Report to NHS England and NHS Improvement and St George's University Hospitals NHS Foundation Trust of the Independent Scrutiny Panel for Cardiac Surgical Services at St George's University Hospitals NHS Foundation Trust

January 2020

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Introduction

1. In July 2018, St George's University Hospitals NHS Foundation Trust (the Trust) requested additional support following a number of longstanding issues with cardiac surgical services at the Trust. In September 2018, the Trust asked for, and NHS Improvement (NHSI) agreed to set up, an Independent Scrutiny Panel to work with the Trust's senior leadership team as a critical friend.

2. The Panel's purpose was to advise, challenge and support the Trust's actions in response to these longstanding issues. It would also identify future recommendations to support the sustainability of a safe, high quality cardiac surgery service for patients. The Panel would also report back to NHS Improvement on its work. The Panel's membership and terms of reference are available on the NHS England and Improvement website.

3. The Panel's remit did not include a clinical review of cardiac surgery outcomes, cardiology or intensive care services. Those matters are within the remit of the Independent Mortality Review of Cardiac Surgery (excess mortality) and the National Institute for Cardiovascular Outcomes Research[1] (outlying performance). Neither was it to assess formally whether the cardiac unit was safe. This is a matter for the Care Quality Commission (CQC).

4. Whilst the Panel was asked to make recommendations and provide advice, the Trust Board remained responsible and accountable for decision making at the Trust including determining what actions to take in relation to its cardiac surgical services.

5. The Panel's analysis of the issues was informed by the external clinical reviews and reports (NICOR, GIRFT[2], Bewick, Wallwork) available to the Panel, the Trust's responses to these reports, data supplied to us by the Trust, face to face meetings between the Panel and members of the Trust's senior leadership team and others. At no point did the Panel seek input from individual clinicians, former members of the executive team, former members of the Board, or their representatives.

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[1] The National Institute for Cardiovascular Outcomes Research (NICOR) is a body that collects data and produces analysis to enable hospitals and healthcare improvement bodies to monitor and improve the quality of care and outcomes of cardiovascular patients. More information can be found in the glossary under cardiac surgical outcomes.

[2] GIRFT is the 'Getting It Right First Time programme, a programme designed to improve clinical quality and efficiency in the NHS by reducing unwarranted variations. More information can be found in the glossary.

6. The Panel was also mindful of the overall time period within which these issues took place, which stretches back to before 2010. The Panel was aware that there were significant and frequent changes to the senior leadership team of the Trust throughout this same period. The current senior leadership team has been in place since May 2017, with the exception of the Chief Medical Officer who joined in December 2018.

7. This short report was written for NHS England & NHS Improvement, and the Board of the Trust. It sets out a summary of the Panel's findings, actions taken to date by the Trust's senior leadership team and the resulting improvements along with recommendations for the future to further build on the good progress to date. Statements based on documents have been referenced in the text. Otherwise they reflect the judgement of the Panel on the basis of what they heard from the Trust and in the light of their discussions. It was not written to inform the public, patients or clinicians about any episode of clinical care – nor could it as it did not undertake any scrutiny of medical records.

8. Throughout the tenure of this review, the Unit made significant progress. An example of this progress is that the mortality rate for the Cardiac Surgery Unit has improved. The overall mortality rate between 1 December 2018, when the new Clinical Cardiac Lead/Associate Medical Director was appointed, and 1 July 2019 when the Independent Scrutiny Panel finished was 1.7%. This is in comparison to the overall mortality rate for St George's Hospital Cardiac Surgery Unit from 2015/16 to 2017/18 inclusive which was 3.4% and the UK average for 2017/18 which was 2.7%.

Background

9. There is a history of regulatory intervention in the Trust, which was in special measures for both quality of care and financial issues when the Panel commenced its work. This followed a Trust rating of 'inadequate' by the CQC in November 2016 and a deficit of over £78m in 2016/17 which had moved the Trust into financial special measures from April 2017.

10. Between 2013 and 2017, there were two consecutive NICOR alerts regarding survival rates after heart surgery at the Trust. The first alert related to the period between April 2013 and March 2016, and the second alert to the period between April 2014 and March 2017.

11. The GIRFT Review of the Trust's Cardiac Surgery Unit in 2017, comparing it with the 28 Adult Cardiac Surgery Units in England, had also shown the Unit was a significant outlier in a number of clinical outcomes. For example:

- A high post-operative mortality for all heart surgery cases
- A high readmission rate after surgery
- A high rate of new renal replacement therapy after surgery
- A high rate of further intervention (percutaneous coronary intervention (PCI)) after coronary artery surgery
- High mortality after elective aortovascular surgery
- A low rate of mitral valve repair versus replacement for degenerative valve disease.

12. In addition, there were two significant external reviews which took place. The first (Wallwork), in 2010, highlighted a breakdown of interpersonal relationships amongst staff in the Cardiac Surgical Unit and poor working relationships. The second (Bewick), in 2018, was commissioned by the current senior leadership team (see paragraph 14) and found similar sub-standard behaviours being exhibited.

13. During this time period, the cardiac surgery consultant team was relatively stable and established with four of the six current substantive consultants in post prior to 2010. In contrast, the Trust had a significant period of instability across the majority of its key senior leadership posts including Chief Executive, Medical Director and Nurse Director. For example, since 2010 there had been six Chief Executives (including four interims), five Medical Directors (although until 2011 the Trust had two or three Medical Directors at the same time covering different clinical areas), four Directors of Nursing, six Chief Operating Officers (including three interims) and seven Directors of Human Resources (including four interims).

