaucratic and won't allow for individual preferences or innovation?

A. The aim isn't to stifle innovation or indeed a clinician's necessary actions to modify their approach when clinically justified. It is aimed at reducing unnecessary variation where this would be detrimental to patient care (see appendix 5).Additionally it aims to challenge 'maverick' behaviours where the stated scope of an operative intervention is widened without full explanation.

11.4 Expanding the consultant surgeon numbers will add significant cost to an already financially challenged Trust, how will we afford it?

A. We anticipate increased costs to the cardiac surgery budget but our review also suggests how through effective ambassadorial roles the service can be expanded. Collaborative work with the South London Institute should also help develop the service in its sub-specialities.

11.5 Expansion of consultant numbers to 8 isn't possible in the current environment to recruit such clinicians, how will this be achieved?

A. The current climate at the Trust and specifically in the cardiac surgery unit isn't conducive to recruitment of new surgeons. The trust does have available post CCT surgeons who after interview could be offered either a Locum Tenens post for 2 years or a permanent post. Internal changes to rotas and job plans after enforcing a single speciality approach across cardiac and thoracic medicine will also increase capacity. Our review advises a wider recruitment campaign for 2 further surgeons nationally and internationally to bring in additional 'world class' expertise to develop the unit over the longer term

11.6 Won't further turmoil in the department result in a further deterioration in the quality of the service?

A. All service change and ambiguity has an impact on delivery and confidence. This can be mitigated by strong leadership setting out a clear vision for the service and assuring staff that unprofessional and disrupting behaviours will no longer be tolerated. The latter message will be hard for some but respected by most staff.

11.7 We have seen all of this before and nothing has happened what is different this time?

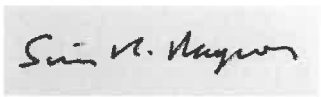
A. There has always been, at SGH, a charge that reviews like ours merely 'kick the can down the road'. The Trust can, in our view, no longer delay as to not do so would risk external intervention either closing or restricting the scope of work at the unit in response to ongoing concerns over persistently high mortality. Even if the NICOR data improves to remove the alert, does a major centre such as SGH wish to remain close to the bottom of the performance league?

11.8 Who will lead the change and do they have time to be focused on the task?

A. *This is a matter for the Trust but there in the relatively recent appointment at Clinical Director level of an experienced and senior clinician, with appropriate support from the medical Director and a Non-Executive Director (who need to be visible) a team can be assembled to project manage the change over the next 18 months, with some actions being pursued more urgently.*

Review completed 9th July 2018

Professor Mike Bewick



Dr Simon Haynes

Acknowledgements

We would like to thank St Georges Hospital clinical staff and management for making us so welcome and for their time and commitment to this process. We would especially like to thank Josh Roles for his organisational excellence, Ozwaldo Valencia for his patience in preparing data for us and Maria Peries for the preparation of the operational data.