14. The current Chair was appointed in April 2017 and since then, there has been a more stable Board and senior leadership team. In May 2017, the current Chief Executive was appointed. In December 2018, a permanent Chief Medical Officer started work with the Trust.

Context and timeline of events

15. The Panel was made aware of a breakdown of interpersonal relationships amongst staff in the Cardiac Surgical Unit which had gone on for many years and was still ongoing. In 2010 the Wallwork Review had highlighted, among other issues, poor working relationships as a cause for concern demonstrating that this was a longstanding problem. The Panel was made aware of another review commissioned in 2014 by the then Medical Director and carried out by

Mr Ben Bridgewater of the Royal College of Surgeons (which was not reviewed by the Panel), which made similar findings. Finally, the Bewick Review produced in 2018 identified similar contemporary issues.

16. It appears that many of the Wallwork recommendations were not implemented. For example, there were no plans for sub-specialisation, there was no urgent review of the care pathways for in-house urgent referrals and there was no system implemented to distribute more evenly, the general referrals to cardiac surgeons both within the Trust and from external cardiologists.

17. In July 2017, following the appointment of the current Chief Executive in May 2017, a Cardiac Surgery Taskforce was established in response to the first NICOR alert covering the period April 2013 to March 2016. The Taskforce was chaired by the Acting Medical Director at the time and the Chief Nurse. There were five work streams comprising safety and governance, operational, behavioural, training and education, and external review. The aim of the Taskforce was to put in place measures to improve safety, performance and governance of the cardiac surgical service.

18. Between May and September 2017, the Trust's Mortality Monitoring Committee (MMC) analysed all deaths following cardiac surgery during the period of the NICOR alert. In November 2017, the Trust's Quality and Safety Committee considered a range of quality and safety indicators including the outcome of the MMC analysis of the deaths in cardiac surgery.

19. Apart from the alert being a cause for concern, the Quality and Safety Committee also identified poor team working within the Unit. In December 2017, the Trust held a mediation event involving members of the cardiac surgical team to deal with poor behaviours and team-working in the Unit.

20. In April 2018, there was a second NICOR alert covering the period April 2014 to March 2017. In May 2018, the Trust Board commissioned the Bewick Review to assure itself that progress was being made in addressing the concerns about excess mortality in the Unit and the team-working.

21. In July 2018, the Bewick Review reported. The Review's recommendations included a move from mixed cardiothoracic to either cardiac or thoracic practice by the consultant surgeons, sub-specialisation for cardiac surgeons and changes to multi-disciplinary team (MDT) and mortality and morbidity (M&M) meetings. At the time the Panel commenced its work the recommendations of the Bewick Review were being actioned.

22. In early August 2018, the Trust commissioned a further external review, from a Human Resources Consultant, focussed on addressing one of the recommendations set out in the Bewick Review. Also, in August 2018, two consultant cardiac surgeons were excluded from the Trust. One of those surgeons challenged the Trust's decision in the High Court. The High Court judgement ruled against the Trust.[3]

23. On 31st August 2018, the Chief of Cardiology at the Trust wrote to the interim Medical Director expressing the view of all twenty Trust cardiologists that the current cardiac surgery service had become unsafe.

24. Following concerns raised by the Trust to NHS England and NHS Improvement on 31 August 2018, a Quality Summit was held on 3 September 2018 to discuss the safety of the cardiac surgery service, with a further Quality Summit held on 24 September 2018. The Quality Summit of 3 September (held with NHS England, NHS Improvement, CQC, Health Education England (HEE), General Medical Council (GMC), neighbouring trusts and St George's University Hospitals NHS Foundation Trust) decided that only low risk cases would be operated on at the Trust and patients requiring more complex cardiac surgery should be treated at other centres. This was announced publicly by the Trust on 10 September 2018[4].

25. On 11 September 2018, HEE temporarily suspended St George's as a Cardiac Surgery Training Centre. This decision was a joint one between HEE and the Trust.

26. In October 2018, the Independent Scrutiny Panel was appointed and commenced work alongside the Trust. At this point mortality rates were still relatively high (2.3% in September 2018 and 4% in October 2018).

27. In December 2018, the Trust appointed a new Clinical Lead/Associate Medical Director for Cardiac Surgery facilitated by the Independent Scrutiny Panel.

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[3] Jahangiri -v- St George's University Hospitals NHS Foundation Trust, Neutral Citation Number: [2018] EWHC 2278 (QB)

[4] https://www.stgeorges.nhs.uk/newsitem/information-for-patients-cardiac-surgery-at-st-georges-hospital-10-september-2018/

Key issues

28. The Panel has grouped its analysis of the key issues into two main broad areas:

    - Clinical outcomes and management of the Cardiac Surgical Unit.
    - Wider Trust actions and responses.

Clinical outcomes and management of the Cardiac Surgical Unit

29. Given below is a summary of the key issues relating to clinical outcomes and the management of the cardiac surgery unit.

Leadership, behaviours and team dynamics within the Cardiac Surgical Unit

30. The recommendations of the Wallwork Review do not appear to have been comprehensively implemented. Many of the issues identified in that report regarding behaviours and team dynamics have therefore remained. Poor team-working and team behaviours were also highlighted in the Bewick Review report of July 2018 and the CQC report of December 2018.

Sub-specialisation within the Cardiac Surgical Unit

31. It appears that the cardiac surgeons were undertaking a wide spectrum of adult cardiac surgery, rather than there being a consistent application of workload according to sub specialisation. The Wallwork, Bewick and GIRFT reviews all commented upon this. For example, best practice[5] recommends that sub-specialisation in mitral valve repair surgery and complex aortovascular surgery provides the best outcomes for patients.

Management of the referral network

32. Referral patterns into the Cardiac Surgical Unit appear to have been a reflection of a traditional referral management approach rather than best practice, which is to have a referral to a multi-disciplinary team (MDT) and a

[5] For mitral valve surgery: The Joint Task Force on the Management of Valvular Heart Disease of the European Society of Cardiology (ESC) and the European Association for Cardio-Thoracic Surgery (EACTS): Guidelines on the management of valvular heart disease (version 2012) (European Heart Journal (2012) 33, 2451–2496, doi:10.1093/eurheartj/ehs109). Plus the GIRFT Cardiothoracic Surgery report https://gettingitrightfirsttime.co.uk/cardiothoracic-surgery-report/

pooled referral management system. For example, cardiologists appear to have had fixed patterns of referral associated with individual cardiac surgeons rather than operate a pooled system. This approach has led to inequality of access with unequal waiting lists between surgeons and a requirement for waiting list initiatives for some. Much of the above was highlighted in the 2010 Wallwork Review, which commented "The inevitable nature of private practice is insidious in the way it affects behaviour in the NHS and this will need to be addressed"[6]. To date it appears that this issue has not been addressed, and this now requires attention.

Pooled waiting list case allocation system

33. As illustrated above, waiting list cases appear to have been allocated to surgeons based on a surgeon-specific referral by a cardiologist, rather than by using a pooled waiting list case allocation system. This inevitably led to a wide variation in caseload between surgeons. Whilst some of this was down to surgeons' individual professional obligations (e.g research, training etc), the extent of the variation in activity led to significant imbalance. This resulted in a two-tier system with some surgeons performing very high numbers of cases, which in some instances was twice the national average. There are no national guidelines for the minimum or maximum number of cases that cardiac surgeons should perform annually but consideration should always be given to any potential impact high volume practice may have on the clinician and delivery of care. An oversight of case allocation is therefore required to ensure an appropriate balance of workload is maintained across cardiac surgeons.

Management of waiting list initiatives for cardiac surgery

34. An analysis of GIRFT data taken from the latter period of the NICOR 2013-16 cohort revealed a high (relative to the rest of the country) proportion of NHS cases operated on by the Unit's surgeons outside of the organisation in the independent sector, as waiting list initiatives. These cases were predominantly low-risk patients, with higher risk patients being operated on within the St George's Unit itself where there was a higher level of infrastructure for post-operative care. The Bewick Review also referenced this practice. As well as shifting the overall risk profile of the cardiac surgical workload undertaken at the Trust, this practice may also have impacted on length of stay, staff morale, training and the use of available resources such as ITU beds. This was remarked upon by the GIRFT team in their feedback action plan to the Trust

[6] Wallwork Review report page 6

after the deep dive visit there on 4th September 2017. The Panel noted that the practice of commissioning waiting list initiative cardiac surgery operations in the independent sector had been discontinued in September 2018.

Training of surgeons

35. GIRFT had also shown that there were low levels of surgical training in the unit. Training of junior surgeons is fundamental to the future development of the specialty and service provision as well as the sustainability of the Cardiac Surgical Unit. The low rate of training provision in the Unit appears to be due to training only being carried out by one or two surgeons.

Impact on clinical practice

36. All this builds up to a picture of unequal activity, unequal waiting list size and training commitment, with the reported protectionism of relationships between surgeon and cardiologist. It appears the effect of this was that the surgeons were acting as individuals rather than as a team. This was characterised by poor adherence to the evidence base and national guidelines in surgical decision-making, and a failure to ensure that all cases were discussed at an MDT meeting.

<u>Wider Trust actions and responses</u>

37. Given below is a summary of the wider issues which have impacted on cardiac surgical services delivery.

Leadership and environment

38. It is the responsibility of any Board and senior leadership team to set the environment within which clinical improvements and developments can progress. The instability over a long period of time in the St George's Board and senior leadership team prior to April 2017 inevitably had an impact on being able to sustain such an environment and meaningful clinical engagement.

Oversight mechanisms for clinical outcomes.

39. Prior to the arrival of the current senior leadership team in May 2017 there appears to have been a lack of a formal oversight mechanism for assuring clinical outcomes within the Cardiac Surgical Unit. After May 2017, the current senior leadership team and Trust Board acted promptly in taking action on the NICOR alerts relating to April 2013 to March 2016. The work arising from the

NICOR alert included a review of all deaths in cardiac surgery between April 2013 and March 2016, which the Panel was informed was undertaken by the Trust's Mortality Monitoring Committee. The outcome of this review, the NICOR outcomes, benchmarked data against other Trusts and a number of other metrics including the work of the Cardiac Surgery taskforce and resultant actions were all reported to the Trust's Quality Committee in November 2017. As part of the overall response to the alerts it was the view of the Panel that an invited review of the Cardiac Surgery Unit by the Royal College of Surgeons may have also been beneficial in terms of input from senior independent cardiac surgeons supported by independent trained lay reviewers.

Management of the referral network and pooled waiting list allocation system

40. Being assured that the patient referral management process operates efficiently, safely and expeditiously is an important responsibility for the Trust senior leadership team. As has already been identified, the absence of a pooled waiting list management system is similarly also the responsibility of the senior leadership team to ensure good referral and waiting list practice is exercised. These difficult and complex issues require attention to ensure compliance with best practice on a sustained basis.

Reporting of Referral to Treatment times (RTT)

41. The Panel noted that the Trust temporarily ceased RTT reporting in July 2016 with the agreement of NHS Improvement. Between June 2017 and January 2019, the current Board and senior leadership team (who had inherited this position) worked hard to rectify it, returning to full reporting on the St George's site in January 2019 and the Queen Mary's Roehampton in September 2019.

Electronic clinical audit system

42. Plans for the implementation of a new electronic system for recording cardiac surgery outcomes data were in place by the summer of 2018. However, the new Dendrite system was not implemented until later in the year following completion of staff training. Prior to this implementation there were obvious risks given there was a reliance on a single cardiac surgery data manager to extract the relevant data from records, input to the audit system and code the data. This made the system vulnerable if the data manager should become unavailable or leave the Trust.

Human Resources (HR) systems.

43. The Panel spent considerable time looking at the impact of the application of human resources processes and policies in the Cardiac Surgical Unit over a number of years. It is acknowledged that many of these concerns took place prior to the appointment of the current senior leadership team. The issues included the recruitment of two locum consultants and the application of NHS Employers Standards for Employment Checks[7]; the extension of a locum contract when concerns had been raised about their practice; the application of the Maintaining High Professional Standards (MHPS) process[8] in the case of one surgeon excluded in 2018; and the effectiveness of the appraisal and job planning system given the differing rates of clinical activity between surgeons. Based on information provided by the Trust to the Panel, it also appeared that processes to comprehensively investigate disclosures that are covered by the Freedom to Speak Up[9] guidance were not applied uniformly in all cases. Finally, the Panel was aware that a mediation process had been initiated in December 2017 with some early success, but that improvements were not sustained.

Interventions made since May 2017 under the current Board and senior leadership team

44. The Panel considered that a number of significant developments had taken place in tackling the issues of the past and include:

- A structured review of cardiac surgical deaths was carried out as part of the work of the Cardiac Taskforce.
- A mediation process was undertaken for the cardiac surgical team.
- Waiting list initiatives were stopped.
- The twelve recommendations of the Bewick Review were considered and many of the actions were being implemented including:
    - Cardiothoracic surgeons' practice in either cardiac or thoracic surgery but not in both.

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[7] https://www.nhsemployers.org/your-workforce/recruit/employment-checks

[8] https://webarchive.nationalarchives.gov.uk/20130123204228/http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4103586

[9] https://improvement.nhs.uk/resources/freedom-speak-guidance-nhs-trust-and-nhs-foundation-trust-boards/

- Two new locum cardiac surgeons were appointed.
- The need for pooling, job planning and improving the Mortality and Morbidity structure within the Unit were identified.
- A junior consultant member of the surgical team was being developed through external attachments to learn new skills.

Approach taken by the Panel and recommendations

45. The Panel first met together in October 2018. It subsequently met with senior representatives from NHS Improvement and with the Chair, Chief Executive, a number of executive directors and some senior staff from the Trust. As part of these discussions the Panel agreed that the most productive way to advise, challenge and support the Trust was to agree with the Trust a two-phase work programme with a number of objectives in each phase. The aim in Phase One was to help the Trust stabilise the Cardiac Surgical Unit. Once that had been achieved, the aim of Phase Two was to help the Trust lay the foundations to rebuild the Cardiac Surgical Unit in the medium to longer term.

<u>Recommendations for Phase One: to help the Trust stabilise the Cardiac Surgical Unit</u>

46. Following the analysis and consideration of the actions already taken the following recommendations were made by the Panel as part of the Phase One work programme to stabilise the Cardiac Surgical Unit.

- Appoint a new, external Clinical Lead for the Unit.
- Progress all outstanding legal claims where patient safety was not an issue to an appropriate conclusion.
- Act to ensure all surgeons were clinically safe and met nationally accepted standards.
- Establish an oversight mechanism for clinical performance with:
    - Standard operating protocols
    - Networked audit system put in place
    - Regular minuted mortality and morbidity meetings

- Establish processes to work with and understand the findings of the Independent Mortality Review of Cardiac Surgery commissioned by NHS Improvement reviewing all deaths of patients who were operated upon in the Unit over the period of the two NICOR alerts (April 2013 – September 2018).

<u>Recommendations relating to Phase Two: to help the Trust lay the foundations to rebuild the Cardiac Surgical Unit in the medium to longer term</u>

47. Following analysis, the following recommendations were made by the Panel as part of the Phase Two work programme which was to help the Trust to lay the foundations to rebuild the Cardiac Surgical Unit in the medium to longer term.

- Consolidation of good clinical outcomes on the lower risk population in the first half of 2019.

- Put in place a clinical governance bundle for the Cardiac Surgical Unit, to include:

    - Pooling and an allocation mechanism for all theatre cases irrespective of to whom the patient has been referred

    - Sub-specialisation (i.e. only nominated surgeons performing mitral valve and aortic surgery) irrespective of to whom the patient has been referred

    - Documented job planning

    - Equal access to theatre time for all surgeons

- Effective implementation of the protocol for transferring high risk patients to other units and the establishment of a local and regional network to support this.

- Establish a mandatory behaviour agreement, to include adherence to the clinical governance bundle and appropriate professional conduct.

- The appointment of a substantive surgical team in line with national guidelines, to include a designated mitral valve surgeon.

- Establish a decision-making group with experienced external support for the Director of Human Resources and Chief Medical Officer, to support

appropriate use of disciplinary procedures such as Maintaining High Professional Standards (MHPS).

Summary of Phase One and Two implementation

48. At the point the Independent Scrutiny Panel concluded its work with the Trust in July 2019, the majority of the recommendations from phases one and two were implemented. Of particular note are:

- The mortality rate has improved to 1.7% which is better than the UK average.
- The significant leadership contribution of the external Clinical Lead/Associate Medical Director for the Cardiac Surgical Unit.
- The Unit and each of the surgeons within it are meeting nationally accepted outcome standards as determined by the National Cardiac Outcome Programme within NICOR and the Unit is no longer an outlier. The Unit has recently been inspected by the CQC as part of a wider Trust review.
- The Unit has an acceptable mechanism for the oversight of clinical outcomes, with scrutiny at departmental, directorate and Board level.
- There are associated protocols for the management of outlier performance.
- An HR and Organisation Development consultant has been retained to work with the surgical team. The Panel understands that the output of this work might be a team charter or compact or similar.
- The establishment of a substantive cardiac surgical team is still underway, although a designated mitral valve surgeon had been appointed.
- The Trust has an established decision-making group which meets weekly and considers concerns that have been raised about medical practitioners at the Trust as well as those in formal processes.
- The Trust is undertaking a review of its Maintaining High Professional Standards (MHPS) policy, to ensure the policy is comprehensive and fully reflects best practice. As part of this, the Trust is putting in place new training to assist those responsible for implementing the policy as well as those who are subject to it.

- A protocol for transferring high-risk patients is in place, and discussions are underway on establishing a formal provider collaborative and regional network for cardiac surgery in south London.

Further Recommendations

49. The Trust should continue to work through the recommendations agreed with the Panel during phases one and two. To consolidate these and to ensure there is continued success the Panel has made a further set of final recommendations. These are divided into three sections as follows:

    - Recommendations for the Trust Board of St George's University Hospitals NHS Foundation Trust

    - Recommendations for Commissioners and the Providers of cardiac surgical services in South London and its wider network of referring organisations

    - Recommendation for Health Education England

50. By implementing these recommendations fully, and by becoming part of a wider cardiac surgery provider collaborative in South London, the Panel feels sure that the St George's Cardiac Surgery Unit will be capable of playing its part in delivering sustained, safe and comprehensive adult cardiac surgery services to its local population.

<u>Recommendations for the Trust Board of St George's University Hospitals NHS Foundation Trust</u>

51. Please note that recommendations one to four in particular should be read in conjunction with recommendations seventeen and eighteen.

Recommendation one

The Trust should develop integrated specialist teams, so that the St George's Cardiac Unit functions as a team and not as a collection of individual practitioners. An integrated specialist team should:

- Include a minimum of two cardiac surgeons with sub-speciality interests, a mixture of imaging and interventional Cardiologists, specialist nurses and therapists. Examples of sub specialties need to include mitral valve disease, aortovascular disease and revascularisation. The mitral valve disease team would require two surgeons from the Trust, the aortovascular

team would require two (different) surgeons from the Trust and the revascularisation team should include all cardiac surgeons.

- Hold regular minuted Multi-Disciplinary Team Meetings (MDTs).

- Develop links with cardiologists in referring hospitals, rather than there being relationships with individual cardiac surgeons

Recommendation two

The Trust should ensure all referrals for cardiac surgery whether generated internally or externally, are made to the relevant sub-specialist MDT. The MDT should:

- Review the clinical data, decide treatment advice, allocate the surgeon and oversee the delivery of integrated care in line with established and agreed pathways. This should be the clinical pathway for all patients undergoing cardiac surgery at the Trust.

- Ensure referring cardiologists are encouraged to attend the MDT, either in person or via IT link to present the patient.

- Allocate a surgeon taking into account factors such as case complexity, risk and waiting times irrespective of which surgeon the referral was made to in the first instance.

Recommendation three

The Trust should develop a protocol of care for urgent inter-hospital transfers to the Unit. This should include the work-up of patients and medications, in line with best practice as highlighted by the national GIRFT Cardiothoracic Surgery report.[10] A suggested example is at Appendix Two, where daily MDTs are held to discuss referrals for urgent surgery.

Recommendation four

The Trust should develop and use evidence-based peri-operative protocols for the management of routine care and frequent complications including bleeding.

[10] https://gettingitrightfirsttime.co.uk/cardiothoracic-surgery-report/

Recommendation five

The Trust should review the Cardiothoracic Surgery GIRFT report[11] and the Cardiology GIRFT report when published in 2020 and implement their recommendations.

Recommendation six

The Trust should appoint a Deputy Clinical Lead in cardiac surgery to support the existing Clinical Lead/Associate Medical Director.

Recommendation seven

The Trust should ensure the appointment of a substantive surgical team with the relevant sub-specialisations in line with national guidelines (see Appendix Three).

Recommendation eight

Each of the cardiac surgeons should be offered an individualised developmental feedback meeting with clinical representatives from the Independent Scrutiny Panel and Independent Mortality Review, with the Clinical Lead/Associate Medical Director and/or Medical Director as required.

Recommendation nine

The Trust should continue to implement and further strengthen safety and governance structures throughout the organisation.

Recommendation ten

The Trust should continue to ensure robust consultant appraisal and job planning is in place for every consultant working in the Cardiac Surgical Unit.

Recommendation eleven

The Trust should ensure the effective and appropriate management of Freedom to Speak Up guidelines[12], with all disclosures fully investigated and a final report prepared with conclusions and what further action needs to be taken as a result.

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[11] Ibid

[12] https://improvement.nhs.uk/resources/freedom-speak-guidance-nhs-trust-and-nhs-foundation-trust-boards/

This includes giving feedback about the investigation to the person who raised the concern.

Recommendation twelve

The Trust should undertake a formal review of HR recruitment practice to ensure it adheres to NHS Employers' Employment Checks. [13]

Recommendation thirteen

The Trust should complete its review of the "Maintaining High Professional Standards" (MHPS) investigations.[14]

Recommendation fourteen

The Trust should implement a formal mentoring system for all newly appointed and locum surgical staff.

Recommendation fifteen

The Trust should continue its work to manage waiting lists efficiently and effectively in line with current NHS England and NHS Improvement guidelines.[15]

Recommendation sixteen

The Trust should continue its work in establishing a 'behaviour agreement/compact' in partnership with staff from the Cardiac Surgical Unit.

Recommendations for Commissioners and Providers of cardiac surgical services in South London and its wider network of referring organisations

52. Please note that recommendations seventeen and eighteen should be read in conjunction with recommendations one to three.

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[13] https://www.nhsemployers.org/employmentchecks

[14] And in particular note the letter from Baroness Harding to Chairs and Chief Executives of NHS trusts and foundation trusts dated 24 May 2019 (https://i.emlfiles4.com/cmpdoc/9/7/2/8/1/1/files/56794_letter-to-chairs-and-chief-executives-24-may-2019.pdf)

[15] https://www.england.nhs.uk/rtt/

Recommendation seventeen

NHS England and NHS Improvement London Region, the Boards of St George's University Hospitals NHS Foundation Trust, King's College Hospital NHS Foundation Trust and Guy's and St Thomas' NHS Foundation Trust should consider implementing a formal cardiac surgery provider collaborative. This could deliver a single managed clinical service on multiple sites, subject to due process in developing the clinical, financial and operational models and the organisational form underpinning the service.

Recommendation eighteen

Commissioners and providers of cardiac surgical services in London and the South East should strengthen the South London network to include all referring hospitals and the trusts in the cardiac surgical collaborative (see recommendation seventeen). The network should develop unified protocols, standardised clinical governance, centralised referral management for urgent patients, sub-specialisation and active waiting list management, ensuring equity of access and outcomes for patients across the network.

Recommendation for Health Education England

53. Please note that recommendation nineteen should be read in conjunction with all the recommendations and particularly recommendations seventeen and eighteen.

Recommendation nineteen

Health Education England should revisit the Cardiac Surgical Unit at St George's University Hospitals NHS Foundation Trust to consider whether the improvements in the Unit and the network are sufficient to reinstate cardiothoracic surgical training.

***Sir Andrew Cash**, Chair and on behalf of the Independent Scrutiny Panel for Cardiac Surgical Services at St George's University Hospitals NHS Foundation Trust*

Appendix One: Key points that can be included in a referral protocol for urgent inter-hospital transfers

This is based on the good practice example shared in the GIRFT cardiothoracic report (page 32) that was introduced at Royal Papworth Hospital NHS Foundation Trust, where delays for patients have been reduced by revising their urgent cardiac surgery referral system and improving co-ordination.

The key features of this are:

Daily multi-disciplinary team meetings (MDTs)

An MDT discusses all urgent referrals every [day] Monday to Friday at 12noon. This meeting includes a nominated rotating surgical firm (usually at least two surgeons), an imaging cardiologist, the interventionalist cardiologist of the week, administrative support and the pathway co-ordinator. All decisions are minuted.

Standardised referral form

To ensure that all the required information is available, the referring cardiology team completes a standard referral form for every patient. Cases are only discussed once the appropriate imaging is available.

Patients already in Papworth Hospital, under the care of the local cardiology team, are presented by the cardiology team. Patients at other hospitals are presented by their referring team at the MDT meeting via conference call.

Same day decision

For the majority of cases, a decision is made on the day. The patient is assigned a surgical plan, a date for surgery and operating surgeon – usually the next available operating list with a vacant operating slot. Occasionally a specific surgeon with particular skills and experience is needed. If the assigned surgeon is not present at the MDT meeting, they are notified of the case.

Patient management

Patients already in Papworth Hospital are managed by the cardiology team until the operating day. Patients outside Papworth Hospital stay in their referring hospital and are transferred the day before the planned operation day. If there are doubts about the patient’s candidacy for surgery, the patient may be called to Papworth for a surgical assessment on the day ward. This is carried out on a transfer and return basis.

Flexible slot allocation

Typically there are 15 operating slots a week assigned for in-house urgent cardiac surgery. The cardiac surgeons accept that approximately 30% of their cardiac surgery caseload will be urgent. At times of longer waits (over one week) more in-house urgent slots are added at the expense of elective surgery. If there are fewer in-house urgent patients waiting, some slots are switched to elective patients at two to three days' notice.

Appendix Two: The Panel's needs assessment for the provision of a core cardiac surgery service at the Trust

The Trust serves a local population of 1.3 million.

NHS England's National Service Specifications[16] for adult cardiac surgery state the rate of operations should be around 580 operations per million population. Therefore, given the population served by the Trust we would expect the yearly number of operations to be around 750 cases (754 to be precise).

GIRFT data shows that the average consultant activity in England is 135 cases per year. Therefore, to meet the expected level of activity the unit at St George's needs six WTE cardiac surgeons (as 754 ÷ 135 = 5.5 WTEs). At any one time this would allow for two surgeons operating, one surgeon in clinic or MDT, one surgeon of the week (covering peri-operative care and planning), and two surgeons on leave, training etc.

A core service provision encompasses the following clinical components:

Coronary surgery

Valve surgery including mitral valve surgery

Redo operations

24/7 emergency cover

Cover for ITU

Cover for wards

Surgical assistants

Clinical leadership

Aortovascular surgery (other than proximal aortic root and ascending aorta), transplantation and mechanical support should be performed in quaternary centres.

[16] https://www.england.nhs.uk/commissioning/wp-content/uploads/sites/12/2015/01/a10-spec-adlt-cardiac-surgry.pdf

Appendix Three: Glossary of terms

Aortovascular Collective term for the main artery (aorta) and blood vessels, arteries and veins.

Cardiac Surgical Outcomes The SCTS website contains the following explanation "NICOR (National Institute for Cardiovascular Outcomes Research) is an independent body that collects, and analyses data related to cardiovascular treatment to provide health professionals and patients with information to help them review the quality and outcomes of care against national standards and guidance. Its outcome data are available for cardiothoracic units and for individual surgeons. These show the "in hospital" survival rate of patients who are operated on by individual surgeon/unit. "In hospital" means time the patient is in the hospital where they have had their operation. It does not include any time that patients may have spent in other hospitals, either before or after their heart operation.

The data has been through a complex methodology, including the variations in patient risk factors in order to give you a comparative base from which to work from. This means that the survival rates take into account the type and risk of patients being operated on for each surgeon/unit. This is known as risk adjusted survival.

To assess how a hospital or even an individual operator is performing, one could simply assess raw outcomes (such as mortality following a procedure) against the national observations. However, because of differences in case mix at different centres or by different operators, adjustment is needed to try to compare like with like, and so provide for a more accurate assessment of comparative performance. Risk models have been developed and published that are good at accounting for differences in case mix. Examples include EuroSCORE.

These models have good calibration and discrimination when assessing overall outcomes of populations, but there are complexities when they are used to try to compare outcomes by centre or by operator, and particularly when they are used to try to find outlier performance. NICOR developed statistical methods for comparative outcome analysis working closely with the specialist societies and taking detailed advice from both Professor Sir David Spiegelhalter, University of Cambridge, and also from Professor Sir Nick Black, Professor of Health Services Research at the London School of Hygiene and Tropical Medicine. The SCTS led the way in publishing risk-adjusted outcomes for every cardiac surgeon in the UK.

In 2013, the then-NHS Medical Director, Sir Bruce Keogh (who had worked with Professor Ben Bridgewater and others on developing the SCTS programme) launched the Clinical Outcomes Publication (COP) programme, to be used for 10

specialties (now 24). This was an NHS England initiative, managed by HQIP. HQIP has provided additional guidance on the methodology.

As part of a governance review in 2015/16, NICOR was recommended to review the statistical processes being used for the detection of outliers. NICOR therefore invited the Department of Statistical Science at UCL, led by Professor Rumana Omar, to lead a statistical review of the methodology and the coding required for analysis. As of 2019 this work is on-going and has been led by Professor Omar, Dr Gareth Ambler, Senior Lecturer at the UCL DSS, and Dr Menelaos Pavlou, Lecturer at the UCL DSS".

Statistical methodology

The SCTS website contains the following explanation around the analysis of mortality data: "Understanding variation in performance in clinical specialties is complex, and there is no one accepted standard methodology. The methods previously used were based on funnel plot analysis, where the observed outcomes were compared with expected outcomes, while accounting for case mix and random variation. With small numbers of procedures the statistical variation in observed outcomes is greater than with large volumes, and this accounts for the funnel shape of the outlier boundaries when volume is plotted against outcome.

There are several recognised limitations of this method. These include 'over-dispersion' – when the observed variation (and hence scatter on the plot) is larger than would expected from a binomial distribution. There is also difficulty in making multiple comparisons – if you compare enough observations you would expect to incorrectly identify an outlier by statistical chance. Models also tend to drift with time so, for example, EuroSCORE started over-predicting risk soon after it was published. There are also issues with clustering, where the difference between centres' case mix will interact with the differences in operator outcomes between centres.

Many of these problems can be addressed by random effects modelling, a technique that has only become possible as computing power has increased in recent years. These new methods have also been recommended by Prof David Spiegelhalter and others. While it successfully addresses several methodological issues, the results of analysis are not well suited to display in a familiar funnel plot, and so SCTS are developing new ways to display data, to try to maintain some intuitive appreciation of the information without misleading the observer.

Having done a full literature search on the methodology, Dr Pavlou and colleagues have developed a statistical process to incorporate this methodology into the NICOR datasets. A review was made into the coding of the method into the programmes

that run the analyses. These methods have now been incorporated into the NICOR NACSA (National Audit Cardiac Surgery Audit) and NAPCI (National Audit of Percutaneous Coronary Interventions) datasets to produce the COP results. The method will also be applied to all similar analyses where risk-adjusted outcomes will be assessed, whether at hospital- or individual operator-level. In addition this has been incorporated into the NICOR Standard Operating Procedure for detection of outliers.

A detailed explanation about the outlier policy can be found here:

https://www.nicor.org.uk/wp-content/uploads/2019/06/SOP-Outlier-Policy-v0-5-APPROVED-070619-1.pdf"

It is possible that a unit can appear as an outlier in NICOR data whilst none of the individual surgeons working within it are outliers. This is because the surgeon specific data includes all the NHS operations performed by that surgeon in multiple hospitals, i.e. the totality of that surgeon's practice including cases performed outside of the base unit. This was the case at St George's Hospital where the Unit mortality data revealed the Trust to be outside of 2 standard deviations from the mean (as the mortality of cases operated on at the Trust was high), but although Unit mortality was high the individual surgeons' outcome data were within accepted limits because the denominators were boosted by high-volume low risk cases undertaken externally (in the private sector through waiting list initiatives).

As part of the response to the issues at the Cardiac Surgery Unit at St George's University Hospitals NHS Foundation Trust, an External Mortality Panel was set up to review each death following heart surgery in the unit over a 5-year period. The Panel performed a desk top exercise reviewing available data on each death and used a validated process known as Structured Judgement Review to pass an expert opinion on the standard of care in each case. Although these cases were clearly operated upon by surgeons, the External Mortality Panel would not have been able to comment on whether the surgeons involved in each case were outliers, because they did not have the denominator in each case (the totality of the surgeon's practice, which would have allowed them to understand the incidence of poor quality care), they had not analysed the care for the totality of the practice (just the associated deaths) and there are no benchmarks to enable assessment of the performance of each surgeon against a national or international standard.

Euroscore: European System for Cardiac Operative Risk Evaluation. An internationally recognised model for calculating the risk of death after a heart operation.

Getting It Right First Time (GIRFT): Getting It Right First Time (GIRFT) produced a National Cardiothoracic Report in 2018[17]. This was based upon a benchmarking exercise across 400 metrics for each of the 31 cardiothoracic centres in the country analysing clinical outcomes, processes and organisational factors such as reference costs. Subsequently each centre received a unit-specific report and a clinically led deep dive visit involving the local clinicians and executive teams. The subsequent National GIRFT Report describes the findings of this exercise and draws on good practice observed together with the national service specifications and contemporary national and international guidelines. The Report made 20 recommendations based on collective responsibility, team-working, sub-specialisation, collaboration and reduction in unwarranted variation, realising £52 million of notional financial opportunity.

The GIRFT report is fully endorsed by the Royal College of Surgeons, the Society of Cardiothoracic Surgeons, NHS England & NHS Improvement, and specialised commissioners. As such this represents the contemporary vision of the shape of future cardiothoracic practice and service delivery across the country.

There is currently a National Cardiology GIRFT process that is on-going.

Invited Review Mechanism: The Royal College of Surgeons Invited Reviews are a partnership between the RCS, the specialty associations and lay reviewers representing the patient and public interest. An invited review supports – but does not replace – existing procedures for managing surgical performance. Invited reviews offer a highly valuable resource by providing healthcare organisations with independent expert advice. Through peer review processes standards can continue to be improved and concerns can be addressed. More information relating to IRM can be found here: https://www.rcseng.ac.uk/-/media/files/rcs/standards-and-research/support-for-surgeons/invited-review/invited-review-handbook-2018.pdf.

Mitral valve disease: Mitral valve disease is common in the UK. It occurs in 2.5% of the population and prevalence increases with age. It has a variety of causes, but the commonest is degenerative disease, which causes mitral valve prolapse. It is thought that 10% of patients with degenerative mitral valve disease will go on to develop regurgitation (leaking) that is severe enough to warrant surgical intervention. There are two options: mitral valve replacement or mitral valve repair. In such patients, there is strong evidence that mitral valve repair has better outcomes than mitral valve replacement. This evidence applies to all patient categories and

[17] https://gettingitrightfirsttime.co.uk/wp-content/uploads/2018/07/CardiothoracicReportMar18-F.pdf

includes rates for early mortality, stroke after surgery, long-term survival and freedom from reoperation.

NICOR Alert: A NICOR alert is issued when outcome measures are more than two standard deviations from the mean.

Society For Cardiothoracic Surgery (SCTS): The independent self-funded representative body for cardiothoracic surgery in Great Britain and Ireland.

Special measures: Special measures are measures applied when an NHS trust or foundation trust has serious problems and there are concerns the existing leadership cannot make the necessary improvements without support.